

Preliminary Design
Client: Dr. Darren Lim, Assistant Professor



Proposed Project: Java Online Learning Toolkit (J.O.L.T.)

Delivered by: 518 Interactive

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1 Introduction

1.1 Purpose

This document broadens the software requirements identified for the *Java Online Learning Toolkit* (JOLT) for the client, Dr. Darren Lim, Assistant Professor of the Computer Science Department of Siena College. The software requirements have been previously defined in the Software Requirements Specification (SRS) document; however, the requirements defined within this document supersede those of the SRS.

This document contains a preliminary user interface for *JOLT*. The interface is organized by user type, starting with Student, then progressing to Faculty, then Course Coordinator, and finally Administrator. The user-specific interfaces are laid out in a sequential manner, starting with the first task a user completes to the last task a user completes.

This document serves these main purposes:

- To provide a preliminary interface design for all users of *JOLT*.
- To provide a more complete Requirements Inventory.

There are several supplementary documents to this design document, which are available under the “Documents” menu of the *518 Interactive* Website. These documents include:

- **Data Flow Diagram Document:** Provides a graphical representation of how data is transmitted and manipulated within *JOLT*.
- **Activity Diagram Document:** Provides a graphical representation of how specific tasks are accomplished within *JOLT*.
- **Data Dictionary:** Provides a repository of all the data entities that *JOLT* utilizes.
- **Test Plan Document:** For the scope of this document, the Test Plan Document provides three unit tests.

The screenshots provided within this document are subject to change for the Detailed Design Document, which will be delivered in the Spring 2010 semester.

All references to *Source Code* imply Java™ Source Code, made to work with Java™ Version 1.6

1.2 Scope

The requirements and screen designs in this document comprise the scope of *JOLT*'s requirements and interface. This Preliminary Design document supersedes any prior documents as the descriptor of *JOLT*'s requirements.

1.3 Audience

This document is intended for *518 Interactive*, Dr. Lim, members of the Fall 2009 Software Engineering I class, and the other clients, Dr. Lederman and Dr. Breimer.

2 JOLT Requirements Specification

2.1 Product Overview and Summary

The proposed *Java Online Learning Toolkit* (JOLT) is a comprehensive web application designed to enhance the experience of learning the Java programming language. JOLT shall allow for students enrolled in programming courses to solve programming problems, which are created and entered by the Computer Science faculty. JOLT shall provide a personal gradebook for all students, as well as a course gradebook for Computer Science faculty members which will be used to track progress.

2.2 Development, Operating, and Maintenance Environments

JOLT will be developed in Siena College's Software Engineering Lab, located in Roger Bacon, third floor. The members of *518 Interactive* will be using the following resources:

Windows Machine:

- **Operating System:** Microsoft Windows Vista Enterprise
 - Build: 6002
 - Revision: 18005
 - Service Pack 2
- **Processor:** Intel® Core™2 Duo CPU
- **Model:** E7500
- **Speed** 2.93 GHz
- **Memory (RAM):** 4.00 GB
- **System Type:** 32-bit
- **Dual Monitor Setup**
- **Software Installed:**
 - Microsoft Office 2007 (Including Microsoft Project)
 - Macromedia Dreamweaver, Fireworks, Flash , Freehand, Studio (2004 Versions)
 - Internet Explorer, Mozilla Firefox, Google Chrome

Macintosh Machine:

- **Operating System:** Apple Mac OS X
 - Version 10.4.11
 - Model: iMac5
- **Processor:** Intel Core2 Duo
 - Speed: 2 GHz
- **Memory (RAM):** 1.00 GB
- **Dual Monitor Setup**
- **Software Installed:**
 - Microsoft Office 2004 for Mac
 - Macromedia Dreamweaver, Fireworks, Flash, Freehand, Studio (2004 Versions)
 - Safari, Mozilla Firefox

JOLT will be implemented, and designed to run on the following specifications:

- **Operating System:** CentOS (Linux) Release 5.2 (Final)
- **Server Name:** oraserv.cs.siena.edu
- **CPU Type:** x86_64
- **Web Server:** Apache Version 2.2.9
- **PHP Version:** 5.2.6
- **Database:** MySQL Version 5.0.45; Oracle Version 9i
- **Java™ Version:** 1.6.0_10-rc
- **Java™ SE Runtime Environment:** Build 1.6.0_10-rc-b28
- **Java HotSpot™ 64-Bit Server VM:** Build 11.0-b15, mixed mode)

Users of JOLT will be able to access the web application through an Internet connection, with any of the following browsers (of the latest version):

- Microsoft Internet Explorer
- Mozilla Firefox
- Apple Safari
- Google Chrome
- Opera Software's Opera Browser

The operating and maintenance environments have not been determined at this time.

2.3 Production Environment

The production environment is the set of hardware, software, and tools that a system will run on. JOLT is planned to be run on Siena's oraserv server (oraserv.cs.siena.edu), which has the following characteristics.

- **Operating System:** CentOS (Linux) Release 5.2 (Final)
- **Server Name:** oraserv.cs.siena.edu
- **CPU Type:** x86_64
- **Web Server:** Apache Version 2.2.9
- **PHP Version:** 5.2.6
- **Database:** MySQL Version 5.0.45;
- **Java™ Version:** 1.6.0_10-rc
- **Java™ SE Runtime Environment:** Build 1.6.0_10-rc-b28
- **Java HotSpot™ 64-Bit Server VM:** Build 11.0-b15, mixed mode)

2.4 *Functional Requirements Inventory*

The following list outlines the required functionality to be included in the final solution.

Java Online Learning Toolkit will be a web-based application viewable on the major browsers. Browsers included will be Internet Explorer 8, Mozilla Firefox, Safari, and Google Chrome.

All references to *Source Code* imply Java™ Source Code, made to work with Java™ Version 1.6

The requirements are listed according to User Case, as follows:

2.4.1 Functional Requirements: Student:

- Will be able to register online with the system
 - Will receive email confirmation following registration
- Will be able to log into system.
 - A failed log in will display an appropriate error message.
 - A link to an identity validation page will be provided if password is forgotten.
- Will be able to enroll into courses they are currently taking
 - PIN number provided by instructor required to enroll into course on the system
- Will be able to view announcements sent to them.
- Will be able to view problem sets for each course they are in enrolled in
 - Will be able to view each individual problem within the problem set
 - Will be able to view hints and solutions to individual problems, if provided by problem creator.
- Will be able to submit solutions to individual problems within active problem sets in the form of Java™ source code
 - Code will be compiled by the system online
 - Student will receive immediate, automatic feedback on compile errors, if any
 - Student will receive immediate, automatic feedback on how their solution compares to the test cases
- Will be able to complete problem sets
 - Will be able to navigate to individual problems in a problem set without completing them in a specific order
 - Will be able to save any progress made for a problem or problem set
- Will be able to view grades for each assignment in each class they are enrolled in.
- Will be able to view all previously submitted solutions
 - Will have access to their solutions and grades for all prior classes they were enrolled in.
- Will be able to log out

2.4.2 Functional Requirements: Faculty:

- Will be able to log into the system
- Will be able to create individual problems
 - Individual problems that are partially completed by faculty are saved to a sandbox area, until they are complete.
 - Once complete, problem gets transferred to private pool.
- Will be able to create problem sets
 - Will be able to import previously created problems to a problem set
 - Will be able to import problems from the course pool to a problem set
 - Will be able to import problems from the global pool to a problem set
 - Will be able to individually create each problem for a problem set
- Will be able to assign problems they create to a category
- Will be able to assign a grading scheme to problem sets
 - Will be able to assign a point value to specific problems within the problem set
- Will be able to assign problem sets to the students in the courses they teach
 - Will be able to set activation date and time of problem set
 - Will be able to set expiration date and time of problem set
- Will be able to submit problems to a Course Pool
- Will be able to search a Course Pool for problems
- Will be able to search the Global Pool for problems
- Will be able to view a grade book for each of the courses
- Will be able to modify grades for all students in each of the courses they are currently teaching
- Will be able to post announcements to students in their courses
- Will be able to view announcements sent to them.
- Will be able to interact with JOLT as a student user
- Will be able to log out

2.4.3 Functional Requirements: Course Coordinator:

- Will be able to log into the system
- Will be able to create faculty accounts
- Will be able to assign faculty to a course
- Will be able to create problems and problem sets for courses they are in charge of
 - Individual problems that are partially completed by Course Coordinators are saved to a sandbox area, until they are complete.
 - Once complete, problem gets transferred to private pool.
- Will have access to course tools which will provide statistics on problems and grades for a course
 - Will be able to create reports over multiple sections of a course involving all problems and problem sets or any subset thereof.
 - Reports may include general statistics such as number of participants, average score, median, low score, and high score.
- Will be able to manage the course pool for each course they are in charge of
 - Will be able to add, modify, or delete any problem in their course pool
 - Will be able to submit problems to the global pool
- Will be able to modify grades for all students currently enrolled in a course they currently manage
 - Will be able to keep track of all grades and any adjustments that are made
- Will be able to create announcement for all faculty and students of courses they manage or any subset thereof
- Will be able to log out

2.4.4 Functional Requirements: Administrator:

- Will be able log in
- Will be able to manage all accounts on the system
- Will be able to create course coordinator and faculty accounts
 - Will be able to assign courses to course coordinators
- Will have the same abilities as a course coordinator
- Will be able to manage the global pool of problems
- Will have access to tools for management of all accounts
 - Will be able to modify all account information for any user
 - Will be able to delete accounts
 - Will be able reset locked accounts
- Will be able to create announcements for all course coordinators, faculty and students, or any subset thereof
- Will be able to log out

2.4.5 Java SDK:

- Will accept and attempt to compile all Java™ source code submitted by students
 - Will output compile errors, when applicable
 - Will create Java™ Byte Code upon a successful compilation
- Will execute all successfully compiled Java™ solutions
 - Will monitor students' submissions while they are running for runtime errors
 - Will kill a student's submission if it takes too long to run (Timeout)
- Will record the output generated from the students' submissions

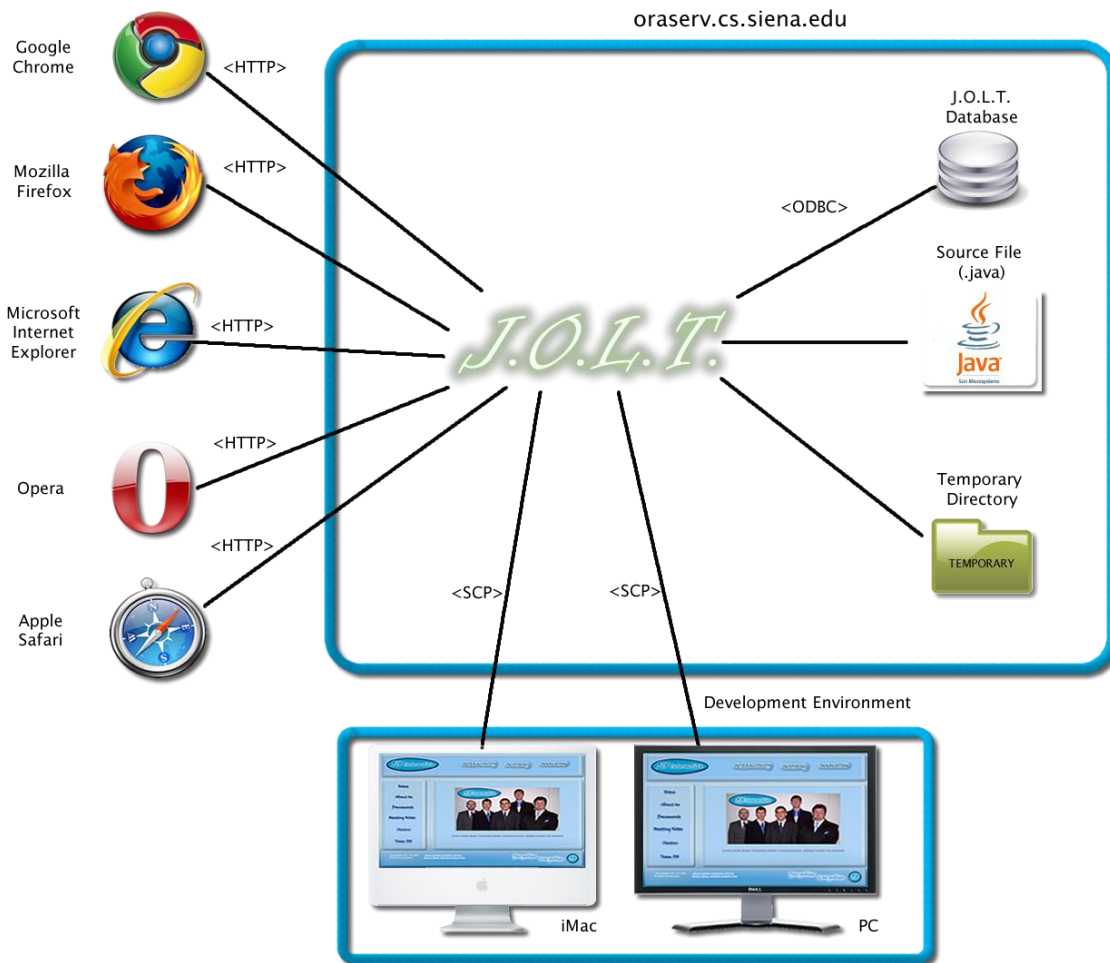
2.5 Non-Functional Requirements

A non-functional requirement is a requirement that specifies criteria that can be used to judge the operation of a system, rather than specific behaviors. They are typically used to describe the qualities of a system. Given this definition, there is no concrete way to measure whether or not a non-functional requirement has been met.

Non-Functional requirements have not yet been formally defined for JOLT.

2.6 UML Deployment Diagram

Deployment Diagrams are a Unified Modeling Language (UML) based diagram used to show devices and execution environments for a system. It represents the physical layout of the System. The Deployment Diagram for JOLT below shows the different browsers connecting via HTTP to JOLT. It also shows the Development Environment connecting via SSH. Finally JOLT is using various components and devices such as a database, and temporary directory.



2.7 Web Site Map

A Web Site Map is a diagram that shows the structure of a website. It allows the user to see the functionality available at any part of the site. The following elements are used to build a Web Site Map:

Home Page: Denotes the main page for each user within JOLT.

Home: Denotes the initial page that all users see when navigating to JOLT.

Form: Denotes web pages that contain fields for users to input data.

Web Page: Denotes a generic page within JOLT.

Page Redirect: Denotes a forced change (by JOLT) in where the user is within the system.

Link: Shows links on a given Web Page.

Possible Page Result Link: Denotes a page that a user *may* see, depending on conditions within the page they are currently on.

Part of Common Header: Denotes pages that are common to all users, regardless of position within the diagram.



Home Page



Home



Form



Web Page



Page Redirect



Link



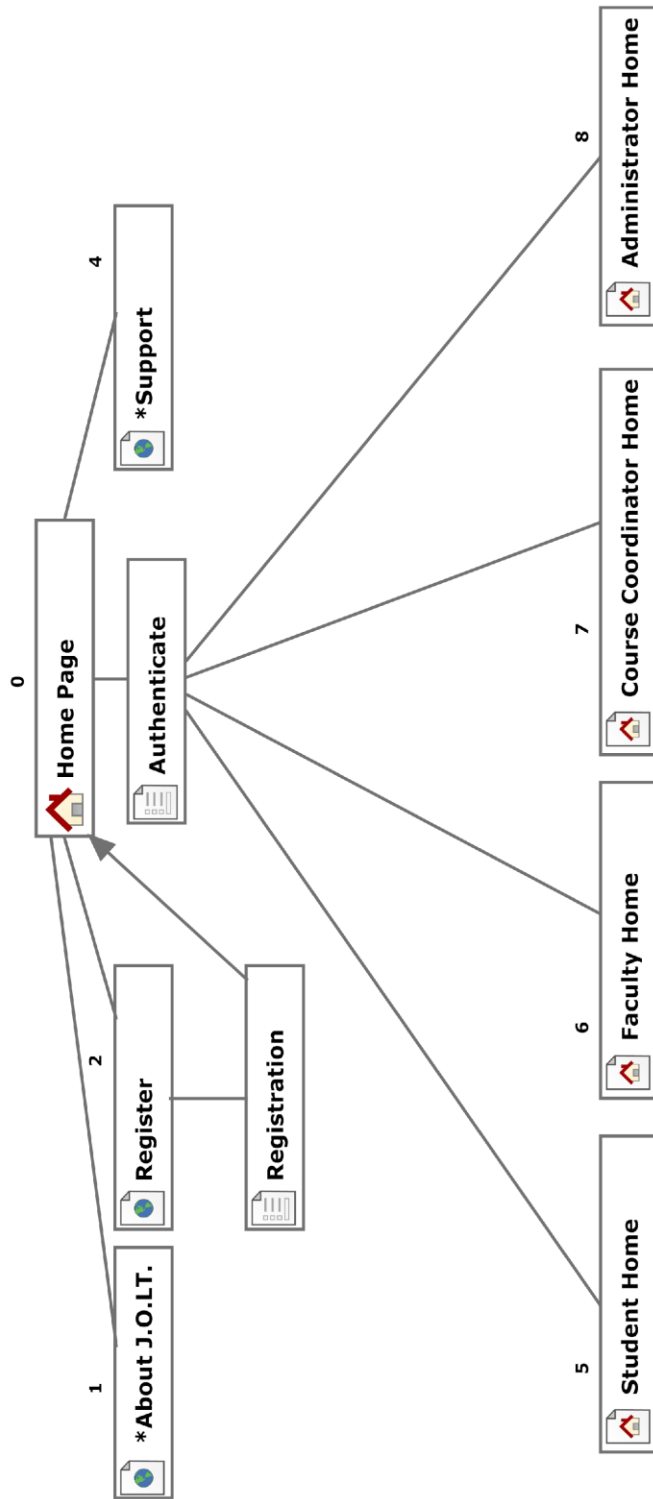
Possible Page Result Link



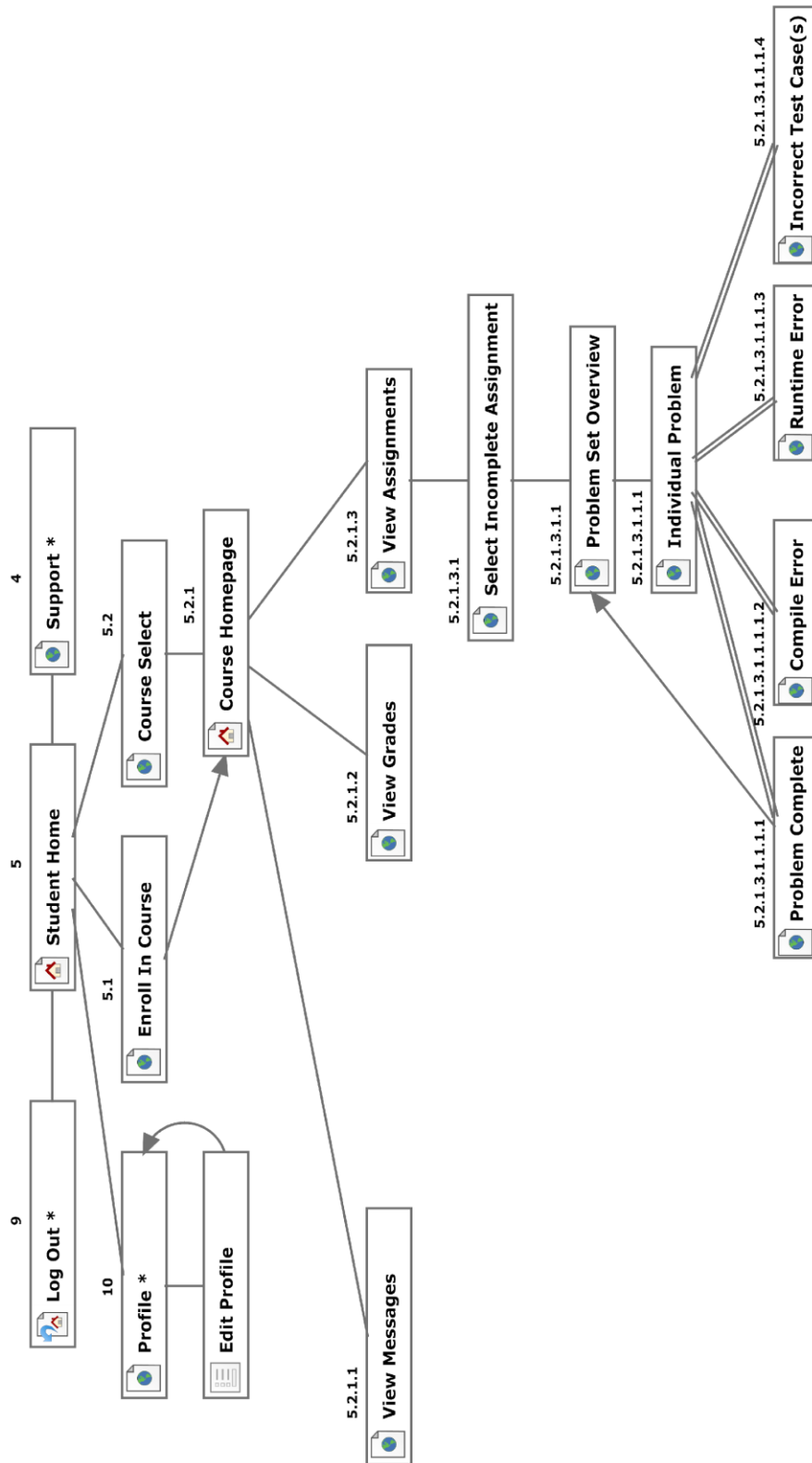
Part of Common header

2.7.1 Context Web Site Map

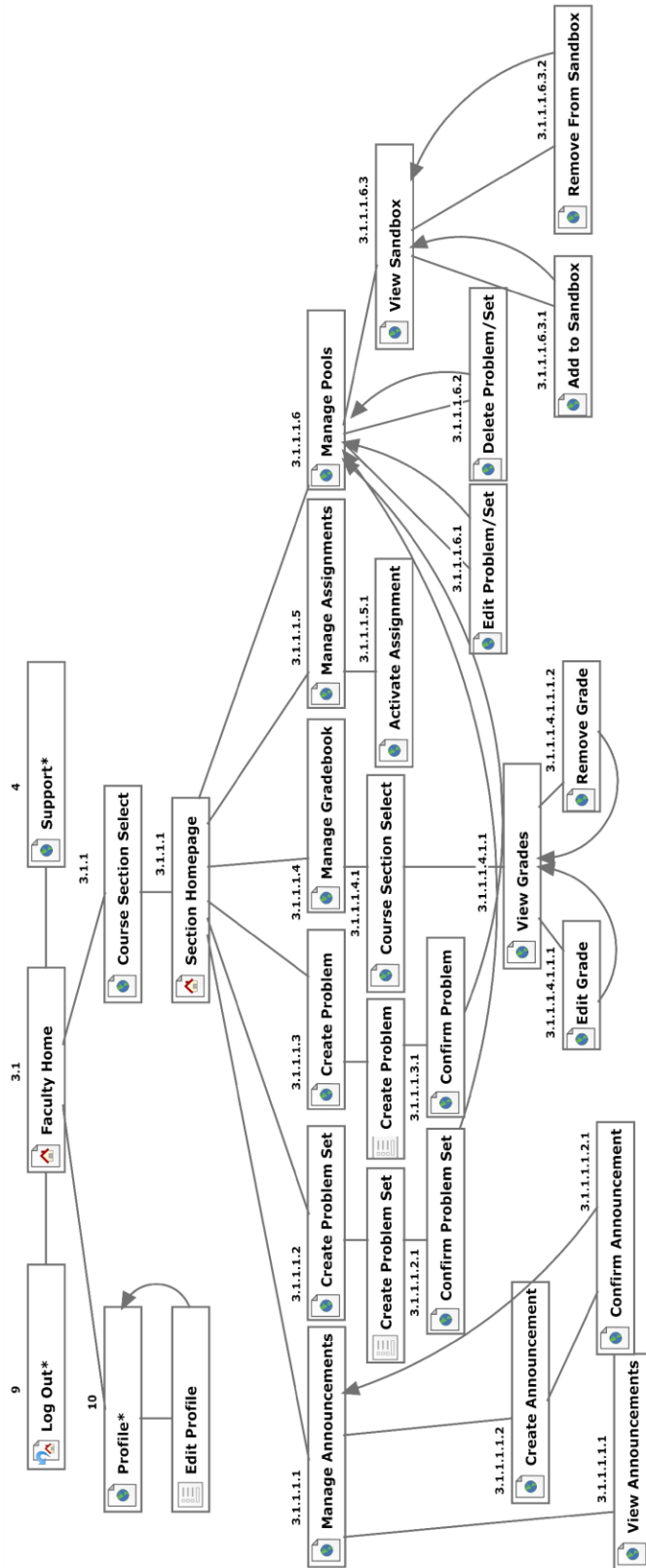
This shows the initial pages for JOLT. All subsequent Web Site Map diagrams show the User Home Pages broken down.



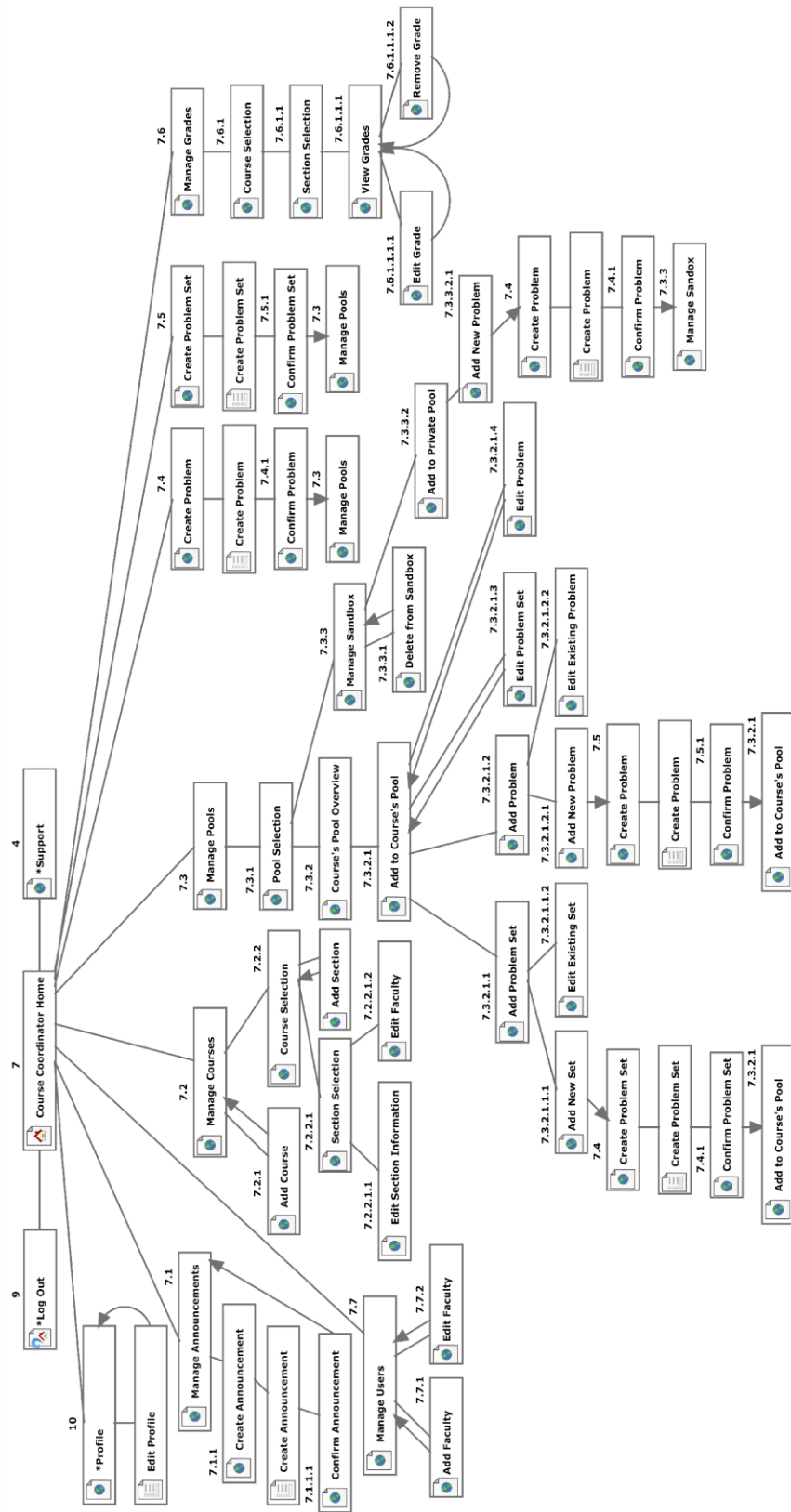
2.7.2 Student Web Site Map



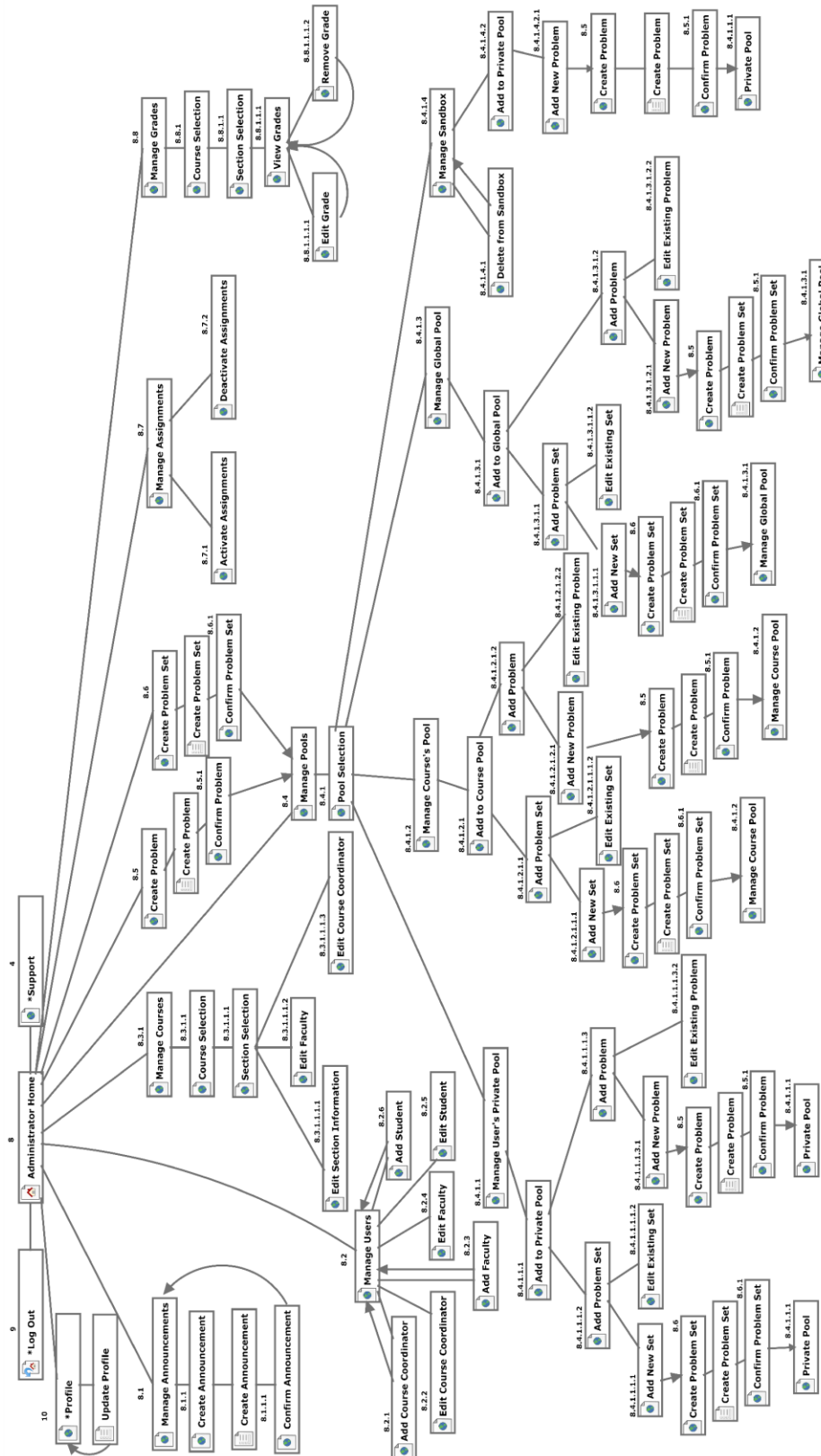
2.7.3 Faculty Web Site Map



2.7.4 Course Coordinator Web Site Map



2.7.5 Administrator Web Site Map



2.8 Data Flow Diagrams

The Data Flow Diagrams (DFDs) are used for structure analysis and design. DFDs show the flow of data from external entities into the system. DFDs also show how the data moves and is transformed from one process to another, as well as its logical storage.

Data Flow Diagrams are in an accompanied document titled “Data Flow Diagrams”, which can be found under the “Documents” link of the 518 Interactive Website.

2.9 Activity Diagrams

Activity Diagrams are a UML (Unified Modeling Language) specified diagram which shows workflows of stepwise activities and actions, with support for choice, iteration, and concurrency. It outlines the process that Actors (both human and non-human) go through while interacting with the System to accomplish a specific task.

Activity Diagrams are in an accompanied document titled “Activity Diagrams”, which can be found under the “Documents” link of the 518 Interactive Website.

2.10 Data Dictionary

The Data Dictionary lists all data entities within JOLT.

The Data Dictionary is in an accompanied document titled “Data Dictionary”, which can be found under the “Documents” link of the 518 Interactive Website.

3 Student User

3.1 Student User Narrative

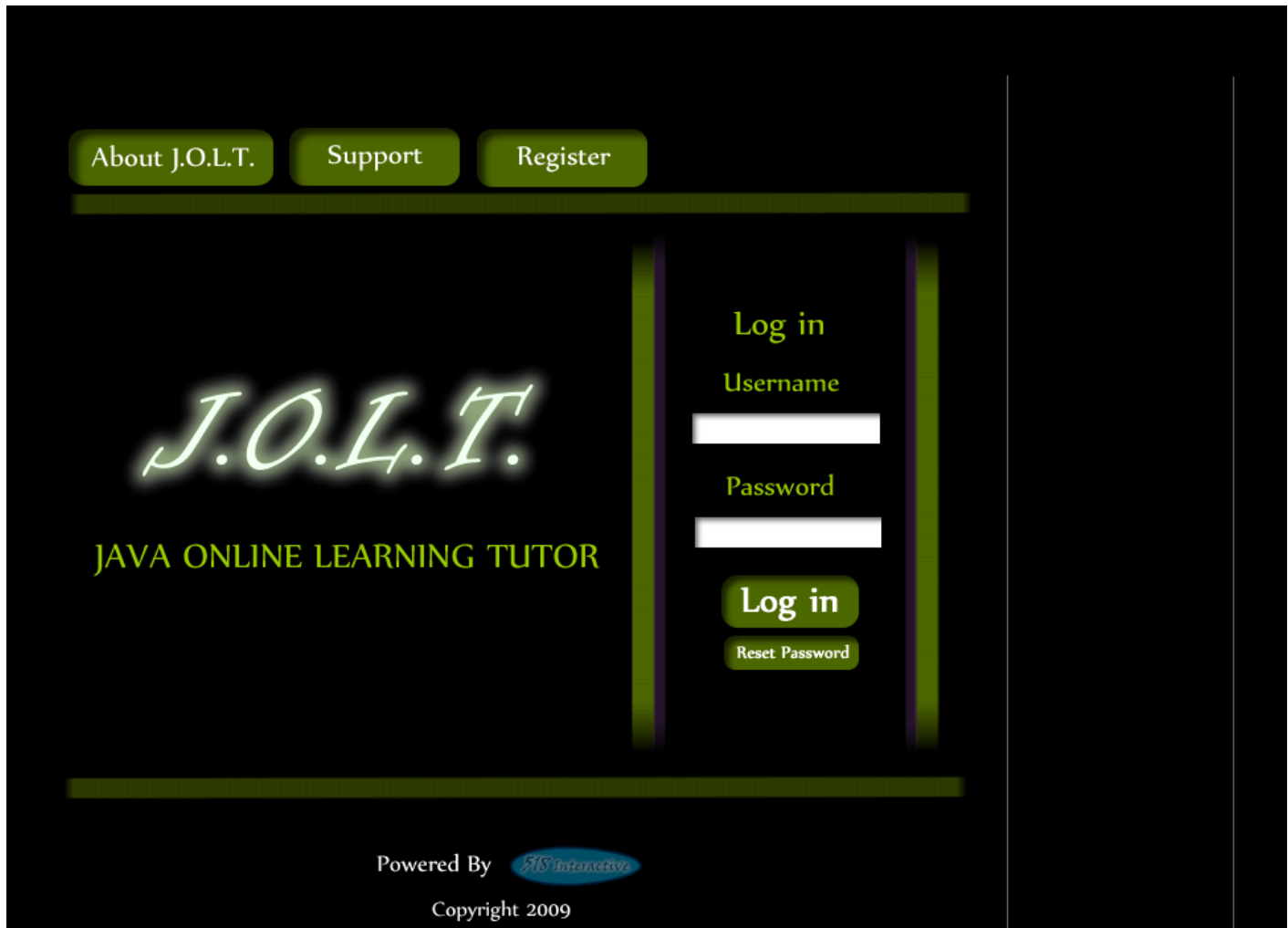
Students shall have the ability to register an account with the System. Once registered, students will be able to log into the system via their unique username and password. Once logged in, students will be able to enroll in only the courses they are currently taking. Students will have the ability to view problems in a categorized manner. Students will also be able to take exams and solve individual problems created by their instructor. Students will be able to solve problems by submitting Java source code, which the system will compile and run against provided test data. While solving a set of problems, students will be able to navigate from problem to problem without completing them in a specific order. Students will be able to save their progress for any individual problem and work on it again during a later session.

Students will have a report card view which will allow them to view their own grades and progress in all current and past courses. Students will be able to browse all of their own solutions as well.

3.2 Preliminary Student User Screens

The Student User shall have the following screens available.

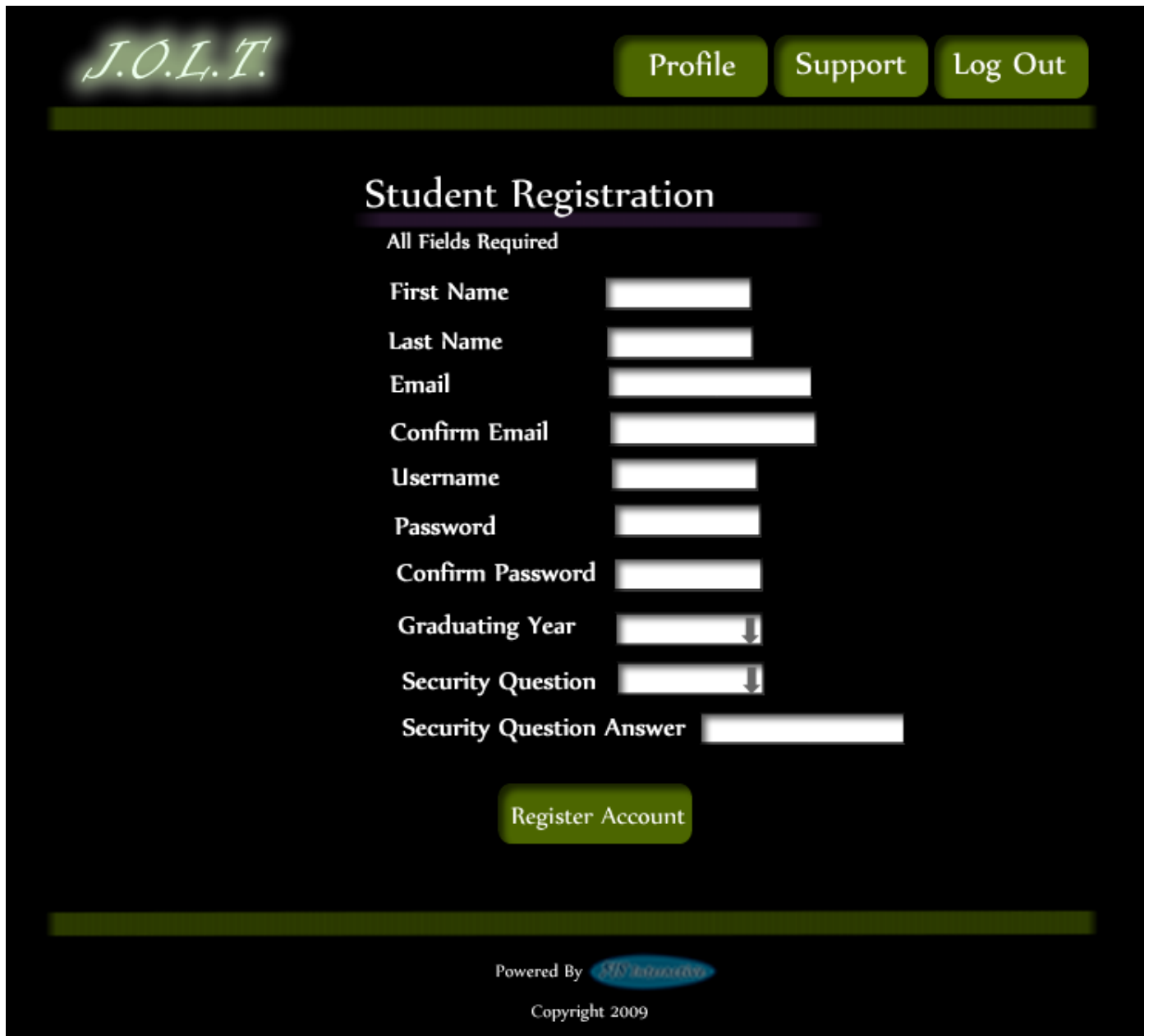
3.2.1 JOLT Login Page



The screenshot shows the JOLT login page with a dark background and green accents. At the top, there are three buttons: "About J.O.L.T.", "Support", and "Register". The main content area features the stylized "J.O.L.T." logo in a glowing green font, with "JAVA ONLINE LEARNING TUTOR" written below it in a green, sans-serif font. To the right of the logo is a login form with the following elements: a "Log in" heading, a "Username" label above a white input field, a "Password" label above another white input field, a green "Log in" button, and a "Reset Password" button. At the bottom of the page, it says "Powered By" followed by the "518 Interactive" logo and "Copyright 2009".

This is the initial screen that Students will be presented with when they navigate to JOLT. It prompts for a username and password, and provides a link for registration and forgotten password.

3.2.2 Student Registration Page



The screenshot shows the Student Registration page. At the top left is the J.O.L.T. logo. To the right are three buttons: Profile, Support, and Log Out. The main heading is "Student Registration" with a sub-heading "All Fields Required". Below this are several input fields: First Name, Last Name, Email, Confirm Email, Username, Password, Confirm Password, Graduating Year (a dropdown menu), Security Question (a dropdown menu), and Security Question Answer. A "Register Account" button is located below the fields. At the bottom, it says "Powered By 518 Interactive" and "Copyright 2009".

J.O.L.T. Profile Support Log Out

Student Registration

All Fields Required

First Name

Last Name

Email

Confirm Email

Username

Password


Confirm Password

Graduating Year

Security Question

Security Question Answer

Register Account

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Copyright 2009

This is the screen that Students will be presented with when they click the “Register” link on the Login Page. Students are asked to provide information that is required for registration with JOLT.

3.2.3 Student Registration Page (Error Message - Email)



The screenshot displays the Student Registration page with a dark background. At the top left is the "J.O.L.T." logo. On the top right are three buttons: "Profile", "Support", and "Log Out". The main heading is "Student Registration" with the subtext "All Fields Required". A prominent error message box with a red exclamation mark icon and a yellow border contains the text "Please provide a valid email address." and an "OK" button. Below the error message are four input fields: "Confirm Password" (text input), "Graduating Year" (dropdown menu), "Security Question" (dropdown menu), and "Security Question Answer" (text input). A "Register Account" button is positioned below these fields. At the bottom center, it says "Powered By" followed by the "518 Interactive" logo and "Copyright 2009".

This is an example of an error message that Students would see if they fail to provide a valid email address.

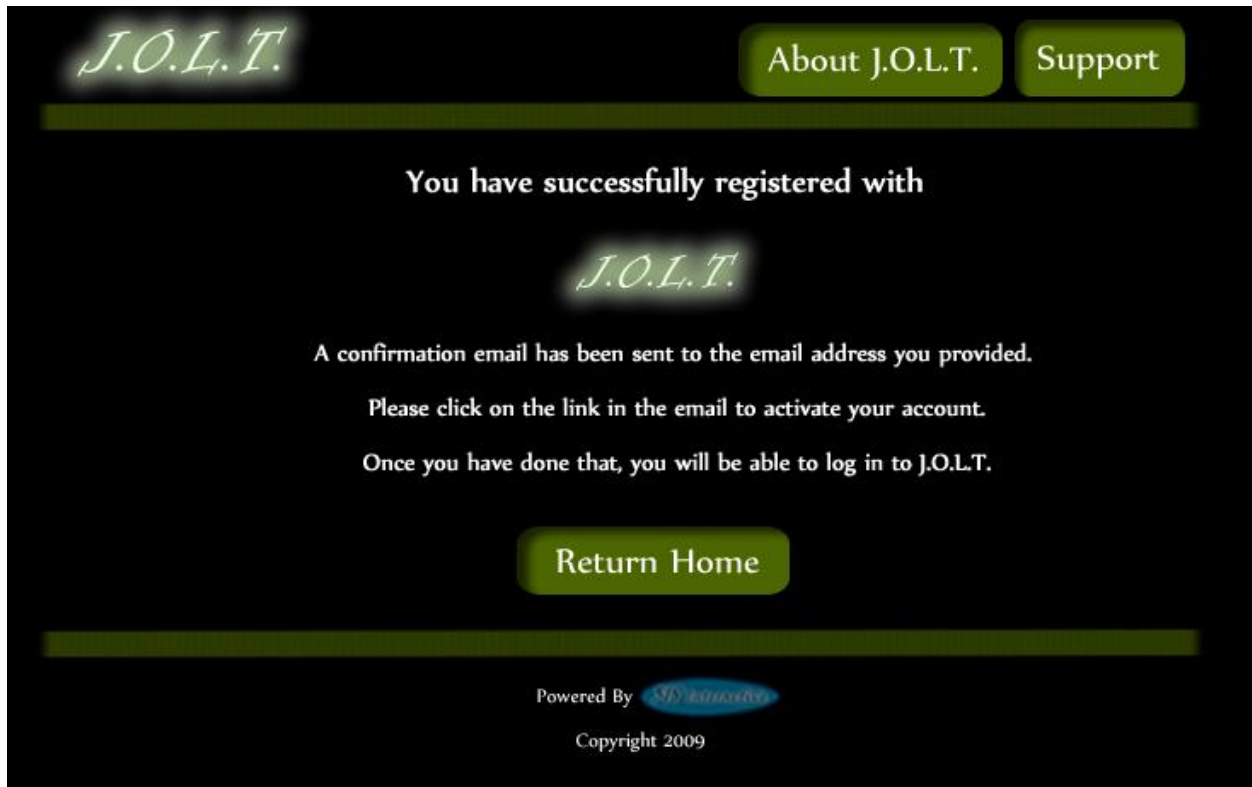
3.2.4 Student Registration Page (Error Message – Invalid Field)



The screenshot displays the Student Registration page with a dark background. At the top left is the J.O.L.T. logo. On the top right are buttons for Profile, Support, and Log Out. The main heading is "Student Registration" with the subtext "All Fields Required". A central error message box, outlined in red, contains a red exclamation mark icon and the text "Please correct the indicated fields." with an "OK" button. Below the error box are registration fields: "Confirm Password" (text input), "Graduating Year" (dropdown menu), "Security Question" (dropdown menu), and "Security Question Answer" (text input). The "Security Question Answer" field is highlighted in red and labeled "Missing Field". A "Register Account" button is positioned below the fields. At the bottom, it says "Powered By" with a logo and "Copyright 2009".

This is an example of an error message that Students would see if they fail to fill out all fields for registration.

3.2.5 Student Registration Page (Completed)



This is a confirmation screen that is displayed to Students when they successfully provide all required fields for registration. The screen asks Students to follow the instructions provided in the email that was sent by JOLT.

3.2.6 Student Account Activation

About J.O.L.T. Support Register

Your account has been activated you can now log in with your username and password.

J.O.L.T.

JAVA ONLINE LEARNING TUTOR

Log In

Username

Password

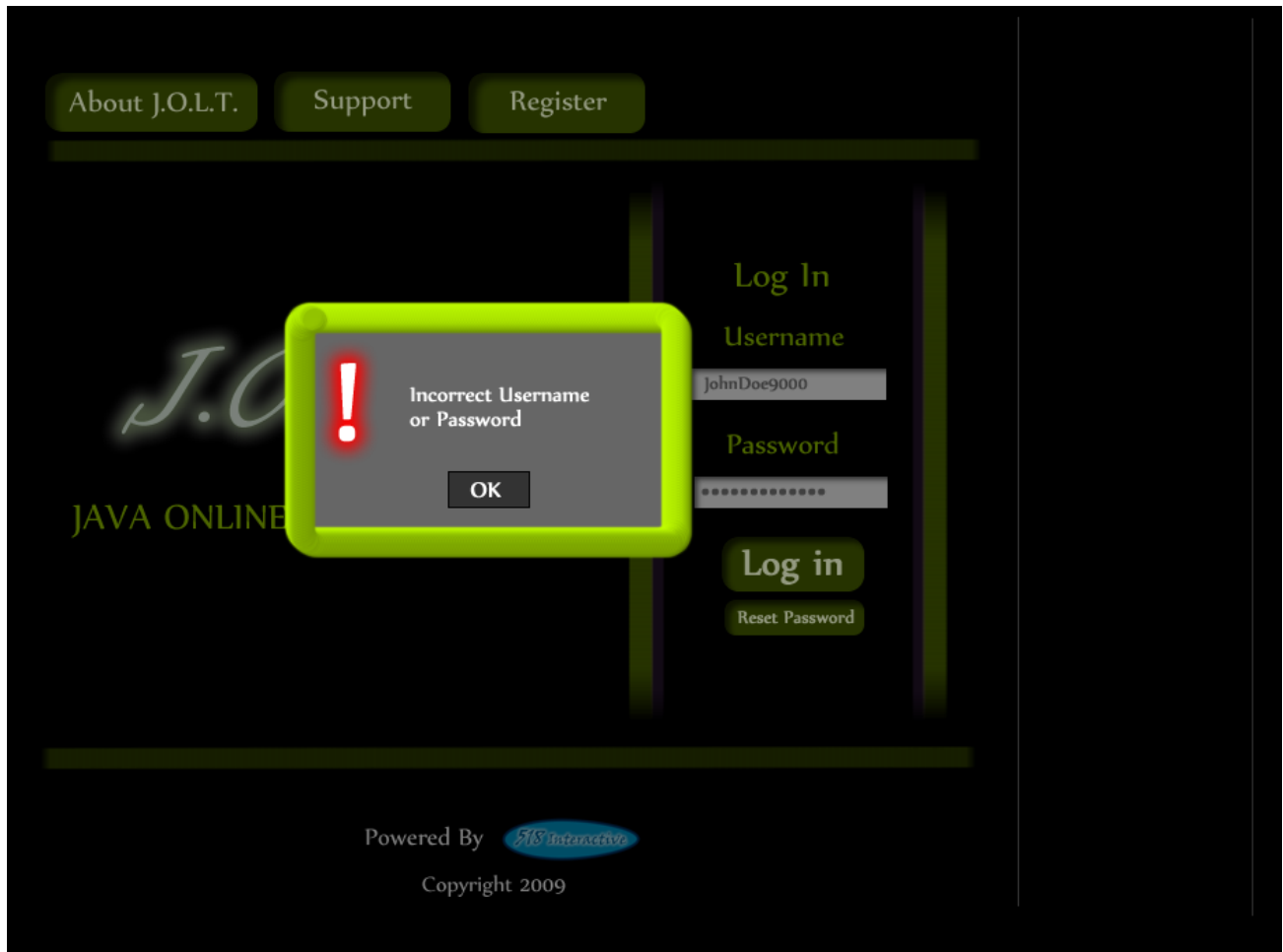
Log in

Reset Password

Powered By  Copyright 2009

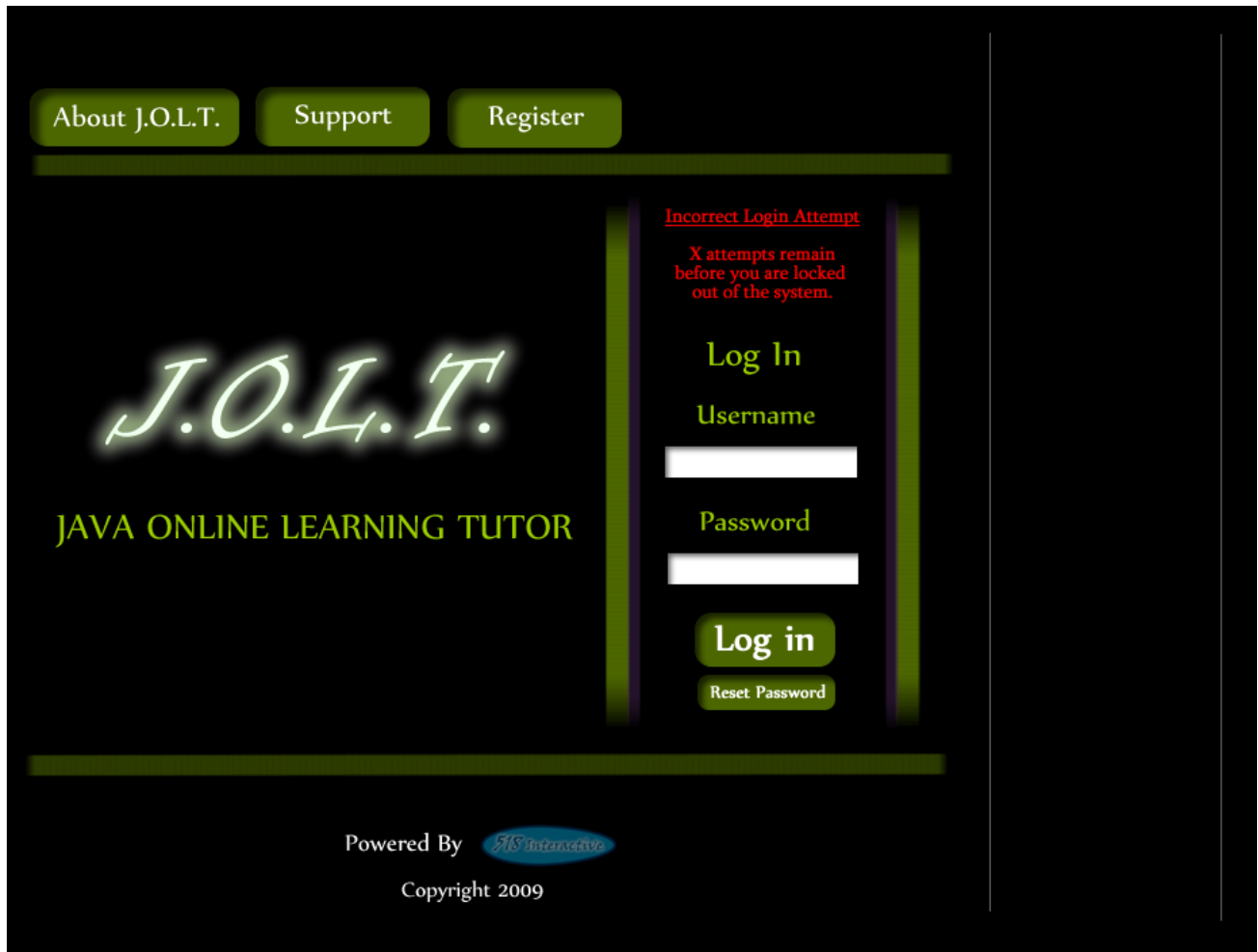
This is the initial page again, but this time, a message is displayed to the Student which shows that their account has been activated. Students reach this screen by clicking the link provided in the email that was sent to them when they registered with JOLT.

3.2.7 Invalid Login Screen



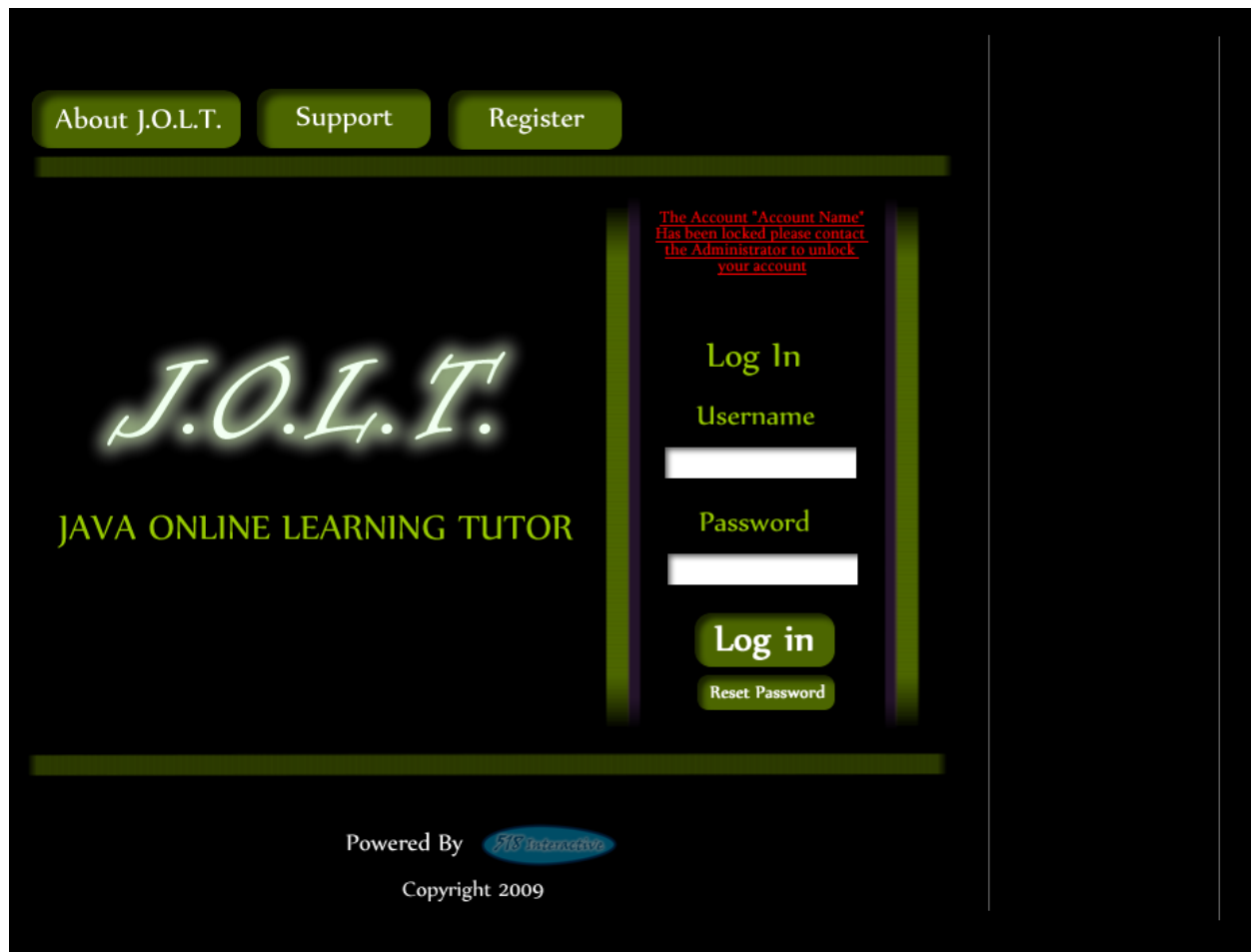
This error message will appear when a Student user enters an incorrect Username or Password.

3.2.8 Invalid Login Screen (After Dialog)



This is what the Student will see after clicking “Ok” in the *Invalid Login* error message. This screen indicates that the Student has X more login attempts before their account is locked out.

3.2.9 Account Lockout Screen



This screen appears when a Student user has too many incorrect login attempts for a particular username, and is locked out of the system.

3.2.10 Student Home Page

J.O.L.T. Profile Support Log Out

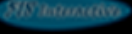
Welcome (Student Username)

Administrator Announcements Course Coordinator Announcements No New Announcements

You are not enrolled in any courses.

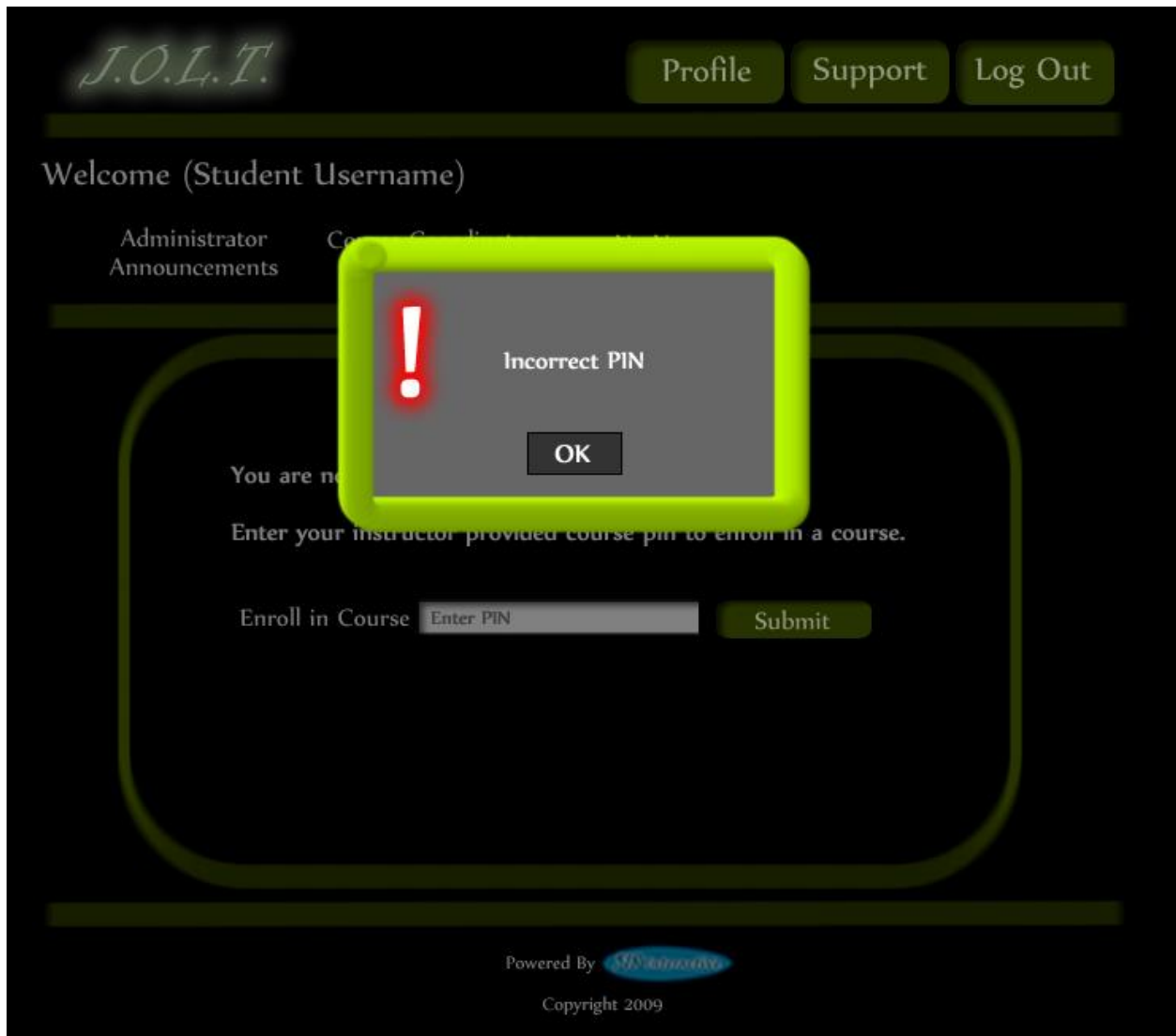
Enter your instructor provided course pin to enroll in a course.

Enroll in Course Submit

Powered By  Copyright 2009

This screen appears once a Student user successfully authenticates with JOLT. This screen indicates that the Student is not enrolled in any courses.

3.2.11 Course Enrollment (Invalid PIN)



This screen is shown when a user attempts to enter an incorrect PIN to enroll in a course.

3.2.12 Course Enrollment (Completed)

The screenshot shows the JOLT interface with a dark background and green accents. At the top left is the 'J.O.L.T.' logo. To its right are three buttons: 'Profile', 'Support', and 'Log Out'. Below this is a 'Welcome (Student Username)' message. Underneath are three announcement categories: 'Administrator Announcements', 'Course Coordinator Announcements', and 'No New Announcements'. The main content area is enclosed in a rounded green border and contains the text: 'You have entered a correct PIN and are now enrolled in CSIS-XXX-NN'. Below this is a 'List of Current Courses:' section with a link: '-CSIS-XXX-NN Data Structures Dr. Flatland'. At the bottom of this section is an 'Enroll in Course' label, a text input field containing 'Enter PIN', and a 'Submit' button. At the very bottom of the page, it says 'Powered By' followed by the '518 Interactive' logo and 'Copyright 2009'.

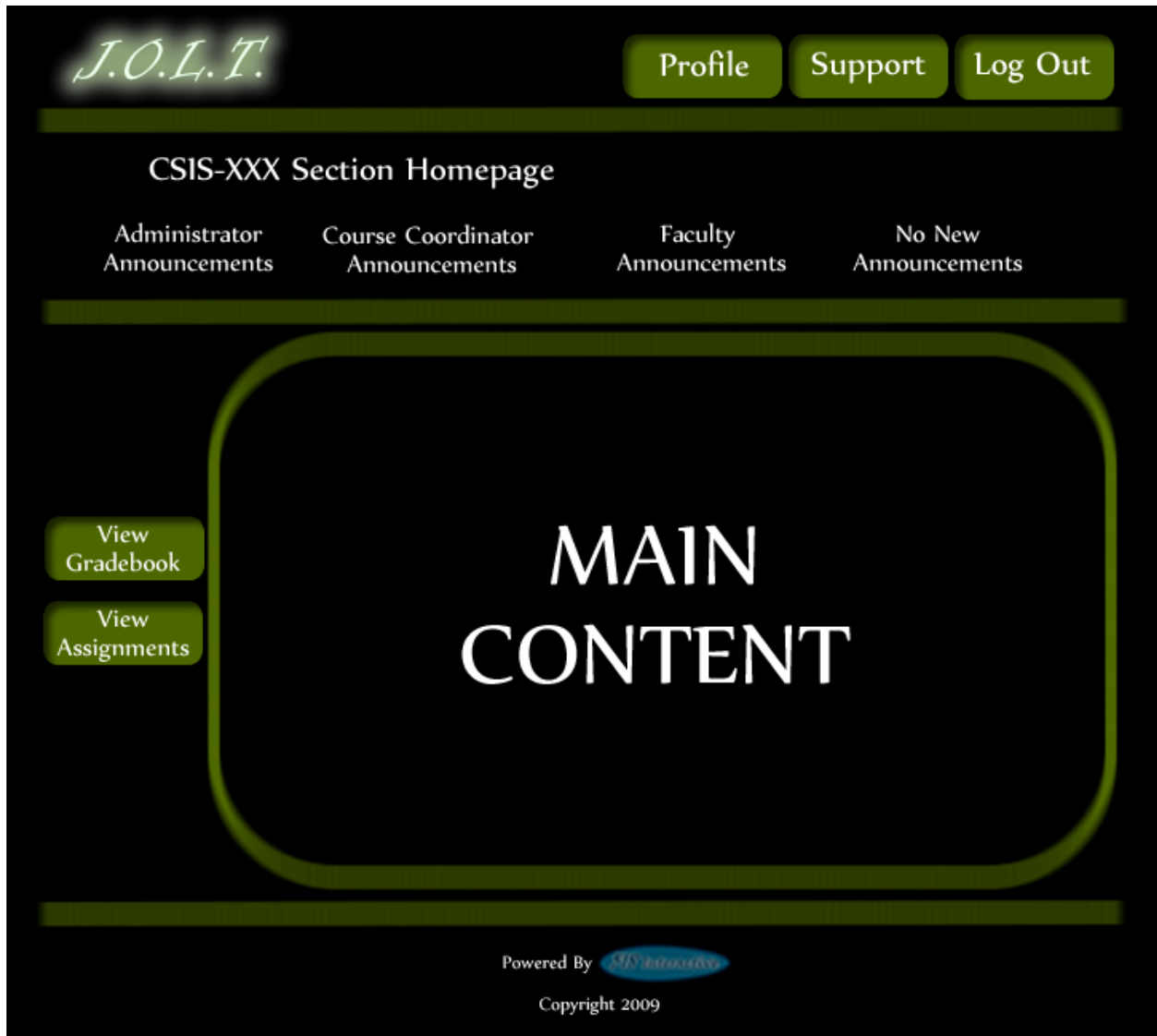
This screen is shown when a Student user enters a correct PIN to register for a course.

3.2.13 Course Selection

The screenshot shows the JOLT (Java Online Learning Toolkit) interface for a student user. At the top left is the J.O.L.T. logo. To the right are three buttons: Profile, Support, and Log Out. Below the logo is a horizontal line, followed by the text "Welcome (Student Username)". Underneath this are three columns of text: "Administrator Announcements", "Course Coordinator Announcements", and "No New Announcements". A large rounded rectangle contains the main content: "List of Current Courses:" followed by two lines of course information: "-CSIS-210 Data Structures Dr. Flatland" and "-CSIS-225 Object Oriented Dr. Lim". Below this is "List of Previous Courses:" followed by two lines: "-CSIS-110 Data Structures Dr. Flatland Fall 2008" and "-CSIS-120 Object Oriented Dr. Lim Spring 2009". At the bottom of this rounded rectangle is the text "Enroll in Course" followed by an input field labeled "Enter PIN" and a "Submit" button. At the very bottom of the page, it says "Powered By" with the 518 Interactive logo and "Copyright 2009".

This screen shows a Student user who is enrolled in multiple courses over multiple semesters. Student users have access to all prior courses.

3.2.14 Section Home Page



This is an example Section Home Page that a Student user would see once selecting a Section on their Home Page.

3.2.15 View Active Assignments

J.O.L.T. Profile Support Log Out

Pending Active Assignments for CSIS-XXX-NN [Return to Course Home](#)

Sort by: ↓ ↑	Sort by: ↓ ↑	Sort by: ↓ ↑
<u>Assignment Name</u>	<u>Due Date</u>	<u>Grade</u>
Binary Search	11/17/2010	—
Recursion	11/18/2010	—
String Practice	11/19/2010	—
Boolean Practice	11/19/2010	—

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This is the active assignments page that a Student User will see once selecting the “Active Assignments” link on the Section Homepage. The Assignments are clickable, which bring the Student to the Assignment’s Overview Page.

3.2.16 Problem Set Overview

The screenshot shows the J.O.L.T. interface. At the top left is the logo 'J.O.L.T.' in a stylized font. To its right are three buttons: 'Profile', 'Support', and 'Log Out'. Below this is a horizontal line. The main title 'Problem Set: String Practice' is on the left, and a 'Return to Course Home' button is on the right. A table with four columns: 'Problem Name', 'Category', 'Point Value', and 'Status' is the central element. The table contains five rows of problem data and a 'Total' row. Below the table are two buttons: 'Select New Problem Set' and 'Continue to first problem'. A note below the buttons says '*You can click on any problem's name to jump right to that problem*'. At the bottom, it says 'Powered By' followed by the '518 Interactive' logo and 'Copyright 2009'.

Problem Name	Category	Point Value	Status
Name1	Strings	20	--
Name2	Recursion	10	--
Name3	Arrays	10	--
Name4	Algorithms	20	--
Name5	Trees	40	--
Total:		100	

This is an example Problem Set Overview Screen. This screen shows each problem within the problem set, as well as each problem's category, point value, and completion status.

3.2.17 Solve Problem

J.O.L.T. Profile Support Log Out

Problem Set Name: Problem Set 1 Previous Back to Overview Next


Problem Name: Problem Name 1

Problem Description:
For problem 1 of this problem set you must code an iterative binary search algorithm. The method takes 2 parameters the first being a sorted array of integers containing the data, the second parameter is the number I want you to find.

Source Code: Reset Problem

```
public int findMe (int [] theData, int searchFor)
{
//Insert Your Code Here
}
```

Compile, Save, Run

Powered By  518 interactive
Copyright 2009

This is an example Solve Problem screen. The Student User is presented with the Problem Name, Description, and a text area for inputting Java™ Source Code. The text area is pre-populated with a method signature.

3.2.18 Student Solution Attempt (Compile Error)

The screenshot shows the JOLT interface for a student solution attempt. At the top left is the J.O.L.T. logo. Navigation buttons include Profile, Support, Log Out, Previous, Back to Overview, and Next. The problem set name is "Problem Set 1" and the problem name is "Problem Name 1". The problem description states: "For problem 1 of this problem set you must code an iterative binary search algorithm. The method takes 2 parameters the first being a sorted array of integers containing the data, the second parameter is the number I want you to find. If you can find the number return true, if you can't return false." The source code area contains the following code:

```
*****  
public int findMe (int [] theData, int searchFor)  
{  
    return n  
}
```

A "Reset Problem" button is located above the code area. A red error message states: "Your attempt failed to compile !
Compilation Error
Main.java:81: ';' expected
return n". Below the code area is a "Compile, Save, Run" button. At the bottom, it says "Powered By 518 Interactive" and "Copyright 2009".

This is the Solve Problem Screen with an example Compile Error. This is shown when a Student enters Java™ Source Code that is not syntactically correct, and then pushes the “Compile, Save, Run” Button.

3.2.19 Student Solution Attempt (Incorrect Output)

J.O.L.T. Profile Support Log Out

Problem Set Name: Problem Set 1
 Problem Name: Problem Name 1
 Problem Description:
 For problem 1 of this problem set you must code an iterative binary search algorithm. The method takes 2 parameters the first being a sorted array of integers containing the data, the second parameter is the number I want you to find. If you can find the number return true, if you can't return false.

Source Code: Reset Problem

```

*****
public int findMe (int [] theData, int searchFor)
{
//Insert Your Code Here
}
  
```

Compile, Save, Run

Your attempt did not meet all of the provided test cases!

Test Cases:

Case	Expected	Results	Pass/Fail	Passed In
#1	True	True	Pass ●	findMe (theData, 5)
#2	True	True	Pass ●	findMe (theData, 6)
#3	False	False	Pass ●	findMe (theData, 21)
#4	True	False	Fail ●	findMe (theData, 28)
#5	False	True	Fail ●	findMe (theData, 100)

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This is the Solve Problem Screen with incorrect output. This is shown when a Student clicks the “Compile, Save, Run” button after entering Java™ Source Code that is syntactically correct, but produces the wrong output.

3.2.20 Student Solution Attempt (Timeout)

The screenshot shows the JOLT interface for a student solution attempt. At the top left is the J.O.L.T. logo. Navigation buttons include Profile, Support, Log Out, Previous, Back to Overview, and Next. The problem set name is "Problem Set 1" and the problem name is "Problem Name 1". The problem description asks for an iterative binary search algorithm. The source code area shows a Java method with a while loop that is syntactically correct but causes a timeout. The test cases table shows five cases, all failing due to a timeout error.

Problem Set Name: Problem Set 1
Problem Name: Problem Name 1
Problem Description:
 For problem 1 of this problem set you must code an iterative binary search algorithm. The method takes 2 parameters the first being a sorted array of integers containing the data, the second parameter is the number I want you to find. If you can find the number return true, if you can't return false.

Source Code: Reset Problem

```

.....
public Int findMe (int [] theData, int searchFor)
{
while(true){
}
}

```

Test Cases:

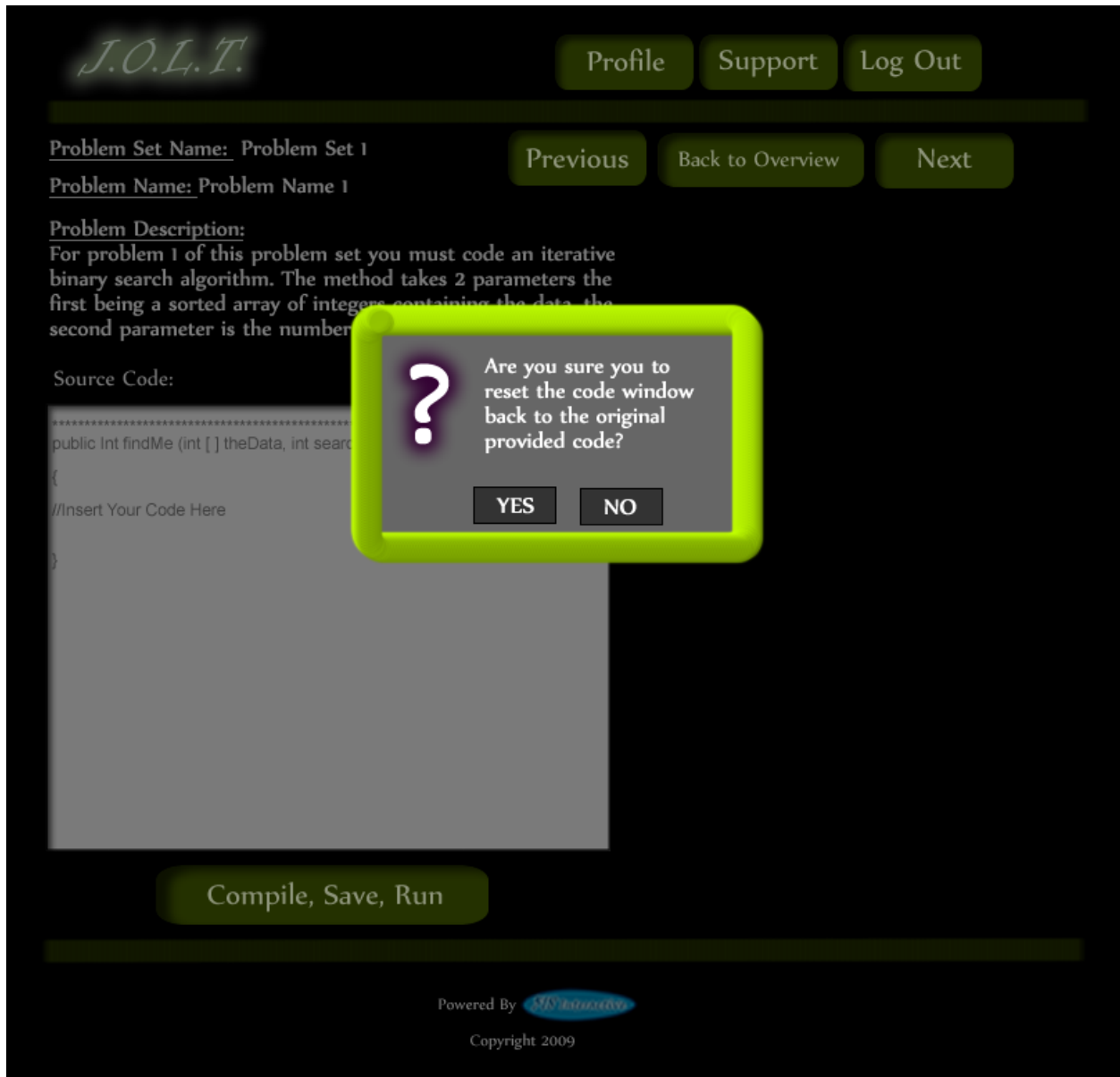
Case	Expected	Results	Pass/Fail	Passed In
#1	True	Timeout	Fail ●	findMe (theData, 12)
#2	True	Timeout	Fail ●	findMe (theData, 24)
#3	False	Timeout	Fail ●	findMe (theData, 167)
#4	True	Timeout	Fail ●	findMe (theData, 36)
#5	False	Timeout	Fail ●	findMe (theData, 100)

Compile, Save, Run

Powered By Copyright 2009

This is the Solve Problem Screen with a timeout error. This is shown when a Student clicks the “Compile, Save, Run” button after entering Java™ Source Code that is syntactically correct, but fails to complete execution within a reasonable amount of time. This time limit is to be determined at a later date.

3.2.21 Solve Problem (Reset Source Window)



The screenshot shows the JOLT interface for solving a problem. At the top left is the J.O.L.T. logo. To the right are buttons for "Profile", "Support", and "Log Out". Below these are buttons for "Previous", "Back to Overview", and "Next". The main content area displays the "Problem Set Name: Problem Set 1" and "Problem Name: Problem Name 1". The "Problem Description:" section contains text about coding an iterative binary search algorithm. Below the description is a "Source Code:" section with a code editor containing a Java method signature and a comment. A dialog box with a question mark icon is overlaid on the code editor, asking "Are you sure you to reset the code window back to the original provided code?" with "YES" and "NO" buttons. At the bottom of the code editor area is a "Compile, Save, Run" button. The footer includes "Powered By 518 Interactive" and "Copyright 2009".

This is the Solve Problem Screen with a dialog asking if the Student wants to reset the Source Code window back to the default signature. This appears when the Student clicks the “Reset Problem” button.

3.2.22 Solve Problem (Navigate Away)

The screenshot shows the JOLT interface with a dark theme. At the top left is the logo "J.O.L.T.". To the right are buttons for "Profile", "Support", and "Log Out". Below these are "Problem Set Name: Problem Set 1" and "Problem Name: Problem Name 1". Navigation buttons include "Previous", "Back to Overview", and "Next". The "Problem Description:" section contains text about coding a binary search algorithm. Below is a "Source Code:" text area with a code editor containing Java code. A yellow-bordered dialog box with a red exclamation mark icon is overlaid on the code editor, asking: "You have entered code in the code window. Do you still want to navigate away from this page." with "YES" and "NO" buttons. At the bottom of the interface is a "Compile, Save, Run" button and a footer with "Powered By" and "Copyright 2009".

This pop up will appear if the user has code entered into the “Source Code” text area and clicks on a link other than “Compile, Save, Run” to navigate to another page. If the Student decides they still want to navigate away from this screen they will click “Yes”, their code will be saved to the database and the problem and problem set marked INC for incomplete. If the Student clicks “No” the popup will disappear, no navigation will occur and the screen will be just as the Student left it before they clicked the link.

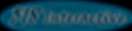
3.2.23 Updated Problem Set Overview Screen (Navigate Away)

The screenshot shows the JOLT interface for a problem set overview. At the top left is the J.O.L.T. logo. To the right are buttons for 'Profile', 'Support', and 'Log Out'. Below this is the title 'Problem Set: String Practice' and a 'Return to Course Home' button. The main content is a table with four columns: Problem Name, Category, Point Value, and Status. The table lists five problems: Name1 (Strings, 20, INC), Name2 (Recursion, 10, --), Name3 (Arrays, 10, --), Name4 (Algorithms, 20, --), and Name5 (Trees, 40, --). Below the table, it shows 'Total: 100' and 'Your Total: 0'. At the bottom are buttons for 'Select New Problem Set' and 'Continue to first problem', followed by a note: '*You can click on any problem's name to jump right to that problem*'. The footer includes 'Powered By' with a logo and 'Copyright 2009'.

Problem Name	Category	Point Value	Status
Name1	Strings	20	INC
Name2	Recursion	10	--
Name3	Arrays	10	--
Name4	Algorithms	20	--
Name5	Trees	40	--
		Total: 100	Your Total: 0

[Select New Problem Set](#)
[Continue to first problem](#)

You can click on any problem's name to jump right to that problem

Powered By  Copyright 2009

This is an example Problem Set Overview screen with an Incomplete Problem. This occurs when a student navigates away from a problem once attempting to solve it.

3.2.24 Student Solution Attempt (Completed)

J.O.L.T.

[Profile](#) [Support](#) [Log Out](#)

[Previous](#) [Back to Overview](#) [Next](#)

You Have Passed All Test Cases!

Test Cases:

Case	Expected	Results	Pass/Fail	Passed In
#1	True	True	Pass	<i>findMe (theData, 5)</i>
#2	True	True	Pass	<i>findMe (theData, 6)</i>
#3	False	False	Pass	<i>findMe (theData, 21)</i>
#4	True	True	Pass	<i>findMe (theData, 6)</i>
#5	True	True	Pass	<i>findMe (theData, 6)</i>
#6	<i>XXX</i>	<i>XXX</i>	Pass	<i>findMe (XXXXXXX)</i>

Italics Denote Hidden Test Cases

[Return to Problem Set](#)

Problem Set Name: Problem Set 1
Problem Name: Problem Name 1
Problem Description:
 For problem 1 of this problem set you must code an iterative binary search algorithm. The method takes 2 parameters the first being a sorted array of integers containing the data, the second parameter is the number I want you to find. If you can find the number return true, if you can't return false.

Source Code: [Reset Problem](#)

```

public int findMe (int [ ] theData, int searchFor)
{
}
}

```

[Compile, Save, Run](#)

Powered By 518 Interactive
 Copyright 2009

This screen appears when the Student enters a Java™ solution that passes all of the provided test cases.

3.2.25 Updated Problem Set Screen


The screenshot shows a user interface for a problem set. At the top left is the logo 'J.O.L.T.' in a stylized font. To the right are three buttons: 'Profile', 'Support', and 'Log Out'. Below this is the title 'Problem Set: String Practice' and a 'Return to Course Home' button. A table lists five problems with columns for 'Problem Name', 'Category', 'Point Value', and 'Status'. The first problem, 'Name1', is marked as 'Complete'. At the bottom of the table, it shows 'Total: 100' and 'Your Total: 20'. Below the table are two buttons: 'Select New Problem Set' and 'Continue to first problem'. A note states: '*You can click on any problem's name to jump right to that problem*'. At the very bottom, it says 'Powered By 518 Interactive' and 'Copyright 2009'.

Problem Name	Category	Point Value	Status
Name1	Strings	20	Complete
Name2	Recursion	10	--
Name3	Arrays	10	--
Name4	Algorithms	20	--
Name5	Trees	40	--

Total: 100 Your Total: 20

Select New Problem Set Continue to first problem

You can click on any problem's name to jump right to that problem


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This is an example Problem Set Overview Screen showing a completed problem. The Students total score is shown on the bottom.

3.2.26 View Gradebook

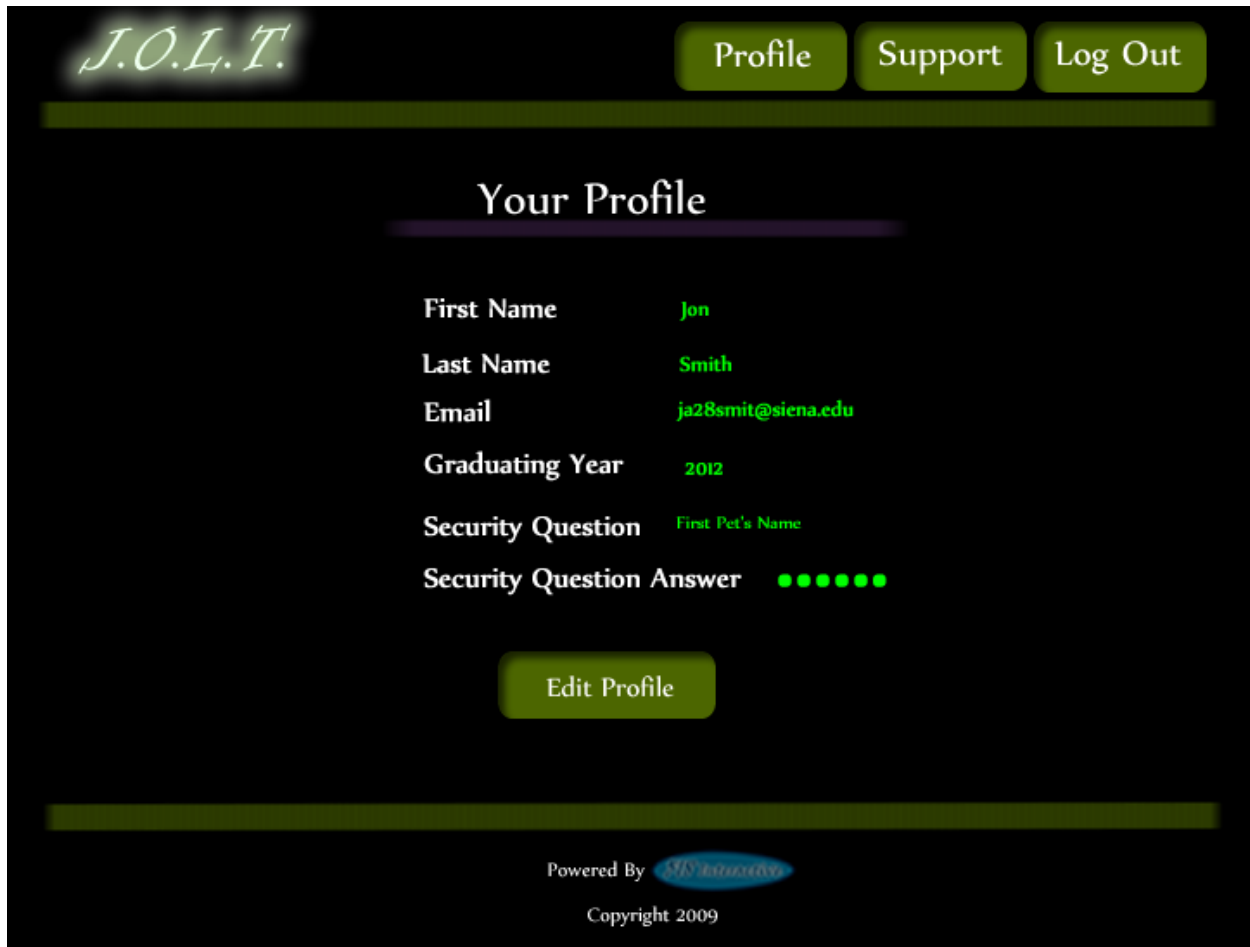
Sort by: ↓ ↑ Sort by: ↓ ↑ Sort by: ↓ ↑

<u>Assignment Name</u>	<u>Due Date</u>	<u>Grade</u>
Problem Set 1	11/17/2010	100
Recursion	11/18/2010	--
String Practice	11/19/2010	--
Iteration	11/20/2010	--
		Average: 100

Powered By  Copyright 2009

This is an example of the Student gradebook for a particular section. This screen is sortable by name, due date, and grade. The Assignment Name fields are clickable, with each link bringing you to the respective Problem Set Overview.

3.2.27 View Profile



The screenshot shows a web interface for viewing a user's profile. At the top left is the 'J.O.L.T.' logo. To the right are three buttons: 'Profile', 'Support', and 'Log Out'. The main heading is 'Your Profile'. Below this, the profile information is displayed in a list format:

First Name	Jon
Last Name	Smith
Email	ja28smit@siena.edu
Graduating Year	2012
Security Question	First Pet's Name
Security Question Answer	●●●●●●

Below the profile information is an 'Edit Profile' button. At the bottom of the page, it says 'Powered By' followed by the 'MS Interactive' logo and 'Copyright 2009'.

This screen appears when the Student clicks the “Profile” button in the header of any page. It shows the Student’s profile information.

3.2.28 Edit Profile

J.O.L.T. Profile Support Log Out

Edit Profile

All fields are required

First Name

Last Name

Email

Confirm Email

Password


Confirm Password

Graduating Year

Security Question

Security Question Answer

Save Changes

Powered By  Copyright 2009

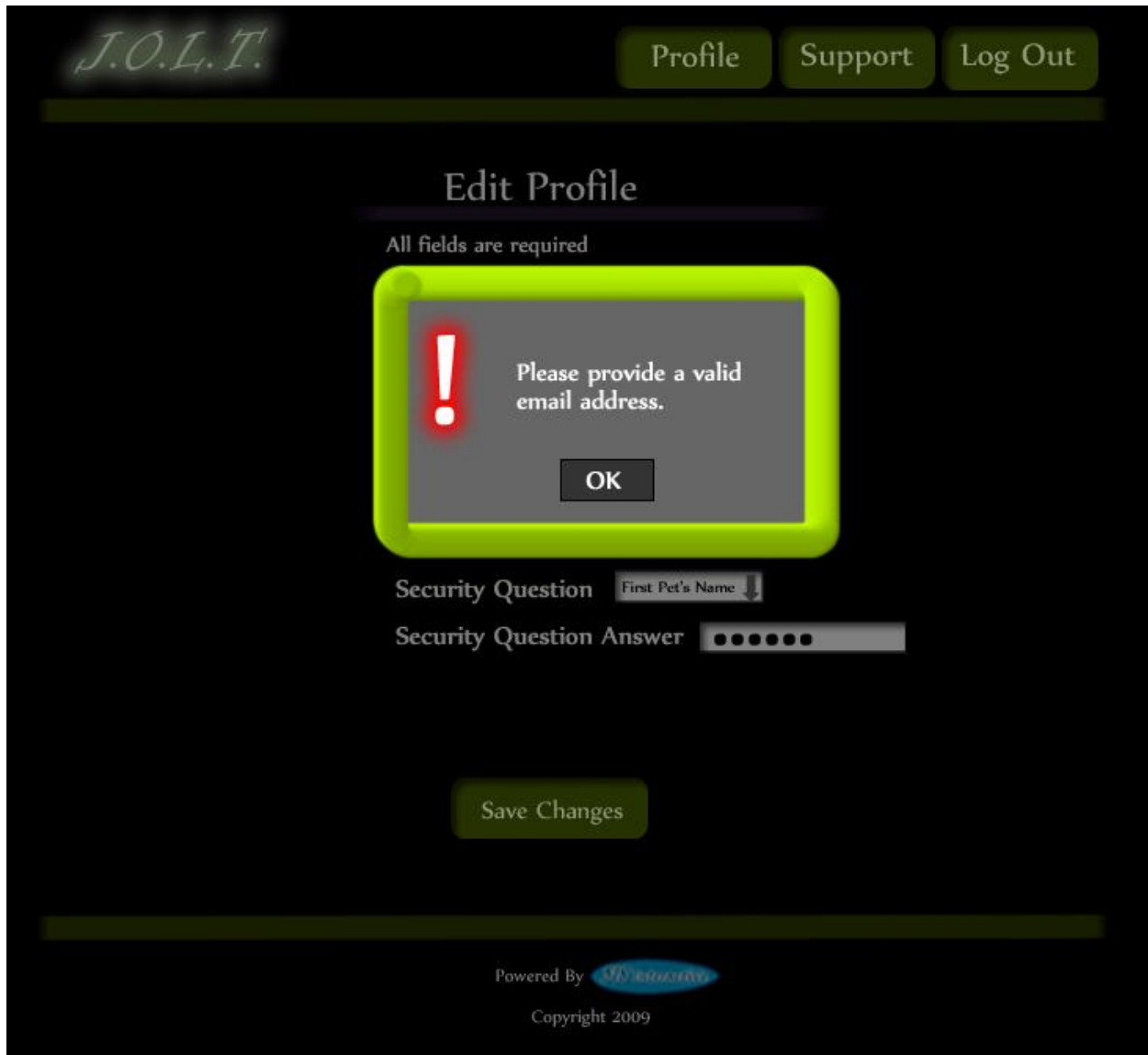
This screen allows a Student user to edit their profile information. The Students gets here by clicking the “Edit Profile” button on the Student Profile Page.

3.2.29 Edit profile (Invalid Data)

The screenshot shows the 'Edit Profile' page in the JOLT system. At the top left is the 'J.O.L.T.' logo. To the right are three buttons: 'Profile', 'Support', and 'Log Out'. The main heading is 'Edit Profile', followed by the instruction 'All fields are required'. A large red error message box with a white exclamation mark is centered on the page, containing the text 'Please correct the indicated fields.' and an 'OK' button. Below this, the 'Graduating Year' dropdown is set to '2012'. The 'Security Question' dropdown is set to 'First Pet's Name'. The 'Security Question Answer' field is empty and highlighted in red, with the text 'Missing Field' to its right. A 'Save Changes' button is located below the form fields. At the bottom, it says 'Powered By' with a logo and 'Copyright 2009'.

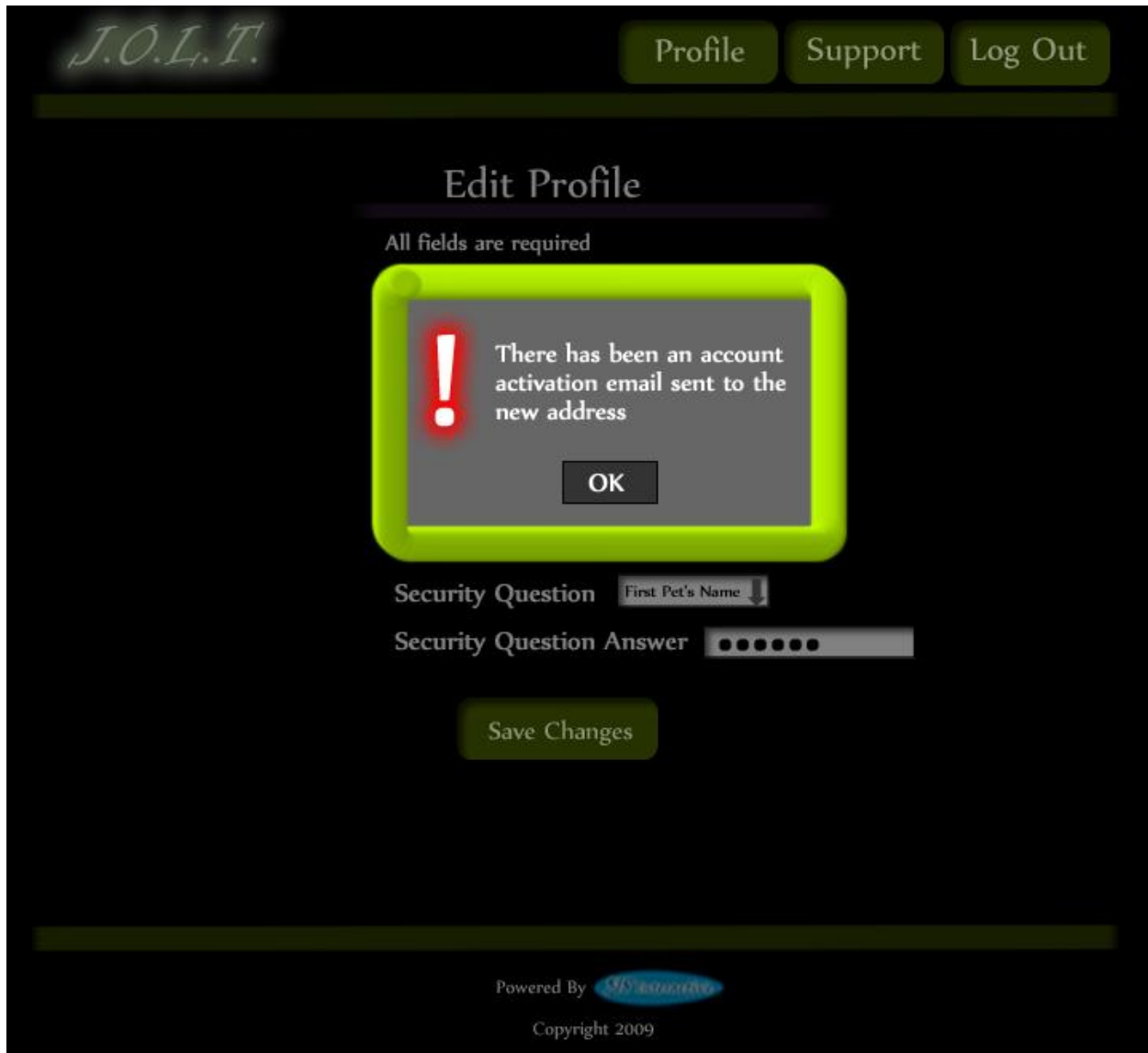
This screen appears when a Student tries to save changes to their profile with invalid or missing data. The invalid fields are indicated to the user.

3.2.30 Edit Profile (Invalid Email Address)



This message appears when the Student enters an invalid email address on the Edit Profile screen.

3.2.31 Edit Profile (New Email Address)



The screenshot shows the 'Edit Profile' interface. At the top left is the 'J.O.L.T.' logo. To the right are three buttons: 'Profile', 'Support', and 'Log Out'. The main heading is 'Edit Profile', followed by the instruction 'All fields are required'. A central message box with a red exclamation mark icon contains the text: 'There has been an account activation email sent to the new address'. Below this message is an 'OK' button. Underneath the message box are two security question fields: 'Security Question' with a dropdown menu showing 'First Pet's Name', and 'Security Question Answer' with a masked input field. A 'Save Changes' button is located below these fields. At the bottom of the page, it says 'Powered By' followed by the MyAspen logo and 'Copyright 2009'.

This message appears when the Student enters a new email address in the Edit Profile Screen. They are required to validate the new email address.

3.2.32 Edit Profile (Valid Update)



The screenshot displays the 'Your Profile' page in the JOLT system. At the top left is the 'J.O.L.T.' logo. To the right are three buttons: 'Profile', 'Support', and 'Log Out'. A green message reads 'Your Changes Have Been Saved.' Below this is the title 'Your Profile'. The profile information is listed as follows:

First Name	Jon
Last Name	Smith
Email	ja28smit@siena.edu
Graduating Year	2011
Security Question	First Pet's Name
Security Question Answer	●●●●●●

At the bottom of the profile section is an 'Edit Profile' button. The footer of the page includes the text 'Powered By' followed by the 'MS Associates' logo and 'Copyright 2009'.

This screen shows a confirmation that the Student user has successfully updated their account information.

3.2.33 Logout



This screen shows a Student who has just logged out of JOLT by clicking the Logout button in the header.

4 Faculty User

4.1 Faculty User Case Narrative

Faculty shall have the ability to log into the system via a unique username and password. Once logged in, Faculty will be able to select a course and then create individual problems as well as problem sets for that course. Each problem will be categorized based on type and difficulty. Faculty will be able to assign a grading scheme to problems and problem sets. Each problem created will have the ability to be modified; however, all changes will be recorded into the System as a new problem. This will allow users to view problems and problem sets in a temporal manner.

Faculty will have the ability to submit their problems and problem sets to a “Course Pool”, which will allow other faculty members who teach the same course access to their problems and problem sets. Faculty will have the ability to search a Course Pool or the Global Pool.

Faculty will have a grade book view which will allow them to see the progress of each student that they instruct or have previously instructed. Faculty will have the ability to alter any grade that was assigned to a student in their course. Faculty will have the ability to send a broadcast message to students that they instruct. Faculty will have the ability to go into a Student mode which will modify their access to that of a Student.

4.2 Preliminary Faculty Screens

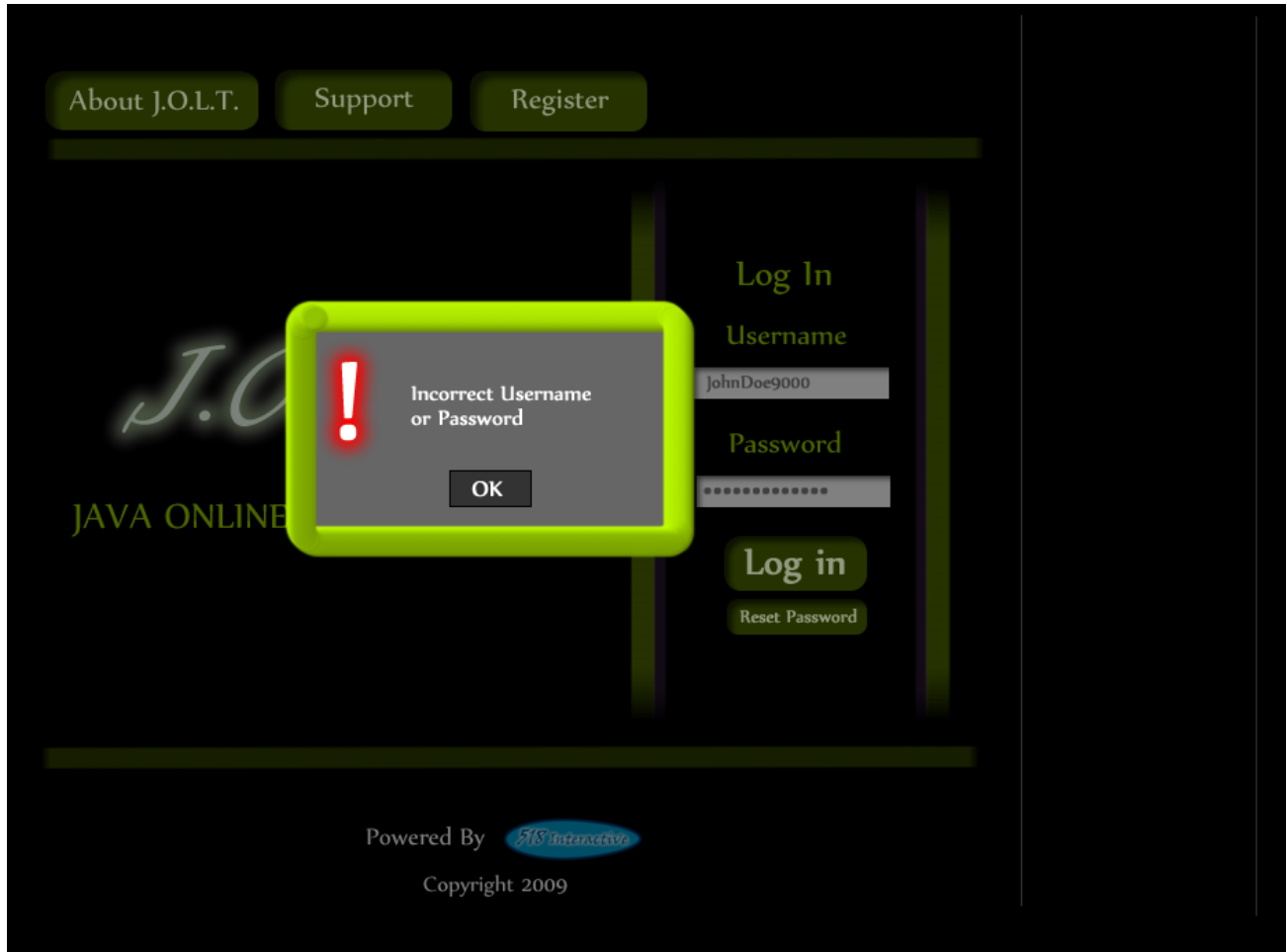
The Faculty User shall have the following screens available.

4.2.1 JOLT Login

The screenshot shows the JOLT login interface. At the top, there are three navigation buttons: "About J.O.L.T.", "Support", and "Register". The main content area features the "J.O.L.T." logo in a stylized, glowing font, with "JAVA ONLINE LEARNING TUTOR" written below it. To the right, there is a login form with fields for "Username" and "Password", a "Log in" button, and a "Reset Password" link. At the bottom, it says "Powered By FIS interactive" and "Copyright 2009".

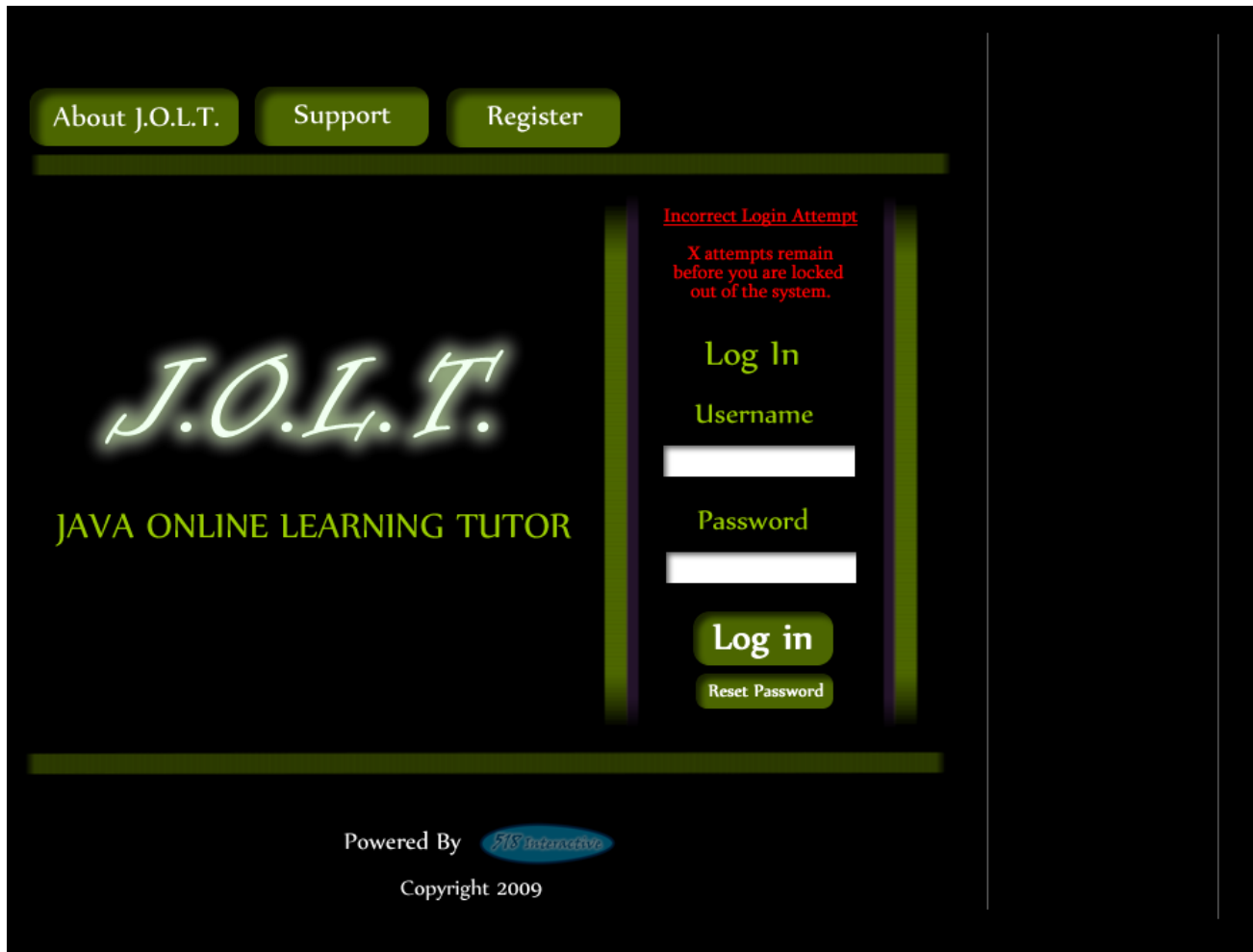
This is the initial screen that Faculty will be presented with when they navigate to JOLT. It prompts for a username and password, and provides a link for forgotten password. Note that faculty accounts are created by Course Coordinators and/or the Administrator. No self-registration is allowed.

4.2.2 Invalid Login Screen



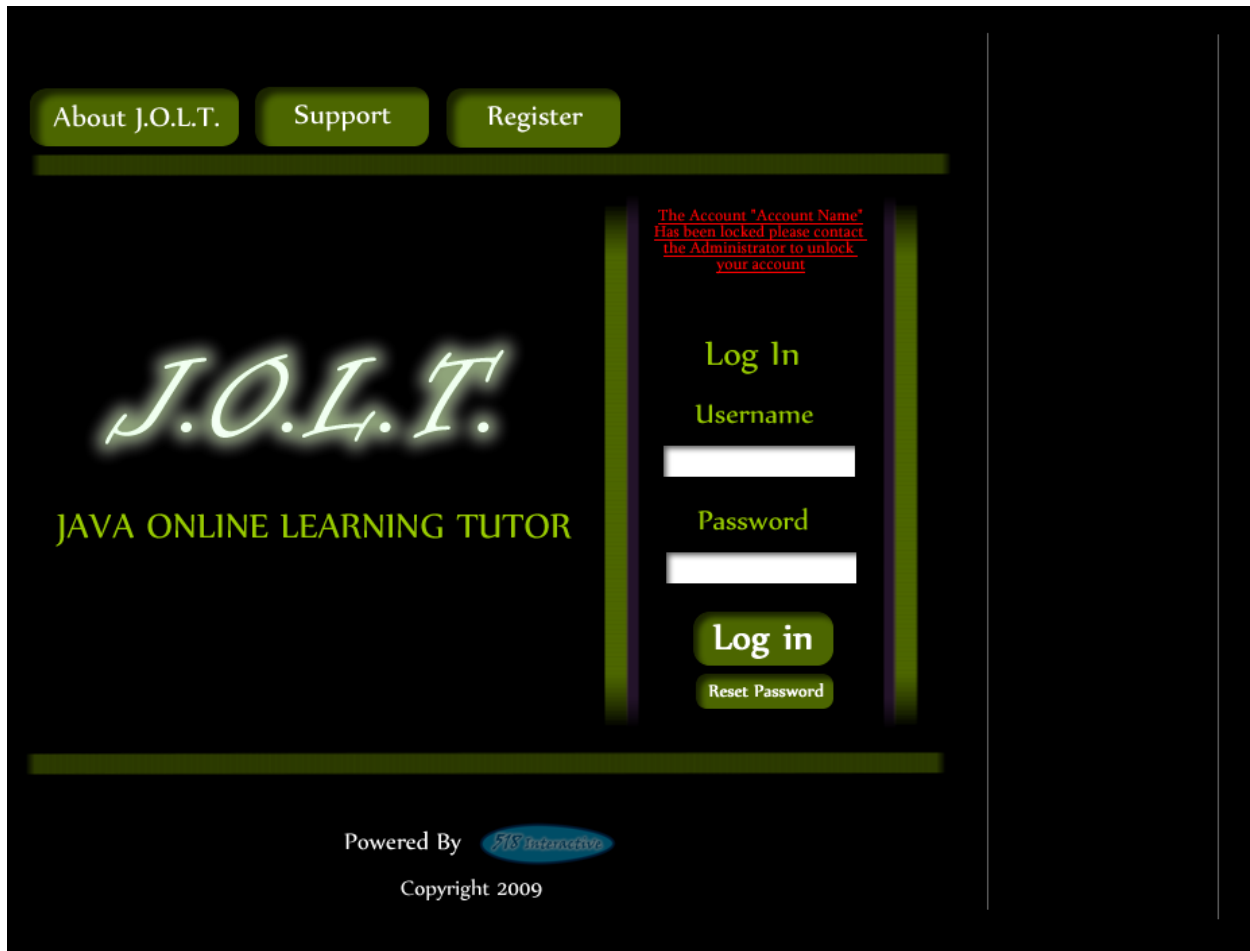
This error message will appear when a Faculty user enters an incorrect Username or Password.

4.2.3 Invalid Login Screen (After Dialog)



This is what the Faculty will see after clicking "Ok" in the *Invalid Login* error message. This screen indicates that the Faculty has X more login attempts before their account is locked out.

4.2.4 Account Lockout Screen



This screen appears when a Faculty user has too many incorrect login attempts for a particular username, and is locked out of the system.

4.2.5 Faculty Home Page

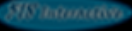
J.O.L.T. Profile Support Log Out

Welcome (Faculty Username) Create Announcement

Administrator Announcements Course Coordinator Announcements No New Announcements

List of Current Courses:
-CSIS-210 Data Structures Section-05
-CSIS-225 Object Oriented Section-04

List of Previous Courses:
-CSIS-110 Data Structures Section-03 Fall 2008
-CSIS-120 Object Oriented Section-08 Spring 2009

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This is the Faculty Home Page. This page is pre-populated with their courses by the Course Coordinator. From here, the Faculty can select a course, or create an announcement.

4.2.6 Section Home Page

The screenshot displays the 'J.O.L.T.' logo in a stylized font at the top left. To its right are three buttons: 'Profile', 'Support', and 'Log Out'. Below the logo is the title 'CSIS-XXX Section Homepage'. Underneath this title are three status indicators: 'Administrator Announcements', 'Course Coordinator Announcements', and 'No New Announcements'. A 'Create Announcement' button is positioned to the right of these indicators. On the left side, there is a vertical list of five buttons: 'Manage Gradebook', 'Manage Assignments', 'Manage Pools', 'Create Problem', and 'Create Problem Set'. The central area of the page is a large rounded rectangle containing the text 'MAIN CONTENT'. At the bottom center, there is a 'Powered By' logo for '518 Interactive' and the text 'Copyright 2009'.

This is the Section home page for a Faculty member. From here, they can manage the gradebook, assignments, and pools. They can also create a problem or problem set.

4.2.7 Create Problem

J.O.L.T. Profile Support Log Out

Create/Edit Problem

Problem Information

Title Description

Category

Method Name

Parameters

Name	Type	Result
<input type="text"/>	<input type="text"/> <input type="button" value="v"/>	<input type="text"/>

Test Cases

Test Case	Solution Code	Hidden
Test Case 1	<input type="text"/>	<input checked="" type="checkbox"/>
Test Case 2	<input type="text"/>	<input type="checkbox"/>
Test Case 3	<input type="text"/>	<input type="checkbox"/>
Test Case 4	<input type="text"/>	<input type="checkbox"/>
Test Case 5	<input type="text"/>	<input type="checkbox"/>

Solution Code: Publish

Powered By Copyright 2009

This is the Create Problem page for a faculty member. From here, the faculty enters all information about a problem.

4.2.8 Create Problem (Invalid Field)

The screenshot displays the 'Create/Edit Problem' interface in the J.O.L.T. system. At the top, there are navigation buttons for 'Profile', 'Support', and 'Log Out'. The main section is titled 'Create/Edit Problem' and contains several form fields:

- Problem Information:** Title (red error bar), Category (Practice), Method Name (findData).
- Parameters:** A table with columns for Name, Type, and Result. The first row shows 'param1' and 'int'.
- Test Cases:** A table with 5 rows and 7 columns. The first row contains the value '5'.
- Solution Code:** A text area with a 'Publish' checkbox.

An error dialog box is overlaid on the form, containing a red exclamation mark and the text 'Please Correct Invalid Fields.' with an 'OK' button. The dialog box is highlighted with a yellow border.

At the bottom of the form, there are 'Save Problem' and 'Create Problem' buttons. The footer includes the text 'Powered By 518 Interactive Copyright 2009'.

This screen shows an error message indicating an invalid field is present on the Create Problem Screen.

4.2.10 Faculty Sandbox

J.O.L.T. Profile Support Log Out

Sandbox for (Username) Sort by: ↓ ↑

Name	Category	Delete
Binary Search	Recursion	<input type="checkbox"/>
Boolean Practice	Boolean	<input type="checkbox"/>
Integer Practice	Integer	<input type="checkbox"/>
String Practice	String	<input type="checkbox"/>

Create New Problem

Delete Selected

Powered By Copyright 2009

This is the Faculty sandbox. The sandbox stores all problems that are not completed and ready for the pool. Clicking the “Save Problem” button on the Create problem screen will store the problem in the sandbox. Clicking a problem name will bring up a window to edit the problem.

4.2.11 Edit Problem

J.O.L.T. Profile Support Log Out

Edit Problem

Problem Information

Title: Description:

Category: Method Name:

Parameters

Name	Type	Result
<input type="text" value="param1"/>	<input type="text" value="int"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>

Test Cases

Test Case	Input 1	Input 2	Input 3	Input 4	Input 5	Result	Hidden
Test Case 1	<input type="text" value="5"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input checked="" type="checkbox"/>
Test Case 2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Test Case 3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Test Case 4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Test Case 5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>

Solution Code: Publish

Powered By Copyright 2009

This is the edit problem screen that the Faculty user will see when they choose to edit a problem from either their private pool, the course pool, the global pool, or the sandbox.

4.2.12 Create Problem (Invalid Field Error)

The screenshot displays the 'Create/Edit Problem' page in the JOLT application. At the top, there are navigation buttons for 'Profile', 'Support', and 'Log Out'. The main heading is 'Create/Edit Problem'. Below this, the 'Problem Information' section includes fields for 'Title' (highlighted in red), 'Category' (set to 'Practice'), and 'Method Name' (set to 'findData'). A modal dialog box with a red exclamation mark icon is overlaid on the form, containing the text 'Please correct the indicated fields.' and an 'OK' button. The 'Parameters' section shows a table with columns for 'Name', 'Type', and 'Result'. The 'Test Cases' section is a table with five rows, each labeled 'Test Case 1' through 'Test Case 5', and a 'Hidden' column. Below the test cases is an 'Add Test Case' button. The 'Solution Code' section has a 'Publish' checkbox and a text area containing the code 'System.out.println("5");'. At the bottom, there are 'Save Problem' and 'Create Problem' buttons. The footer indicates the application is 'Powered By 518 Interactive' and has a 'Copyright 2009'.

This pop up will display if the user has an invalid or missing field when they select the create problem button. The missing field or fields will be highlighted in red.

4.2.13 Create Problem (Solution Compile Error)

The screenshot shows the 'Create/Edit Problem' interface in the JOLT system. The page has a dark theme with green accents. At the top, there is a logo for 'J.O.L.T.' and three buttons: 'Profile', 'Support', and 'Log Out'. Below the logo is a section titled 'Create/Edit Problem'. Underneath, there is a 'Problem Information' section with fields for 'Title' (String Practice), 'Category' (Practice), and 'Method Name' (findData). A 'Description' text area contains the text 'Here are some problems to practice string manipulation.' Below this is a 'Parameters' section with a table of parameter names and types. The 'Test Cases' section has a table with five rows, each with a 'Test Case' label, input fields for parameters, and a 'Hidden' checkbox. A red error message is displayed: 'Your Solution failed to compile !' with a red circle icon. Below the error message is a 'Solution Code' text area containing the code 'System.out.println("5")'. To the right of the code area are two buttons: 'Save Problem' and 'Create Problem'. At the bottom of the page, there is a footer that says 'Powered By' followed by a logo and 'Copyright 2009'.

J.O.L.T. Profile Support Log Out

Create/Edit Problem

Problem Information

Title: String Practice
 Category: Practice
 Method Name: findData
 Description: Here are some problems to practice string manipulation.

Parameters

Name	Type	Result
param1	int	int

Test Cases

Test Case	Hidden
Test Case 1: 5	<input checked="" type="checkbox"/>
Test Case 2	<input type="checkbox"/>
Test Case 3	<input type="checkbox"/>
Test Case 4	<input type="checkbox"/>
Test Case 5	<input type="checkbox"/>

Your Solution failed to compile !

● Compilation Error
 Main.java:81: ';' expected
 System.out.println("5")

Solution Code: Publish

Save Problem Create Problem

Powered By Copyright 2009

This screen will appear when the Faculty user clicks the “Create Problem” button with invalid code inputted in the “Solution Code” text box. The compiler will output the error to the screen above the “Solution Code” box.

4.2.14 Confirm Problem

J.O.L.T.

Profile Support Log Out

Confirm Problem

Problem Name: *String Practice*

Problem Category: *Practice*

Problem Description: *Return the length of the string provided.*

Method Name: *stringLength*


Parameters: *String Param1*

Return Type: *int*

Test Cases:

Test Case #	Test Case	Hidden
1	Test1	Yes
2	Test2	No

Edit Problem Confirm Problem

Powered By  Copyright 2009

This screen shows a summary of the new problem about to be created.

4.2.15 Publish Problem (Completed)

The screenshot shows the JOLT interface with a dark background and light green text. At the top left is the 'J.O.L.T.' logo. At the top right are three buttons: 'Profile', 'Support', and 'Log Out'. Below the header, a message states: 'Your problem has been created and added to your private pool'. The problem details are listed as follows:

- Problem Name:** *String Practice*
- Problem Category:** *Practice*
- Problem Description:** *Return the length of the string provided.*
- Method Name:** *stringLength*
- Parameters:** *String Param1*
- Return Type:** *int*
- Test Cases:**

Test Case #	Test Case	Hidden
1	Test1	Yes
2	Test2	No

At the bottom left, there is a button labeled 'Go To Private Pool'. At the bottom center, it says 'Powered By' followed by the 'MAS Interactive' logo and 'Copyright 2009'.

This screen shows a confirmed problem that has been added to the Faculty private pool.

4.2.16 Create Problem Set

J.O.L.T. Profile Support Log Out

Create Problem Set Course Homepage View Sandbox

Private Pool Sort by: ↓ ↑ Course Pool Sort by: ↓ ↑ Global Pool Sort by: ↓ ↑

Name	Category
Binary Search	Recursion
Boolean Practice	Boolean
Integer Practice	Integers
String Practice	Strings

Name	Category
Binary Search	Recursion
Boolean Practice	Boolean
Integer Practice	Integers
String Practice	Strings

Name	Category
Binary Search	Recursion
Boolean Practice	Boolean
Integer Practice	Integers
String Practice	Strings

Problem Set

Title

Description

Category

Name	Category	Point Value
Binary Search	Recursion	<input type="text"/>
Boolean Practice	Boolean	<input type="text"/>
Integer Practice	Integers	<input type="text"/>
String Practice	Strings	<input type="text"/>

Point Total: X

Create Problem Set

Powered By Copyright 2009

This is an example of the Create Problem Set Screen. Faculty can use problems from their own pool, the course pool, or the global pool when creating a Problem Set. Clicking on a problem in the problem set area will allow the faculty user to edit the problem. Point values can be assigned to each problem.

4.2.17 Create Problem Set (Error)

The screenshot displays the 'Create Problem Set' interface in the JOLT system. At the top, there is a navigation bar with 'Profile', 'Support', and 'Log Out' buttons. Below this, the main heading 'Create Problem Set' is followed by 'Course Homepage' and 'View Sandbox' buttons. The interface is divided into three sections: 'Private Pool', 'Course Pool', and 'Global Pool', each with a 'Sort by' dropdown menu. Each section contains a table of problem sets with columns for 'Name' and 'Category'. The 'Name' column lists 'Binary Search', 'Boolean Practice', 'Integer Practice', and 'String Practice'. The 'Category' column lists 'Recursion', 'Boolean', 'Integers', and 'Strings'. A red error message box with a white exclamation mark and the text 'Invalid Fields' is overlaid on the 'Course Pool' table. Below the error message, there is an 'OK' button. At the bottom of the screen, there is a 'Create Problem Set' button. The footer of the page includes the text 'Powered By' followed by the '518 Interactive' logo and 'Copyright 2009'.

This is an example error message showing invalid fields on the Create Problem Set Screen.

4.2.18 Create Problem Set (No Problems Added Error)

The screenshot shows the 'Create Problem Set' page in the JOLT system. At the top, there is a navigation bar with 'Profile', 'Support', and 'Log Out' buttons. Below this, the page title 'Create Problem Set' is displayed, along with 'Course Homepage' and 'View Sandbox' buttons. The main content area is divided into three sections: 'Private Pool', 'Course Pool', and 'Global Pool', each with a 'Sort by' dropdown menu. Each section contains a table of problem categories. A red error message box is overlaid on the 'Course Pool' table, stating: 'No Problems are added to the problem set field. You cannot create a problem set with no problems in it.' Below the error message is an 'OK' button. At the bottom of the page, there is a 'Create Problem Set' button and a footer with 'Powered By 518 Interactive' and 'Copyright 2009'.

J.O.L.T. Profile Support Log Out

Create Problem Set Course Homepage View Sandbox

Private Pool Sort by: ↓ ↑ Course Pool Sort by: ↓ ↑ Global Pool Sort by: ↓ ↑

Name	Category
Binary Search	Recursion
Boolean Practice	Boolean
Integer Practice	Integers
String Practice	Strings

Name	Category
Binary Search	Recursion
Boolean Practice	Boolean
Integer Practice	Integers
String Practice	Strings

Name	Category	Point Value
		Point Total: X

Title

Description

Category

Create Problem Set

Powered By 518 Interactive
Copyright 2009

This is an example error message showing a Problem Set with no problems added to it.

4.2.19 Create Problem Set (Confirm)

Problem Name	Category	Point Value
<u>Name1</u>	Strings	20
<u>Name2</u>	Recursion	10
<u>Name3</u>	Arrays	10
<u>Name4</u>	Algorithms	20
<u>Name5</u>	Trees	40
Total:		100

This is the confirmation screen for creating a new Problem Set. Clicking “Create Problem Set” will add the problem set to the pool. Clicking “Edit Problem Set” will allow the user to go back and make changes.

4.2.20 Create Problem Set (Completed)



The screenshot shows the JOLT (Java Online Learning Toolkit) interface. At the top left is the J.O.L.T. logo. To the right are three buttons: Profile, Support, and Log Out. Below the navigation bar, a green message states "Your Problem Set has been created" followed by "Problem Set: Problem Set 1". A table lists five problems with their names, categories, and point values. At the bottom of the table, it shows a total of 100 points. Below the table is a "Go to Pools" button. At the very bottom, it says "Powered By" with a logo and "Copyright 2009".

Problem Name	Category	Point Value
<u>Name1</u>	Strings	20
<u>Name2</u>	Recursion	10
<u>Name3</u>	Arrays	10
<u>Name4</u>	Algorithms	20
<u>Name5</u>	Trees	40
Total:		100

[Go to Pools](#)

Powered By  Copyright 2009

This is a confirmation message showing a created Problem Set. There is a button to go to their Pool screen.

4.2.21 Edit Problem Set (Completed)

J.O.L.T. Profile Support Log Out

Edit Problem Set

Course Homepage View Sandbox

Private Pool Sort by: ↓ ↑

Name	Category
Binary Search	Recursion
Boolean Practice	Boolean
Integer Practice	Integers
String Practice	Strings

Course Pool Sort by: ↓ ↑

Name	Category
Binary Search	Recursion
Boolean Practice	Boolean
Integer Practice	Integers
String Practice	Strings

Global Pool Sort by: ↓ ↑

Name	Category
Binary Search	Recursion
Boolean Practice	Boolean
Integer Practice	Integers
String Practice	Strings

Problem Set

Title:

Description:

Category:

Name	Category	Point Value
Binary Search	Recursion	<input type="text" value="5"/>
Boolean Practice	Boolean	<input type="text" value="5"/>
Integer Practice	Integers	<input type="text" value="5"/>
String Practice	Strings	<input type="text" value="5"/>
Point Total:		25

Save Changes

Powered By Copyright 2009

This is the screen for Editing an existing Problem Set. The format of the screen is identical to the Create Problem Set screen. All error screens for Edit Problem Set are identical to the ones for Create Problem Set.

4.2.22 Activate/Assign Problem Set

J.O.L.T. Profile Support Log Out

Problem Set Activation

 Go To Pools

Select a Problem Set To Activate

Name	Category	Select
Problem Set 1	Practice	<input type="checkbox"/>
Problem Set 2	Lab	<input type="checkbox"/>
Problem Set 3	Lab	<input type="checkbox"/>
Problem Set 4	Exam	<input type="checkbox"/>

Timed Activation

Month Day Hours Minutes Activate Now

Expiration Date

Month Day Hours Minutes

Activate

Powered By MS Interactive
Copyright 2009

This is the screen to activate a Problem Set for a specific course. Problem Sets can either be activated instantly, or set to be active at a later date.

4.2.23 Deactivate Problem Set

J.O.L.T. Profile Support Log Out

Problem Set Deactivation

 Go To Pools

Select an Active Problem Set To Deactivate

Name	Category	Select
<u>Problem Set 1</u>	Practice	<input type="checkbox"/>
<u>Problem Set 2</u>	Lab	<input type="checkbox"/>
<u>Problem Set 3</u>	Lab	<input type="checkbox"/>
<u>Problem Set 4</u>	Exam	<input type="checkbox"/>

Deactivate

Powered By 518 Interactive
Copyright 2009

This screen allows users to deactivate any active problem set for a specific course. This screen is only used for manual deactivation. JOLT will automatically deactivate problem sets once the expiration date and time have been passed.

4.2.24 Create Announcement

J.O.L.T. Profile Support Log Out

Create Announcement

Title

Announcement

Recipients

List

- All Students
- CSIS-120-05
- CSIS-120-04
- CSIS-225-03
- Albert, Joseph
- Bernard, Andrew
- Bose, Christina
- Brennan, Julie
- Colbert, Stephen
- Doe, John
- Sanders, Stephen
- Schrute, Dwight
- Smith, John
- Valenti, Angela
- Zabinski, Joe

Invert Selection Invert Selection

Post Announcement

Powered By *MV Interactive*
Copyright 2009

This is the screen to create an announcement to be broadcast to users. Users select recipients of the announcement, and provide a title and announcement text.

4.2.25 Create Announcement (Add Recipients)

J.O.L.T. Profile Support Log Out

Create Announcement

Title
New Problem Set Activated

Announcement
New Problem Set Activated for students of CSIS-120 (all sections)

Post Announcement

Recipients

- CSIS-120-05
- CSIS-120-04
- CSIS-225-03
- Lim, Darren (Administrator)
- Flatland, Robin (Faculty)
- Egan, Mary Anne (CC)

Invert Selection

List

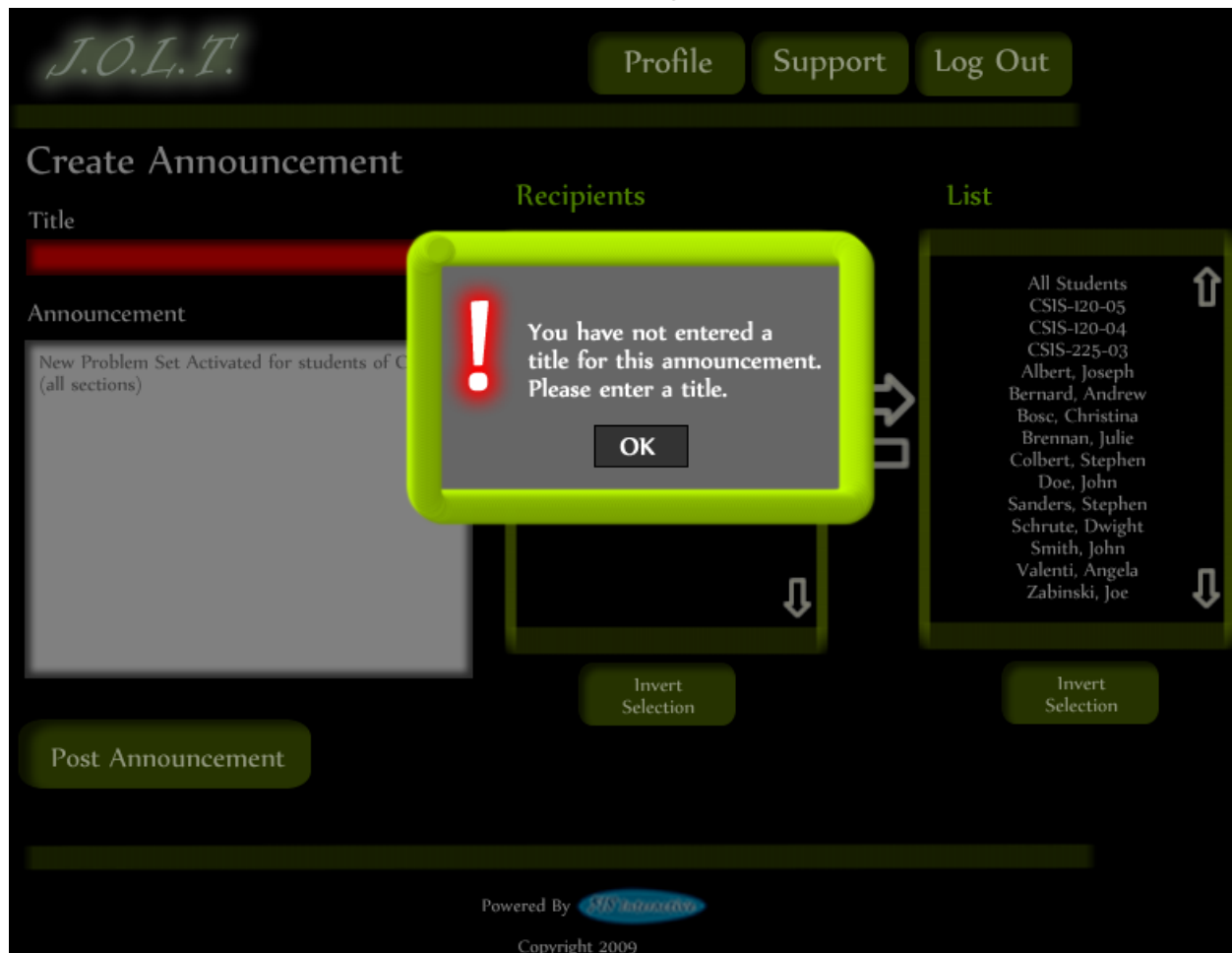
- All Students
- CSIS-120-05
- CSIS-120-04
- CSIS-225-03
- Albert, Joseph
- Bernard, Andrew
- Bose, Christina
- Brennan, Julie
- Colbert, Stephen
- Doe, John
- Sanders, Stephen
- Schrute, Dwight
- Smith, John
- Valenti, Angela
- Zabinski, Joe

Invert Selection

Powered By **MN Interactive**
Copyright 2009

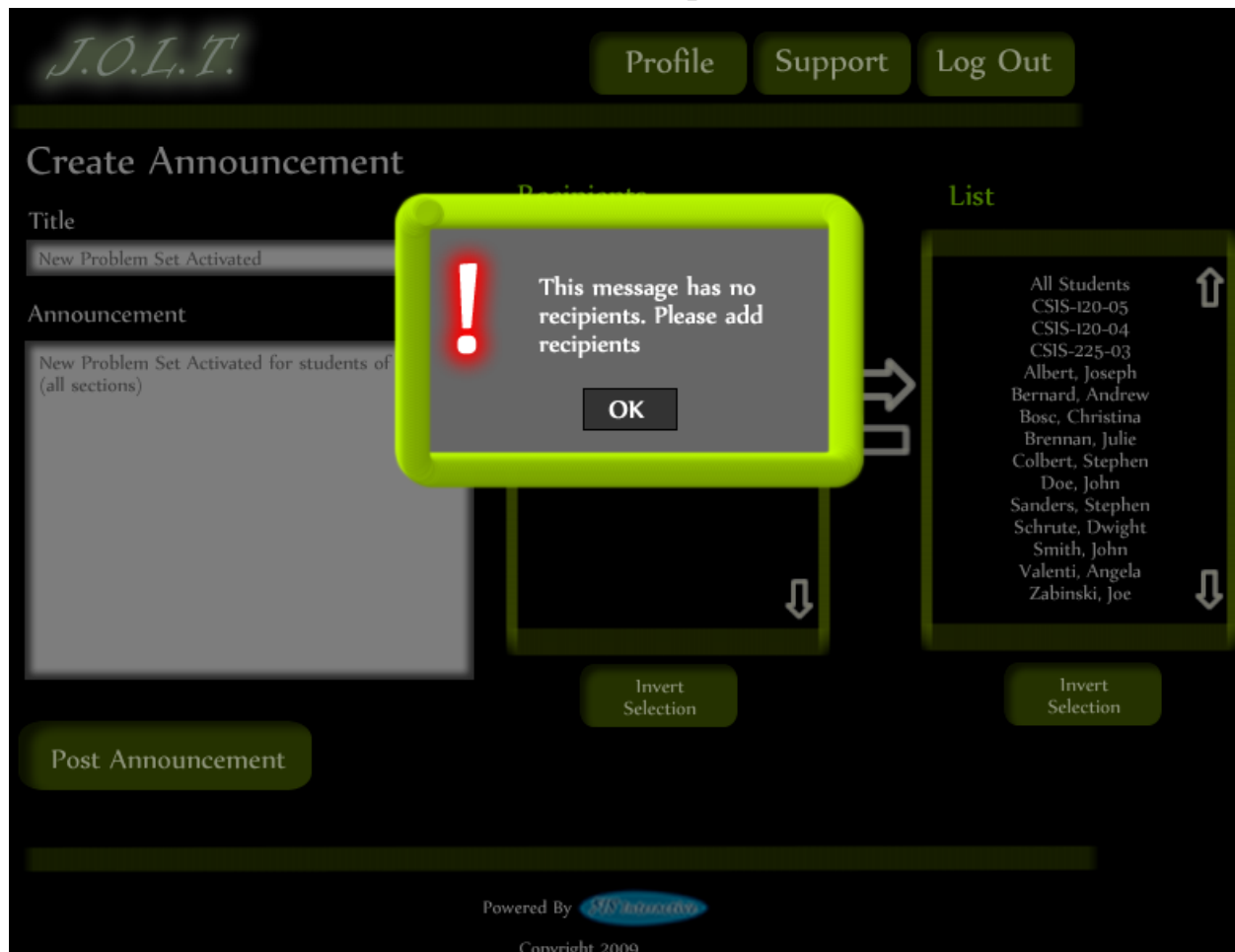
This screen shows an announcement with populated data and selected recipients. Using the left and right arrow buttons add and remove users from the recipient list.

4.2.26 Create Announcement (Missing Field)



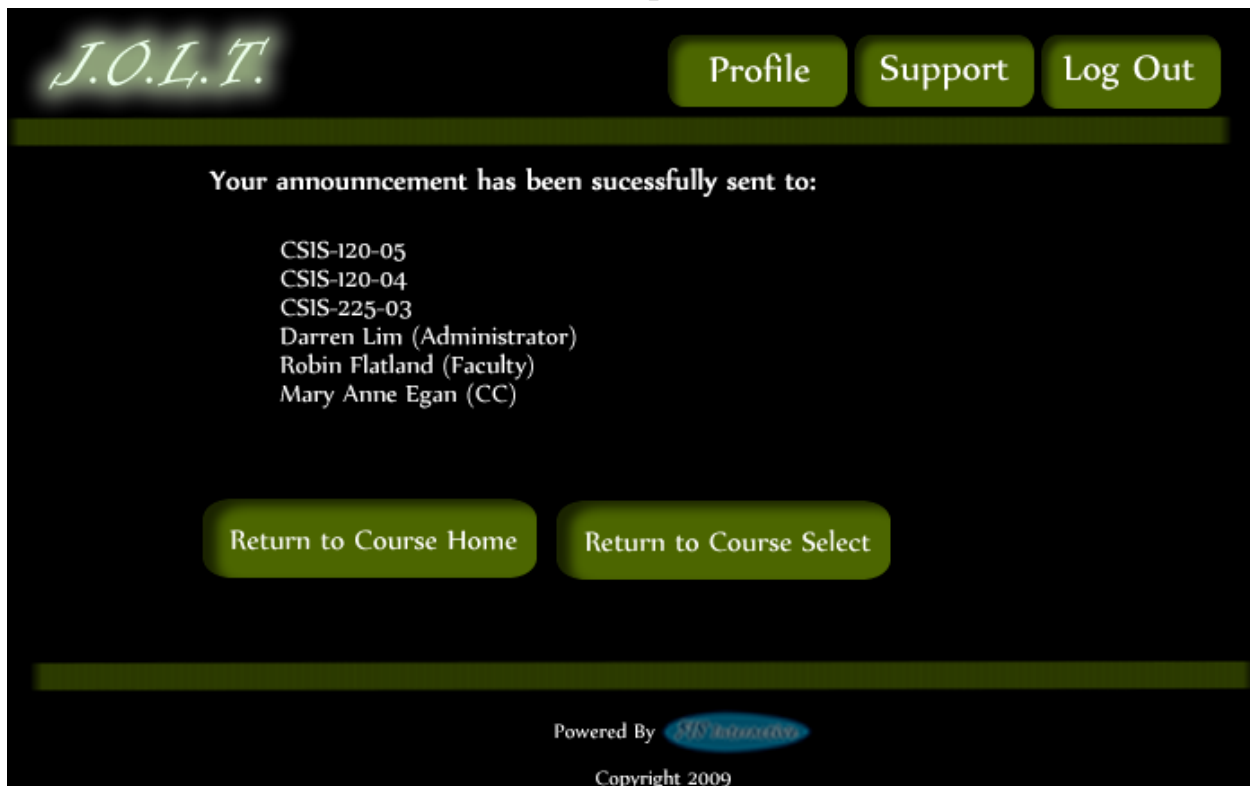
This shows an error message for a missing field when creating an announcement. This appears once the user selects the “Post Announcement” button.

4.2.27 Create Announcement (No Recipients)



This shows an error message when creating an announcement with no recipients. This appears once the user selects the “Post Announcement” button.

4.2.28 Create Announcement (Complete)



The screenshot displays the JOLT (Java Online Learning Toolkit) interface. At the top left, the logo "J.O.L.T." is shown in a stylized, glowing font. To the right of the logo are three buttons: "Profile", "Support", and "Log Out". Below the navigation bar, a message states: "Your announcement has been successfully sent to:". Underneath this message, the following text is listed: "CSIS-120-05", "CSIS-120-04", "CSIS-225-03", "Darren Lim (Administrator)", "Robin Flatland (Faculty)", and "Mary Anne Egan (CC)". Below the list of recipients are two buttons: "Return to Course Home" and "Return to Course Select". At the bottom of the page, it says "Powered By" followed by the "518 Interactive" logo and "Copyright 2009".

This shows a successfully created announcement. This appears once the user selects the "Post Announcement" button.

4.2.29 View Gradebook

J.O.L.T.

Profile Support Log Out

Gradebook for CSIS-XXX

Select Course

Save Changes Return to Courses

Sort by: ↓ ↑	Sort by: ↓ ↑	Sort by: ↓ ↑	Sort by: ↓ ↑	
<u>Student Name</u>	<u>Assignment Name</u>	<u>Due Date</u>	<u>Grade</u>	<u>Delete</u>
Jon Doe	Binary Search	11/17/2010	<u>80</u>	<input type="button" value="X"/>
Jane Smith	Recursion	11/18/2010	<u>85</u>	<input type="button" value=""/>
Jesus Christ	String Practice	11/19/2010	<u>90</u>	<input type="button" value=""/>

Edit a grade by clicking on it.

High: 90
Average: 85
Low: 80

Powered By Marmot

Copyright 2009


This is the gradebook view for a specific course for a faculty user. Clicking on an Assignment Name brings the user to the Problem Set Overview screen. Clicking on the grade allows the user to change the grade.

4.2.30 Edit Gradebook (Editing)

The screenshot shows the J.O.L.T. Gradebook interface for course CSIS-XXX. At the top, there are navigation buttons for Profile, Support, and Log Out. Below that, the course name and a 'Select Course' dropdown are visible, along with 'Save Changes' and 'Return to Course Home' buttons. The main content area features a table with four columns: Student Name, Assignment Name, Due Date, and Grade. Each column has a 'Sort by' control with up and down arrows. The Grade column also includes a 'Delete' button for each row. The grade for Jon Doe is currently 80, and it is highlighted in a text box, indicating it is being edited. Summary statistics for the Grade column are shown at the bottom right: High: 90, Average: 85, and Low: 80. The footer includes the text 'Powered By' with a logo and 'Copyright 2009'.

<u>Student Name</u>	<u>Assignment Name</u>	<u>Due Date</u>	<u>Grade</u>	<u>Delete</u>
Jon Doe	<u>Binary Search</u>	11/17/2010	80	<input type="checkbox"/>
Jane Smith	<u>Recursion</u>	11/18/2010	85	<input type="checkbox"/>
Jesus Christ	<u>String Practice</u>	11/19/2010	90	<input type="checkbox"/>

High: 90
Average: 85
Low: 80

Powered By  Copyright 2009

This shows a user editing a student's grade. Clicking the grade changes the field to a text box for editing.

4.2.31 Edit Gradebook (Invalid Field)

The screenshot displays the JOLT Gradebook interface for course CSIS-XXX. At the top, there are navigation buttons for Profile, Support, and Log Out. Below this, the course name and a 'Select Course' dropdown are visible, along with 'Save Changes' and 'Return to Courses' buttons. The main area contains a table of student grades. A modal dialog box with a red exclamation mark icon and the text 'You have entered an invalid grade entry.' is overlaid on the table, with an 'OK' button. The table lists three students: Jon Doe, Jane Smith, and Jesus Christ. The 'Grade' column shows 'AG' for Jon Doe, '85' for Jane Smith, and '90' for Jesus Christ. The 'Delete' column has buttons for each row. Summary statistics at the bottom right show High: 90, Average: 85, and Low: 80. The footer includes 'Powered By' with a logo and 'Copyright 2009'.

Student Name	Grade	Delete
Jon Doe	AG	<input type="checkbox"/>
Jane Smith	85	<input type="checkbox"/>
Jesus Christ	90	<input type="checkbox"/>

High: 90
Average: 85
Low: 80

Inputting an invalid grade prohibits the user from updating the grade.

4.2.32 Edit Gradebook (Blank)

The screenshot shows the JOLT Gradebook interface for course CSIS-XXX. At the top, there are navigation buttons for Profile, Support, and Log Out. Below that, there are buttons for Save Changes and Return to Courses, along with a dropdown menu for Select Course. The main area contains a table with columns for Student Name, Grade, and Delete. The table lists three students: Jon Doe, Jane Smith, and Jesus Christ. The Grade column shows empty, 85, and 90. The Delete column has checkboxes. A red warning box is overlaid on the table, stating: "You have an empty grade field. If you would like to delete this grade, select the corresponding checkbox and save changes." Below the table, there are summary statistics: High: 90, Average: 85, Low: 80. The footer of the page includes the text "Powered By" followed by a logo and "Copyright 2009".

Student Name	Grade	Delete
Jon Doe		<input type="checkbox"/>
Jane Smith	85	<input type="checkbox"/>
Jesus Christ	90	<input type="checkbox"/>

High: 90
Average: 85
Low: 80

Leaving the field blank disallows the user from updating the grade field. They are instructed to use the “Delete” field if they wish to delete the grade.

4.2.33 Edit Gradebook (Complete)

J.O.L.T.

Profile Support Log Out

Gradebook for CSIS-XXX

Select Course

Save Changes Return to Courses

Sort by: ↓ ↑	Sort by: ↓ ↑	Sort by: ↓ ↑	Sort by: ↓ ↑	
<u>Student Name</u>	<u>Assignment Name</u>	<u>Due Date</u>	<u>Grade</u>	<u>Delete</u>
Jon Doe	<u>Binary Search</u>	11/17/2010	<u>95</u>	<input type="checkbox"/>
Jane Smith	<u>Recursion</u>	11/18/2010	<u>85</u>	<input type="checkbox"/>
Jesus Christ	<u>String Practice</u>	11/19/2010	<u>90</u>	<input type="checkbox"/>
			High: 95	
			Average: 90	
			Low: 85	

Powered By Copyright 2009

Once updating a grade, the user remains at the gradebook screen, but the student's grade has been updated, as well as the High, Average, and Low scores.

4.2.34 Manage Pools

J.O.L.T. Profile Support Log Out

Pool Management

 View Sandbox

Private Pool Sort by: ↓ ↑ Course Pool Sort by: ↓ ↑ Global Pool Sort by: ↓ ↑

Name	Category
<u>Binary Search</u>	Recursion
<u>Boolean Practice</u>	Boolean
<i>Integer Practice</i>	Integers
<i>String Practice</i>	Strings
<u>Locker Problem</u>	Recursion

Name	Category
<u>Binary Search</u>	Recursion
<u>Boolean Practice</u>	Boolean
<u>Integer Practice</u>	Integers
<u>String Practice</u>	Strings

Name	Category
<u>Binary Search</u>	Recursion
<u>Boolean Practice</u>	Boolean
<u>Integer Practice</u>	Integers
<u>String Practice</u>	Strings

Edit Selected Delete Selected

Drag and Drop Items Between Pools
Italics Denotes Problem Set

Powered By Copyright 2009

Clicking the “Manage Pools” button on the Section Home Page brings the user to this screen. Problems and Problem Sets can be dragged from the Course and Global pools to the user’s private pool. Problems and Problem Sets can be requested to be added to the Course Pool by dragging them to the Course Pool.

4.2.35 View Sandbox

J.O.L.T. Profile Support Log Out

Sandbox for (Username) Sort by: ↓ ↑ Back to Pools

Name	Category	Select
Binary Search	Recursion	<input type="checkbox"/>
Boolean Practice	Boolean	<input type="checkbox"/>
Integer Practice	Integer	<input type="checkbox"/>
String Practice	String	<input type="checkbox"/>

Create New Problem
Delete Selected
Move Selected to Private Pool

Powered By Copyright 2009

Clicking the “View Sandbox” button on the Pools page allows the user to manage their sandbox. From here, they can create a new problem, remove a problem from the sandbox, or transfer the problem to their private pool. Clicking the problem name allows the user to edit the problem.

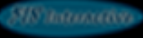
4.2.36 View Profile

J.O.L.T. Profile Support Log Out

Your Profile

First Name	Jon
Last Name	Smith
Email	ja28smit@siena.edu
Security Question	First Pet's Name
Security Question Answer	●●●●●

Edit Profile

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Clicking the “Profile” button in the header will bring faculty members to this screen, where they can view their profile information. There is a button to update their information as well.

4.2.37 Edit Profile

J.O.L.T. Profile Support Log Out

Edit Profile

All fields are required

First Name

Last Name

Email

Confirm Email

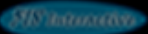
Password

Confirm Password

Security Question

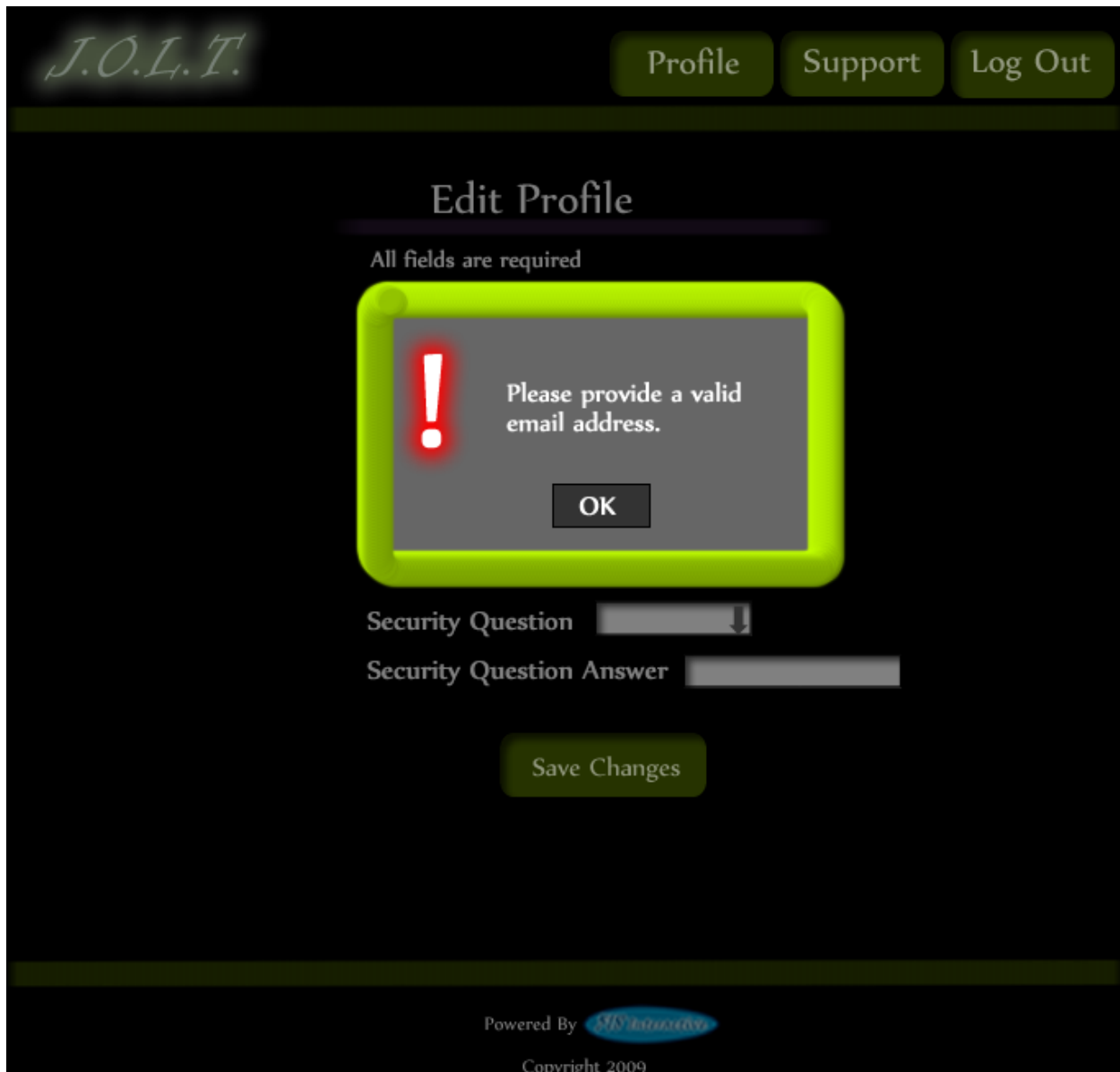
Security Question Answer

Save Changes

Powered By  Copyright 2009

This screen allows a Faculty user to edit their profile information. The Faculty user gets here by clicking the “Edit Profile” button on the Faculty Profile Page.

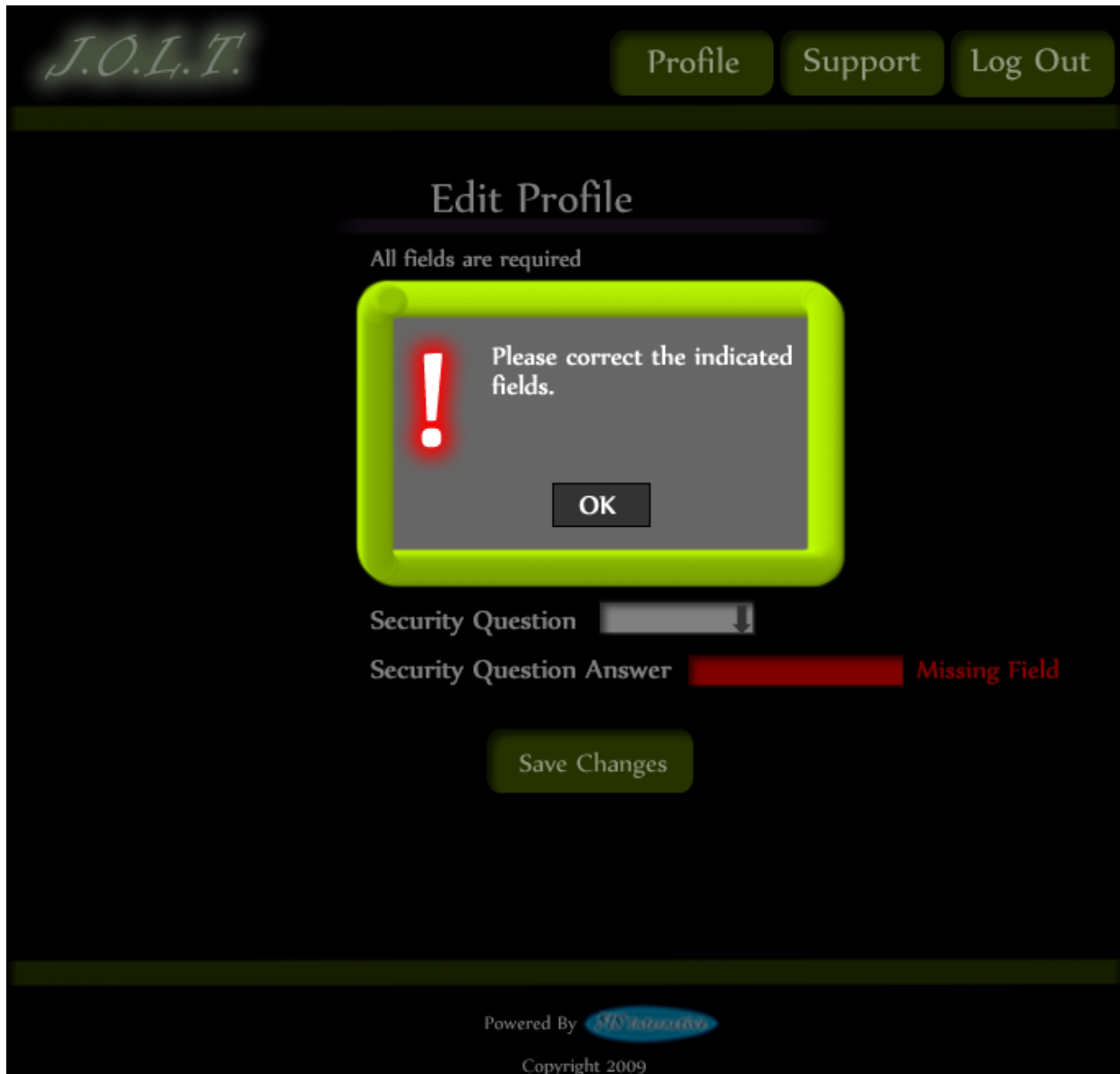
4.2.38 Edit Profile (Error)



The screenshot shows the 'Edit Profile' page of the JOLT system. At the top left is the 'J.O.L.T.' logo. To the right are three buttons: 'Profile', 'Support', and 'Log Out'. The main heading is 'Edit Profile', followed by the instruction 'All fields are required'. A prominent error message box with a red exclamation mark icon and the text 'Please provide a valid email address.' is displayed, with an 'OK' button below it. Below the error message are two input fields: 'Security Question' (a dropdown menu) and 'Security Question Answer' (a text box). A 'Save Changes' button is located below these fields. At the bottom of the page, it says 'Powered By' followed by a logo and 'Copyright 2009'.

This error message is shown when a faculty user tries to update their email address with an invalid email address.

4.2.39 Edit Profile (Invalid Field)



This error message is shown when a Faculty user tries to update their profile information with invalid or missing information.

4.2.40 Edit Profile (Completed)

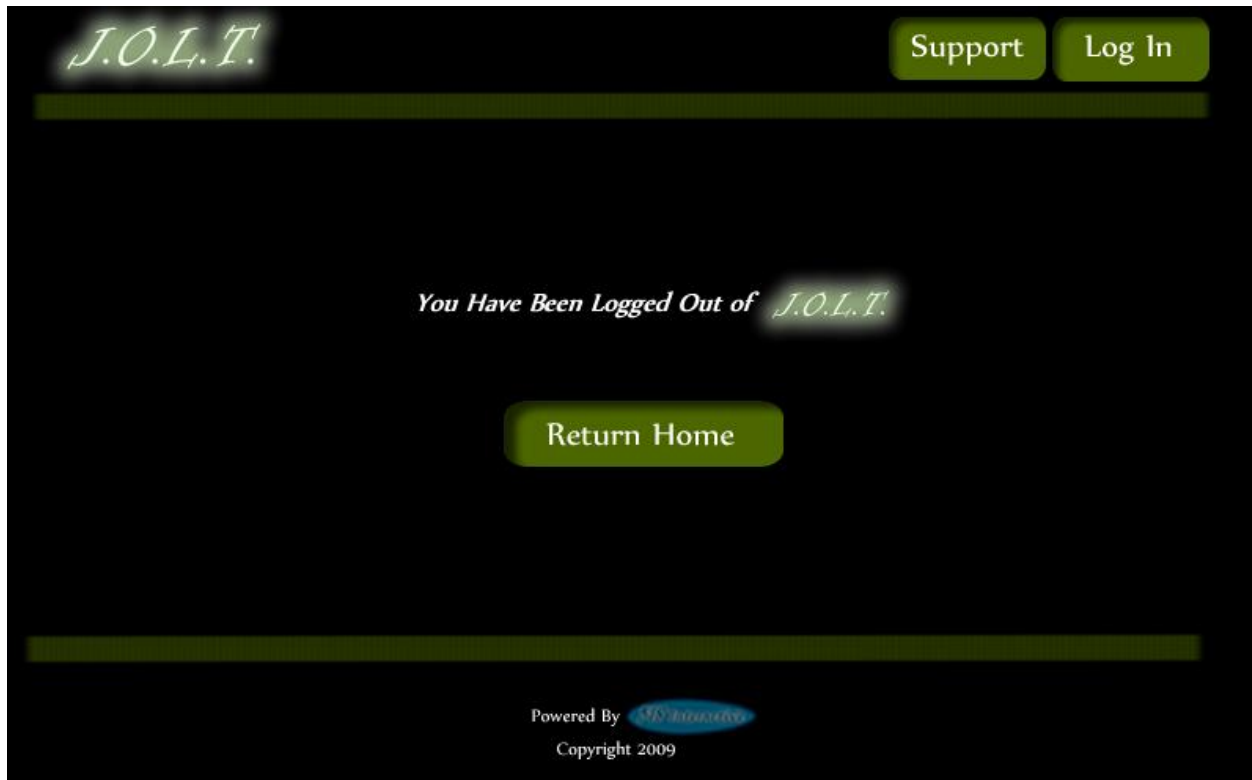
The screenshot displays the 'Your Profile' page in the JOLT system. At the top left is the 'J.O.L.T.' logo. To the right are three buttons: 'Profile', 'Support', and 'Log Out'. A green message reads 'Your Changes Have Been Saved'. Below this is the title 'Your Profile'. The profile information is listed as follows:

First Name	Jonathan
Last Name	Smith
Email	ja28smit@siena.edu
Security Question	First Pet's Name
Security Question Answer	●●●●●●

Below the profile information is an 'Edit Profile' button. At the bottom of the page, it says 'Powered By' followed by a logo and 'Copyright 2009'.

This screen is shown when a Faculty user successfully updates their profile information.

4.2.41 Logout



This screen shows a Faculty who has just logged out of JOLT by clicking the Logout button in the header.

5 Course Coordinator User

5.1.1 Course Coordinator User Case Narrative

The Course Coordinator shall have the ability to log into the System via a unique username and password. Once logged in, the Course Coordinator will be able to create Faculty accounts. The Course Coordinator will also be able to create courses and assign the courses to specific Faculty members. The Course Coordinator will have access to course-wide reporting tools, which will allow for statistical analysis of problems and problem sets.

The Course Coordinator will be able to manage the “Course Pool” for each course they manage. The Course Coordinator will be responsible for adding, modifying, and deleting problems and problem sets from the pool. The Course Coordinator submits problems and problem sets to the “Global Pool” for use by all faculty members.

The Course Coordinator will be able to send broadcast messages to faculty members and students that participate in the courses that the Course Coordinator manages, or a subset thereof.

5.2 Preliminary Course Coordinator User Screens

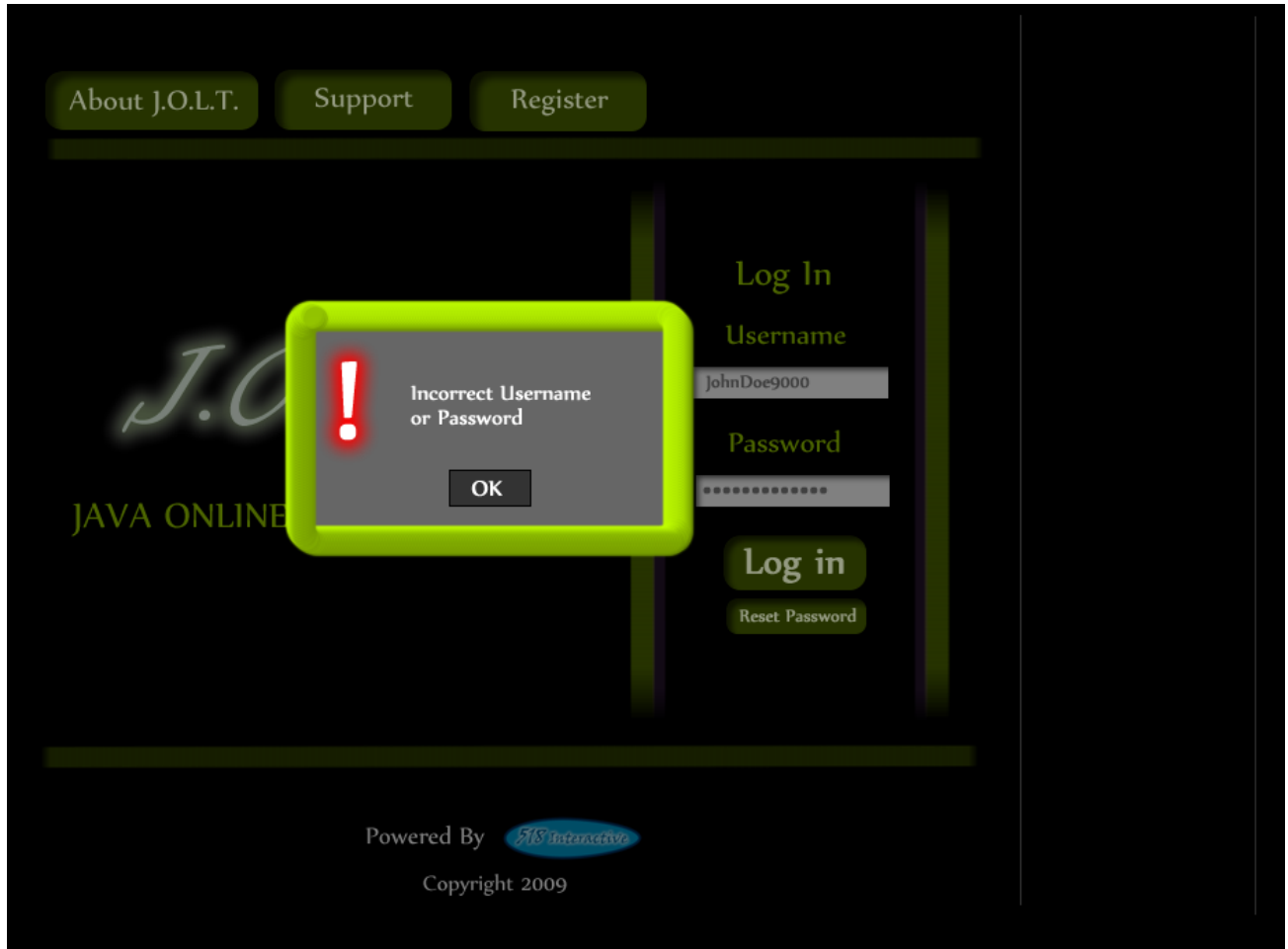
The Course Coordinator shall have the following screens available.

5.2.1 JOLT Login

The screenshot shows the JOLT login interface. At the top, there are three navigation buttons: "About J.O.L.T.", "Support", and "Register". The main content area features the "J.O.L.T." logo in a stylized, glowing font, with "JAVA ONLINE LEARNING TUTOR" written below it. To the right, there is a login form with fields for "Username" and "Password", a "Log in" button, and a "Reset Password" button. At the bottom, it says "Powered By 518 interactive" and "Copyright 2009".

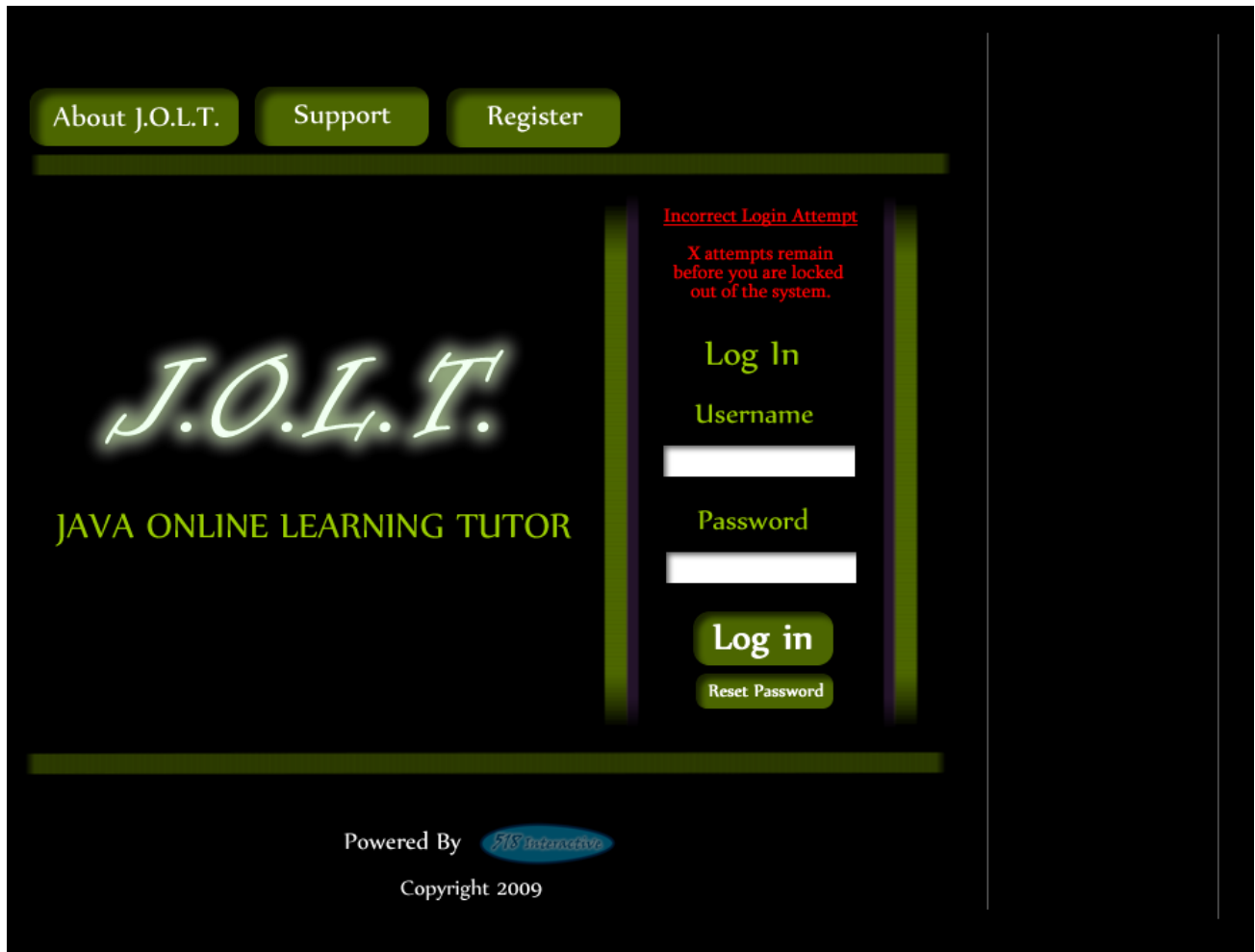
This is the initial screen that Course Coordinator will be presented with when they navigate to JOLT. It prompts for a username and password, and provides a link for forgotten password. Note that Course Coordinator accounts are created by the Administrator. No self-registration is allowed.

5.2.2 Invalid Login Screen



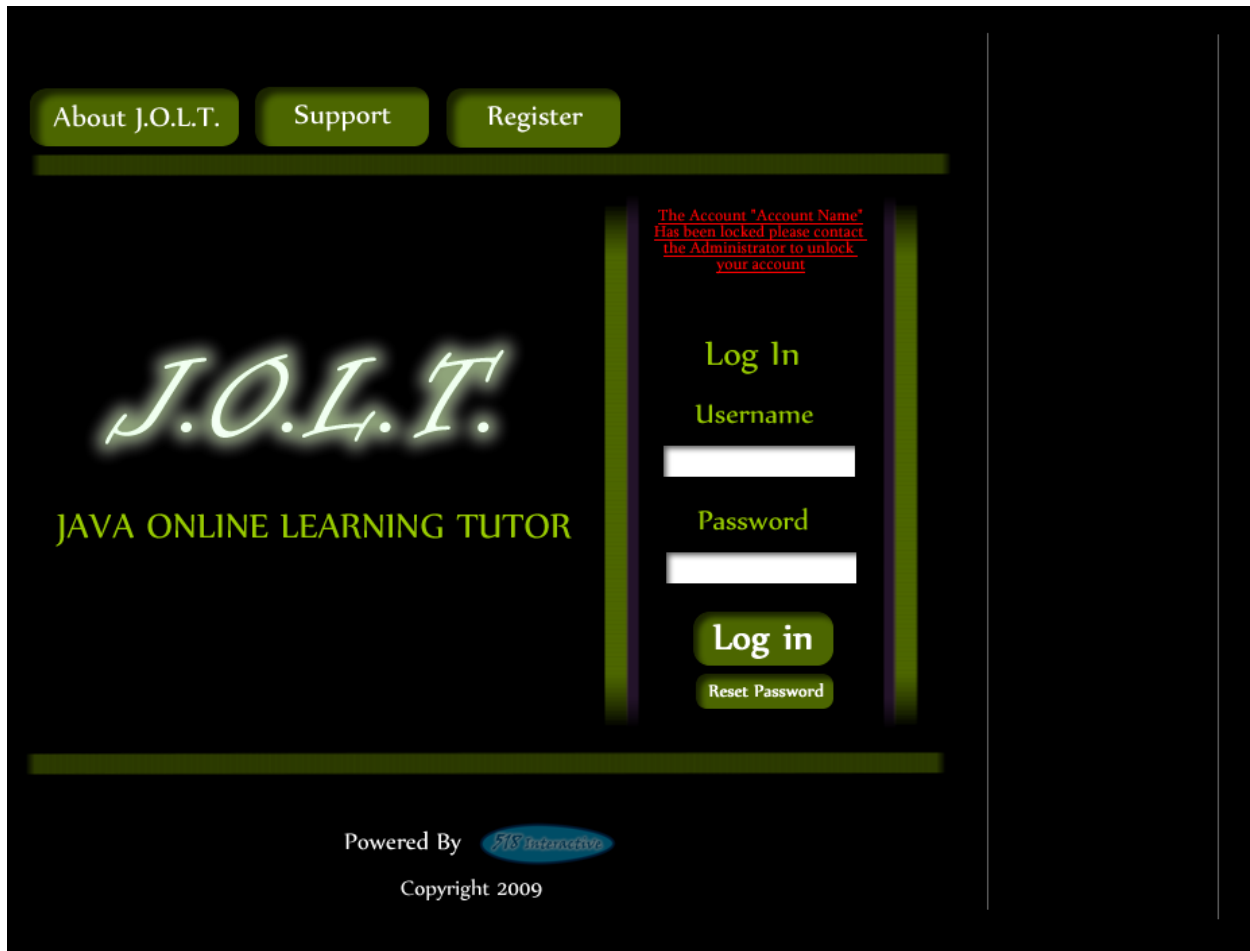
This error message will appear when a Course Coordinator user enters an incorrect Username or Password.

5.2.3 Invalid Login Screen (After Dialog)



This is what the Course Coordinator will see after clicking "Ok" in the *Invalid Login* error message. This screen indicates that the Course Coordinator has X more login attempts before their account is locked out.

5.2.4 Account Lockout Screen



This screen appears when a Course Coordinator user has too many incorrect login attempts for a particular username, and is locked out of the system.

5.2.5 Course Coordinator Home Page

J.O.L.T. Profile Support Log Out

Welcome (Course Coordinator Username)

Administrator Announcements No New Announcements Create Announcement

List of Current Courses:

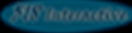
- [-CSIS-210 Data Structures Section-05](#)
- [-CSIS-210 Data Structures Section-06](#)
- [-CSIS-210 Data Structures Section-07](#)
- [-CSIS-225 Object Oriented Section-04](#)

Manage Faculty

Generate Reports

List of Previous Courses:

- [-CSIS-110 Data Structures Section-04 Fall 2008](#)
- [-CSIS-110 Data Structures Section-03 Fall 2008](#)
- [-CSIS-110 Data Structures Section-02 Fall 2008](#)
- [-CSIS-120 Object Oriented Section-08 Spring 2009](#)

Powered By  Copyright 2009

This is the screen that the Course Coordinator is presented with after they successfully log in. They have the ability to manage faculty accounts or select a course.

5.2.6 Manage Faculty Accounts

The screenshot shows the 'Manage Faculty' interface within the JOLT system. At the top left is the 'J.O.L.T.' logo. To the right are three buttons: 'Profile', 'Support', and 'Log Out'. Below these is a horizontal line. The main title 'Manage Faculty' is centered, with a 'Back to Manage Users' button to its right. The central area contains a table with two columns: 'Name' and 'Select'. The table lists five faculty members: Mary Anne Egan, Robert Yoder, Eric Breimer, Robin Flatland, and Scott Diehl. Each name has a corresponding radio button in the 'Select' column. To the right of the table are two buttons: 'Edit Selected' and 'Add New Faculty'. At the bottom, there is a footer with 'Powered By' followed by a logo and 'Copyright 2009'.

Name	Select
Mary Anne Egan	<input type="radio"/>
Robert Yoder	<input type="radio"/>
Eric Breimer	<input type="radio"/>
Robin Flatland	<input type="radio"/>
Scott Diehl	<input type="radio"/>

This screen is reached from the “Manage Faculty” button on the Course Coordinator screen. This screen allows Course Coordinators to edit and add faculty accounts.

5.2.7 Create Faculty Account

J.O.L.T. Profile Support Log Out

Create Faculty Account

Course Sort by: ↓ ↑

All fields are required

First Name

Last Name

Email

Confirm Email

Username

Password

Confirm Password

Security Question

Security Question Answer

Course-Section	Assign
CSIS-120-04	<input type="checkbox"/>
CSIS-120-05	<input type="checkbox"/>
CSIS-120-06	<input type="checkbox"/>
CSIS-120-07	<input type="checkbox"/>
CSIS-110-05	<input type="checkbox"/>
CSIS-220-04	<input type="checkbox"/>
CSIS-220-05	<input type="checkbox"/>

Create Account

Powered By Copyright 2009

This screen is used by the Course Coordinator to create a Faculty account. The Course Coordinator has the ability to assign course sections to the new faculty at this time.

5.2.8 Create Faculty Account (Error)

The screenshot shows the 'Create Faculty Account' page in the JOLT system. The page has a dark background with light text. At the top left is the 'J.O.L.T.' logo. At the top right are buttons for 'Profile', 'Support', and 'Log Out'. The main heading is 'Create Faculty Account'. Below this is a form with several fields: 'First Name' (Jon), 'Last Name' (Sm), 'Email' (Jon), 'Confirm Email' (Jon), 'Username' (Jon), 'Password' (masked with dots), 'Confirm Password' (masked with dots), 'Security Question' (First Pet), and 'Security Question Answer' (masked with dots). A 'Create Account' button is at the bottom of the form. An error message box is overlaid on the form, containing a red exclamation mark, the text 'Invalid Email Address', and an 'OK' button. To the right of the form is a table with columns 'Course-Section' and 'Assign'. The table contains several rows of course-section numbers and checkboxes. At the bottom of the page, it says 'Powered By' followed by a logo and 'Copyright 2009'.

Course-Section	Assign
-120-04	<input type="checkbox"/>
-120-05	<input type="checkbox"/>
-120-06	<input type="checkbox"/>
-120-07	<input type="checkbox"/>
110-05	<input type="checkbox"/>
220-04	<input type="checkbox"/>
220-05	<input type="checkbox"/>

This screen shows an error in creating a Faculty Account. An invalid email address has been provided. This message would appear after clicking the “Create Account” button.

5.2.9 Create Faculty Account (Error)

The screenshot shows the 'Create Faculty Account' page in the JOLT system. The page has a dark background with light text. At the top left is the 'J.O.L.T.' logo. At the top right are buttons for 'Profile', 'Support', and 'Log Out'. The main heading is 'Create Faculty Account'. Below the heading is a table with columns 'Course-Section' and 'Assign'. The 'Course-Section' column lists various course-section numbers (e.g., 0-04, 0-05, 0-06, 0-07, -05, 0-04, 0-05). The 'Assign' column contains checkboxes. Below the table is a 'Create Account' button. An error dialog box is overlaid on the form, containing a red exclamation mark, the text 'Invalid Fields', and an 'OK' button. The form fields are mostly red, indicating they are required or have errors. The 'Security Question' dropdown is set to 'First Pet'.

This screen shows an error in creating a Faculty Account. There are invalid or blank fields present on the form. This message would appear after clicking the “Create Account” button.

5.2.10 Create Faculty Account (Completed)



This is a confirmation message telling the Course Coordinator that they have registered a faculty account.

5.2.11 Edit Faculty Account

J.O.L.T. Profile Support Log Out

Edit Faculty Account

Course Sort by: ↓ ↑

All fields are required

First Name

Last Name

Email

Confirm Email

Username

Password

Confirm Password

Security Question

Security Question Answer

Course-Section	Assign
CSIS-120-04	<input type="checkbox"/>
CSIS-120-05	<input type="checkbox"/>
CSIS-120-06	<input type="checkbox"/>
CSIS-120-07	<input type="checkbox"/>
CSIS-110-05	<input type="checkbox"/>
CSIS-220-04	<input type="checkbox"/>
CSIS-220-05	<input type="checkbox"/>

Current Courses Unassign

[CSIS-120-01](#)

[CSIS-210-04](#)

Powered By Copyright 2009

This screen allows a Course Coordinator to edit a faculty member's account. They can manipulate any field, as well as add/remove sections to/from the faculty account.

5.2.12 Edit Faculty Account (Error)

The screenshot shows the 'Edit Faculty Account' page in the JOLT system. The page has a dark blue header with the 'J.O.L.T.' logo and navigation buttons for 'Profile', 'Support', and 'Log Out'. The main content area is titled 'Edit Faculty Account' and contains a form with the following fields: First Name (Jon), Last Name (Sm), Email (Jon), Confirm Email (Jon), Username (Jon), Password (masked with dots), Confirm Password (masked with dots), Security Question (First Pet), and Security Question Answer (masked with dots). A 'Save Changes' button is located at the bottom of the form. To the right of the form is a table with columns 'Course-Section' and 'Assign'. The table lists several course sections: -120-04, -120-05, -120-06, -120-07, 110-05, 220-04, and 220-05. Below the table are sections for 'Current Courses' (listing CSIS-120-01 and CSIS-210-04) and 'Unassign'. An error message box is overlaid on the form, featuring a red exclamation mark icon and the text 'Invalid Email Address' with an 'OK' button. The footer of the page includes the text 'Powered By' with a logo and 'Copyright 2009'.

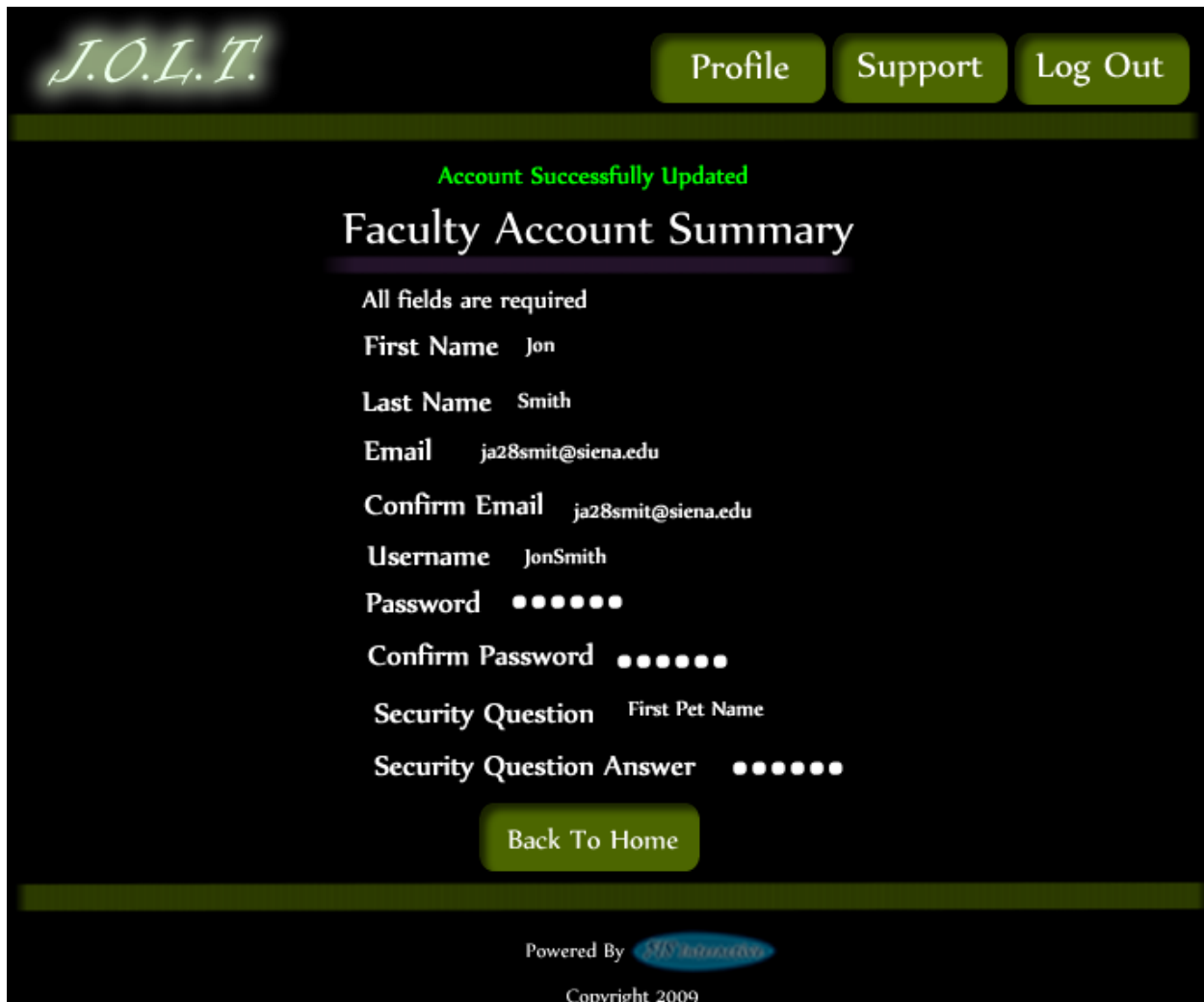
This screen shows that an invalid email address has been entered when editing a Faculty account. This appears after clicking the “Save Changes” button.

5.2.13 Edit Faculty Account (Error)

The screenshot displays the 'Edit Faculty Account' interface. At the top, there is a navigation bar with 'Profile', 'Support', and 'Log Out' buttons. The main heading is 'Edit Faculty Account'. Below this, a message states 'All fields are required'. The form contains several input fields, many of which are highlighted in red, indicating they are invalid or empty. These fields include First Name, Last Name, Email, Confirm Email, Username, Password, Confirm Password, and Security Question Answer. The Security Question is set to 'First Pet'. A modal dialog box with a red exclamation mark and the text 'Invalid Fields' is overlaid on the form, with an 'OK' button. To the right of the form is a table with columns 'Course-Section' and 'Assign'. The 'Current Courses' section lists 'CSIS-120-01' and 'CSIS-210-04'. A 'Save Changes' button is located at the bottom of the form. The page footer includes 'Powered By' and 'Copyright 2009'.

This screen shows invalid/blank fields are present on the form when editing a Faculty account. This appears after clicking the “Save Changes” button.

5.2.14 Edit Faculty Account (Completed)



The screenshot displays the JOLT (Java Online Learning Toolkit) interface. At the top left is the J.O.L.T. logo. To the right are three buttons: Profile, Support, and Log Out. Below these is a green banner with the text "Account Successfully Updated". The main heading is "Faculty Account Summary". Below this, a list of account details is shown, each with a label and a value or a masked field (dots). The details are: All fields are required, First Name Jon, Last Name Smith, Email ja28smit@siena.edu, Confirm Email ja28smit@siena.edu, Username JonSmith, Password (masked), Confirm Password (masked), Security Question First Pet Name, and Security Question Answer (masked). A "Back To Home" button is located below the details. At the bottom, it says "Powered By" followed by a logo and "Copyright 2009".

J.O.L.T. Profile Support Log Out

Account Successfully Updated

Faculty Account Summary

All fields are required

First Name Jon

Last Name Smith

Email ja28smit@siena.edu

Confirm Email ja28smit@siena.edu

Username JonSmith

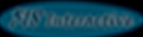
Password ●●●●●●

Confirm Password ●●●●●●

Security Question First Pet Name

Security Question Answer ●●●●●●

Back To Home

Powered By  Copyright 2009

This screen confirms that the Course Coordinator has successfully updated the faculty account.

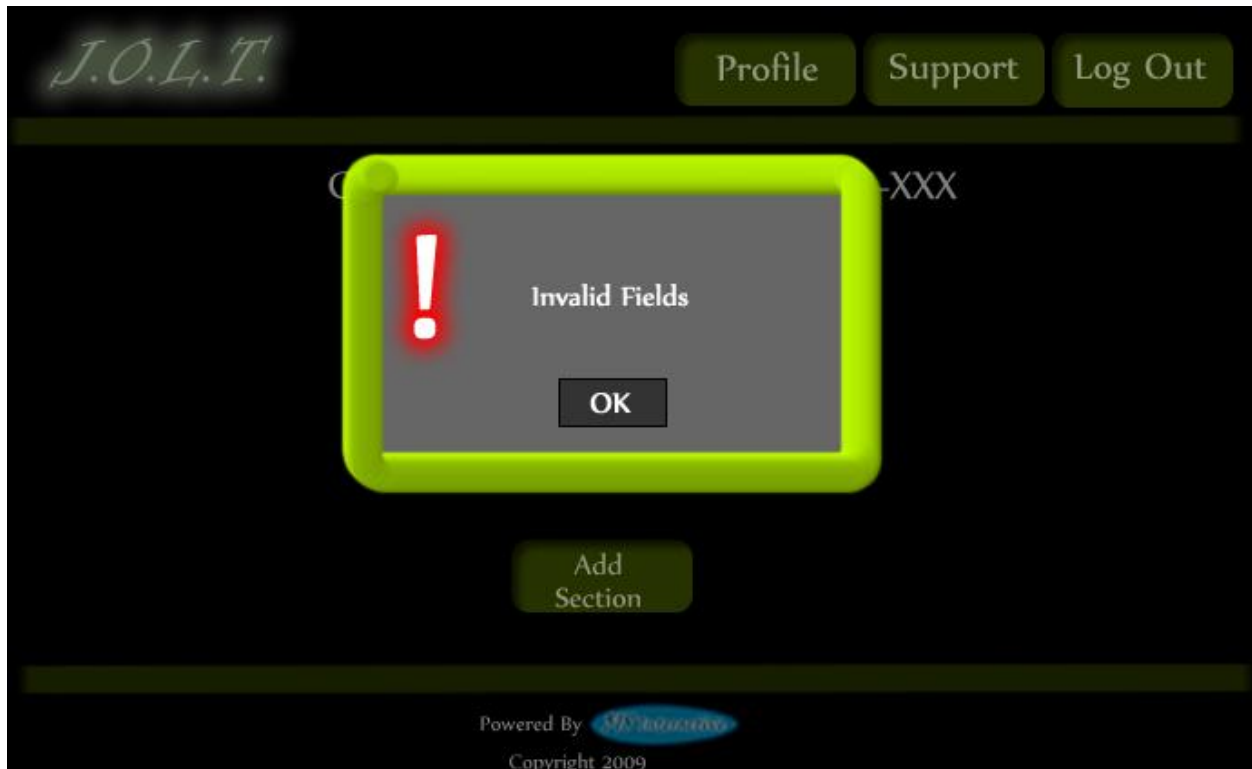
5.2.15 Create Course Section



The screenshot shows a web interface for creating a course section. At the top left is the 'J.O.L.T.' logo. To the right are three buttons: 'Profile', 'Support', and 'Log Out'. The main heading is 'Create Course Section For CSIS-XXX'. Below this are four input fields: 'Semester' (a dropdown menu), 'Number' (a text input), 'Time' (a dropdown menu), and 'Days' (a dropdown menu). A green 'Add Section' button is centered below the inputs. At the bottom, it says 'Powered By 518 interactive' with a logo and 'Copyright 2009'.


This screen allows the Course Coordinator to create a new section.

5.2.16 Create Course Section (Error)



This screen indicates an error in one or more fields while creating a new section. This appears after clicking the “Add Section” Button.

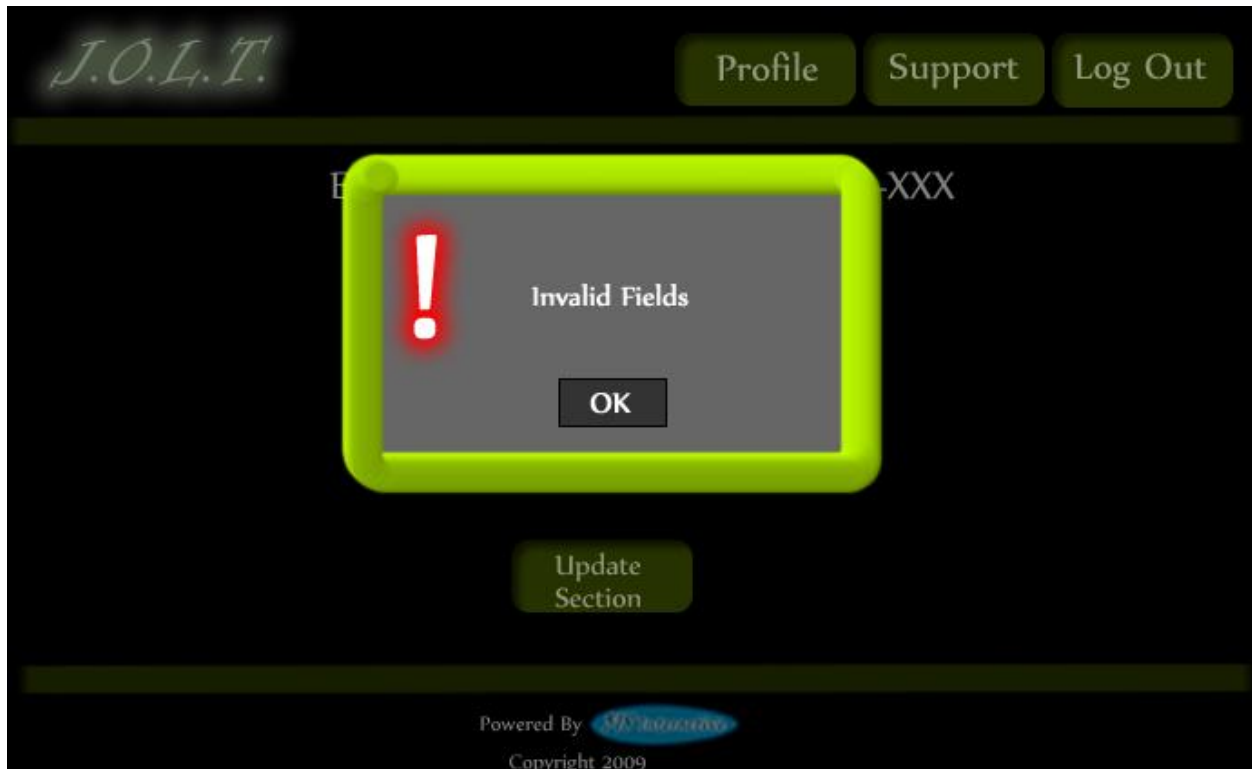
5.2.17 Edit Course Section



The screenshot shows the 'Edit Course Section' interface for CSIS-XXX. At the top left is the 'J.O.L.T.' logo. To the right are three buttons: 'Profile', 'Support', and 'Log Out'. The main heading is 'Edit Course Section For CSIS-XXX'. Below this are four dropdown menus: 'Semester' (Fall 2009), 'Number' (09), 'Time' (8:15-9:10 AM), and 'Days' (MWF). A green 'Update Section' button is centered below the dropdowns. At the bottom, it says 'Powered By 518 interactive Copyright 2009'.

This screen allows a Course Coordinator to edit an existing Course Section.

5.2.18 Edit Course Section (Error)



This screen indicates an error in one or more fields while editing an existing section. This appears after clicking the “Update Section” Button.

5.2.19 Course Home Page

The screenshot shows a web interface for a course coordinator. At the top left is the logo "J.O.L.T." in a stylized font. To the right are three buttons: "Profile", "Support", and "Log Out". Below this is a horizontal line. The main heading is "CSIS-XXX Course Coordinator Course Homepage". Underneath, there are two status indicators: "Administrator Announcements" and "No New Announcements". To the right of these is a button labeled "Manage Announcements". A large rounded rectangle in the center contains the text "MAIN CONTENT". On the left side of this rectangle is a vertical stack of five buttons: "Manage Gradebook", "Manage Problems", "Manage Pools", "Create Problem", and "Create Problem Set". At the bottom center, it says "Powered By" followed by a logo for "5S Interactive" and "Copyright 2009".

This is a course homepage for a Course Coordinator. The main functions are available on the buttons on the left.

5.2.20 View Gradebook

J.O.L.T.

Profile Support Log Out

Gradebook for CSIS-XXX

Select Course

Save Changes Return to Courses

Sort by: ↓ ↑	Sort by: ↓ ↑	Sort by: ↓ ↑	Sort by: ↓ ↑	
<u>Student Name</u>	<u>Assignment Name</u>	<u>Due Date</u>	<u>Grade</u>	<u>Delete</u>
Jon Doe	Binary Search	11/17/2010	<u>80</u>	<input type="button" value="X"/>
Jane Smith	Recursion	11/18/2010	<u>85</u>	<input type="button" value=""/>
Jesus Christ	String Practice	11/19/2010	<u>90</u>	<input type="button" value=""/>

Edit a grade by clicking on it.

High: 90
Average: 85
Low: 80

Powered By Copyright 2009

This is the gradebook view for a specific course for a Course Coordinator user. Clicking on an Assignment Name brings the user to the Problem Set Overview screen. Clicking on the grade allows the user to change the grade.

5.2.21 Edit Gradebook (Editing)

The screenshot shows the J.O.L.T. Gradebook interface for course CSIS-XXX. At the top, there are navigation buttons for Profile, Support, and Log Out. Below that, the course name and a 'Select Course' dropdown are visible, along with 'Save Changes' and 'Return to Course Home' buttons. The main content area contains a table with four columns: Student Name, Assignment Name, Due Date, and Grade. Each column has a 'Sort by' control with up and down arrows. The Grade column also includes a 'Delete' button for each row. The grade for Jon Doe is currently 80, and it is shown as a text box, indicating it is being edited. Summary statistics for the Grade column are shown at the bottom right: High: 90, Average: 85, Low: 80. The footer includes 'Powered By' with a logo and 'Copyright 2009'.

<u>Student Name</u>	<u>Assignment Name</u>	<u>Due Date</u>	<u>Grade</u>	<u>Delete</u>
Jon Doe	<u>Binary Search</u>	11/17/2010	80	<input type="checkbox"/>
Jane Smith	<u>Recursion</u>	11/18/2010	85	<input type="checkbox"/>
Jesus Christ	<u>String Practice</u>	11/19/2010	90	<input type="checkbox"/>

High: 90
Average: 85
Low: 80

This shows a user editing a student’s grade. Clicking the grade changes the field to a text box for editing.

5.2.22 Edit Gradebook (Invalid Field)

The screenshot displays the JOLT Gradebook interface for course CSIS-XXX. At the top, there are navigation buttons for Profile, Support, and Log Out. Below this, the course name and a 'Select Course' dropdown are visible, along with 'Save Changes' and 'Return to Courses' buttons. The main area contains a table of student grades. A modal dialog box with a red exclamation mark and the text 'You have entered an invalid grade entry.' is overlaid on the table, with an 'OK' button. The table lists three students: Jon Doe, Jane Smith, and Jesus Christ. The 'Grade' column shows 'AG' for Jon Doe, '85' for Jane Smith, and '90' for Jesus Christ. The 'Delete' column has buttons for each row. Summary statistics at the bottom right show High: 90, Average: 85, and Low: 80. The footer includes 'Powered By' with a logo and 'Copyright 2009'.

Student Name	Grade	Delete
Jon Doe	AG	<input type="checkbox"/>
Jane Smith	85	<input type="checkbox"/>
Jesus Christ	90	<input type="checkbox"/>

High: 90
Average: 85
Low: 80

Inputting an invalid grade prohibits the user from updating the grade.

5.2.23 Edit Gradebook (Blank)

The screenshot shows the JOLT Gradebook interface for course CSIS-XXX. At the top, there are navigation buttons for Profile, Support, and Log Out. Below that, there are buttons for Save Changes and Return to Courses, along with a dropdown menu for Select Course. The main area contains a table with columns for Student Name, Grade, and Delete. A red warning box is overlaid on the table, indicating that an empty grade field is present and providing instructions on how to delete it. The table lists three students: Jon Doe, Jane Smith, and Jesus Christ. The Grade column shows empty fields for Jon Doe and Jane Smith, and '85' for Jesus Christ. The Delete column has checkboxes for each student. Summary statistics show High: 90, Average: 85, and Low: 80.

Student Name	Grade	Delete
Jon Doe		<input type="checkbox"/>
Jane Smith		<input type="checkbox"/>
Jesus Christ	85	<input type="checkbox"/>

High: 90
Average: 85
Low: 80

Leaving the field blank disallows the user from updating the grade field. They are instructed to use the “Delete” field if they wish to delete the grade.

5.2.24 Edit Gradebook (Complete)

J.O.L.T.

Profile Support Log Out

Gradebook for CSIS-XXX

Select Course

Save Changes Return to Courses

Sort by: ↓ ↑	Sort by: ↓ ↑	Sort by: ↓ ↑	Sort by: ↓ ↑	
<u>Student Name</u>	<u>Assignment Name</u>	<u>Due Date</u>	<u>Grade</u>	<u>Delete</u>
Jon Doe	<u>Binary Search</u>	11/17/2010	<u>95</u>	<input type="checkbox"/>
Jane Smith	<u>Recursion</u>	11/18/2010	<u>85</u>	<input type="checkbox"/>
Jesus Christ	<u>String Practice</u>	11/19/2010	<u>90</u>	<input type="checkbox"/>
			High: 95	
			Average: 90	
			Low: 85	

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Once updating a grade, the user remains at the gradebook screen, but the student's grade has been updated, as well as the High, Average, and Low scores.

5.2.25 Create Problem

J.O.L.T. Profile Support Log Out

Create/Edit Problem

Problem Information

Title

Category

Method Name

Description

Parameters

Name	Type	Result
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>

Test Cases

Test Case	Hidden
Test Case 1 <input type="text"/>	<input checked="" type="checkbox"/>
Test Case 2 <input type="text"/>	<input type="checkbox"/>
Test Case 3 <input type="text"/>	<input type="checkbox"/>
Test Case 4 <input type="text"/>	<input type="checkbox"/>
Test Case 5 <input type="text"/>	<input type="checkbox"/>

Solution Code: Publish

Powered By Copyright 2009

This is the Create Problem page for a Course Coordinator. From here, the user enters all information about a problem.

5.2.26 Create Problem (Invalid Field)

The screenshot displays the 'Create/Edit Problem' interface in the JOLT system. At the top, there are navigation buttons for 'Profile', 'Support', and 'Log Out'. The main section is titled 'Create/Edit Problem' and contains several form fields:

- Problem Information:** Fields for Title (with a red error bar), Category (set to 'Practice'), and Method Name (set to 'findData').
- Parameters:** A table with columns for Name, Type, and Result. The first row shows 'param1' and 'int'.
- Test Cases:** A table with 5 rows and 7 columns. The first row contains the value '5' in the first column.
- Solution Code:** A text area with a 'Publish' checkbox.

A modal error dialog box is overlaid on the form, featuring a red exclamation mark icon and the text 'Please Correct Invalid Fields.' with an 'OK' button. The dialog box is highlighted with a yellow border.

At the bottom of the screen, there are 'Save Problem' and 'Create Problem' buttons, and a footer indicating 'Powered By 518 Interactive Copyright 2009'.

This screen shows an error message indicating an invalid field is present on the Create Problem Screen.

5.2.27 Create Problem (Max Test Cases)

The screenshot shows the 'Create/Edit Problem' interface in the JOLT system. At the top, there is a navigation bar with the JOLT logo and buttons for 'Profile', 'Support', and 'Log Out'. Below this is a header for 'Create/Edit Problem'. The main form is divided into several sections:

- Problem Information:** Contains fields for 'Title', 'Category', 'Method Name', and a large 'Description' text area.
- Parameters:** A table with columns for 'Name', 'Type', and 'Result'. Each row has a 'Name' field, a 'Type' dropdown menu, and a 'Result' dropdown menu.
- Test Cases:** A table with 25 rows, labeled 'Test Case 1' through 'Test Case 25'. Each row has a 'Hidden' checkbox in the rightmost column.
- Solution Code:** A text area for entering the solution code, with a 'Publish' button and a close icon (X).
- Buttons:** 'Save Problem' and 'Create Problem' buttons are located at the bottom right of the form.

At the bottom of the page, it says 'Powered By 518 Interactive Copyright 2009'.

This screen shows a problem with the maximum amount of test cases allowed (25). Notice the “Add Problem” button is no longer available.

5.2.28 Course Coordinator Sandbox

The screenshot shows the JOLT Course Coordinator Sandbox interface. At the top left is the J.O.L.T. logo. To the right are three buttons: Profile, Support, and Log Out. Below the logo is a horizontal line. The main content area is titled "Sandbox for (Username)" and includes a "Sort by:" dropdown menu with up and down arrows. A table with three columns is displayed: Name, Category, and Delete. The table contains four rows of data. To the right of the table are two buttons: "Create New Problem" and "Delete Selected". At the bottom of the interface, it says "Powered By" followed by a logo and "Copyright 2009".

Name	Category	Delete
Binary Search	Recursion	<input type="checkbox"/>
Boolean Practice	Boolean	<input type="checkbox"/>
Integer Practice	Integer	<input type="checkbox"/>
String Practice	String	<input type="checkbox"/>

This is the Course Coordinator sandbox. The sandbox stores all problems that are not completed and ready for the pool. Clicking the “Save Problem” button on the Create problem screen will store the problem in the sandbox. Clicking a problem name will bring up a window to edit the problem.

5.2.29 Edit Problem

J.O.L.T. Profile Support Log Out

Edit Problem

Problem Information

Title: Description:

Category: Method Name:

Parameters

Name	Type	Result
<input type="text" value="param1"/>	<input type="text" value="int"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>

Test Cases

Test Case	Input 1	Input 2	Input 3	Input 4	Input 5	Result	Hidden
Test Case 1	<input type="text" value="5"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input checked="" type="checkbox"/>
Test Case 2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Test Case 3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Test Case 4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Test Case 5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>

Solution Code: Publish

Powered By Copyright 2009

This is the edit problem screen that the Course Coordinator will see when they choose to edit a problem from either, the course pool, the global pool, or the sandbox.

5.2.30 Create Problem (Invalid Field Error)

The screenshot displays the 'Create/Edit Problem' page in the JOLT application. The page is dark-themed with green buttons. At the top, there are links for 'Profile', 'Support', and 'Log Out'. The main content area is titled 'Create/Edit Problem' and is divided into several sections: 'Problem Information', 'Parameters', 'Test Cases', and 'Solution Code'. In the 'Problem Information' section, the 'Title' field is highlighted in red, indicating an error. A yellow-bordered dialog box with a red exclamation mark icon is overlaid on the form, containing the text 'Please correct the indicated fields.' and an 'OK' button. The 'Parameters' section shows a table with columns for 'Name', 'Type', and 'Result'. The 'Test Cases' section has a table with columns for 'Test Case', 'Input', 'Output', and 'Hidden'. The 'Solution Code' section has a text area containing the code 'System.out.println("5");' and a 'Publish' checkbox. At the bottom, there are 'Save Problem' and 'Create Problem' buttons. The footer includes the text 'Powered By 518 Interactive Copyright 2009'.

J.O.L.T. Profile Support Log Out

Create/Edit Problem

Problem Information

Title

Category

Method Name

Parameters

Name	Type	Result
param1	int	

Test Cases

Test Case	Input	Output	Hidden
Test Case 1	5		
Test Case 2			
Test Case 3			
Test Case 4			
Test Case 5			

Solution Code: Publish

```
System.out.println("5");
```

Add Test Case

Save Problem Create Problem

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Copyright 2009

This pop up will display if the user has an invalid or missing field when they select the create problem button. The missing field or fields will be highlighted in red.

5.2.31 Create Problem (Solution Compile Error)

The screenshot shows the 'Create/Edit Problem' interface in the JOLT system. At the top, there is a navigation bar with 'Profile', 'Support', and 'Log Out' buttons. The main heading is 'Create/Edit Problem'. Below this, the 'Problem Information' section includes fields for 'Title' (String Practice), 'Category' (Practice), and 'Method Name' (findData). A 'Description' text area contains the text 'Here are some problems to practice string manipulation.' The 'Parameters' section shows a table with columns for 'Name', 'Type', and 'Result'. The first parameter is 'param1' of type 'int' with a result of 'int'. Below this is the 'Test Cases' section with five rows for 'Test Case 1' through 'Test Case 5'. The first test case has the value '5'. A red error message is displayed: 'Your Solution failed to compile !' with a red circle icon. The error text reads: 'Compilation Error Main.java:81: ';' expected System.out.println("5")'. Below the error is a 'Solution Code' text area containing 'System.out.println("5")' and a 'Publish' button. There are also 'Add Test Case', 'Save Problem', and 'Create Problem' buttons. At the bottom, it says 'Powered By' with a logo and 'Copyright 2009'.

This screen will appear when the Course Coordinator clicks the “Create Problem” button with invalid code inputted in the “Solution Code” text box. The compiler will output the error to the screen above the “Solution Code” box.

5.2.32 Confirm Problem

J.O.L.T.

Profile Support Log Out

Confirm Problem

Problem Name: *String Practice*

Problem Category: *Practice*

Problem Description: *Return the length of the string provided.*

Method Name: *stringLength*


Parameters: *String Param1*

Return Type: *int*

Test Cases:

Test Case #	Test Case	Hidden
1	Test1	Yes
2	Test2	No

Edit Problem Confirm Problem

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This screen shows a summary of the new problem about to be created.

5.2.33 Publish Problem (Completed)



The screenshot displays the JOLT interface with a dark background and light green text. At the top left is the 'J.O.L.T.' logo. To the right are three buttons: 'Profile', 'Support', and 'Log Out'. Below the header, a message states: 'Your problem has been created and added to your private pool'. The problem details are listed as follows:

- Problem Name:** *String Practice*
- Problem Category:** *Practice*
- Problem Description:** *Return the length of the string provided.*
- Method Name:** *stringLength*
- Parameters:** *String Param1*
- Return Type:** *int*
- Test Cases:**

Test Case #	Test Case	Hidden
1	Test1	Yes
2	Test2	No

At the bottom left, there is a button labeled 'Go To Private Pool'. At the bottom center, it says 'Powered By' followed by the '518 Interactive' logo and 'Copyright 2009'.

This screen shows a confirmed problem that has been added to the course pool.

5.2.34 Create Problem Set

J.O.L.T. Profile Support Log Out

Create Problem Set Course Homepage View Sandbox

Private Pool Sort by: ↓ ↑ Course Pool Sort by: ↓ ↑ Global Pool Sort by: ↓ ↑

Name	Category
Binary Search	Recursion
Boolean Practice	Boolean
Integer Practice	Integers
String Practice	Strings

Name	Category
Binary Search	Recursion
Boolean Practice	Boolean
Integer Practice	Integers
String Practice	Strings

Name	Category	Point Value
Binary Search	Recursion	<input type="text"/>
Boolean Practice	Boolean	<input type="text"/>
Integer Practice	Integers	<input type="text"/>
String Practice	Strings	<input type="text"/>

Point Total: X

Create Problem Set

Powered By Copyright 2009

This is an example of the Create Problem Set Screen. Course Coordinators can use problems from the course pool, or the global pool when creating a Problem Set. Clicking on a problem in the problem set area will allow the Course Coordinator to edit the problem. Point values can be assigned to each problem.

5.2.35 Create Problem Set (Error)

The screenshot shows the 'Create Problem Set' interface in the JOLT system. At the top, there is a navigation bar with 'Profile', 'Support', and 'Log Out' buttons. Below this, the main heading is 'Create Problem Set', with 'Course Homepage' and 'View Sandbox' buttons to its right. The interface is divided into three sections: 'Private Pool', 'Course Pool', and 'Global Pool', each with a 'Sort by' dropdown menu. Each section contains a table of problem sets with columns for 'Name' and 'Category'. The 'Name' column lists 'Binary Search', 'Boolean Practice', 'Integer Practice', and 'String Practice'. The 'Category' column lists 'Recursion', 'Boolean', 'Integers', and 'Strings'. A red error message box with a white exclamation mark and the text 'Invalid Fields' is overlaid on the 'Course Pool' table. Below the error message, there is an 'OK' button. At the bottom of the screen, there is a 'Create Problem Set' button. The footer of the page includes the text 'Powered By' followed by the '518 Interactive' logo and 'Copyright 2009'.

This is an example error message showing invalid fields on the Create Problem Set Screen.

5.2.36 Create Problem Set (No Problems Added Error)

The screenshot shows the 'Create Problem Set' page in the JOLT system. At the top, there is a navigation bar with 'Profile', 'Support', and 'Log Out' buttons. Below this, the page title 'Create Problem Set' is displayed, along with 'Course Homepage' and 'View Sandbox' buttons. The main content area is divided into three sections: 'Private Pool', 'Course Pool', and 'Global Pool', each with a 'Sort by' dropdown menu. Each section contains a table of problem categories. A red error message box is overlaid on the 'Course Pool' table, stating: 'No Problems are added to the problem set field. You cannot create a problem set with no problems in it.' Below the error message is an 'OK' button. At the bottom of the page, there is a 'Create Problem Set' button and a footer with 'Powered By 518 Interactive' and 'Copyright 2009'.

J.O.L.T. Profile Support Log Out

Create Problem Set Course Homepage View Sandbox

Private Pool Sort by: ↓ ↑ Course Pool Sort by: ↓ ↑ Global Pool Sort by: ↓ ↑

Name	Category
Binary Search	Recursion
Boolean Practice	Boolean
Integer Practice	Integers
String Practice	Strings

Name	Category
Binary Search	Recursion
Boolean Practice	Boolean
Integer Practice	Integers
String Practice	Strings

Name	Category	Point Value
		Point Total: X

Title
Description
Category


Create Problem Set

Powered By 518 Interactive
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This is an example error message showing a Problem Set with no problems added to it.

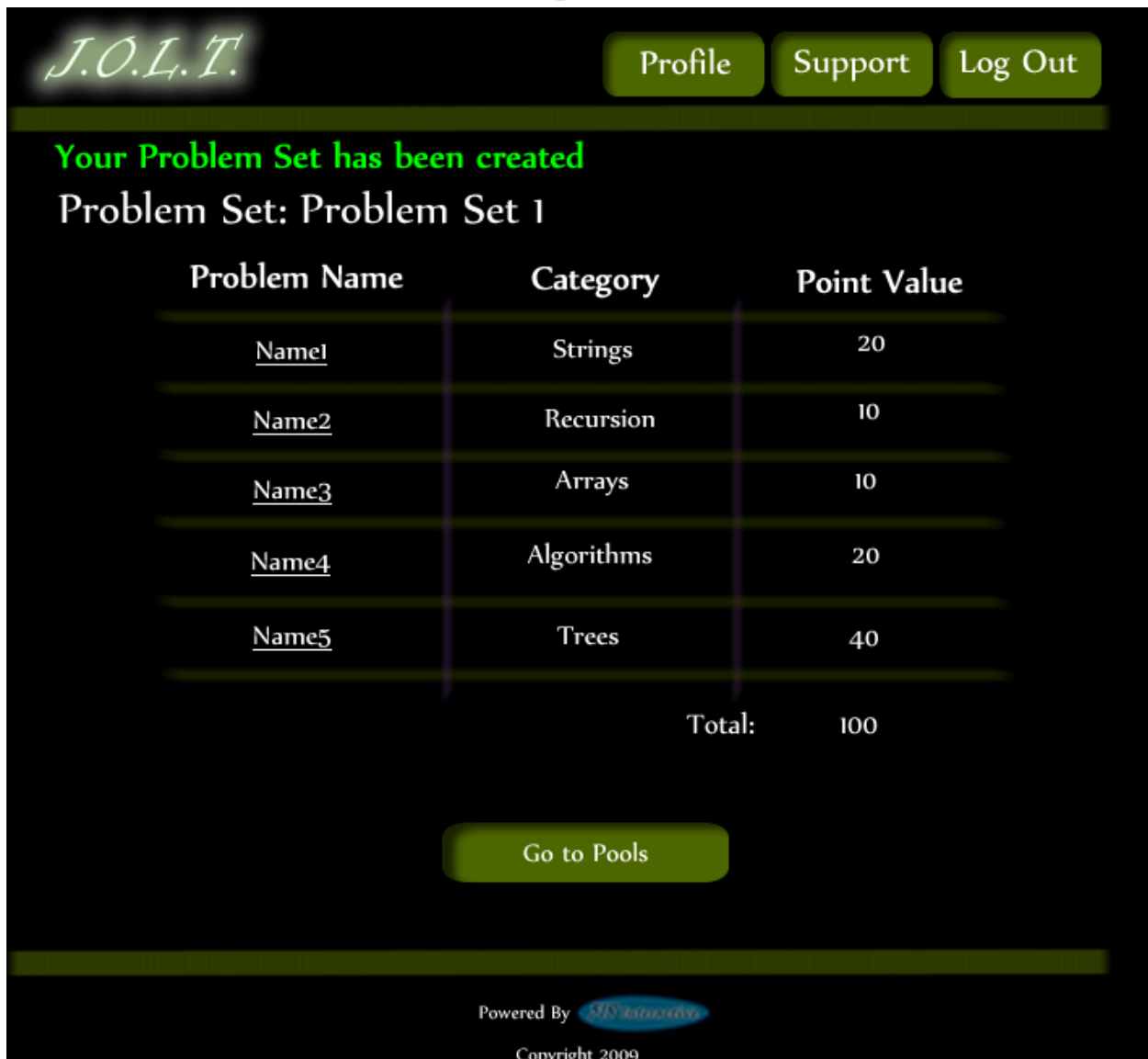
5.2.37 Create Problem Set (Confirm)

Problem Name	Category	Point Value
<u>Name1</u>	Strings	20
<u>Name2</u>	Recursion	10
<u>Name3</u>	Arrays	10
<u>Name4</u>	Algorithms	20
<u>Name5</u>	Trees	40
Total:		100

Powered By  Copyright 2009

This is the confirmation screen for creating a new Problem Set. Clicking “Create Problem Set” will add the problem set to the pool. Clicking “Edit Problem Set” will allow the user to go back and make changes.

5.2.38 Create Problem Set (Completed)



The screenshot shows the JOLT (Java Online Learning Toolkit) interface. At the top left is the logo "J.O.L.T.". To the right are three buttons: "Profile", "Support", and "Log Out". Below the header, a green message states "Your Problem Set has been created". Underneath, the title "Problem Set: Problem Set 1" is displayed. A table lists the details of the problem set:

Problem Name	Category	Point Value
<u>Name1</u>	Strings	20
<u>Name2</u>	Recursion	10
<u>Name3</u>	Arrays	10
<u>Name4</u>	Algorithms	20
<u>Name5</u>	Trees	40
Total:		100

Below the table is a green button labeled "Go to Pools". At the bottom of the interface, it says "Powered By" followed by a logo and "Copyright 2009".

This is a confirmation message showing a created Problem Set. There is a button to go to their Pool screen.

5.2.39 Edit Problem Set (Completed)

J.O.L.T. Profile Support Log Out

Edit Problem Set

 Course Homepage View Sandbox

Private Pool Sort by: ↓ ↑

Name	Category
Binary Search	Recursion
Boolean Practice	Boolean
Integer Practice	Integers
String Practice	Strings

Course Pool Sort by: ↓ ↑

Name	Category
Binary Search	Recursion
Boolean Practice	Boolean
Integer Practice	Integers
String Practice	Strings

Global Pool Sort by: ↓ ↑

Name	Category
Binary Search	Recursion
Boolean Practice	Boolean
Integer Practice	Integers
String Practice	Strings

Problem Set

Title

Description

Category

Name	Category	Point Value
Binary Search	Recursion	<input type="text" value="5"/>
Boolean Practice	Boolean	<input type="text" value="5"/>
Integer Practice	Integers	<input type="text" value="5"/>
String Practice	Strings	<input type="text" value="5"/>
Point Total:		25

Save Changes

Powered By Copyright 2009

This is the screen for Editing an existing Problem Set. The format of the screen is identical to the Create Problem Set screen. All error screens for Edit Problem Set are identical to the ones for Create Problem Set.

5.2.40 Activate/Assign Problem Set

J.O.L.T. Profile Support Log Out

Problem Set Activation

 Go To Pools

Select a Problem Set To Activate

Name	Category	Select
<u>Problem Set 1</u>	Practice	<input type="checkbox"/>
<u>Problem Set 2</u>	Lab	<input type="checkbox"/>
<u>Problem Set 3</u>	Lab	<input type="checkbox"/>
<u>Problem Set 4</u>	Exam	<input type="checkbox"/>

Timed Activation

Month Day Hours Minutes Activate Now

Expiration Date

Month Day Hours Minutes

Activate

Powered By MS Interactive
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This is the screen to activate a Problem Set for a specific course. Problem Sets can either be activated instantly, or set to be active at a later date.

5.2.41 Deactivate Problem Set

J.O.L.T. Profile Support Log Out

Problem Set Deactivation

 Go To Pools

Select an Active Problem Set To Deactivate

Name	Category	Select
<u>Problem Set 1</u>	Practice	<input type="checkbox"/>
<u>Problem Set 2</u>	Lab	<input type="checkbox"/>
<u>Problem Set 3</u>	Lab	<input type="checkbox"/>
<u>Problem Set 4</u>	Exam	<input type="checkbox"/>

Deactivate

Powered By 518 Interactive
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This screen allows users to deactivate any active problem set for a specific course. This screen is only used for manual deactivation. JOLT will automatically deactivate problem sets once the expiration date and time have been passed.

5.2.42 Manage Pools

J.O.L.T. Profile Support Log Out

Pool Management Promote Problems View Sandbox

Private Pool Sort by: ↓ ↑ Course Pool Sort by: ↓ ↑ Global Pool Sort by: ↓ ↑

Name	Category
<u>Binary Search</u>	Recursion
<u>Boolean Practice</u>	Boolean
<u>Integer Practice</u>	Integers
<u>String Practice</u>	Strings
<u>Locker Problem</u>	Recursion

Name	Category
<u>Binary Search</u>	Recursion
<u>Boolean Practice</u>	Boolean
<u>Integer Practice</u>	Integers
<u>String Practice</u>	Strings

Name	Category
<u>Binary Search</u>	Recursion
<u>Boolean Practice</u>	Boolean
<u>Integer Practice</u>	Integers
<u>String Practice</u>	Strings

Edit Selected Delete Selected

Drag and Drop Items Between Pools
Italics Denotes Problem Set

Powered By Copyright 2009

This is the pool management screen for Course Coordinators. They have the option to drag problems from the Global Pool to the Course Pool, and from their Private Pool to the Course Pool. They will be able to drag from the Global and Course Pools to their Private Pool. There is a button to promote pending problems from faculty to the Course Pool.

5.2.43 Accept Private Problems to Course Pool

The screenshot shows the JOLT interface for pending problem promotion. At the top left is the J.O.L.T. logo. To the right are buttons for Profile, Support, and Log Out. Below this is a horizontal line. The main heading is "Pending Problem Promotion" with a "Sort by:" dropdown menu showing down and up arrows. To the right of the heading is a "Back to Pools" button. Below the heading is a table with three columns: Name, Category, and Select. The table contains four rows of data. To the right of the table are two buttons: "Delete Selected" and "Approve Selected". At the bottom of the page, it says "Powered By" with a logo and "Copyright 2009".

Name	Category	Select
Binary Search	Recursion	<input type="checkbox"/>
Boolean Practice	Boolean	<input type="checkbox"/>
Integer Practice	Integer	<input type="checkbox"/>
String Practice	String	<input type="checkbox"/>

Clicking the “Promote Problems” button brings the Course Coordinator to this screen. From here, the Course Coordinator has the ability to approve or reject problems to the Course Pool. Clicking the problem name allows the Course Coordinator to view the problem details.

5.2.1 Generate Reports

The screenshot shows the 'Report Generation' page of the JOLT system. At the top left is the 'J.O.L.T.' logo. To the right are three buttons: 'Profile', 'Support', and 'Log Out'. The main heading is 'Report Generation'. Below it are two dropdown menus: 'Select Course' (set to 'All Courses') and 'Select Section' (set to 'All Sections'). Underneath is a section titled 'Select Attributes:' with a list of attributes and corresponding checkboxes:

- Select All
- Collective GPA
- Grade Breakdown
- Course Description
- # Of Students
- # Problem Sets Completed
- # Labs Completed
- # Practices Completed
- # Homeworks Completed

At the bottom of the form is a 'Generate Reports' button. The footer of the page includes 'Powered By' with a logo and 'Copyright 2009'.

This screen allows Course Coordinators to generate reports based on a set of attributes for one or more sections within a course. The “Generate Reports” button of the Course Coordinator home page gets the user to this page.

Report details have not been finalized at this time.

5.2.2 Create Announcement

The screenshot displays the 'Create Announcement' screen. At the top, the 'J.O.L.T.' logo is on the left, and 'Profile', 'Support', and 'Log Out' buttons are on the right. The main area is titled 'Create Announcement' and contains a 'Title' input field, a large 'Announcement' text area, a 'Recipients' list, and a 'List' of users. The 'Recipients' list is currently empty, and the 'List' contains a scrollable list of users including 'All Students', 'CSIS-120-05', 'CSIS-120-04', 'CSIS-225-03', and several names. Below each list is an 'Invert Selection' button. A 'Post Announcement' button is located at the bottom left. The footer includes the text 'Powered By 518 Interactive' and 'Copyright 2009'.

This is the screen to create an announcement to be broadcast to users. Users select recipients of the announcement, and provide a title and announcement text.

5.2.3 Create Announcement (Add Recipients)

J.O.L.T. Profile Support Log Out

Create Announcement

Title
New Problem Set Activated

Announcement
New Problem Set Activated for students of CSIS-120 (all sections)

Post Announcement

Recipients

- CSIS-120-05
- CSIS-120-04
- CSIS-225-03
- Lim, Darren (Administrator)
- Flatland, Robin (Faculty)
- Egan, Mary Anne (CC)

Invert Selection

List

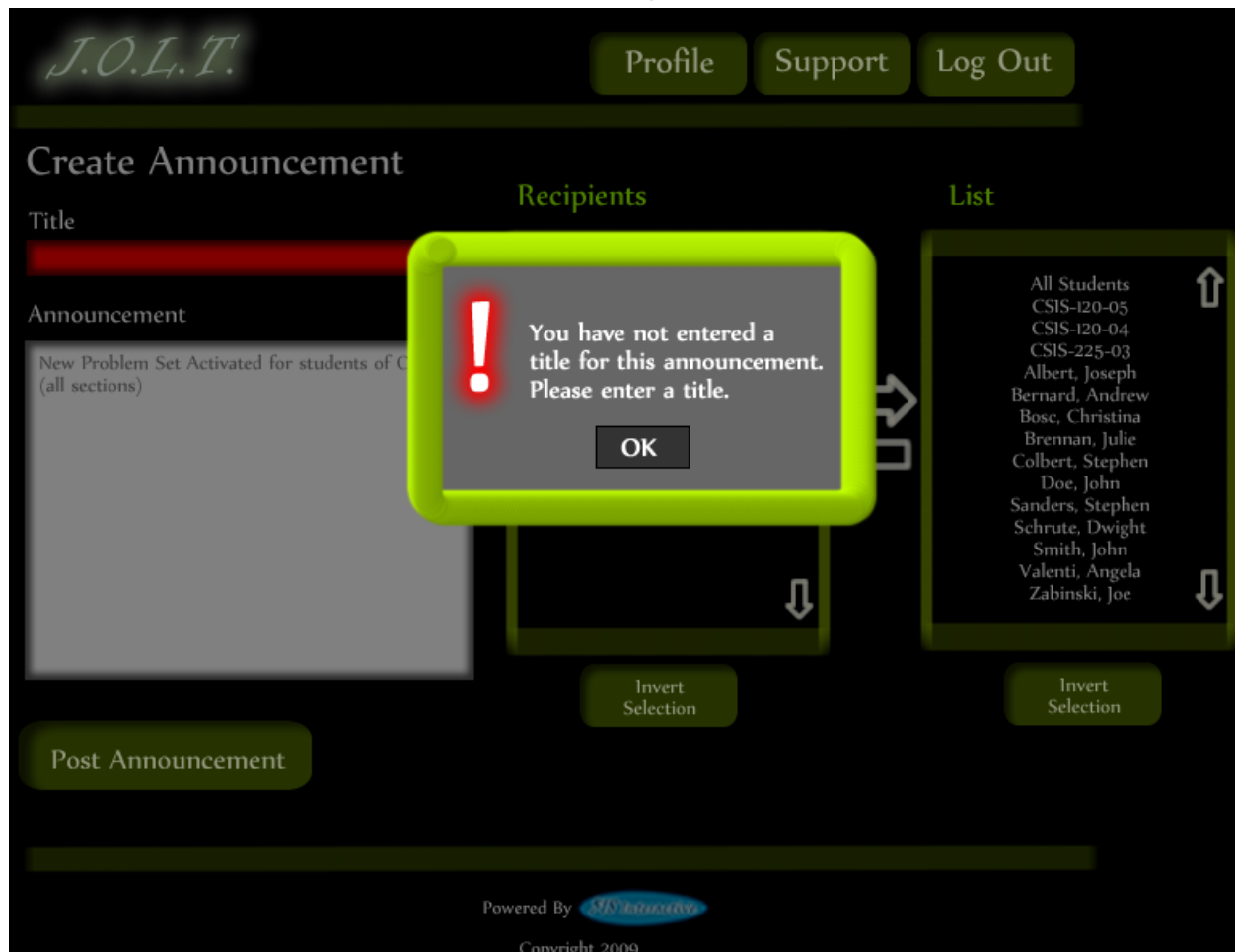
- All Students
- CSIS-120-05
- CSIS-120-04
- CSIS-225-03
- Albert, Joseph
- Bernard, Andrew
- Bose, Christina
- Brennan, Julie
- Colbert, Stephen
- Doe, John
- Sanders, Stephen
- Schrute, Dwight
- Smith, John
- Valenti, Angela
- Zabinski, Joe

Invert Selection

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This screen shows an announcement with populated data and selected recipients. Using the left and right arrow buttons add and remove users from the recipient list.

5.2.4 Create Announcement (Missing Field)



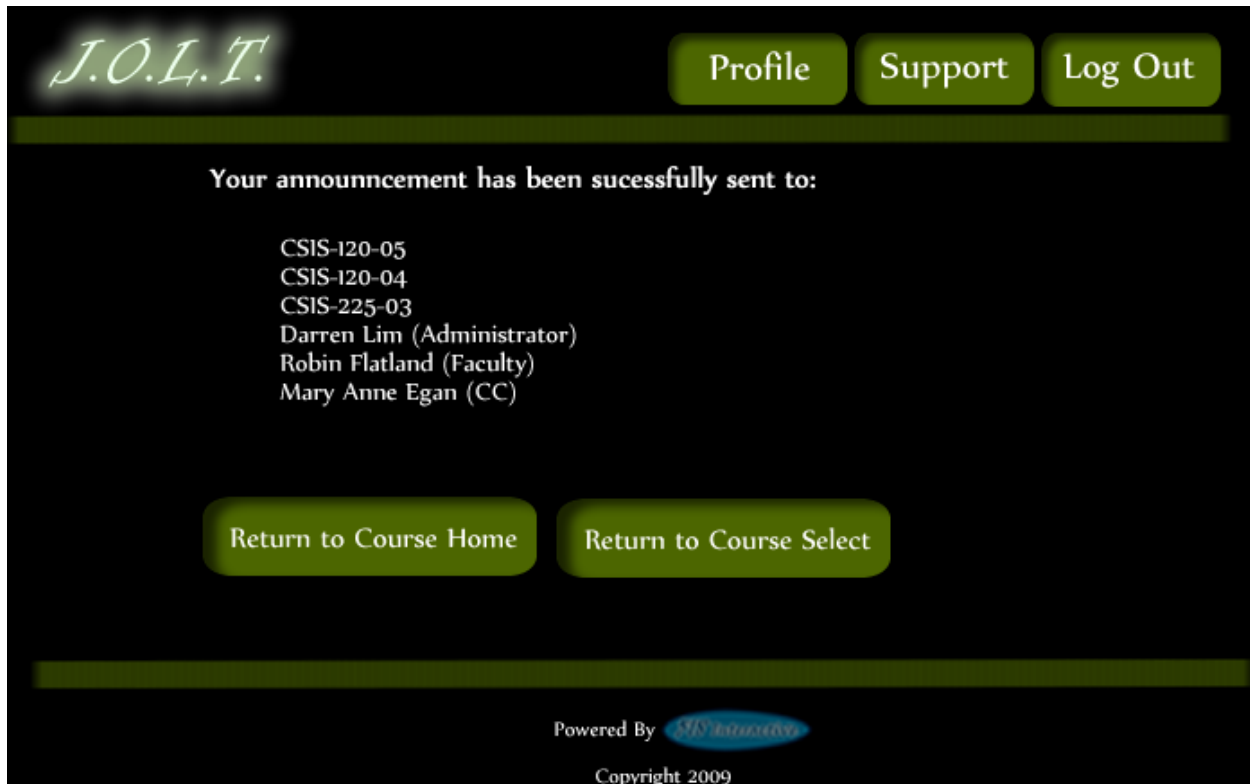
This shows an error message for a missing field when creating an announcement. This appears once the user selects the “Post Announcement” button.

5.2.5 Create Announcement (No Recipients)

The screenshot displays the 'Create Announcement' page in the JOLT system. At the top, there are navigation buttons for 'Profile', 'Support', and 'Log Out'. The main heading is 'Create Announcement'. Below this, there are three main sections: 'Title', 'Recipients', and 'List'. The 'Title' field contains the text 'New Problem Set Activated'. The 'Recipients' section is currently empty, and the 'List' section contains a scrollable list of recipients including 'All Students', 'CSIS-120-05', 'CSIS-120-04', 'CSIS-225-03', and several individual names. A red error message box with a white exclamation mark is overlaid on the 'Recipients' section, stating 'This message has no recipients. Please add recipients' with an 'OK' button. A yellow box highlights the error message. At the bottom of the form, there is a 'Post Announcement' button. The footer of the page includes the text 'Powered By 518 Interactive' and 'Copyright 2009'.

This shows an error message when creating an announcement with no recipients. This appears once the user selects the “Post Announcement” button.

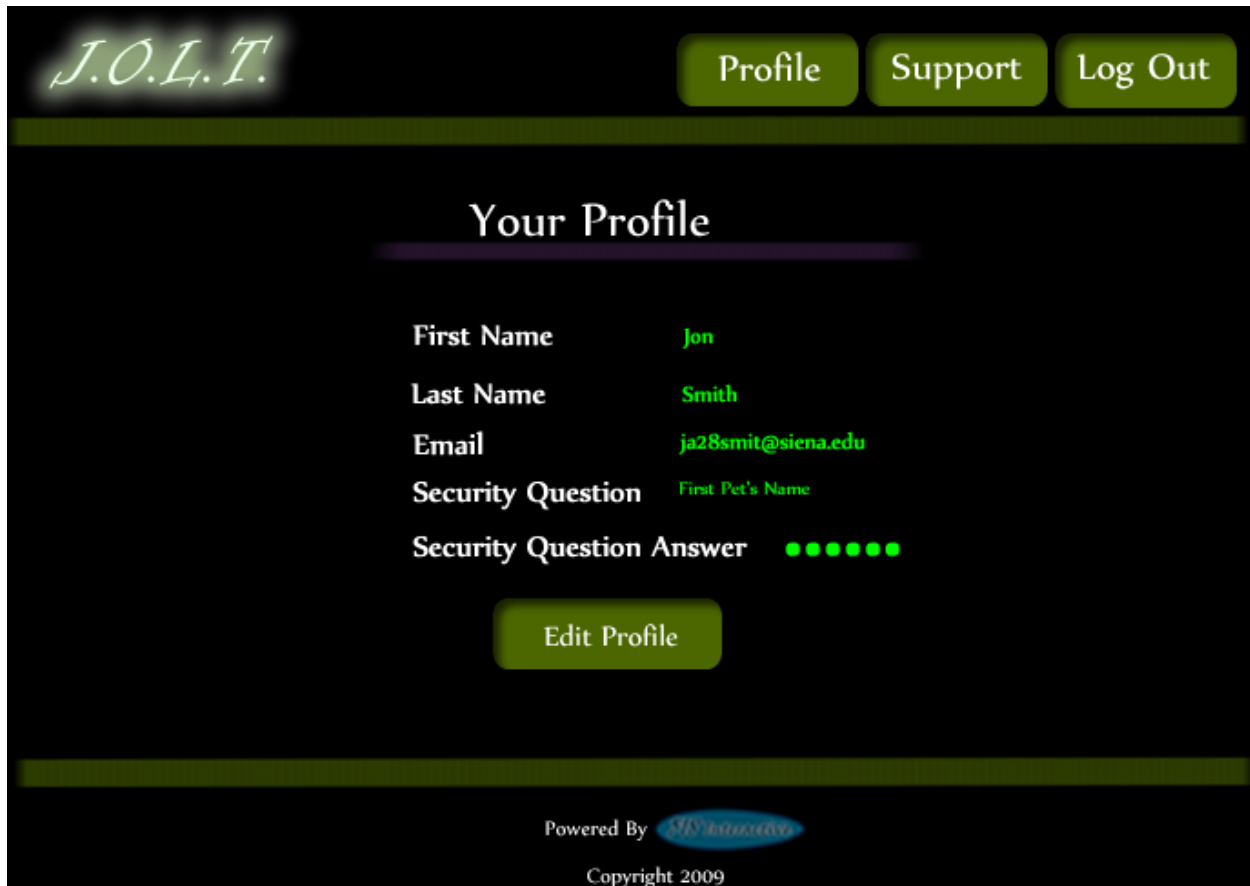
5.2.6 Create Announcement (Complete)



The screenshot displays the JOLT interface with a dark background and light green accents. At the top left, the logo "J.O.L.T." is written in a stylized, glowing font. To the right of the logo are three light green buttons with rounded corners: "Profile", "Support", and "Log Out". Below these buttons, a horizontal line separates the header from the main content area. The main content area features the text "Your announcement has been successfully sent to:" in a light green font. Below this text, a list of recipients is displayed in a light green font: "CSIS-120-05", "CSIS-120-04", "CSIS-225-03", "Darren Lim (Administrator)", "Robin Flatland (Faculty)", and "Mary Anne Egan (CC)". At the bottom of the main content area, there are two light green buttons with rounded corners: "Return to Course Home" and "Return to Course Select". Below these buttons, another horizontal line separates the main content from the footer. The footer contains the text "Powered By" followed by a logo for "518 Interactive" and the text "Copyright 2009".

This shows a successfully created announcement. This appears once the user selects the “Post Announcement” button.

5.2.1 View Profile



The screenshot shows a web interface for viewing a user's profile. At the top left is the 'J.O.L.T.' logo. To its right are three buttons: 'Profile', 'Support', and 'Log Out'. The main heading is 'Your Profile'. Below this, the following information is displayed:

First Name	Jon
Last Name	Smith
Email	ja28smit@siena.edu
Security Question	First Pet's Name
Security Question Answer	●●●●●

Below the profile information is an 'Edit Profile' button. At the bottom of the page, it says 'Powered By' followed by a logo and 'Copyright 2009'.

Clicking the “Profile” button in the header will bring Course Coordinator members to this screen, where they can view their profile information. There is a button to update their information as well.

5.2.2 Edit Profile

J.O.L.T. Profile Support Log Out

Edit Profile

All fields are required

First Name

Last Name

Email

Confirm Email

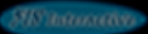
Password

Confirm Password

Security Question

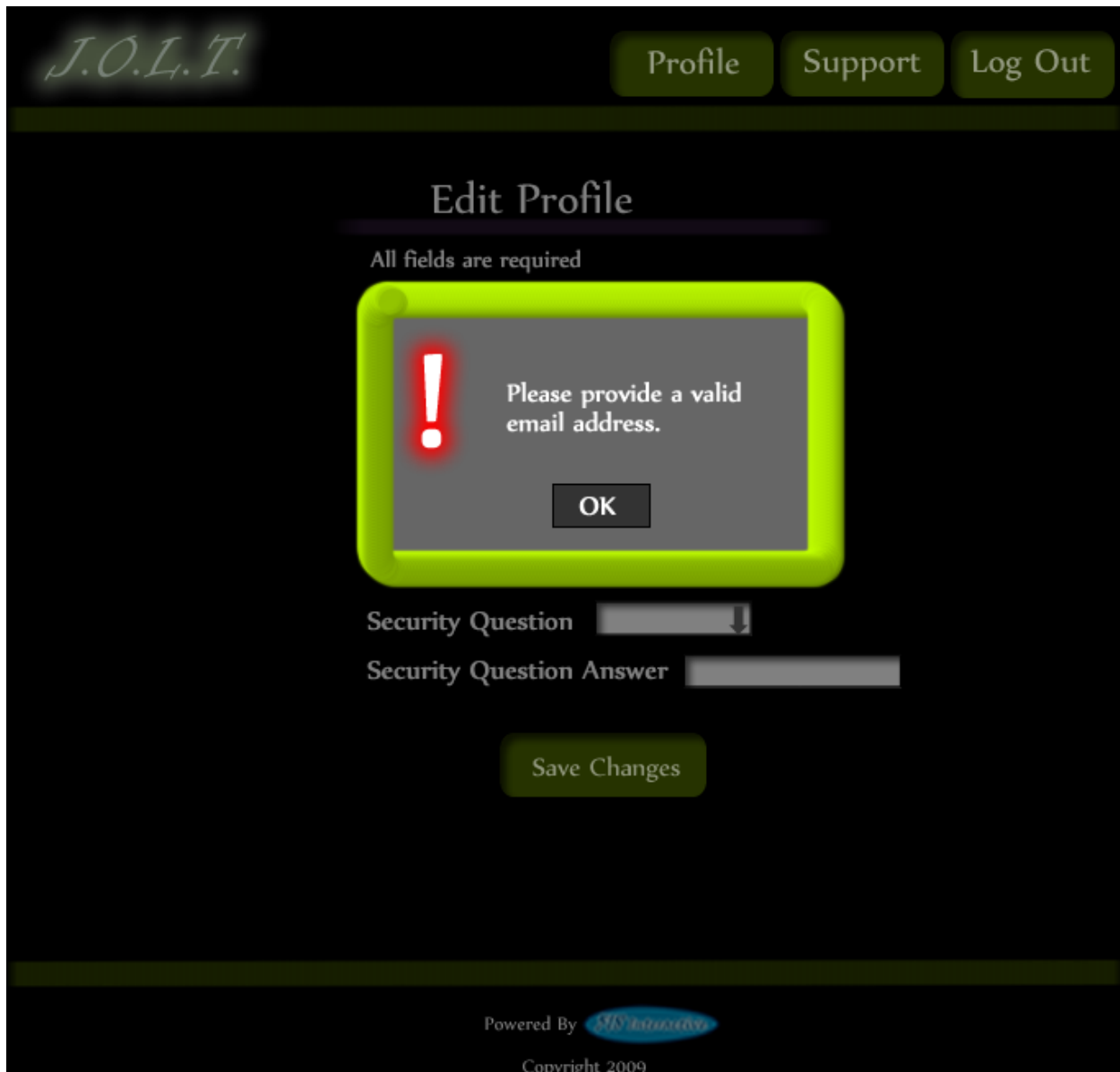
Security Question Answer

Save Changes

Powered By  Copyright 2009

This screen allows a Course Coordinator user to edit their profile information. The Course Coordinator user gets here by clicking the “Edit Profile” button on the Course Coordinator Profile Page.

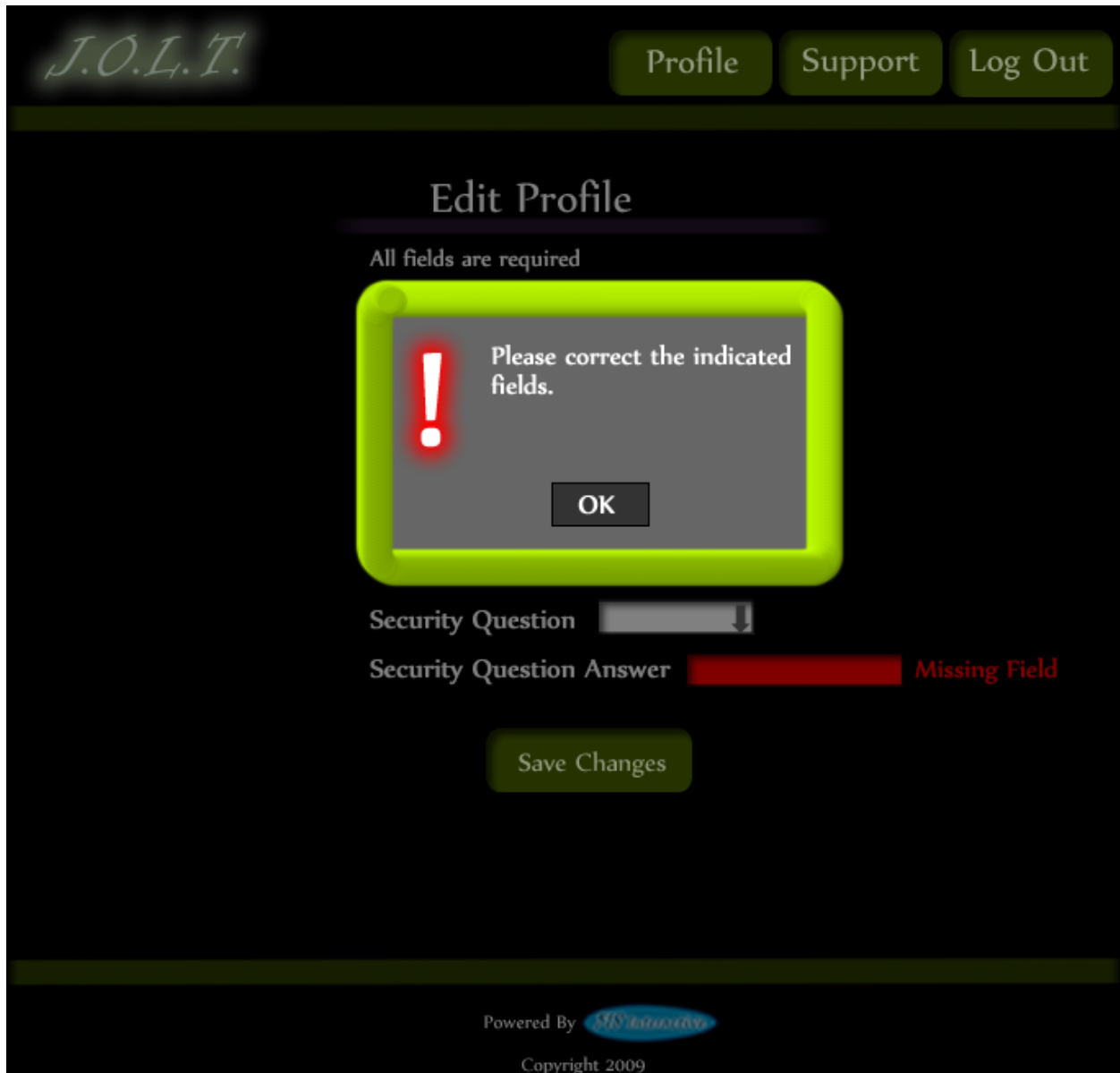
5.2.3 Edit Profile (Error)



The screenshot shows the 'Edit Profile' page in the JOLT system. At the top left is the 'J.O.L.T.' logo. To the right are three buttons: 'Profile', 'Support', and 'Log Out'. The main heading is 'Edit Profile', followed by the instruction 'All fields are required'. A prominent error message is displayed in a red-bordered box: a red exclamation mark icon, the text 'Please provide a valid email address.', and an 'OK' button. Below the error message are two input fields: 'Security Question' (a dropdown menu) and 'Security Question Answer' (a text box). A 'Save Changes' button is located below these fields. At the bottom of the page, it says 'Powered By' followed by a logo and 'Copyright 2009'.

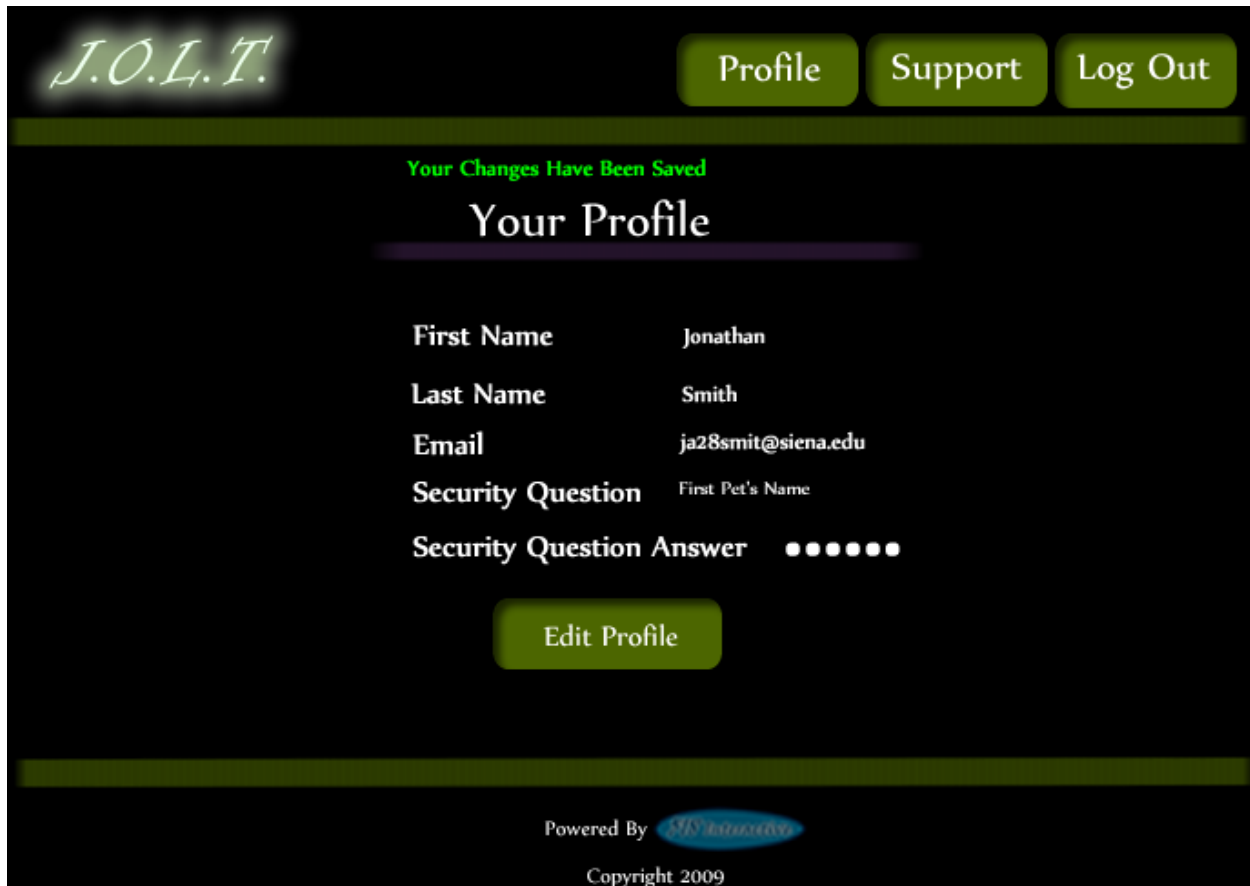
This error message is shown when a Course Coordinator user tries to update their email address with an invalid email address.

5.2.4 Edit Profile (Invalid Field)



This error message is shown when a Course Coordinator user tries to update their profile information with invalid or missing information.

5.2.5 Edit Profile (Completed)



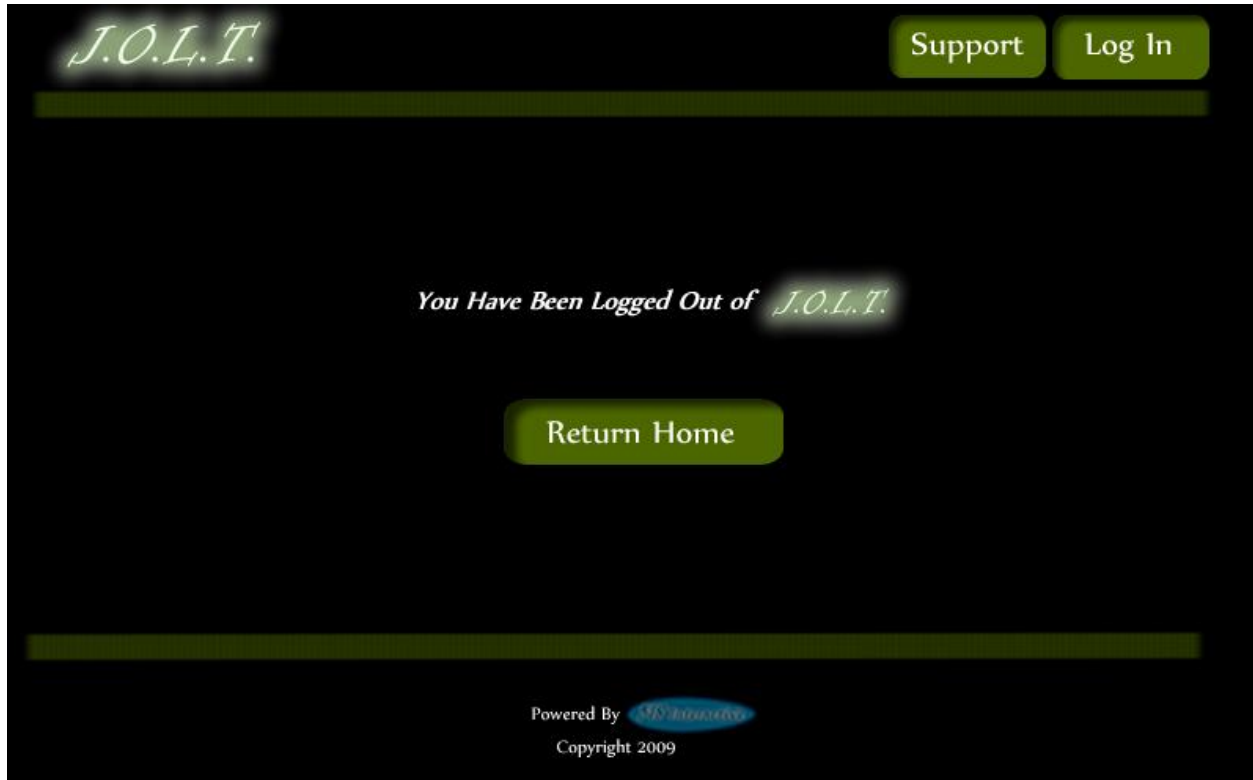
The screenshot displays the 'Your Profile' page in the JOLT system. At the top left is the 'J.O.L.T.' logo. To the right are three buttons: 'Profile', 'Support', and 'Log Out'. A green message at the top center reads 'Your Changes Have Been Saved'. Below this is the title 'Your Profile'. The profile information is listed as follows:

First Name	Jonathan
Last Name	Smith
Email	ja28smit@siena.edu
Security Question	First Pet's Name
Security Question Answer	●●●●●●

Below the profile information is an 'Edit Profile' button. At the bottom of the page, it says 'Powered By' followed by the '518 Interactive' logo and 'Copyright 2009'.

This screen is shown when a Course Coordinator user successfully updates their profile information.

5.2.1 Logout



This screen shows a Course Coordinator who has just logged out of JOLT by clicking the Logout button in the header.

6 Administrator User

6.1 Administrator User Case Narrative

The Administrator shall be able to log into the System via a unique username and password. Once logged in, the Administrator will be able to create and manage Course Coordinator, Faculty, and Student accounts. The Administrator has the same abilities as a Course Coordinator. The Administrator will be able to send broadcast messages to all users, or a subset thereof. The Administrator will manage the “Global Pool” of problems and problem sets.

6.2 Preliminary Administrator User Screens

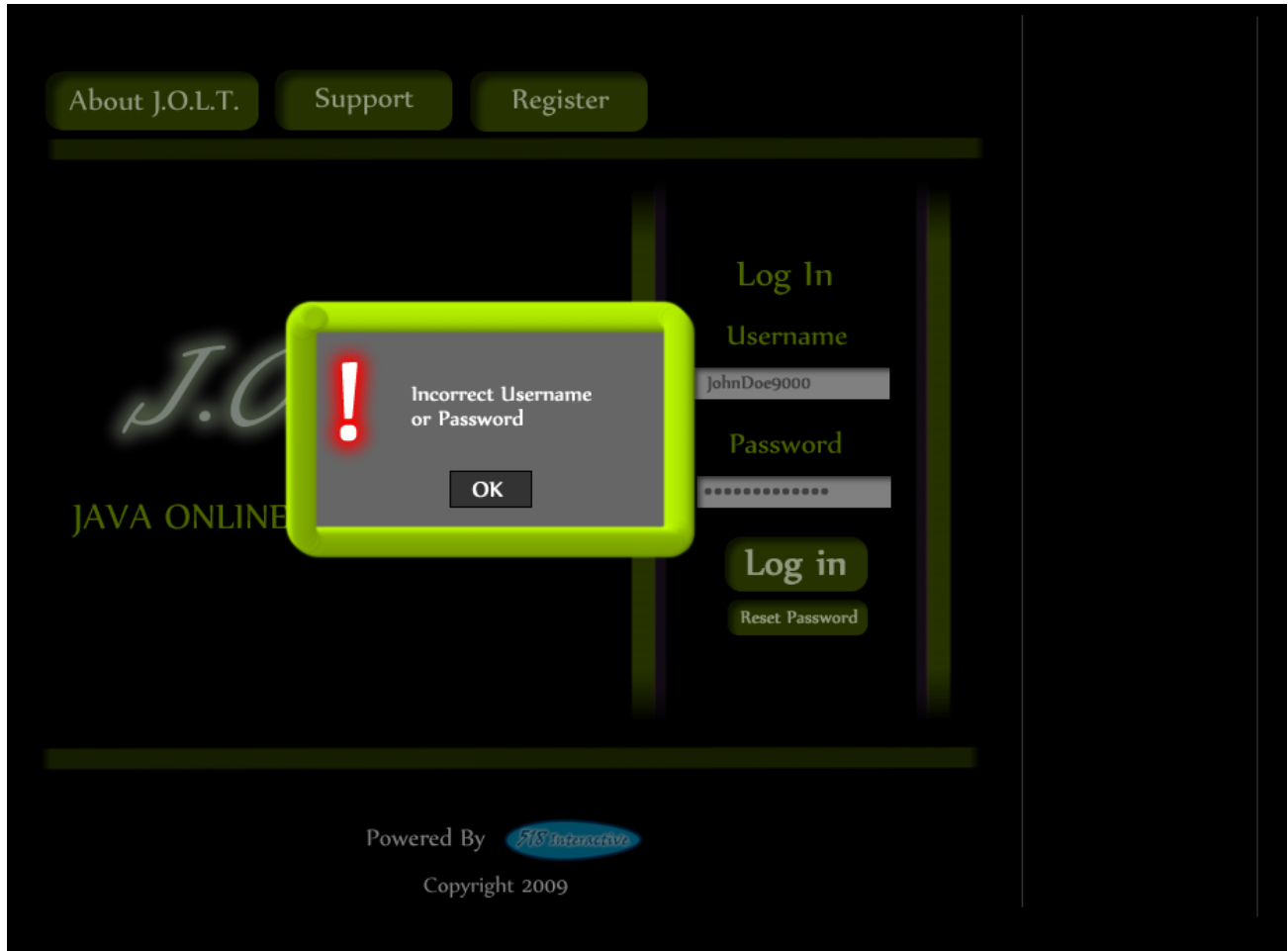
The Administrator shall have the following screens available.

6.2.1 JOLT Login

The screenshot shows the JOLT login interface. At the top, there are three navigation buttons: "About J.O.L.T.", "Support", and "Register". The main content area features the stylized text "J.O.L.T." in a glowing font, followed by "JAVA ONLINE LEARNING TUTOR" in green. To the right, there is a login form with fields for "Username" and "Password", a "Log in" button, and a "Reset Password" link. At the bottom, it says "Powered By 518 Interactive" and "Copyright 2009".

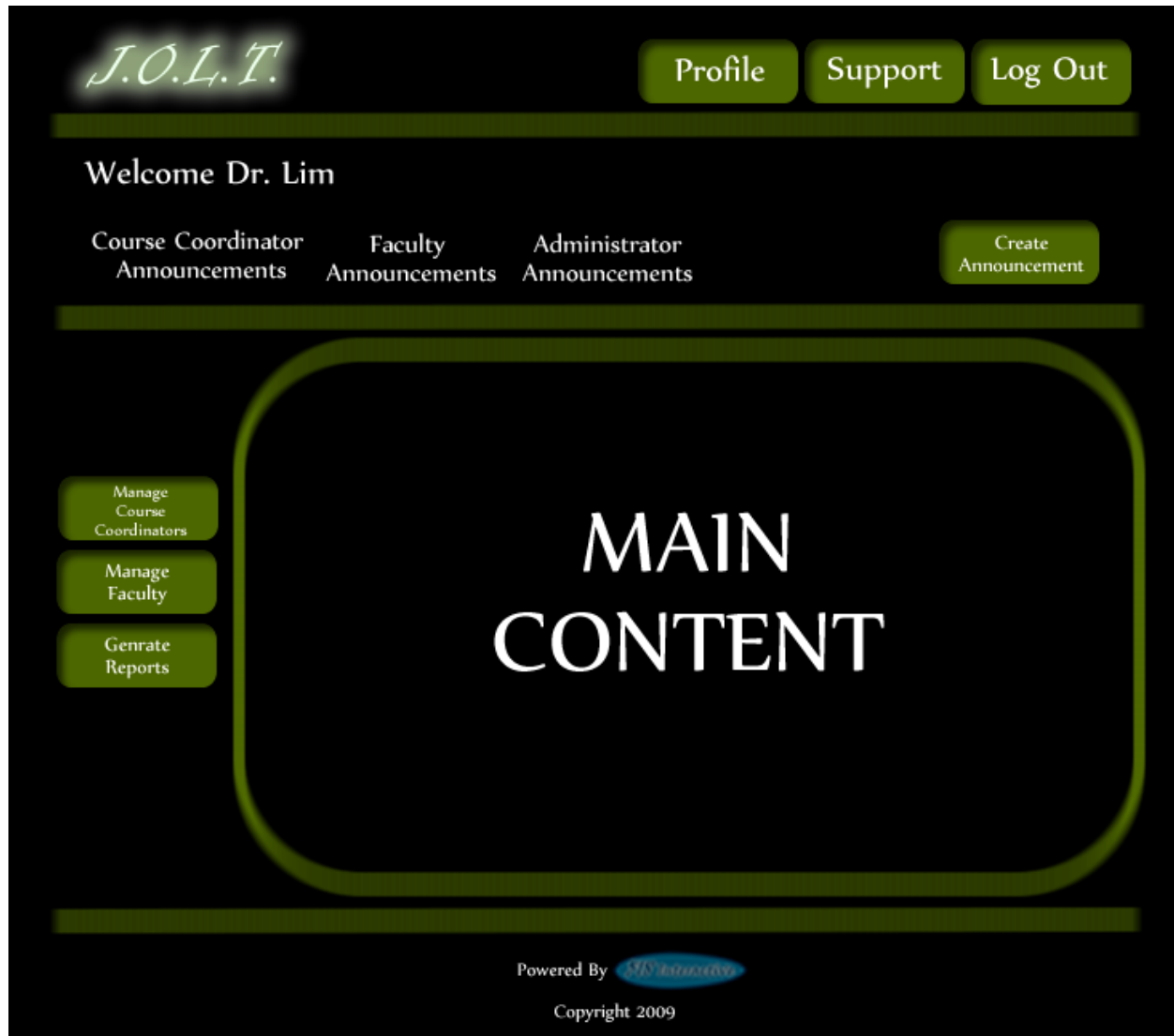
This is the initial screen that Course Coordinator will be presented with when they navigate to JOLT. It prompts for a username and password, and provides a link for forgotten password. Note that Course Coordinator accounts are created by the Administrator. No self-registration is allowed.

6.2.2 Invalid Login Screen



This error message will appear when the Administrator user enters an incorrect Username or Password.

6.2.3 Administrator Home Page



This is the home page for the Administrator. The Administrator has the ability to manage Course Coordinator Accounts and Faculty Accounts from the home screen. The Administrator can also create announcements and generate reports from this screen.

6.2.4 Manage Course Coordinators

The screenshot shows a web interface for managing course coordinators. At the top left is the 'J.O.L.T.' logo. To the right are three buttons: 'Profile', 'Support', and 'Log Out'. Below these is a horizontal line. The main heading is 'Manage Course Coordinator', with a 'Back to Manage Users' button to its right. The central area contains a table with two columns: 'Name' and 'Select'. The table lists three names: Mary Anne Egan, Robert Yoder, and Eric Breimer, each with a radio button in the 'Select' column. To the right of the table are two buttons: 'Edit Selected' and 'Add New Course Corrdinator'. At the bottom, it says 'Powered By' followed by a logo and 'Copyright 2009'.

Name	Select
Mary Anne Egan	<input type="radio"/>
Robert Yoder	<input type="radio"/>
Eric Breimer	<input type="radio"/>

This screen is reached from the “Manage Course Coordinators” button on the Administrator home page. This screen allows the Administrator to edit and add Course Coordinator accounts.

6.2.5 Create Course Coordinator Account

J.O.L.T. Profile Support Log Out

Create Course Coordinator Account

Sort by: ↓ ↑

All fields are required

First Name

Last Name

Email

Confirm Email

Username

Password

Confirm Password

Security Question

Security Question Answer

Course	Assign
CSIS-110	<input type="checkbox"/>
CSIS-114	<input type="checkbox"/>
CSIS-116	<input type="checkbox"/>
CSIS-120	<input type="checkbox"/>
CSIS-210	<input type="checkbox"/>
CSIS-220	<input type="checkbox"/>
CSIS-225	<input type="checkbox"/>

Create Account

Powered By Copyright 2009

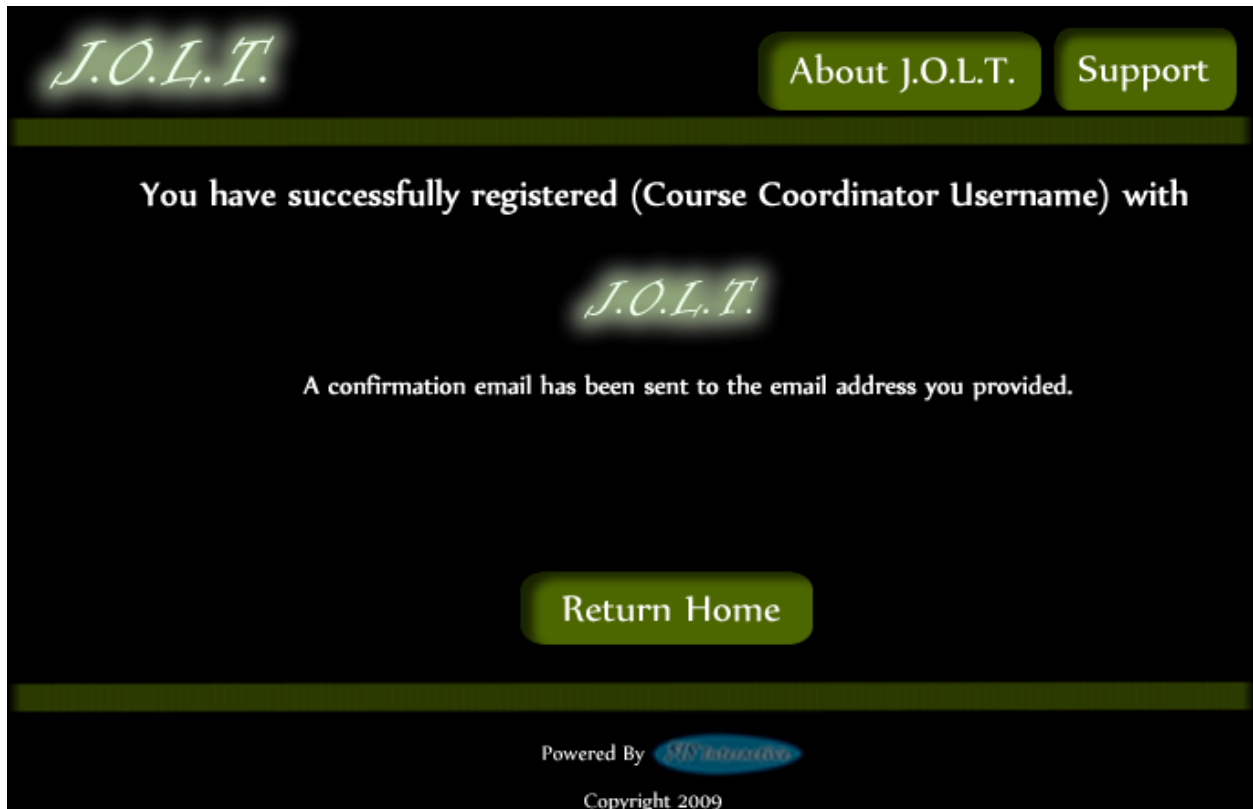
This screen allows the Administrator to create a Course Coordinator account, and assign them to courses.

6.2.6 Create Course Coordinator Account (Error)

The screenshot shows a web interface for creating a Course Coordinator account. At the top, there is a navigation bar with 'Profile', 'Support', and 'Log Out' buttons. The main heading is 'Create Course Coordinator Account'. Below the heading, there are several form fields: 'First Name', 'Last Name', 'Email', 'Confirm Email', 'Username', 'Password', 'Confirm Password', 'Security Question' (with a dropdown menu set to 'First Pet'), and 'Security Question Answer'. A 'Create Account' button is located at the bottom of the form. An error message dialog box is overlaid on the form, displaying a red exclamation mark icon and the text 'Invalid Fields' with an 'OK' button. The dialog box is highlighted with a yellow border. In the background, there is a table with columns 'Course-Section' and 'Assign', and a 'Sort by' dropdown menu.

Course-Section	Assign
0-04	<input type="checkbox"/>
0-05	<input type="checkbox"/>
0-06	<input type="checkbox"/>
0-07	<input type="checkbox"/>
-05	<input type="checkbox"/>
0-04	<input type="checkbox"/>
0-05	<input type="checkbox"/>

This screen shows an error message indicating that the Administrator has invalid/black fields when creating a Course Coordinator account. This message appears when the "Create Account" button is clicked.

6.2.7 Create Course Coordinator Account (Completed)

The screenshot shows a confirmation page for the J.O.L.T. system. At the top left is the J.O.L.T. logo in a stylized, glowing font. To its right are two green buttons: "About J.O.L.T." and "Support". The main content area has a black background with white text that reads: "You have successfully registered (Course Coordinator Username) with" followed by the J.O.L.T. logo. Below this, it says "A confirmation email has been sent to the email address you provided." At the bottom center is a large green button labeled "Return Home". The footer area is black with white text that says "Powered By" followed by a logo for "518 Interactive" and "Copyright 2009".

This screen shows a confirmation telling the Administrator that they have successfully created a Course Coordinator account.

6.2.8 Edit Course Coordinator Account

J.O.L.T. Profile Support Log Out

Edit Course Coordinator Account

Sort by: ↓ ↑

All fields are required

First Name: Jon

Last Name: Smith

Email: ja28smit@siena.edu

Confirm Email: ja28smit@siena.edu

Username: JonSmith

Password: ●●●●●●

Confirm Password: ●●●●●●

Security Question: First Pet Name

Security Question Answer: ●●●●●●

Course	Assign
CSIS-110	<input type="checkbox"/>
CSIS-114	<input type="checkbox"/>
CSIS-116	<input type="checkbox"/>
CSIS-125	<input type="checkbox"/>
CSIS-210	<input type="checkbox"/>
CSIS-220	<input type="checkbox"/>
CSIS-225	<input type="checkbox"/>

Current Courses: CSIS-120

Unassign:

Save Changes

Powered By Copyright 2009

This screen allows the Administrator to edit a Course Coordinator account. They get here from the Manage Course Coordinators screen.

6.2.1 Create Faculty Account

J.O.L.T. Profile Support Log Out

Create Faculty Account

Course Sort by: ↓ ↑

All fields are required

First Name

Last Name

Email

Confirm Email

Username

Password

Confirm Password

Security Question

Security Question Answer

Create Account

Course-Section	Assign
CSIS-120-04	<input type="checkbox"/>
CSIS-120-05	<input type="checkbox"/>
CSIS-120-06	<input type="checkbox"/>
CSIS-120-07	<input type="checkbox"/>
CSIS-110-05	<input type="checkbox"/>
CSIS-220-04	<input type="checkbox"/>
CSIS-220-05	<input type="checkbox"/>

Powered By Copyright 2009

This screen is used by the Administrator to create a Faculty account. The Administrator has the ability to assign course sections to the new faculty at this time.

6.2.2 Create Faculty Account (Error)

The screenshot shows the 'Create Faculty Account' page in the JOLT system. The page has a dark background with light text. At the top left is the 'J.O.L.T.' logo. At the top right are buttons for 'Profile', 'Support', and 'Log Out'. The main heading is 'Create Faculty Account'. Below the heading is a form with the following fields: 'First Name' (Jon), 'Last Name' (Sm), 'Email' (Jon), 'Confirm Email' (Jon), 'Username' (Jon), 'Password' (masked with dots), 'Confirm Password' (masked with dots), 'Security Question' (First Pet), and 'Security Question Answer' (masked with dots). A 'Create Account' button is at the bottom of the form. An error message box is overlaid on the form, containing a red exclamation mark, the text 'Invalid Email Address', and an 'OK' button. To the right of the form is a table with columns 'Course-Section' and 'Assign'. The table contains several rows of course-section numbers and checkboxes.

Course-Section	Assign
-120-04	<input type="checkbox"/>
-120-05	<input type="checkbox"/>
-120-06	<input type="checkbox"/>
-120-07	<input type="checkbox"/>
110-05	<input type="checkbox"/>
220-04	<input type="checkbox"/>
220-05	<input type="checkbox"/>

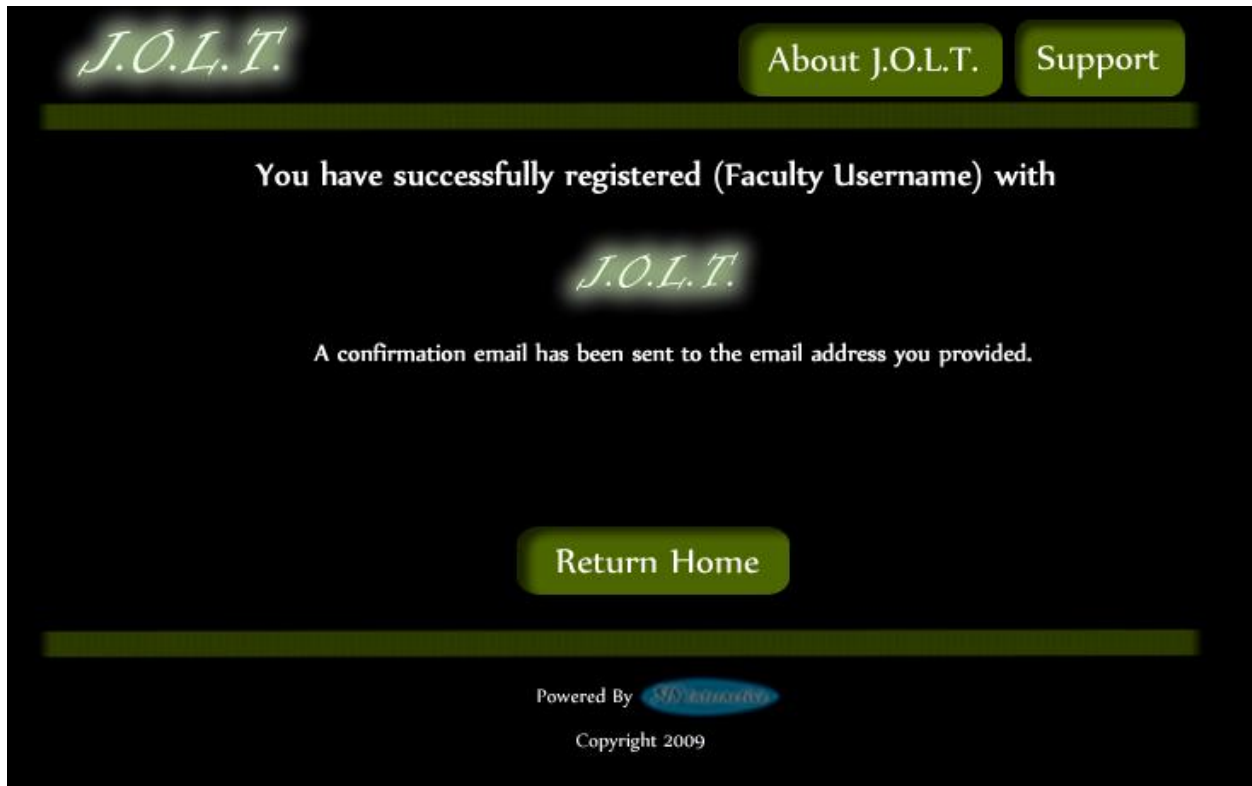
This screen shows an error in creating a Faculty Account. An invalid email address has been provided. This message would appear after clicking the “Create Account” button.

6.2.3 Create Faculty Account (Error)

The screenshot shows the 'Create Faculty Account' page in the JOLT system. The page has a dark background with light text. At the top left is the 'J.O.L.T.' logo. At the top right are buttons for 'Profile', 'Support', and 'Log Out'. The main heading is 'Create Faculty Account'. Below the heading is a table with columns 'Course-Section' and 'Assign'. The 'Course-Section' column lists various course-section numbers (e.g., 0-04, 0-05, 0-06, 0-07, -05, 0-04, 0-05). The 'Assign' column contains checkboxes. Below the table is a 'Create Account' button. An error dialog box is overlaid on the form, containing a red exclamation mark, the text 'Invalid Fields', and an 'OK' button. The form fields are mostly empty, with some red bars indicating required fields. The 'Security Question' dropdown is set to 'First Pet'.

This screen shows an error in creating a Faculty Account. There are invalid or blank fields present on the form. This message would appear after clicking the “Create Account” button.

6.2.4 Create Faculty Account (Completed)



This is a confirmation message telling the Course Coordinator that they have registered a faculty account.

6.2.5 Edit Faculty Account

J.O.L.T. Profile Support Log Out

Edit Faculty Account

Course Sort by: ↓ ↑

All fields are required

First Name

Last Name

Email

Confirm Email

Username

Password

Confirm Password

Security Question

Security Question Answer

Course-Section	Assign
CSIS-120-04	<input type="checkbox"/>
CSIS-120-05	<input type="checkbox"/>
CSIS-120-06	<input type="checkbox"/>
CSIS-120-07	<input type="checkbox"/>
CSIS-110-05	<input type="checkbox"/>
CSIS-220-04	<input type="checkbox"/>
CSIS-220-05	<input type="checkbox"/>

Current Courses	Unassign
CSIS-120-01	<input type="checkbox"/>
CSIS-210-04	<input type="checkbox"/>

Powered By Copyright 2009

This screen allows the Administrator to edit a faculty member's account. They can manipulate any field, as well as add/remove sections to/from the faculty account.

6.2.6 Edit Faculty Account (Error)

The screenshot shows the 'Edit Faculty Account' page in the JOLT system. The page has a dark background with light text. At the top left is the 'J.O.L.T.' logo. At the top right are buttons for 'Profile', 'Support', and 'Log Out'. The main heading is 'Edit Faculty Account'. Below this, there is a form with several fields: 'First Name' (Jon), 'Last Name' (Sm), 'Email' (Jon), 'Confirm Email' (Jon), 'Username' (Jon), 'Password' (masked with dots), 'Confirm Password' (masked with dots), 'Security Question' (First Pet), and 'Security Question Answer' (masked with dots). A 'Save Changes' button is at the bottom of the form. To the right of the form is a table of 'Current Courses' with columns for 'Course-Section' and 'Assign'. The table lists several course sections: -120-04, -120-05, -120-06, -120-07, 110-05, 220-04, and 220-05. Below the table are 'Current Courses' (CSIS-120-01, CSIS-210-04) and an 'Unassign' column. An error message box is overlaid on the form, containing a red exclamation mark, the text 'Invalid Email Address', and an 'OK' button. The error message is highlighted with a yellow border.

All fields are required

First Name Jon

Last Name Sm

Email Jon

Confirm Email Jon

Username Jon

Password

Confirm Password

Security Question First Pet

Security Question Answer

Save Changes

Course Sort by: ↓ ↑

Course-Section	Assign
-120-04	<input type="checkbox"/>
-120-05	<input type="checkbox"/>
-120-06	<input type="checkbox"/>
-120-07	<input type="checkbox"/>
110-05	<input type="checkbox"/>
220-04	<input type="checkbox"/>
220-05	<input type="checkbox"/>

Current Courses Unassign

CSIS-120-01

CSIS-210-04

Powered By Copyright 2009

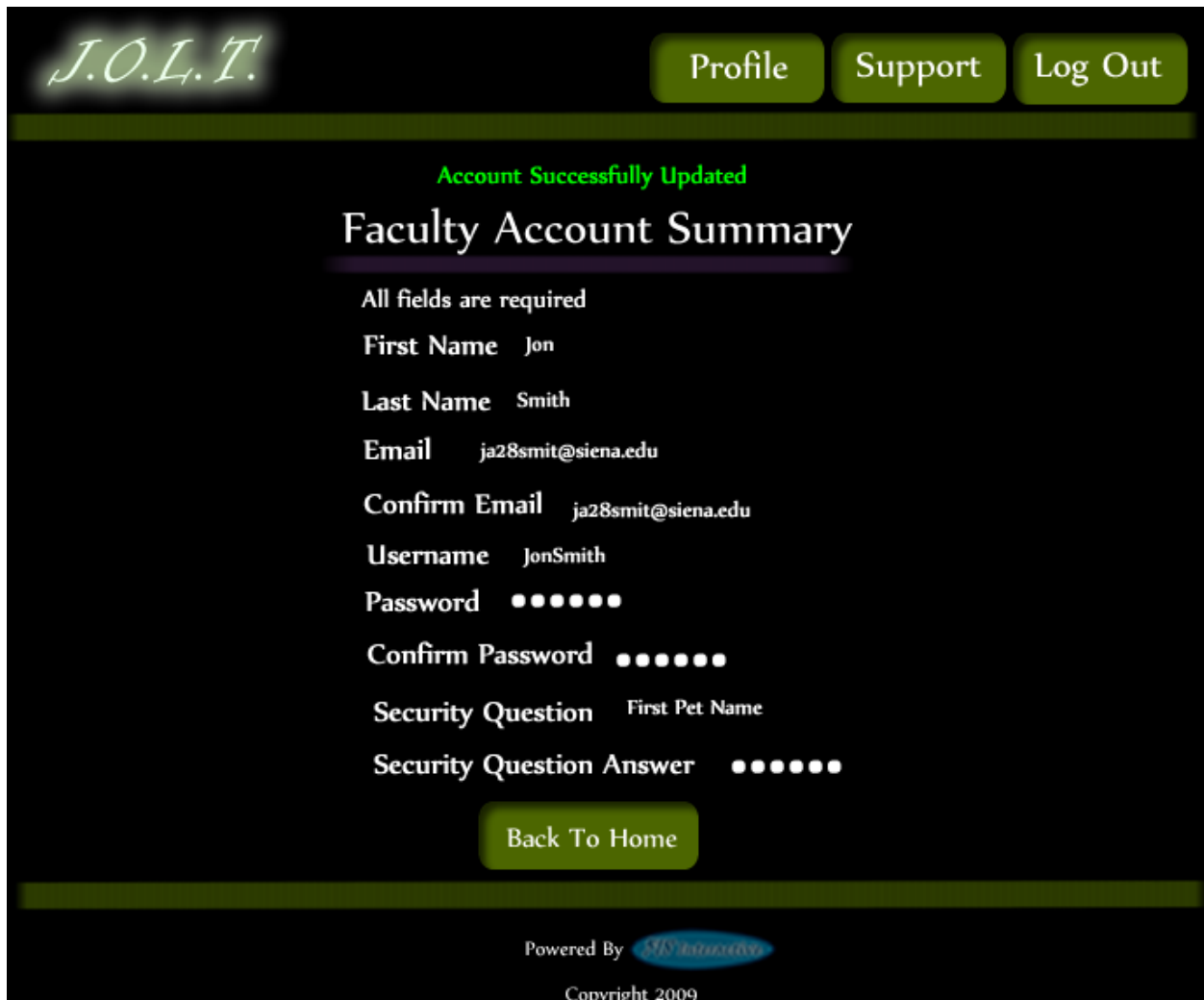
This screen shows that an invalid email address has been entered when editing a Faculty account. This appears after clicking the “Save Changes” button.

6.2.7 Edit Faculty Account (Error)

The screenshot displays the 'Edit Faculty Account' interface. At the top, there is a navigation bar with 'Profile', 'Support', and 'Log Out' buttons. The main heading is 'Edit Faculty Account'. Below this, a message states 'All fields are required'. The form contains several input fields, many of which are highlighted in red, indicating they are invalid or empty. These fields include First Name, Last Name, Email, Confirm Email, Username, Password, Confirm Password, Security Question Answer, and the Security Question dropdown menu (set to 'First Pet'). A modal dialog box with a red exclamation mark and the text 'Invalid Fields' is overlaid on the form, with an 'OK' button. To the right of the form is a table with columns 'Course-Section' and 'Assign'. The 'Course-Section' column lists various course-section numbers (e.g., 0-04, 0-05, 0-06, 0-07, -05, 0-04, 0-05). Below the table, there is a section for 'Current Courses' listing 'CSIS-120-01' and 'CSIS-210-04', each with an 'Unassign' button. At the bottom of the form is a 'Save Changes' button. The footer of the page includes 'Powered By' with a logo and 'Copyright 2009'.

This screen shows invalid/blank fields are present on the form when editing a Faculty account. This appears after clicking the “Save Changes” button.

6.2.8 Edit Faculty Account (Completed)



The screenshot displays the JOLT (Java Online Learning Toolkit) interface. At the top left is the J.O.L.T. logo. To the right are three buttons: Profile, Support, and Log Out. Below these is a green banner with the text "Account Successfully Updated". The main heading is "Faculty Account Summary". Below this, a list of account details is shown, each with a label and a value: "All fields are required", "First Name Jon", "Last Name Smith", "Email ja28smit@siena.edu", "Confirm Email ja28smit@siena.edu", "Username JonSmith", "Password" (represented by six dots), "Confirm Password" (represented by six dots), "Security Question First Pet Name", and "Security Question Answer" (represented by six dots). A "Back To Home" button is located below the details. At the bottom, it says "Powered By" followed by a logo and "Copyright 2009".

J.O.L.T. Profile Support Log Out

Account Successfully Updated

Faculty Account Summary

All fields are required

First Name Jon

Last Name Smith

Email ja28smit@siena.edu

Confirm Email ja28smit@siena.edu

Username JonSmith

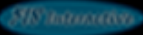
Password ●●●●●●

Confirm Password ●●●●●●

Security Question First Pet Name

Security Question Answer ●●●●●●

[Back To Home](#)

Powered By  Copyright 2009

This screen confirms that the Administrator has successfully updated the faculty account.

6.2.9 Create Course

The screenshot shows the 'Create Course' interface within the J.O.L.T. system. At the top left is the 'J.O.L.T.' logo. To the right are three buttons: 'Profile', 'Support', and 'Log Out'. The main form area is titled 'Create Course' and contains the following elements:

- Course Number:** A dropdown menu.
- Course Title:** A text input field.
- Description:** A large text area with vertical scroll arrows.
- Assign Course Coordinator:** A dropdown menu.
- Add Course:** A green button.

At the bottom of the page, it says 'Powered By 518 Interactive Copyright 2009'.

This screen allows the Administrator to create a course

6.2.10 Create Course (Error)



The screenshot displays the 'Create Course' interface within the J.O.L.T. system. At the top, the 'J.O.L.T.' logo is on the left, and 'Profile', 'Support', and 'Log Out' buttons are on the right. The main form area includes fields for 'Course Number' (098584583), 'Course Title' (redacted), 'Description' (with placeholder text 'Course Description Goes Here'), and 'Assign Course Coordinator' (Robin Flatland). A green 'Add Course' button is at the bottom left. A modal dialog box with a red exclamation mark and the text 'Invalid Fields' is centered over the form, with an 'OK' button below it.

This screen shows an error indicating missing or invalid fields on the Create Course screen.

6.2.11 Create Course (Confirm)

J.O.L.T. Profile Support Log Out

Confirm New Course

Course Number: CSIS-210

Course Title: Data Structures

Description:
Data Structures teaches you how to structure data

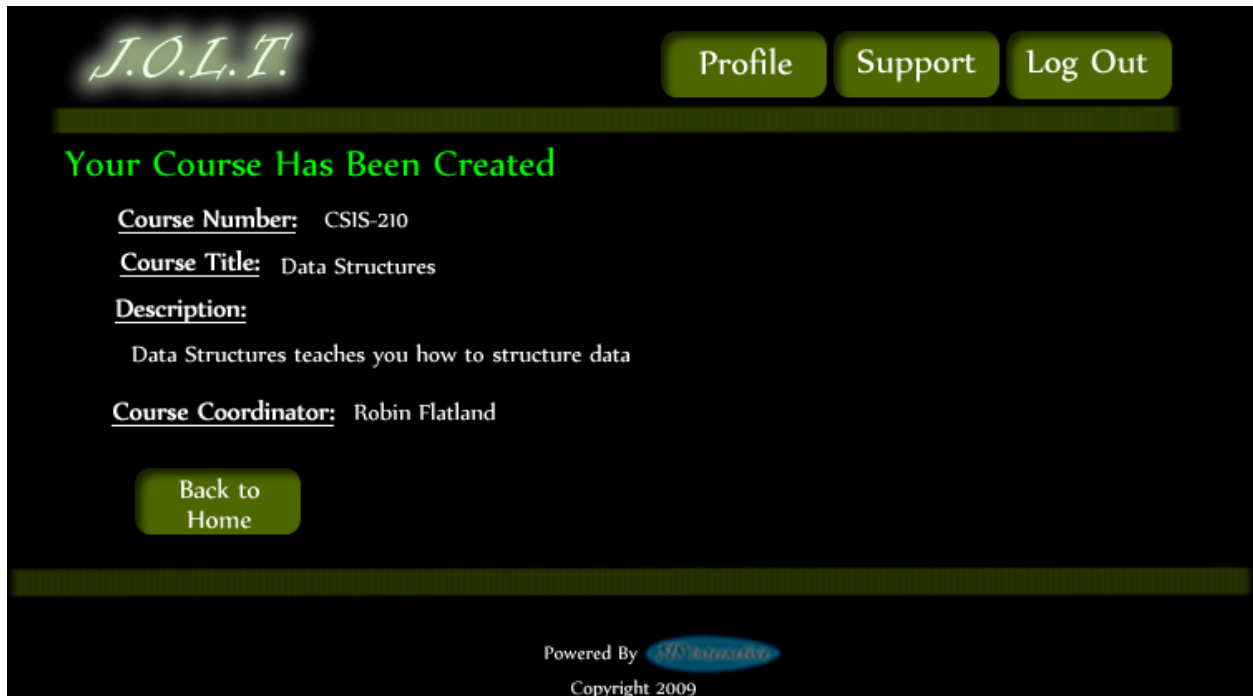
Course Coordinator: Robin Flatland

Save Changes

Powered By 518 Interactive
Copyright 2009

This screen shows the Administrator about to create a new course. This screen is reached after inputting valid data in the Create Course screen and clicking the “Add Course” button.

6.2.12 Create Course (Completed)



The screenshot shows a confirmation screen for the JOLT system. At the top left is the J.O.L.T. logo. To the right are three buttons: Profile, Support, and Log Out. The main heading is "Your Course Has Been Created" in green. Below this, the following information is displayed:

- Course Number: CSIS-210
- Course Title: Data Structures
- Description:
Data Structures teaches you how to structure data
- Course Coordinator: Robin Flatland

A "Back to Home" button is located below the description. At the bottom, it says "Powered By 518 Interactive Copyright 2009".

This is a confirmation screen alerting the Administrator that the course has been created successfully.

6.2.13 Edit Course

J.O.L.T. Profile Support Log Out

Edit Course

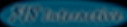
Course Number

Course Title

Description

Assign Course Coordinator

Save Changes

Powered By  Copyright 2009

This screen is reached from the “Manage Courses” screen. This screen allows the Administrator to edit course information.

6.2.14 Edit Course (Error)



This screen shows an error indicating missing or invalid fields on the Edit Course screen.

6.2.15 Edit Course (Completed)



The screenshot displays the JOLT (Java Online Learning Toolkit) interface. At the top left, the logo "J.O.L.T." is visible. To the right of the logo are three buttons: "Profile", "Support", and "Log Out". Below the navigation bar, a green heading reads "Your Course Has Been Created". Underneath this heading, the following information is displayed:

- Course Number: CSIS-210
- Course Title: Data Structures
- Description:
Data Structures teaches you how to structure data
- Course Coordinator: Robin Flatland

A green button labeled "Back to Home" is positioned below the course details. At the bottom of the page, it says "Powered By 518 Interactive" with a logo, and "Copyright 2009" below it.

This screen alerts the Administrator that the course has been successfully updated.

6.2.1 View Gradebook

J.O.L.T.

Profile Support Log Out

Gradebook for CSIS-XXX

Select Course

Save Changes Return to Courses

Sort by: ↓ ↑	Sort by: ↓ ↑	Sort by: ↓ ↑	Sort by: ↓ ↑	
<u>Student Name</u>	<u>Assignment Name</u>	<u>Due Date</u>	<u>Grade</u>	<u>Delete</u>
Jon Doe	Binary Search	11/17/2010	80	<input type="button" value="X"/>
Jane Smith	Recursion	11/18/2010	85	<input type="button" value=""/>
Jesus Christ	String Practice	11/19/2010	90	<input type="button" value=""/>

Edit a grade by clicking on it.

High: 90
Average: 85
Low: 80

Powered By Copyright 2009

This is the gradebook view for a specific course for the Administrator user. Clicking on an Assignment Name brings the user to the Problem Set Overview screen. Clicking on the grade allows the user to change the grade.

6.2.2 Edit Gradebook (Editing)

The screenshot displays the JOLT Gradebook interface for course CSIS-XXX. At the top, there is a navigation bar with 'Profile', 'Support', and 'Log Out' buttons. Below this, the course title 'Gradebook for CSIS-XXX' is shown along with a 'Select Course' dropdown menu. Two main action buttons, 'Save Changes' and 'Return to Course Home', are positioned to the right. The central area features a table with four columns: 'Student Name', 'Assignment Name', 'Due Date', and 'Grade'. Each column has a 'Sort by' control with up and down arrows. The 'Grade' column includes a 'Delete' button for each row. The first row, for 'Jon Doe' with assignment 'Binary Search' due on 11/17/2010, has its grade field (80) highlighted as a text input box. Below the table, summary statistics are displayed: 'High: 90', 'Average: 85', and 'Low: 80'. The footer contains the text 'Powered By MSB' and 'Copyright 2009'.

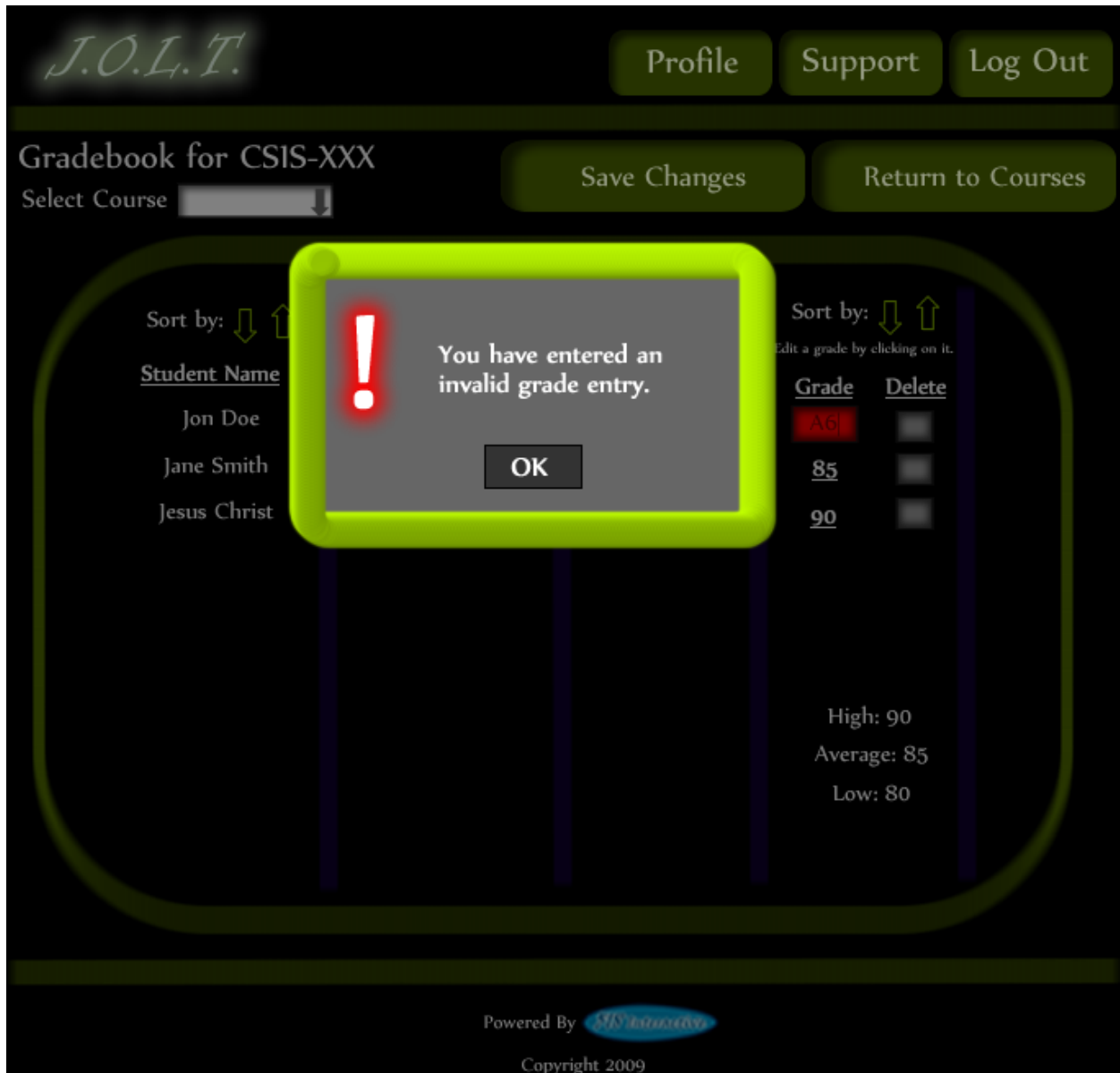
<u>Student Name</u>	<u>Assignment Name</u>	<u>Due Date</u>	<u>Grade</u>	<u>Delete</u>
Jon Doe	<u>Binary Search</u>	11/17/2010	80	<input type="checkbox"/>
Jane Smith	<u>Recursion</u>	11/18/2010	85	<input type="checkbox"/>
Jesus Christ	<u>String Practice</u>	11/19/2010	90	<input type="checkbox"/>

High: 90
Average: 85
Low: 80

Powered By MSB
Copyright 2009

This shows a user editing a student's grade. Clicking the grade changes the field to a text box for editing.

6.2.3 Edit Gradebook (Invalid Field)



Inputting an invalid grade prohibits the user from updating the grade.

6.2.4 Edit Gradebook (Blank)

The screenshot shows the JOLT Gradebook interface for CSIS-XXX. A yellow-bordered warning box is overlaid on the table, stating: "You have an empty grade field. If you would like to delete this grade, select the corresponding checkbox and save changes." The table lists students: Jon Doe, Jane Smith, and Jesus Christ. The "Grade" column shows empty, 85, and 90 respectively. The "Delete" column has checkboxes. Summary statistics show High: 90, Average: 85, Low: 80. Navigation buttons include Profile, Support, Log Out, Save Changes, and Return to Courses.

Leaving the field blank disallows the user from updating the grade field. They are instructed to use the "Delete" field if they wish to delete the grade.

6.2.5 Edit Gradebook (Complete)

J.O.L.T.

Profile Support Log Out

Gradebook for CSIS-XXX

Select Course

Save Changes Return to Courses

Sort by: ↓ ↑	Sort by: ↓ ↑	Sort by: ↓ ↑	Sort by: ↓ ↑	
<u>Student Name</u>	<u>Assignment Name</u>	<u>Due Date</u>	<u>Grade</u>	<u>Delete</u>
Jon Doe	<u>Binary Search</u>	11/17/2010	<u>95</u>	<input type="checkbox"/>
Jane Smith	<u>Recursion</u>	11/18/2010	<u>85</u>	<input type="checkbox"/>
Jesus Christ	<u>String Practice</u>	11/19/2010	<u>90</u>	<input type="checkbox"/>
			High: 95	
			Average: 90	
			Low: 85	

Powered By Copyright 2009

Once updating a grade, the user remains at the gradebook screen, but the student's grade has been updated, as well as the High, Average, and Low scores.

6.2.6 Create Problem

J.O.L.T. Profile Support Log Out

Create/Edit Problem

Problem Information

Title Description

Category Method Name

Parameters

Name	Type	Result
<input type="text"/>	<input type="text"/>	<input type="text"/>

Test Cases

Test Case	Hidden
<input type="text"/>	<input checked="" type="checkbox"/>
<input type="text"/>	<input type="checkbox"/>
<input type="text"/>	<input type="checkbox"/>
<input type="text"/>	<input type="checkbox"/>
<input type="text"/>	<input type="checkbox"/>

Solution Code: Publish

Powered By Copyright 2009

This is the Create Problem page for the Administrator. From here, the user enters all information about a problem.

6.2.7 Create Problem (Invalid Field)

The screenshot displays the 'Create/Edit Problem' interface. At the top, there are navigation buttons for 'Profile', 'Support', and 'Log Out'. The main section is titled 'Create/Edit Problem' and contains several form fields: 'Title' (with a red error bar), 'Category' (set to 'Practice'), and 'Method Name' (set to 'findData'). Below these are 'Parameters' with columns for 'Name' (e.g., 'param1') and 'Type' (e.g., 'int'). A 'Test Cases' table follows, with columns for 'Test Case' (1-5), input fields, and a 'Hidden' checkbox. At the bottom, there is a 'Solution Code' field, a 'Publish' checkbox, and 'Save Problem' and 'Create Problem' buttons. A modal error dialog is centered on the screen, featuring a red exclamation mark icon and the text 'Please Correct Invalid Fields.' with an 'OK' button. The dialog is highlighted with a yellow border.

J.O.L.T. Profile Support Log Out

Create/Edit Problem

Problem Information

Title

Category

Method Name

Parameters

Name	Type	Result
param1	int	

Test Cases

Test Case						Hidden
Test Case 1	5					<input type="checkbox"/>
Test Case 2						<input type="checkbox"/>
Test Case 3						<input type="checkbox"/>
Test Case 4						<input type="checkbox"/>
Test Case 5						<input type="checkbox"/>

Solution Code: Publish

Powered By Copyright 2009

This screen shows an error message indicating an invalid field is present on the Create Problem Screen.

6.2.8 Create Problem (Max Test Cases)

The screenshot shows the 'Create/Edit Problem' interface in the J.O.L.T. system. At the top, there are navigation buttons for 'Profile', 'Support', and 'Log Out'. The main heading is 'Create/Edit Problem'. Below this, the 'Problem Information' section includes fields for 'Title', 'Category', 'Method Name', and a large 'Description' text area. The 'Parameters' section features a table with columns for 'Name', 'Type', and 'Result'. The 'Test Cases' section is a large table with 25 rows, each labeled 'Test Case 1' through 'Test Case 25', and a 'Hidden' column on the right. At the bottom, there is a 'Solution Code:' field with a 'Publish' button, a 'Save Problem' button, and a 'Create Problem' button. The footer indicates the system is powered by 518 Interactive and has a copyright of 2009.

This screen shows a problem with the maximum amount of test cases allowed (25). Notice the “Add Problem” button is no longer available.

6.2.9 Course Coordinator Sandbox

The screenshot shows the J.O.L.T. Course Coordinator Sandbox interface. At the top left is the J.O.L.T. logo. To the right are three buttons: Profile, Support, and Log Out. Below the logo is a horizontal line. The main content area is titled "Sandbox for (Username)" and includes a "Sort by:" dropdown menu with up and down arrows. A table with three columns is displayed: Name, Category, and Delete. The table contains four rows of data. To the right of the table are two buttons: "Create New Problem" and "Delete Selected". At the bottom of the interface, it says "Powered By" followed by a logo and "Copyright 2009".

Name	Category	Delete
Binary Search	Recursion	<input type="checkbox"/>
Boolean Practice	Boolean	<input type="checkbox"/>
Integer Practice	Integer	<input type="checkbox"/>
String Practice	String	<input type="checkbox"/>

This is the Administrator sandbox. The sandbox stores all problems that are not completed and ready for the pool. Clicking the “Save Problem” button on the Create problem screen will store the problem in the sandbox. Clicking a problem name will bring up a window to edit the problem.

6.2.10 Edit Problem

J.O.L.T. Profile Support Log Out

Edit Problem

Problem Information

Title: Description:

Category: Method Name:

Parameters

Name	Type	Result
<input type="text" value="param1"/>	<input type="text" value="int"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>

Test Cases

Test Case	Input 1	Input 2	Input 3	Input 4	Input 5	Result	Hidden
Test Case 1	<input type="text" value="5"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input checked="" type="checkbox"/>
Test Case 2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Test Case 3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Test Case 4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Test Case 5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>

Solution Code: Publish

Powered By Copyright 2009

This is the edit problem screen that the Administrator will see when they choose to edit a problem from either, the course pool, the global pool, or the sandbox.

6.2.11 Create Problem (Invalid Field Error)

The screenshot displays the 'Create/Edit Problem' interface in the JOLT system. At the top, there are navigation buttons for 'Profile', 'Support', and 'Log Out'. The main section is titled 'Create/Edit Problem' and contains several form fields:

- Problem Information:** Fields for Title (highlighted in red), Category (Practice), and Method Name (findData).
- Parameters:** A table with columns for Name, Type, and Result. The first row shows 'param1' with type 'int'.
- Test Cases:** A table with 5 rows and 7 columns. The first row contains the value '5' in the first column.
- Solution Code:** A text area containing the code `System.out.println("5");` with a 'Publish' checkbox.

A yellow-bordered dialog box is overlaid on the form, containing a red exclamation mark icon and the text: "Please correct the indicated fields." Below the text is an 'OK' button. The dialog box is positioned over the 'Title' field, which is highlighted in red in the background form.

At the bottom of the interface, there are buttons for 'Add Test Case', 'Save Problem', and 'Create Problem'. The footer includes the text 'Powered By 518 Interactive Copyright 2009'.

This pop up will display if the user has an invalid or missing field when they select the create problem button. The missing field or fields will be highlighted in red.

6.2.12 Create Problem (Solution Compile Error)

The screenshot shows the 'Create/Edit Problem' page in the J.O.L.T. system. The page has a dark theme with green accents. At the top, there is a logo 'J.O.L.T.' and three buttons: 'Profile', 'Support', and 'Log Out'. Below the logo is a horizontal bar with the text 'Create/Edit Problem'. The main content area is divided into several sections:

- Problem Information:** Contains fields for 'Title' (String Practice), 'Category' (Practice), and 'Method Name' (findData). A 'Description' text area contains the text 'Here are some problems to practice string manipulation.'
- Parameters:** A table with columns for 'Name', 'Type', and 'Result'. The first row has 'param1' as the name and 'int' as the type and result.
- Test Cases:** A table with columns for 'Test Case' (1-5), input fields, and a 'Hidden' checkbox. Test Case 1 has the value '5' in the input field.
- Compilation Error:** A red message box says 'Your Solution failed to compile !'. Below it, a red circle icon is followed by the text: 'Compilation Error', 'Main.java:81: ';' expected', and 'System.out.println("5")'.
- Solution Code:** A text area containing the code 'System.out.println("5")'. To its right is a 'Publish' button with a red 'x' icon.
- Buttons:** At the bottom right, there are two large green buttons: 'Save Problem' and 'Create Problem'.

At the bottom of the page, there is a footer that says 'Powered By' followed by a logo and 'Copyright 2009'.

This screen will appear when the Administrator clicks the “Create Problem” button with invalid code inputted in the “Solution Code” text box. The compiler will output the error to the screen above the “Solution Code” box.

6.2.13 Confirm Problem

J.O.L.T.

Profile Support Log Out

Confirm Problem

Problem Name: *String Practice*

Problem Category: *Practice*

Problem Description: *Return the length of the string provided.*

Method Name: *stringLength*

Parameters: *String Param1*

Return Type: *int*

Test Cases:

Test Case #	Test Case	Hidden
1	Test1	Yes
2	Test2	No

Edit Problem Confirm Problem

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This screen shows a summary of the new problem about to be created.

6.2.14 Publish Problem (Completed)



The screenshot shows the JOLT (Java Online Learning Toolkit) interface. At the top left is the J.O.L.T. logo. To the right are three buttons: Profile, Support, and Log Out. Below the header, a message states: "Your problem has been created and added to your private pool". The main content area displays the following details for a problem:

- Problem Name:** *String Practice*
- Problem Category:** *Practice*
- Problem Description:** *Return the length of the string provided.*
- Method Name:** *stringLength*
- Parameters:** *String Param1*
- Return Type:** *int*
- Test Cases:**

Test Case #	Test Case	Hidden
1	Test1	Yes
2	Test2	No

At the bottom of the main content area is a button labeled "Go To Private Pool". At the very bottom of the page, it says "Powered By  Copyright 2009".

This screen shows a confirmed problem that has been added to the course pool.

6.2.15 Create Problem Set

J.O.L.T. Profile Support Log Out

Create Problem Set Course Homepage View Sandbox

Private Pool Sort by: ↓ ↑ Course Pool Sort by: ↓ ↑ Global Pool Sort by: ↓ ↑

Name	Category
Binary Search	Recursion
Boolean Practice	Boolean
Integer Practice	Integers
String Practice	Strings

Name	Category
Binary Search	Recursion
Boolean Practice	Boolean
Integer Practice	Integers
String Practice	Strings

Name	Category	Point Value
Binary Search	Recursion	<input type="text"/>
Boolean Practice	Boolean	<input type="text"/>
Integer Practice	Integers	<input type="text"/>
String Practice	Strings	<input type="text"/>

Point Total: X

Create Problem Set

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This is an example of the Create Problem Set Screen. Administrators can use problems from the course pool, or the global pool when creating a Problem Set. Clicking on a problem in the problem set area will allow the Course Coordinator to edit the problem. Point values can be assigned to each problem.

6.2.16 Create Problem Set (Error)

The screenshot shows the 'Create Problem Set' interface in the JOLT system. At the top, there is a navigation bar with 'Profile', 'Support', and 'Log Out' buttons. Below this, the main heading is 'Create Problem Set', with 'Course Homepage' and 'View Sandbox' buttons to its right. The interface is divided into three sections: 'Private Pool', 'Course Pool', and 'Global Pool', each with a 'Sort by' dropdown menu. Each section contains a table of problem sets with columns for 'Name' and 'Category'. The 'Name' column lists 'Binary Search', 'Boolean Practice', 'Integer Practice', and 'String Practice'. The 'Category' column lists 'Recursion', 'Boolean', 'Integers', and 'Strings'. A red error message box with a white exclamation mark and the text 'Invalid Fields' is overlaid on the 'Course Pool' table. Below the error message, there is an 'OK' button. At the bottom of the screen, there is a 'Create Problem Set' button. The footer of the page includes the text 'Powered By' followed by a logo and 'Copyright 2009'.

This is an example error message showing invalid fields on the Create Problem Set Screen.


6.2.17 Create Problem Set (No Problems Added Error)



This is an example error message showing a Problem Set with no problems added to it.

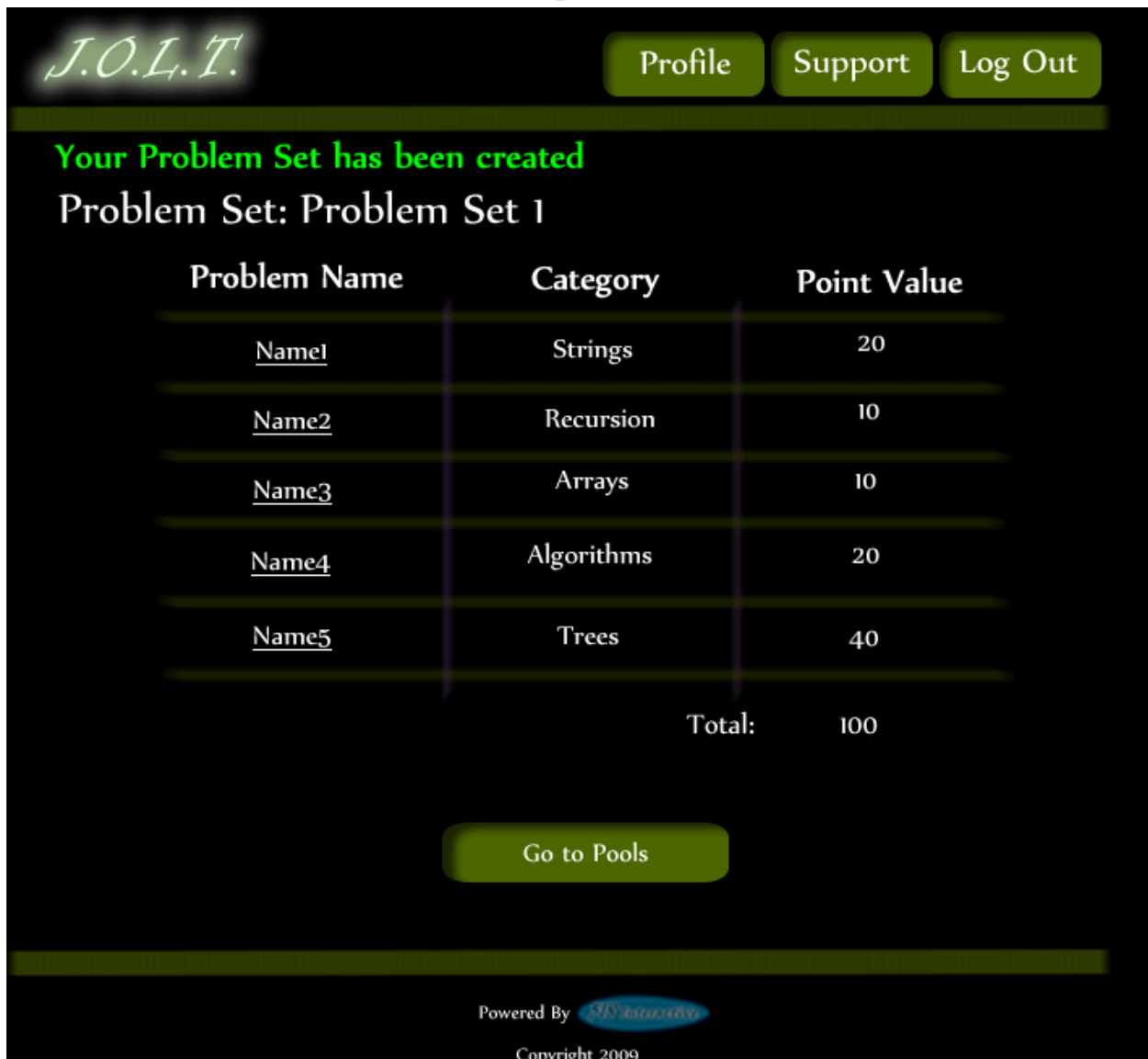
6.2.18 Create Problem Set (Confirm)

Problem Name	Category	Point Value
<u>Name1</u>	Strings	20
<u>Name2</u>	Recursion	10
<u>Name3</u>	Arrays	10
<u>Name4</u>	Algorithms	20
<u>Name5</u>	Trees	40
Total:		100

Powered By  Copyright 2009

This is the confirmation screen for creating a new Problem Set. Clicking “Create Problem Set” will add the problem set to the pool. Clicking “Edit Problem Set” will allow the user to go back and make changes.

6.2.19 Create Problem Set (Completed)



The screenshot shows the JOLT (Java Online Learning Toolkit) interface. At the top left is the J.O.L.T. logo. To the right are three buttons: Profile, Support, and Log Out. Below the navigation bar, a green message states "Your Problem Set has been created" followed by "Problem Set: Problem Set 1". A table lists the details of the problem set:

Problem Name	Category	Point Value
<u>Name1</u>	Strings	20
<u>Name2</u>	Recursion	10
<u>Name3</u>	Arrays	10
<u>Name4</u>	Algorithms	20
<u>Name5</u>	Trees	40
Total:		100

Below the table is a green button labeled "Go to Pools". At the bottom of the interface, it says "Powered By" followed by a logo and "Copyright 2009".

This is a confirmation message showing a created Problem Set. There is a button to go to their Pool screen.

6.2.20 Edit Problem Set (Completed)

J.O.L.T. Profile Support Log Out

Edit Problem Set Course Homepage View Sandbox

Private Pool Sort by: ↓ ↑

Name	Category
Binary Search	Recursion
Boolean Practice	Boolean
Integer Practice	Integers
String Practice	Strings

Course Pool Sort by: ↓ ↑

Name	Category
Binary Search	Recursion
Boolean Practice	Boolean
Integer Practice	Integers
String Practice	Strings

Global Pool Sort by: ↓ ↑

Name	Category
Binary Search	Recursion
Boolean Practice	Boolean
Integer Practice	Integers
String Practice	Strings

Problem Set

Title:

Description:

Category:

Name	Category	Point Value
Binary Search	Recursion	<input type="text" value="5"/>
Boolean Practice	Boolean	<input type="text" value="5"/>
Integer Practice	Integers	<input type="text" value="5"/>
String Practice	Strings	<input type="text" value="5"/>
Point Total:		25

Save Changes

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This is the screen for Editing an existing Problem Set. The format of the screen is identical to the Create Problem Set screen. All error screens for Edit Problem Set are identical to the ones for Create Problem Set.

6.2.21 Activate/Assign Problem Set

J.O.L.T. Profile Support Log Out

Problem Set Activation

 Go To Pools

Select a Problem Set To Activate

Name	Category	Select
<u>Problem Set 1</u>	Practice	<input type="checkbox"/>
<u>Problem Set 2</u>	Lab	<input type="checkbox"/>
<u>Problem Set 3</u>	Lab	<input type="checkbox"/>
<u>Problem Set 4</u>	Exam	<input type="checkbox"/>

Timed Activation

Month Day Hours Minutes Activate Now

Expiration Date

Month Day Hours Minutes

Activate

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This is the screen to activate a Problem Set for a specific course. Problem Sets can either be activated instantly, or set to be active at a later date.

6.2.22 Deactivate Problem Set

J.O.L.T. Profile Support Log Out

Problem Set Deactivation

 Go To Pools

Select an Active Problem Set To Deactivate

Name	Category	Select
<u>Problem Set 1</u>	Practice	<input type="checkbox"/>
<u>Problem Set 2</u>	Lab	<input type="checkbox"/>
<u>Problem Set 3</u>	Lab	<input type="checkbox"/>
<u>Problem Set 4</u>	Exam	<input type="checkbox"/>

Deactivate

Powered By 518 Interactive
Copyright 2009

This screen allows users to deactivate any active problem set for a specific course. This screen is only used for manual deactivation. JOLT will automatically deactivate problem sets once the expiration date and time have been passed.

6.2.23 Manage Pools

J.O.L.T. Profile Support Log Out

Pool Management Promote Problems View Sandbox

Private Pool Sort by: ↓ ↑ Course Pool Sort by: ↓ ↑ Global Pool Sort by: ↓ ↑

Name	Category	Name	Category	Name	Category
<u>Binary Search</u>	Recursion	<u>Binary Search</u>	Recursion	<u>Binary Search</u>	Recursion
<u>Boolean Practice</u>	Boolean	<u>Boolean Practice</u>	Boolean	<u>Boolean Practice</u>	Boolean
<u>Integer Practice</u>	Integers	<u>Integer Practice</u>	Integers	<u>Integer Practice</u>	Integers
<u>String Practice</u>	Strings	<u>String Practice</u>	Strings	<u>String Practice</u>	Strings
<u>Locker Problem</u>	Recursion				

Edit Selected Delete Selected

Drag and Drop Items Between Pools
Italics Denotes Problem Set

Powered By Copyright 2009

This is the pool management screen for Administrators. They have the option to drag problems from the Global Pool to the Course Pool, and from their Private Pool to the Course Pool & Global Pool. They will be able to drag from the Global and Course Pools to their Private Pool. There is a button to promote pending problems from the course pool to the Global Pool

6.2.24 Accept Private Problems to Course Pool

The screenshot shows the J.O.L.T. interface for pending problem promotion. At the top left is the J.O.L.T. logo. To the right are buttons for Profile, Support, and Log Out. Below this is a horizontal line. The main heading is "Pending Problem Promotion" with a "Sort by:" dropdown menu showing down and up arrows. To the right of the heading is a "Back to Pools" button. Below the heading is a table with three columns: Name, Category, and Select. The table contains four rows of data. To the right of the table are two buttons: "Delete Selected" and "Approve Selected". At the bottom of the interface, it says "Powered By" with a logo and "Copyright 2009".

Name	Category	Select
Binary Search	Recursion	<input type="checkbox"/>
Boolean Practice	Boolean	<input type="checkbox"/>
Integer Practice	Integer	<input type="checkbox"/>
String Practice	String	<input type="checkbox"/>

Clicking the “Promote Problems” button brings the Administrator to this screen. From here, the Administrator has the ability to approve or reject problems to the Global Pool. Clicking the problem name allows the Administrator to view the problem details.

6.2.25 Generate Reports

The screenshot shows the 'Report Generation' page of the JOLT system. At the top left is the 'J.O.L.T.' logo. To the right are three buttons: 'Profile', 'Support', and 'Log Out'. The main heading is 'Report Generation'. Below it are two dropdown menus: 'Select Course' set to 'All Courses' and 'Select Section' set to 'All Sections'. Underneath is a section titled 'Select Attributes:' with a list of attributes and corresponding checkboxes: 'Select All', 'Collective GPA', 'Grade Breakdown', 'Course Description', '# Of Students', '# Problem Sets Completed', '# Labs Completed', '# Practices Completed', and '# Homeworks Completed'. A large green 'Generate Reports' button is centered below the list. At the bottom, it says 'Powered By' with a logo and 'Copyright 2009'.

This screen allows Administrators to generate reports based on a set of attributes for one or more sections within a course. The “Generate Reports” button of the Administrator home page gets the user to this page.

Report details have not been finalized at this time.

6.2.26 Create Announcement

The screenshot shows the 'Create Announcement' interface. At the top left is the 'J.O.L.T.' logo. To the right are three buttons: 'Profile', 'Support', and 'Log Out'. The main title is 'Create Announcement'. Below it are three main sections: 'Title', 'Announcement', 'Recipients', and 'List'. The 'Title' section has a text input field. The 'Announcement' section has a large text area. The 'Recipients' section is an empty box with up and down arrows and an 'Invert Selection' button below it. The 'List' section contains a list of recipients: 'All Students', 'CSIS-120-05', 'CSIS-120-04', 'CSIS-225-03', 'Albert, Joseph', 'Bernard, Andrew', 'Bose, Christina', 'Brennan, Julie', 'Colbert, Stephen', 'Doe, John', 'Sanders, Stephen', 'Schrute, Dwight', 'Smith, John', 'Valenti, Angela', and 'Zabinski, Joe'. It also has up and down arrows and an 'Invert Selection' button below it. A 'Post Announcement' button is located at the bottom left. At the bottom center, it says 'Powered By 518 interactive Copyright 2009'.

This is the screen to create an announcement to be broadcast to users. Users select recipients of the announcement, and provide a title and announcement text.

6.2.27 Create Announcement (Add Recipients)

J.O.L.T. Profile Support Log Out

Create Announcement

Title
New Problem Set Activated

Announcement
New Problem Set Activated for students of CSIS-120 (all sections)

Recipients

- CSIS-120-05
- CSIS-120-04
- CSIS-225-03
- Lim, Darren (Administrator)
- Flatland, Robin (Faculty)
- Egan, Mary Anne (CC)

List

- All Students
- CSIS-120-05
- CSIS-120-04
- CSIS-225-03
- Albert, Joseph
- Bernard, Andrew
- Bose, Christina
- Brennan, Julie
- Colbert, Stephen
- Doe, John
- Sanders, Stephen
- Schrute, Dwight
- Smith, John
- Valenti, Angela
- Zabinski, Joe

Post Announcement

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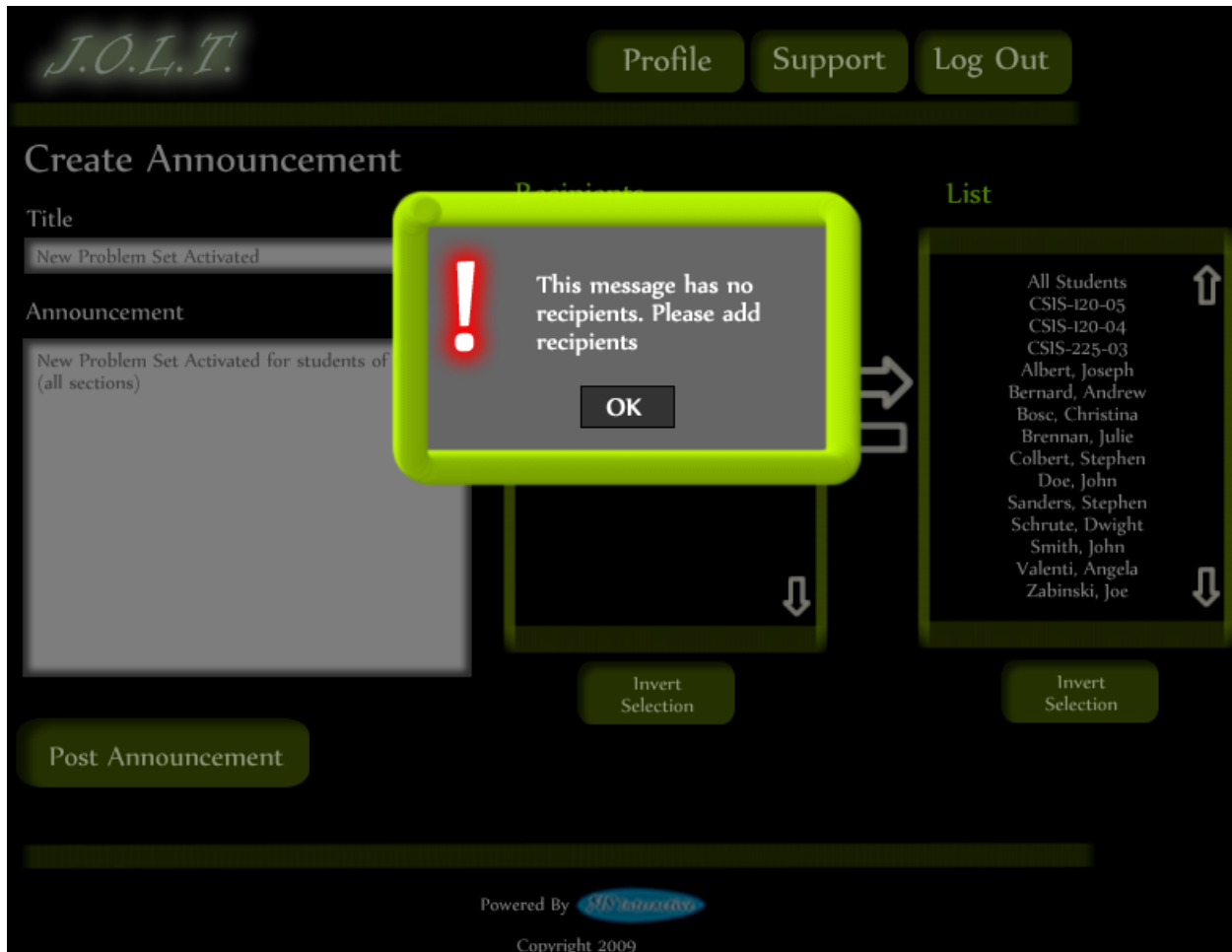
This screen shows an announcement with populated data and selected recipients. Using the left and right arrow buttons add and remove users from the recipient list.

6.2.28 Create Announcement (Missing Field)

The screenshot displays the 'Create Announcement' page in the JOLT system. At the top, there is a navigation bar with 'Profile', 'Support', and 'Log Out' buttons. The main heading is 'Create Announcement'. Below this, there are three main sections: 'Title', 'Recipients', and 'List'. The 'Title' field is highlighted in red, indicating it is required. The 'Recipients' section contains a list of recipients with 'Invert Selection' buttons below it. The 'List' section contains a list of student names with 'Invert Selection' buttons below it. A large error message box is overlaid on the 'Recipients' section, stating: 'You have not entered a title for this announcement. Please enter a title.' with an 'OK' button. The 'Post Announcement' button is visible at the bottom left. The footer includes 'Powered By MN Interactive' and 'Copyright 2009'.

This shows an error message for a missing field when creating an announcement. This appears once the user selects the “Post Announcement” button.

6.2.29 Create Announcement (No Recipients)



This shows an error message when creating an announcement with no recipients. This appears once the user selects the “Post Announcement” button.

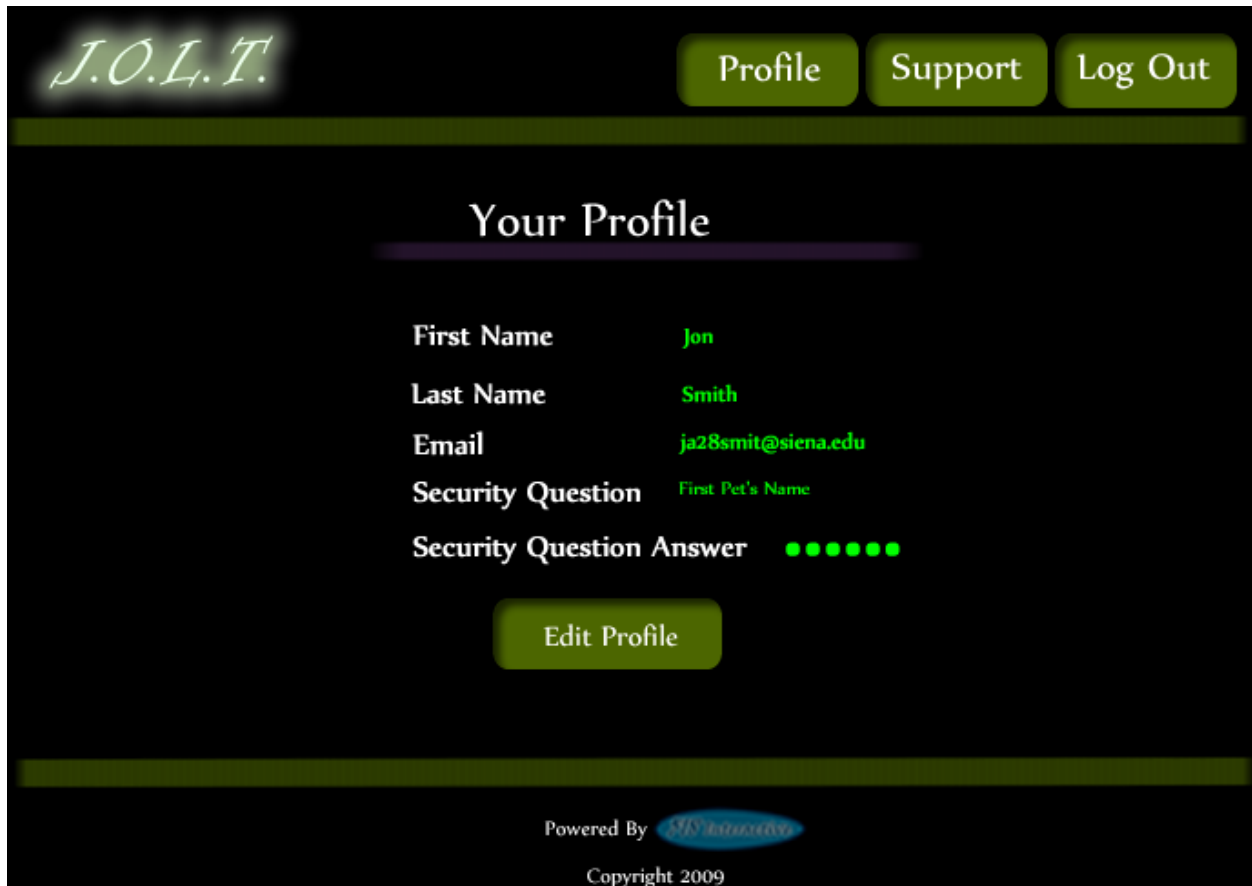
6.2.30 Create Announcement (Complete)



The screenshot displays the JOLT interface with a dark background and green accents. At the top left is the "J.O.L.T." logo. To its right are three buttons: "Profile", "Support", and "Log Out". Below these is a horizontal green bar. The main content area features the text "Your announcement has been successfully sent to:" followed by a list of recipients: CSIS-120-05, CSIS-120-04, CSIS-225-03, Darren Lim (Administrator), Robin Flatland (Faculty), and Mary Anne Egan (CC). Below the list are two buttons: "Return to Course Home" and "Return to Course Select". At the bottom, there is a "Powered By" logo for "518 Interactive" and the text "Copyright 2009".

This shows a successfully created announcement. This appears once the user selects the "Post Announcement" button.

6.2.31 View Profile



The screenshot shows a web interface for viewing a user profile. At the top left is the 'J.O.L.T.' logo. To its right are three buttons: 'Profile', 'Support', and 'Log Out'. The main content area is titled 'Your Profile' and contains the following information:

First Name	Jon
Last Name	Smith
Email	ja28smit@siena.edu
Security Question	First Pet's Name
Security Question Answer	●●●●●

Below the profile information is an 'Edit Profile' button. At the bottom of the page, it says 'Powered By' followed by a logo and 'Copyright 2009'.

Clicking the “Profile” button in the header will bring the Administrator member to this screen, where they can view their profile information. There is a button to update their information as well.

6.2.32 Edit Profile

J.O.L.T. Profile Support Log Out

Edit Profile

All fields are required

First Name

Last Name

Email

Confirm Email


Password

Confirm Password

Security Question

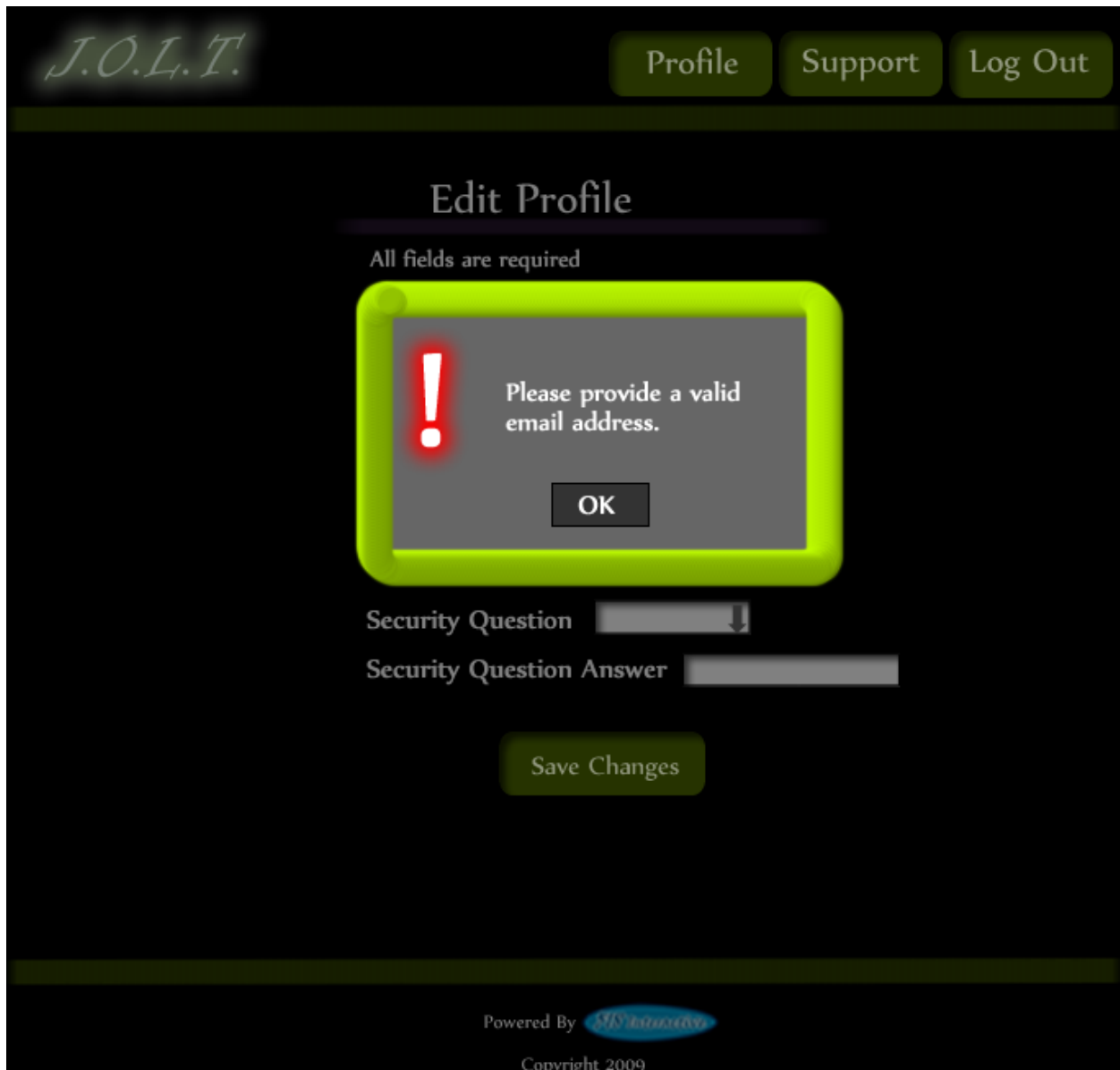
Security Question Answer

Save Changes

Powered By  Copyright 2009

This screen allows the Administrator user to edit their profile information. The Administrator user gets here by clicking the “Edit Profile” button on the Administrator Profile Page.

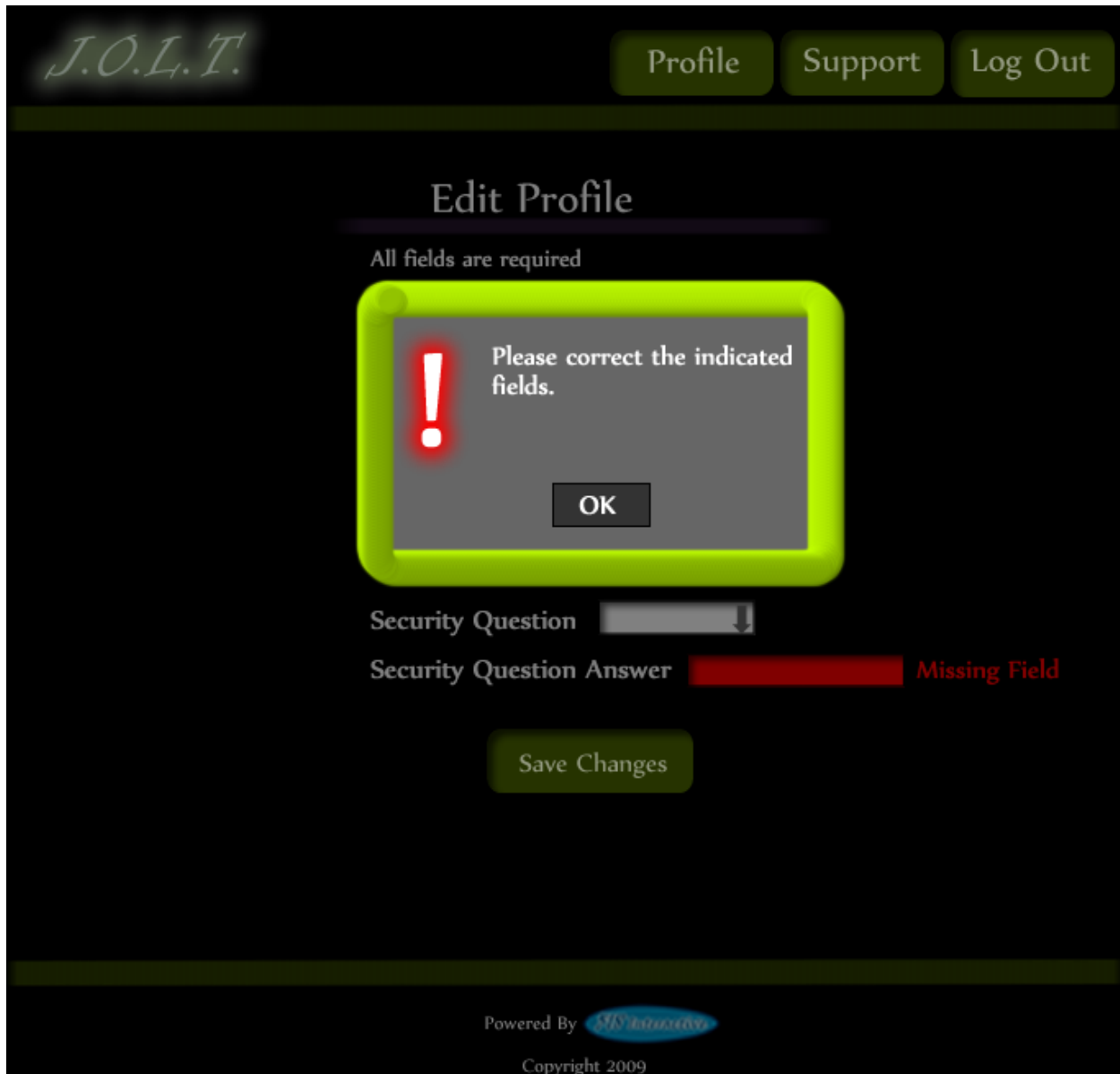
6.2.33 Edit Profile (Error)



The screenshot shows the 'Edit Profile' page of the JOLT system. At the top left is the 'J.O.L.T.' logo. To the right are three buttons: 'Profile', 'Support', and 'Log Out'. The main heading is 'Edit Profile', followed by the instruction 'All fields are required'. A prominent error message is displayed in a red-bordered box: a red exclamation mark icon, the text 'Please provide a valid email address.', and an 'OK' button. Below the error message are two input fields: 'Security Question' (a dropdown menu) and 'Security Question Answer' (a text box). A 'Save Changes' button is located below these fields. At the bottom of the page, it says 'Powered By' followed by a logo and 'Copyright 2009'.

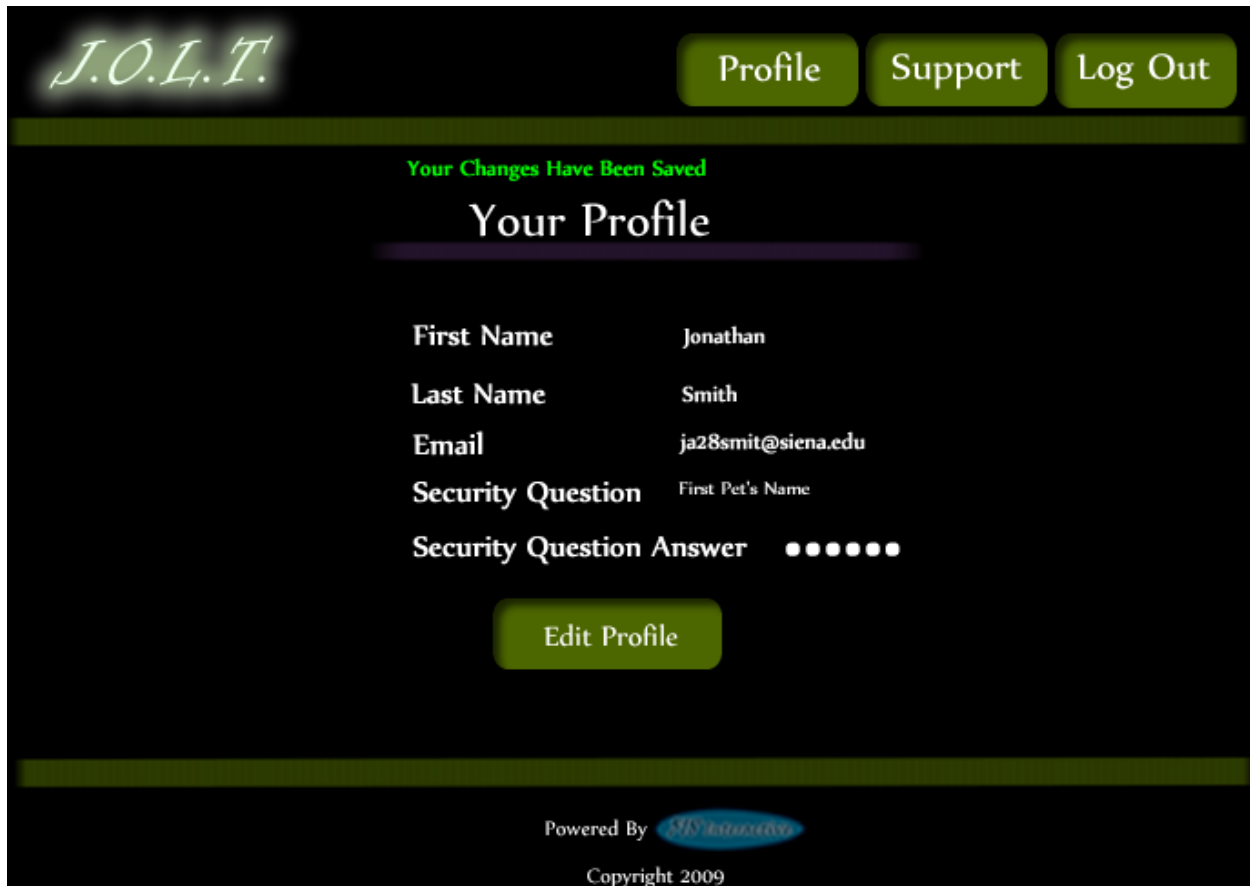
This error message is shown when the Administrator user tries to update their email address with an invalid email address.

6.2.34 Edit Profile (Invalid Field)



This error message is shown when the Administrator user tries to update their profile information with invalid or missing information.

6.2.35 Edit Profile (Completed)



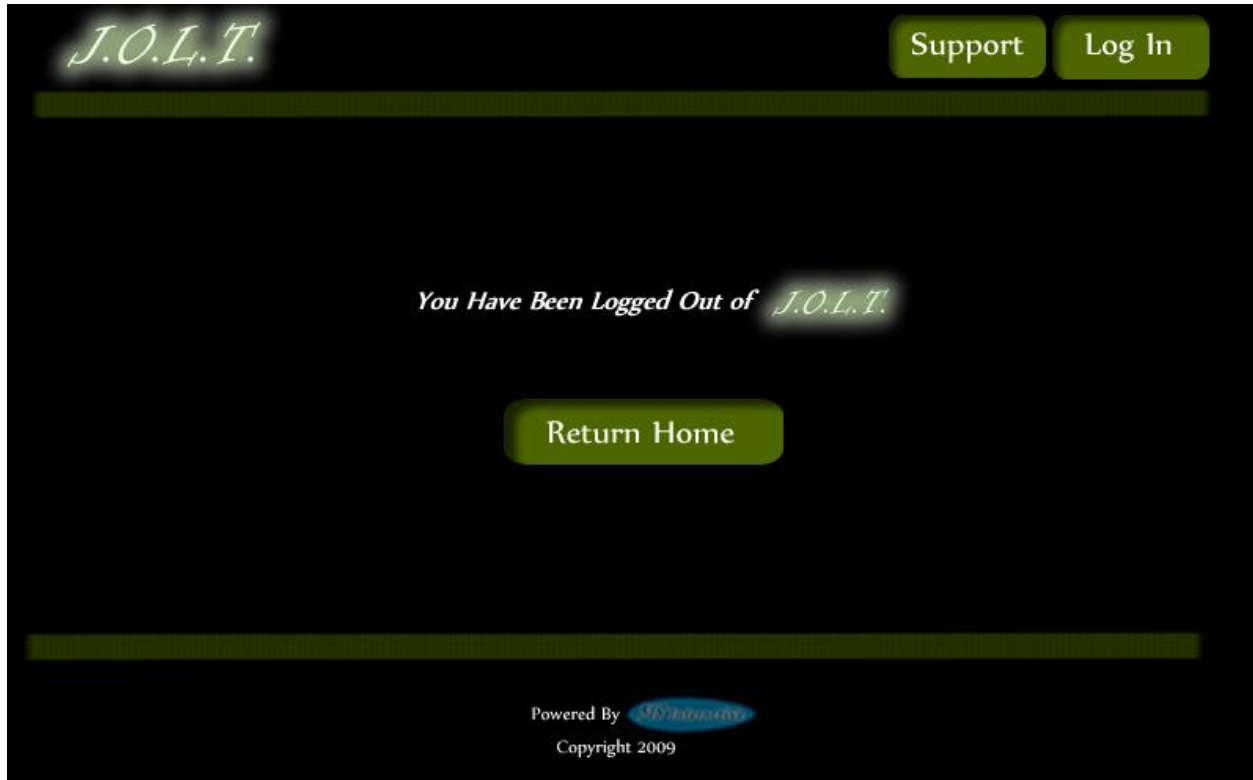
The screenshot displays the 'Your Profile' page in the JOLT system. At the top left is the 'J.O.L.T.' logo. To the right are three buttons: 'Profile', 'Support', and 'Log Out'. A green message reads 'Your Changes Have Been Saved'. Below this is the title 'Your Profile'. The profile information is listed as follows:

First Name	Jonathan
Last Name	Smith
Email	ja28smit@siena.edu
Security Question	First Pet's Name
Security Question Answer	●●●●●●

Below the profile information is an 'Edit Profile' button. At the bottom of the page, it says 'Powered By' followed by a logo and 'Copyright 2009'.

This screen is shown when the Administrator user successfully updates their profile information.

6.2.36 Logout



This screen shows the Administrator who has just logged out of JOLT by clicking the Logout button in the header.

7 Appendices

- Appendix 1: Sources of Information
- Appendix 2: Glossary of Terms
- Appendix 3: Current Timeline (Gantt Chart)
- Appendix 4: Spring 2010 Timeline (Gantt Chart)

7.1 Appendix 1: Sources of Information

Information found within this Requirement Specification document has been obtained through meetings with our client, Dr. Darren Lim. Information was also obtained through Dr. Lederman's Software Engineering lectures. Information has also been collected from various internet resources, as well as requirement specification documents from previous years.

7.2 Appendix 2: Glossary of Terms

The following are a list of technical terms used within the document. This section is provided to clarify their meaning.

Actor: An entity in UML Use Case Diagrams and UML Activity Diagrams. It represents the human and non-human external entities (outside the system boundary) that interact with the system.

Activity Diagram: A diagram based on the Unified Model Language (UML). This represents the processes that comprise a certain activity within the system. These diagrams are generally created with the perspective of an actor in mind.

Client: Used to refer to Dr. Darren Lim, the client of *518 Interactive* who requested JOLT.

Compiler: A program that reads in source code and generates an executable.

CSS: Cascading Style Sheets – Used within HTML documents in order to control the presentation of web pages.

DFD: Data Flow Diagrams are used to show how data moves and is processed within a system. There are various levels to DFDs, with each subsequent level providing more detail than the previous.

Hardware: The tangible components of a computer and server. Examples include monitors, disk drives, printers, keyboard, processor, and memory.

HTML: Hypertext Markup Language is the scripting language used to describe the information contained on a website. HTML utilizes Cascading Style Sheets (CSS) to generate the style of the page. HTML and CSS are parsed by web browsers, such as Internet Explorer and Firefox, to render the websites for users.

Java: A programming language which the System will be able to compile and execute. This language will be used by the students to solve the assigned problems.

Java Byte Code: The output of the Java™ compiler upon successful compilation of Java™ source code. Java Byte Code is read by the Java™ runtime environment, which in turn executes the proper machine-level commands.

Java SDK: Software Development Kit for Java – a collection of tools used by developers to aid in the creation of programs. The Java SDK includes the Java™ (V. 1.6) compiler. The Java™ SDK also includes the Java™ (V. 1.6) runtime environment, which allows for Java™ Byte Code to be executed.

JOLT: *Java Online Learning Toolkit* is the name of the system being developed for Dr. Lim, the client of *518 Interactive*.

MySQL: A free implementation of a Relational Database Management System. Used to store and retrieve information relevant to the website, such as usernames, passwords, problems, solutions, and

scores. Accessing information within the database is achieved by submitting a “query” in the Structured Query Language (SQL) form.

PHP: PHP Hypertext Processor is a programming language used to create dynamic web sites. Has the ability to interact with a database.

Software: The intangible components of a computer and server. It is a set of machine-level instructions that is run from within the memory, and is used to perform a specific set of functions. Examples include Microsoft Word, Adobe Photoshop, and Mozilla Firefox.

Source Code: A document that a compiler parses to generate machine code (which the computer can run directly), or code that gets interpreted by a third-party application, which then gets executed.

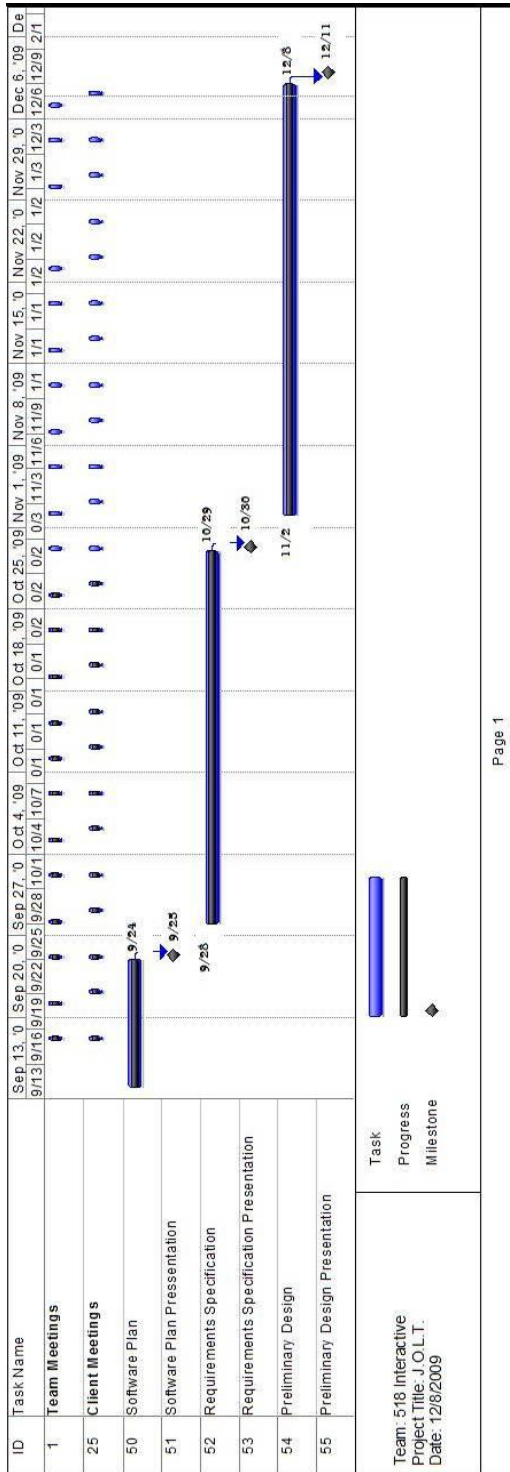
Source/Sink: This is a term used within Data Flow Diagrams to represent an entity that either provides (source) or receives (sink) data.

System: Used within this document to describe the Java Online Learning Toolkit (JOLT).

UML: Unified Modeling Language is the industry-standard language for the specification, visualization, construction, and documentation of the components of software systems.

Use Case Diagram: Represents the high-level functions of the system. It also depicts how actors interact with each of those functions.

7.3 Appendix 3: Current Timeline (GANTT Chart)



7.4 Appendix 4: Spring 2010 Timeline (GANTT Chart)

Note: Team and Client Meetings are shown for completeness. Actual meeting times have not yet been established.

