

Detail Design
Client: Dr. Darren Lim, Assistant Professor



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

Delivered by: 518 Interactive

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1 Introduction

1.1 Purpose

This document finalizes the software requirements identified for the *Java Online Learning Tool* (J.O.L.T) 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 as well as the Preliminary Design document; however, the requirements defined within this document supersede those of the previous documents.

This document also formally defines the final user interface for *J.O.L.T*. 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 finalized interface design for all users of *J.O.L.T*.
- To provide a 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 *J.O.L.T*.
- **Activity Diagram Document:** Provides a graphical representation of how specific tasks are accomplished within *J.O.L.T*.
- **Data Dictionary:** Provides a repository of all the data entities that J.O.L.T utilizes.
- **Test Plan Document:** The Test Plan Document outlines the testing that is to be done to see if J.O.L.T meets all requirements.

NOTE: All screenshots provided in this document are intended to be final in design and functionality, however, 518 Interactive reserves the right to modify the actual user interface of the final product (J.O.L.T) on an as-needed basis, with consent of the client, Dr. Lim. Such changes shall be documented on the 518 Interactive website.

NOTE: 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 *J.O.L.T's* requirements and interface. This Detailed Design document supersedes any prior documents as the descriptor of *J.O.L.T's* requirements and interface design.

1.3 Audience

This document is intended for *518 Interactive*, Dr. Lim, members of the Spring 2010 Software Engineering II class, and the other clients, Dr. Lederman and Dr. Breimer.

1.4 Product Overview and Summary

The proposed *Java Online Learning Tool* (J.O.L.T) is a comprehensive web application designed to enhance the experience of learning the Java programming language. J.O.L.T shall allow for students enrolled in programming courses to solve programming problems, which are created and entered by the Computer Science faculty. J.O.L.T 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 Requirements Specification

2.1 Introduction

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

Java Online Learning Tool 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 Type, as follows:

2.2 Functional Requirements Inventory

2.2.1 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.
 - 3 Failed login attempts will lead to system lockout.
- 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 delete their announcements
- 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

2.2.2 Functional Requirements: Faculty:

- 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.
 - 3 Failed login attempts will lead to system lockout.
- 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 sections 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 log out

2.2.3 Functional Requirements: Course Coordinator:

- 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.
 - 3 Failed login attempts will lead to system lockout.
- Will be able to create faculty accounts
- Will be able to assign faculty to a section
- 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

2.2.4 Functional Requirements: Administrator:

- 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 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

2.2.5 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

2.3 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 been formally defined for J.O.L.T.

3 Architectural Design Specification

3.1 Development, Operating, and Maintenance Environments

J.O.L.T 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

J.O.L.T 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 J.O.L.T 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

3.2 Production Environment

The production environment is the set of hardware, software, and tools that a system will run on. J.O.L.T is planned to be run on Siena's oraserv server (oraserv.cs.siena.edu), which has the following characteristics.

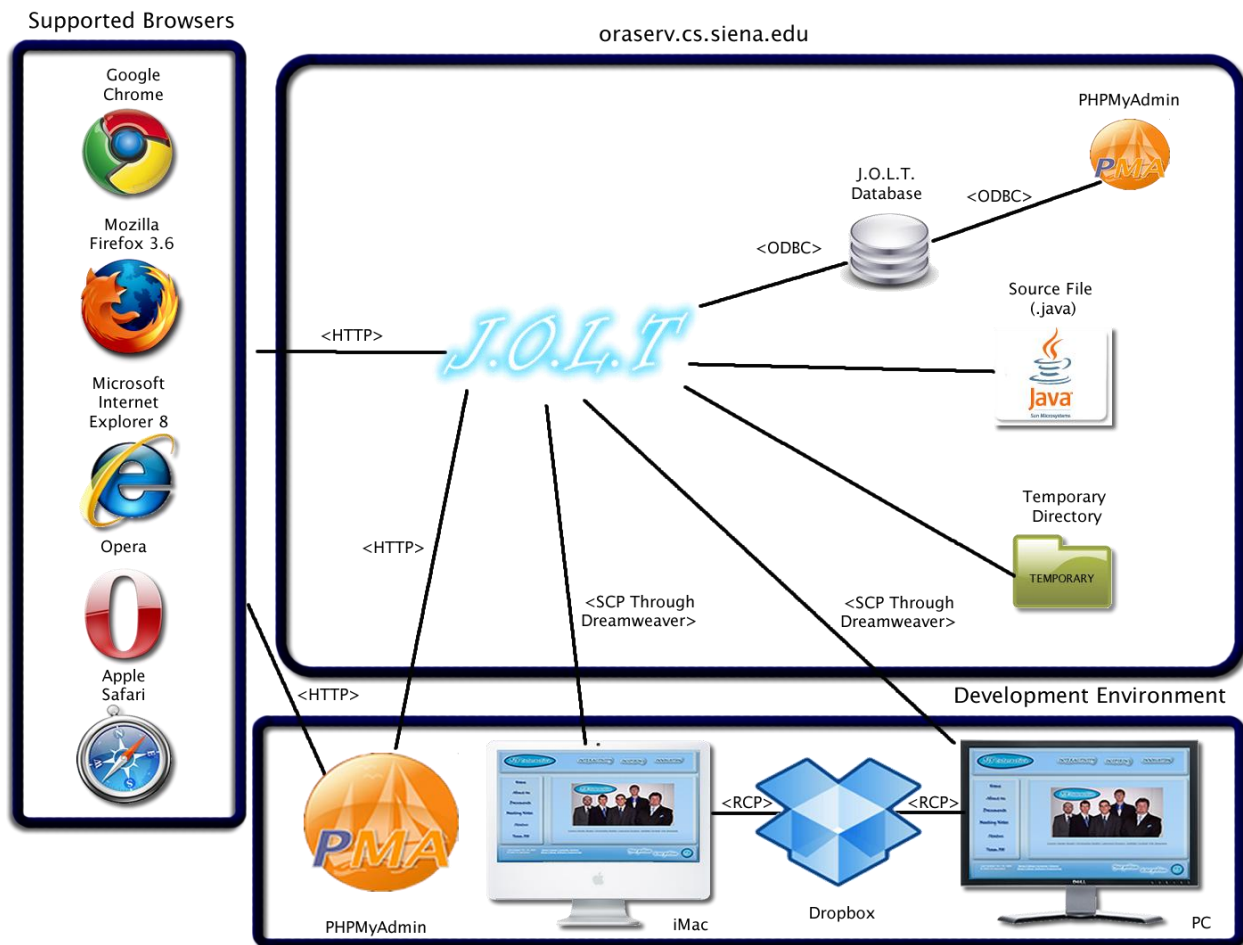
- **Operating System:** CentOS (Linux) Release 5.2 (Final)
- **Server Name:** oraserv.cs.siena.edu
- **CPU Type:** x86_64
- **Web Server:** Apache Version 2.2.9
- **PHP Version:** 5.2.6
- **Database:** MySQL Version 5.0.45;
- **Java™ Version:** 1.6.0_10-rc
- **Java™ SE Runtime Environment:** Build 1.6.0_10-rc-b28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

3.3 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 J.O.L.T below shows the different browsers connecting via HTTP to J.O.L.T. It also shows the Development Environment connecting via SCP. Finally J.O.L.T is using various components and devices such as a database, and temporary directory.

Dropbox is a file sharing utility that 518 Interactive uses as a source control mechanism during development. It stores the 'Test' version of the site, which automatically synchronizes all connected computers. This ensures that all developers have the most up-to-date source code at all times.

PHPMyAdmin is a web-based database manager. It allows the development team to easily view and alter the contents of the J.O.L.T database through a web browser using a graphical interface. There is currently a version of PHPMyAdmin installed on oraserv.cs.siena.edu under 518 Interactive's account.



3.4 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 J.O.L.T.

Home: Denotes the initial page that all users see when navigating to J.O.L.T.

Overlay/Dialog: Denotes a window that appears within the current page (Not blocked by popup blockers)

Web Page: Denotes a generic page within J.O.L.T.

Page Redirect: Denotes a forced change (by J.O.L.T) 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



Overlay / Dialog



Web Page



Page Redirect



Link



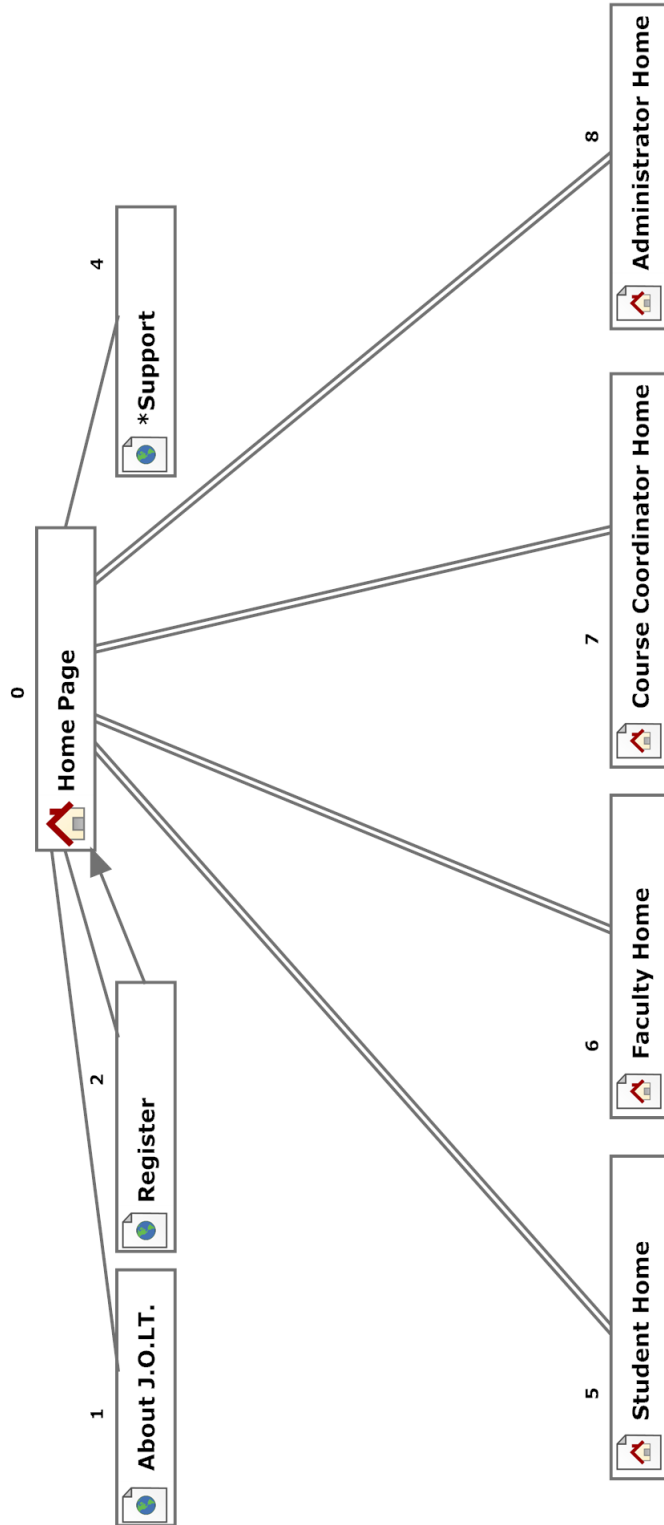
Possible Page Result Link



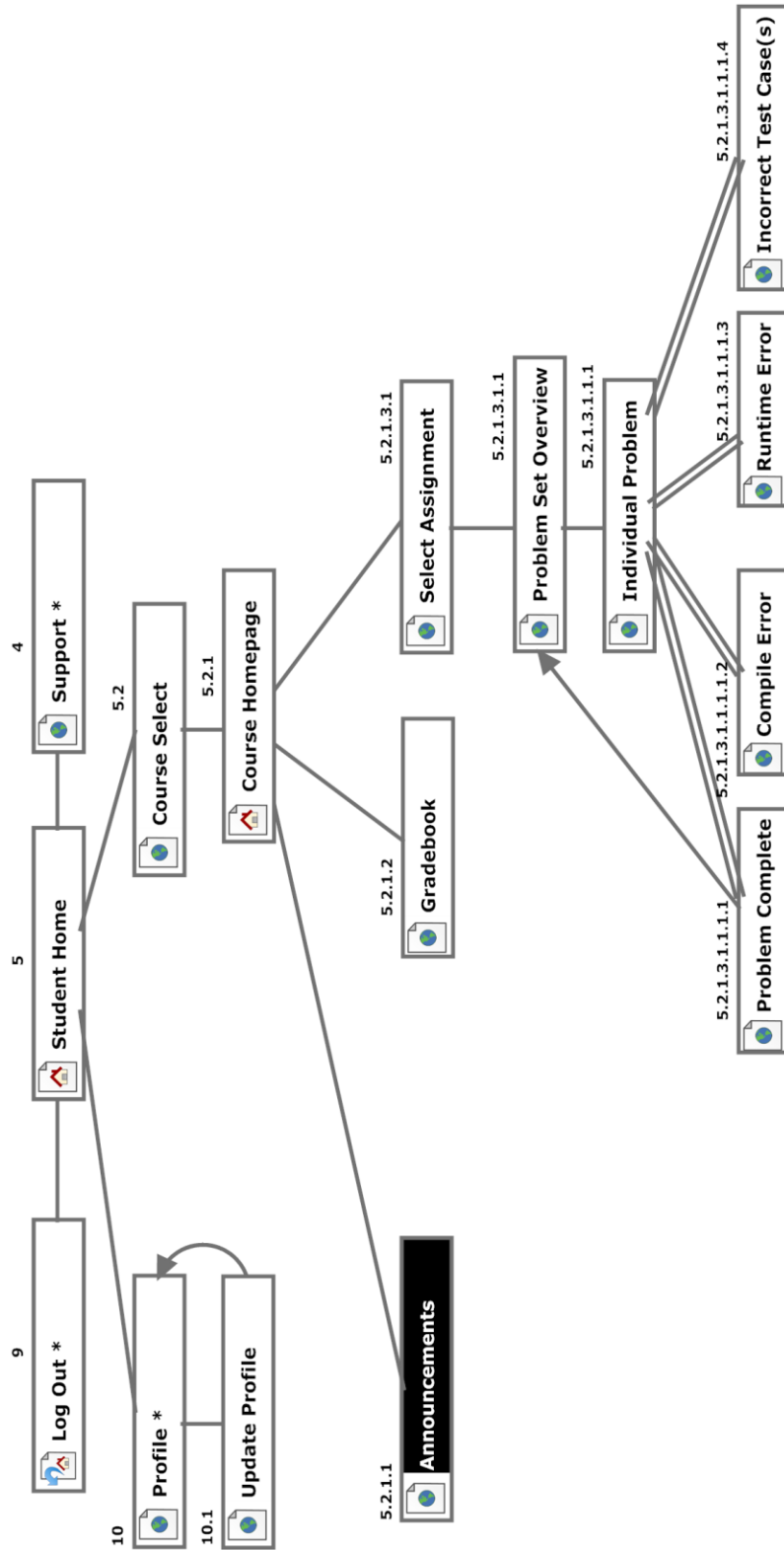
Part of Common header

3.4.1 Context Web Site Map

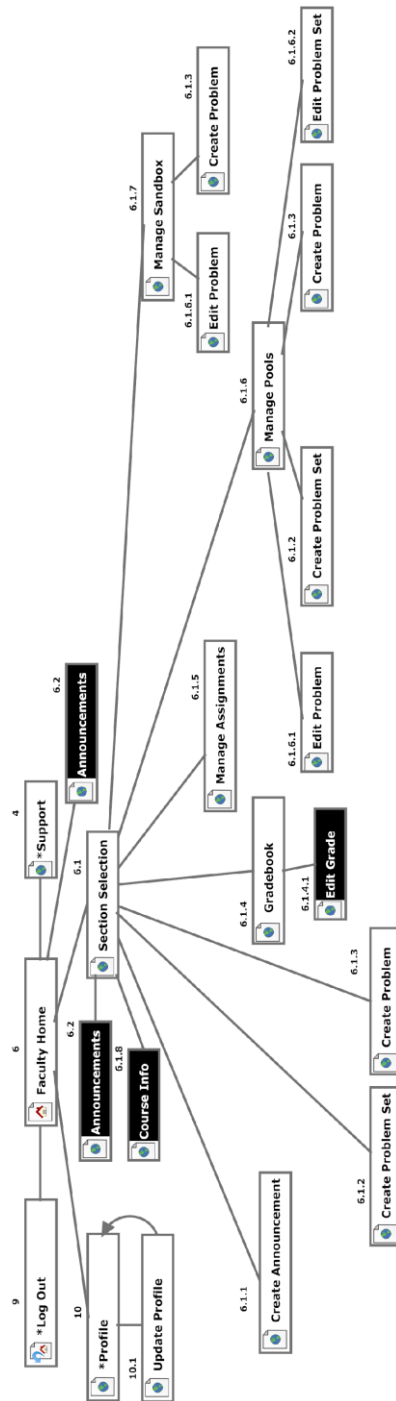
This shows the initial pages for J.O.L.T. All subsequent Web Site Map diagrams show the User Home Pages broken down.



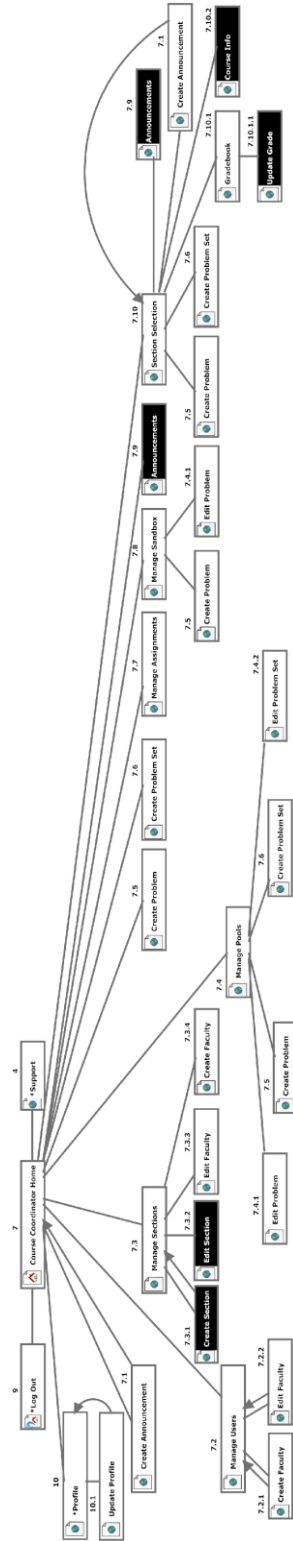
3.4.2 Student Web Site Map



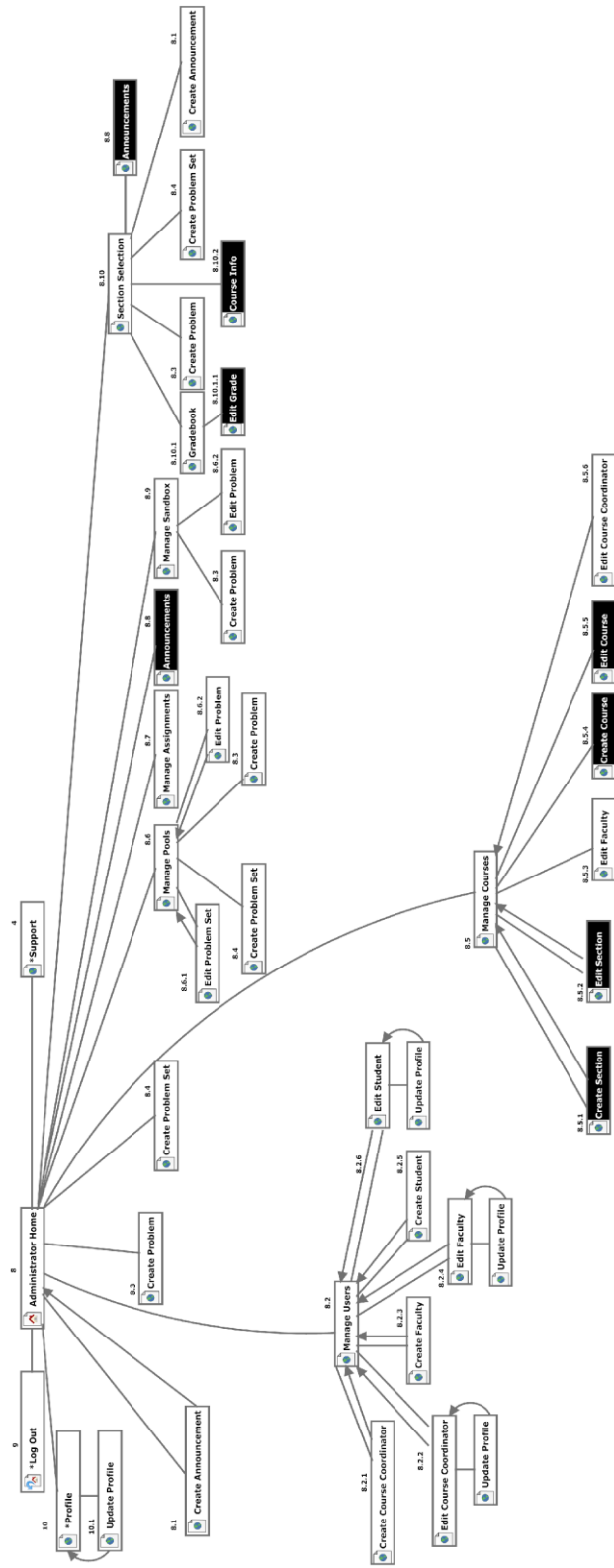
3.4.3 Faculty Web Site Map



3.4.4 Course Coordinator Web Site Map



3.4.5 Administrator Web Site Map



4 External & Internal Design Specification

4.1 User Screens with respective User Command Summaries

Unless otherwise specified, all screenshots which are depicted in browsers are taken with Mozilla Firefox Version 3.60

The screens provided within this document are intended to be final in terms of appearance and functionality, however, 518 Interactive reserves the right to modify the appearance and/or functionality of any screen as long as:

- All functional and non functional requirements are met by the System as a whole.
 - Exception: If it is determined by the client, Dr. Lim, that a requirement is no longer needed, desired, or feasible, than the requirement can be removed from the specifications and associated tests.
- An agreement between 518 Interactive and the client, Dr. Lim, is reached regarding the change.

Note: User Command Summaries appear under each screenshot in this section.

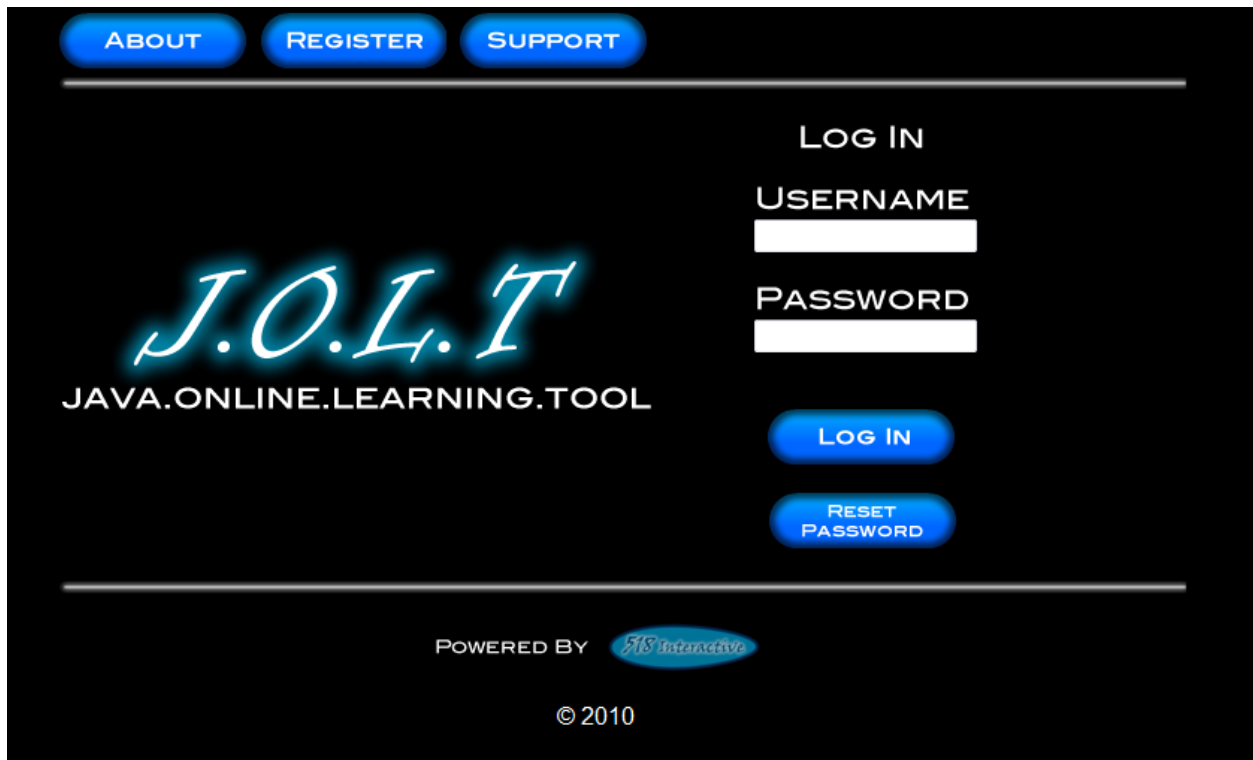
4.2 Student User

4.2.1 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.

4.2.2 J.O.L.T Login Page



The screenshot shows the login page for the Java Online Learning Tool (J.O.L.T). At the top, there are three blue buttons: "ABOUT", "REGISTER", and "SUPPORT". Below these is a horizontal line. On the left side, the text "J.O.L.T" is displayed in a large, glowing blue font, with "JAVA.ONLINE.LEARNING.TOOL" underneath it. On the right side, there is a "LOG IN" section. It includes the text "LOG IN" at the top, followed by "USERNAME" and a white input field. Below that is "PASSWORD" and another white input field. At the bottom of this section are two blue buttons: "LOG IN" and "RESET PASSWORD". Below the main content area is another horizontal line. At the bottom center, it says "POWERED BY" followed by the "518 Interactive" logo. Below the logo is the copyright notice "© 2010".

This is the initial screen that Students will be presented with when they navigate to J.O.L.T. It prompts for a username and password, and provides a link for registration and forgotten password. As well as links to the “About” and “Support” pages.

4.2.3 Student Registration Page

J.O.L.T HOME ABOUT SUPPORT

Student Registration

All fields are required

Username

Password

Confirm Password

Email Address

First Name


Last Name

Expected Graduation

Security Question

Security Answer

REGISTER

Powered By  © 2010

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 to register with J.O.L.T. By clicking on “Register” with all of the correct fields the user’s account will be created in the database. At the top, Home will take the non-logged in user back to the home Log in Page. The “About” button will allow the user to view information pertaining to the objectives of J.O.L.T and its creators. Clicking the “Support” button will provide the user with information if they are encountering any difficulties.

4.2.4 Student Registration Page (Error Message – Invalid Fields)

The screenshot shows the J.O.L.T Student Registration page. At the top, there is a navigation bar with the J.O.L.T logo and three buttons: HOME, ABOUT, and SUPPORT. Below the navigation bar is the title "Student Registration" and the subtitle "All fields are required". A red-bordered box contains the following error message:

- Please enter your desired username
- Please enter your desired password
- Please enter a valid email address
 - Please enter a valid First Name
 - Please enter a valid Last Name
- Please enter a valid Security Answer

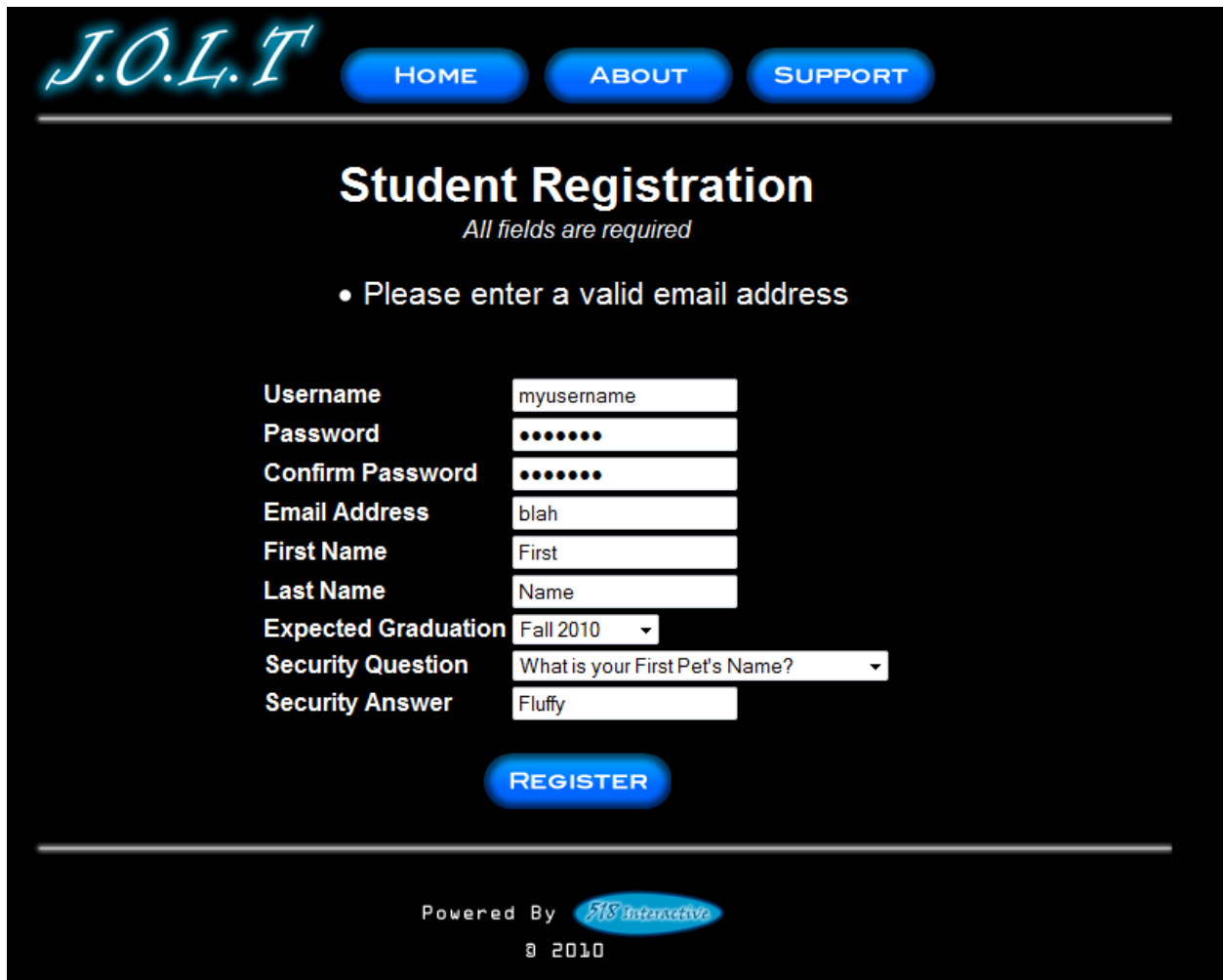
Below the error message is the registration form with the following fields:

Username	<input type="text"/>
Password	<input type="password"/>
Confirm Password	<input type="password"/>
Email Address	<input type="text"/>
First Name	<input type="text"/>
Last Name	<input type="text"/>
Expected Graduation	Fall 2010 <input type="text"/>
Security Question	What is your First Pet's Name? <input type="text"/>
Security Answer	<input type="text"/>

Below the form is a blue REGISTER button. At the bottom of the page, it says "Powered By 518 Interactive" and "© 2010".

This is an example of an error message that Students would see if they fail to fill out all fields for registration. All functionality remains the same as the original registration page.

4.2.5 Student Registration Page (Error Message – Invalid Email)



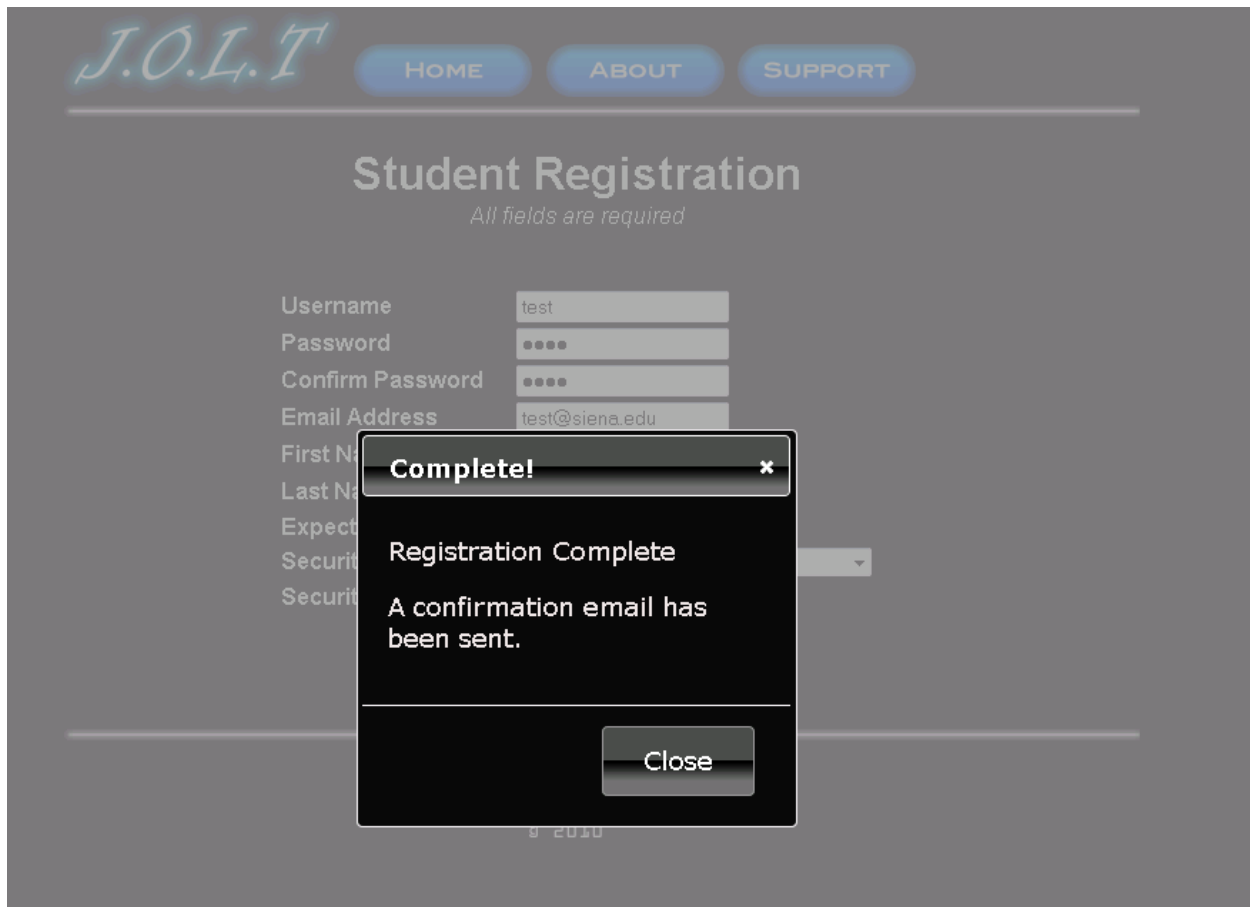
The screenshot shows the J.O.L.T Student Registration page. At the top left is the J.O.L.T logo. To its right are three navigation buttons: HOME, ABOUT, and SUPPORT. Below these is a horizontal line. The main heading is "Student Registration" in a large, bold font, with the subtext "All fields are required" underneath. A red error message is displayed: "• Please enter a valid email address". Below the error message is a registration form with the following fields:

Username	<input type="text" value="myusername"/>
Password	<input type="password" value="••••••"/>
Confirm Password	<input type="password" value="••••••"/>
Email Address	<input type="text" value="blah"/>
First Name	<input type="text" value="First"/>
Last Name	<input type="text" value="Name"/>
Expected Graduation	<input type="text" value="Fall 2010"/>
Security Question	<input type="text" value="What is your First Pet's Name?"/>
Security Answer	<input type="text" value="Fluffy"/>

Below the form is a blue "REGISTER" button. At the bottom of the page, there is a footer that reads "Powered By 518 Interactive" with the 518 Interactive logo, and "© 2010" below it.

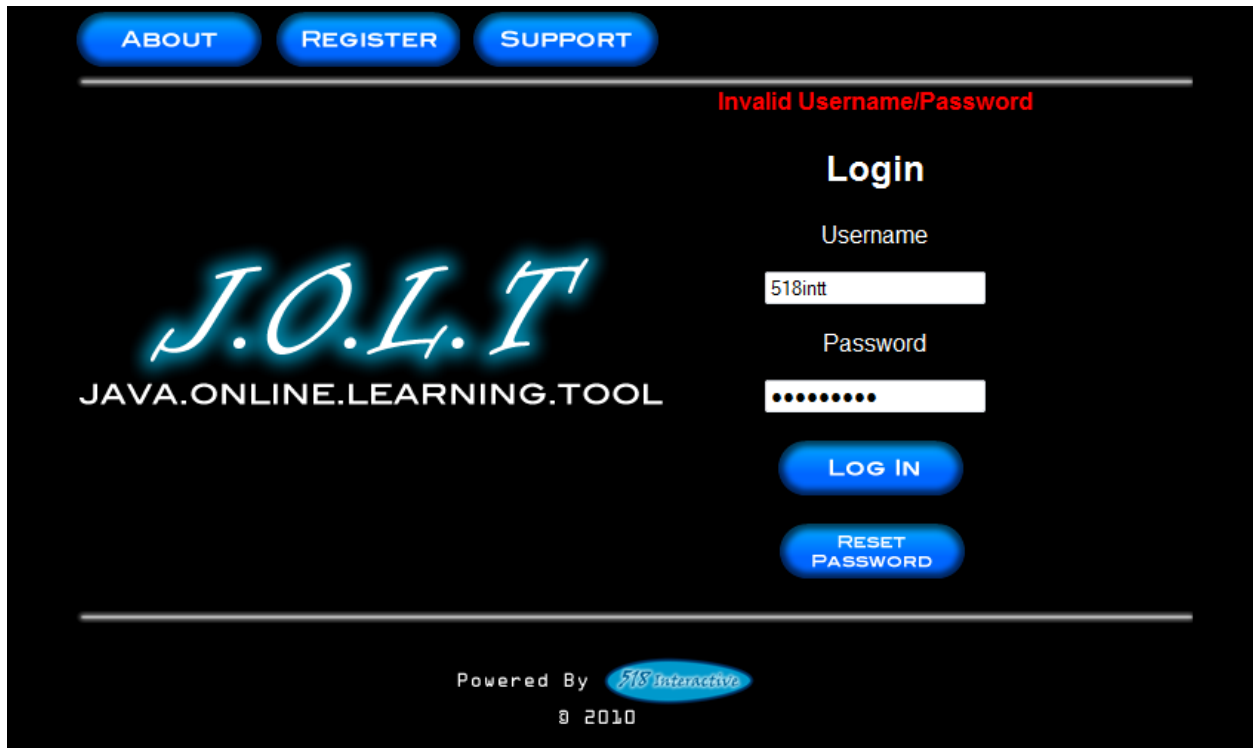
This is an example of an error message that Students would see if they fail to provide a valid email address. All functionality remains the same as the original registration page.

4.2.6 Student Registration Page (Completed)



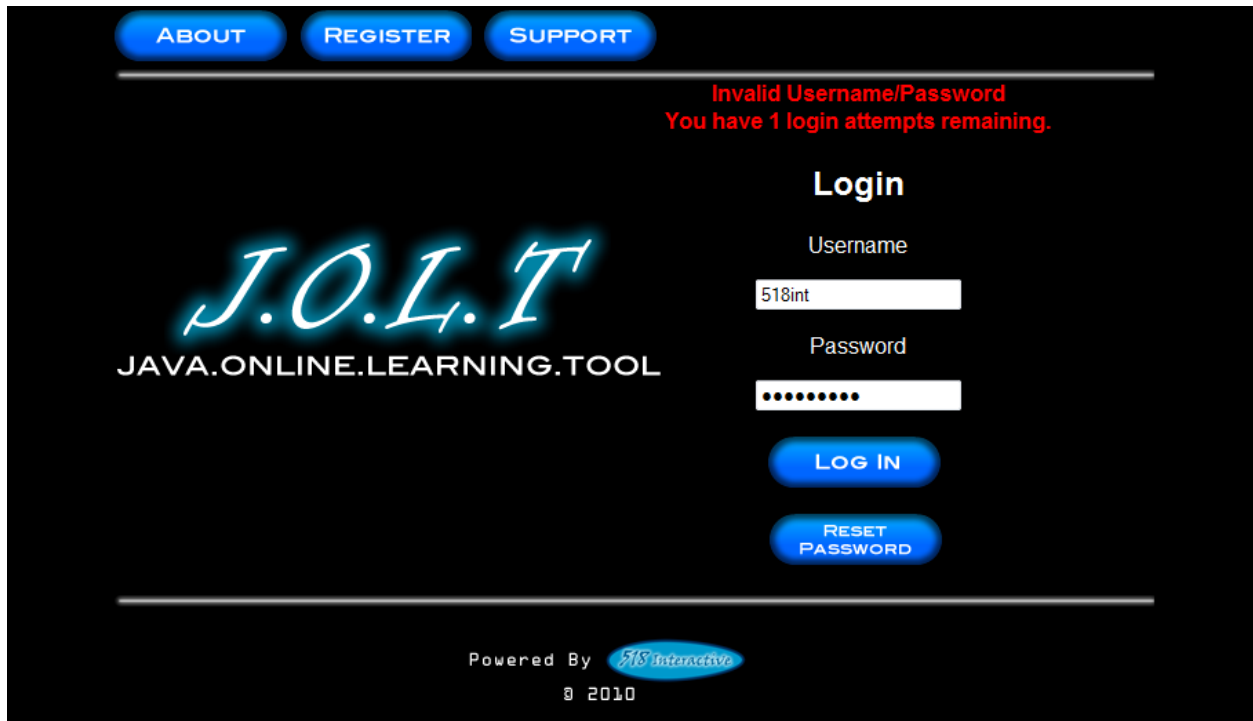
This is a confirmation overlay that is displayed to Students when they successfully provide all required fields for registration. A confirmation email is sent to the email address that they provided.

4.2.7 Invalid Login Screen



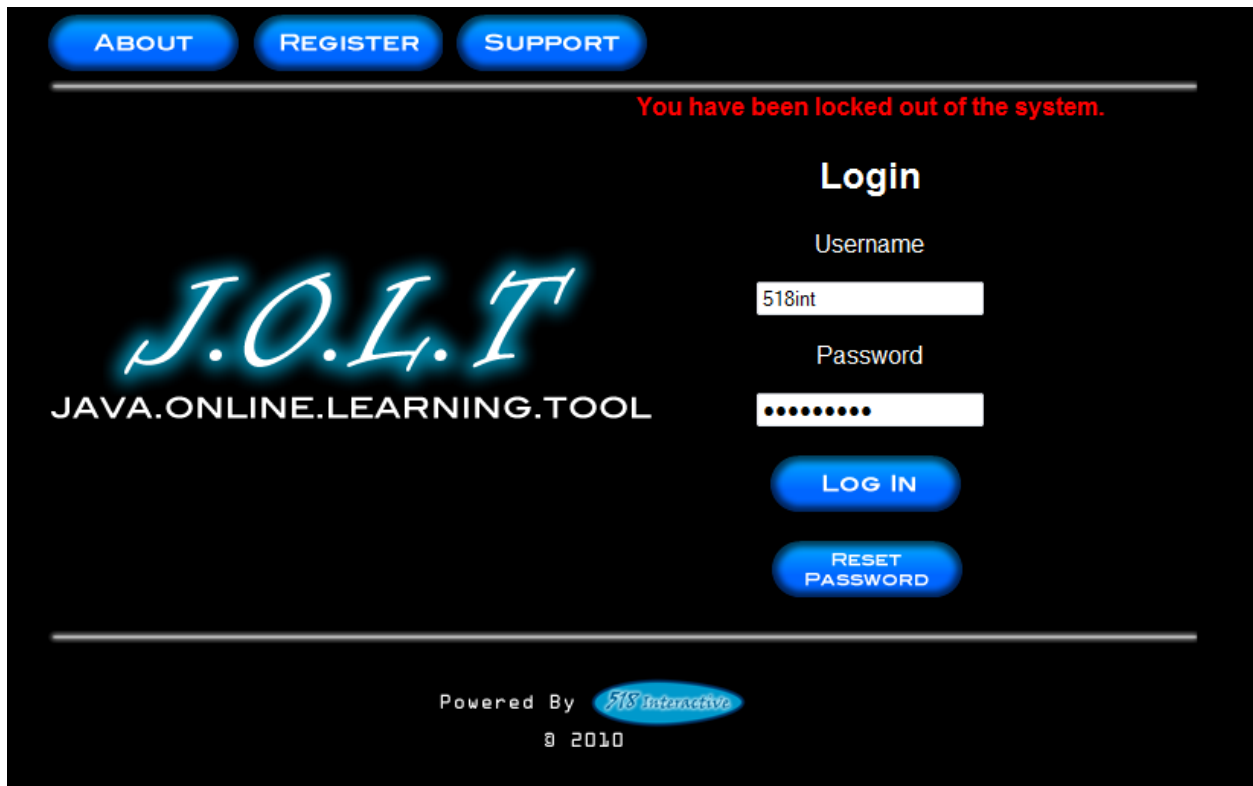
This error message will appear when a Student user enters an incorrect Username.

4.2.8 Invalid Login Screen



This is what the Student will see after entering a valid username and invalid password. This screen indicates that the Student has 1 more login attempts before their account is locked out.

4.2.9 Account Lockout Screen



The screenshot shows a dark-themed web interface for the Java Online Learning Tool (J.O.L.T). At the top, there are three blue buttons: "ABOUT", "REGISTER", and "SUPPORT". Below these, a red error message reads "You have been locked out of the system." The main content area features the "J.O.L.T" logo in a glowing blue font, with "JAVA.ONLINE.LEARNING.TOOL" underneath. To the right, there is a "Login" section with a "Username" field containing "518int" and a "Password" field with masked characters. Below the password field are two blue buttons: "LOG IN" and "RESET PASSWORD". At the bottom, it says "Powered By 518 Interactive" with a logo and "© 2010".

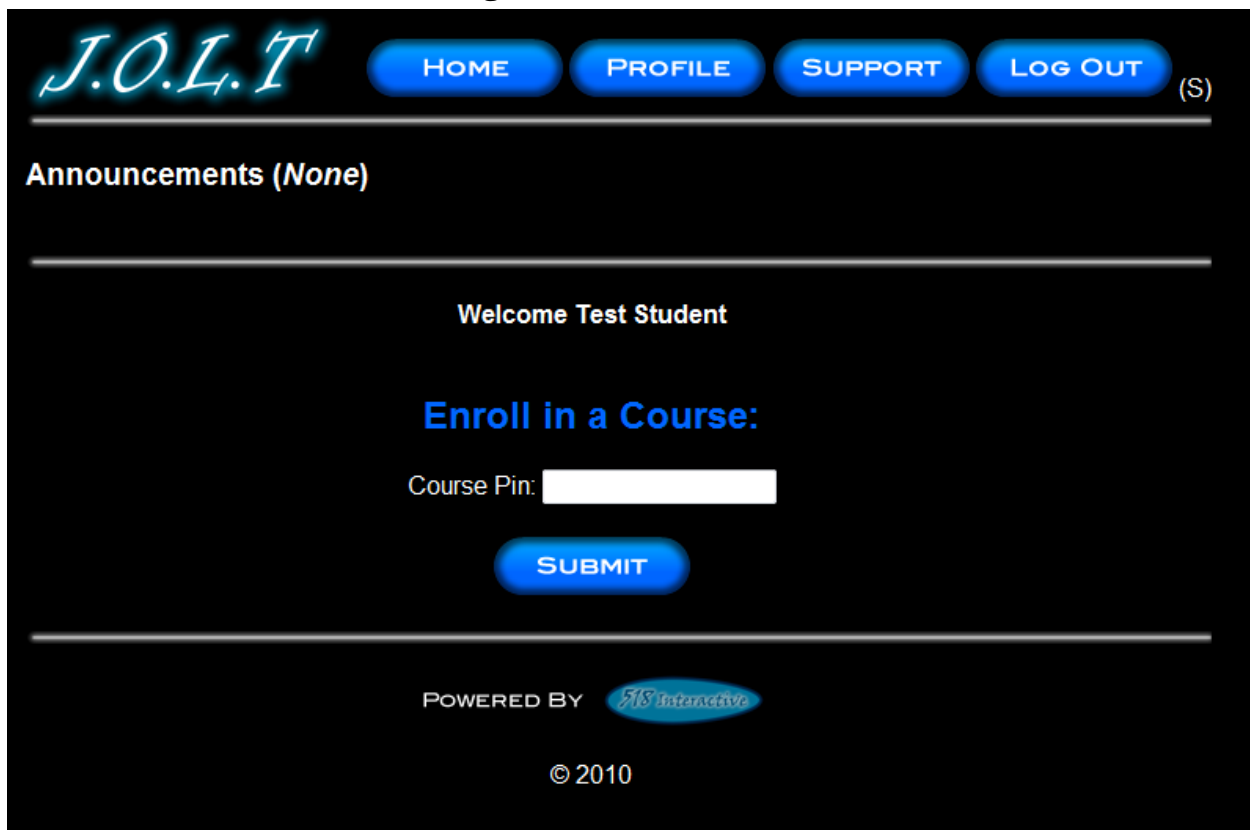
This screen appears when a Student user has too many incorrect login attempts for a particular username, and is locked out of the system.

4.2.10 Common Header



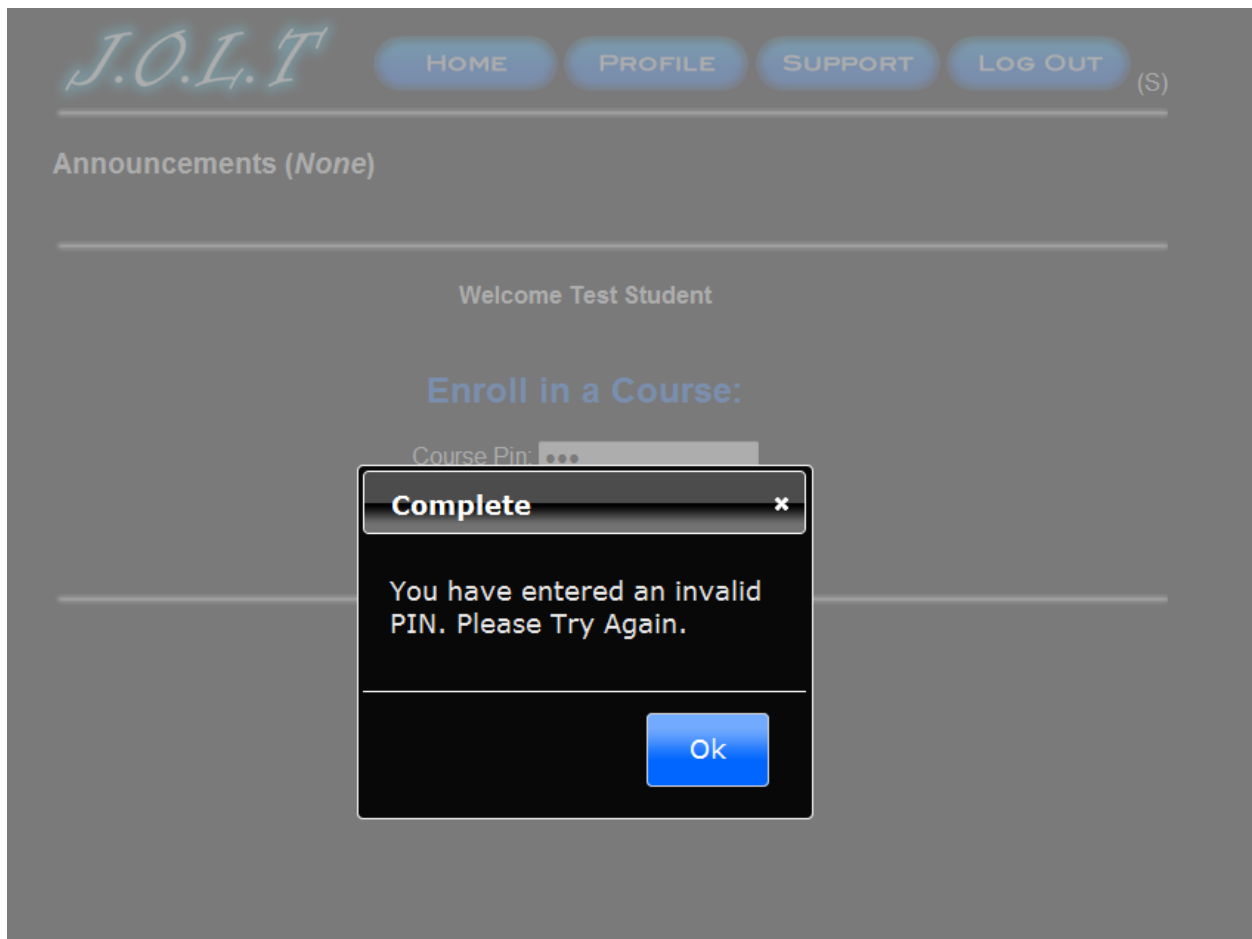
This header appears on all pages that the user has. The “Home” button brings the user to their homepage, the “Profile” button brings them to their profile page, the “Support” button brings them to a support page where they can get assistance, and “Log Out” will terminate the user’s session with J.O.L.T. This header functionality is common to all user types in J.O.L.T. The “(S)” on the right indicates user type. (S = student, F = Faculty, CC = Course Coordinator, and A = Administrator).

4.2.11 Student Home Page



This screen appears once a Student user successfully authenticates with J.O.L.T. This screen indicates that the Student is not enrolled in any courses. Using the inline form, the student can enter a course pin to register for a section.

4.2.12 Course Enrollment (Invalid PIN)



This overlay is displayed when a user attempts to enter an incorrect PIN to enroll in a course. Clicking “OK” brings the user back to the student homepage.

4.2.13 Course Enrollment (Completed)

The screenshot displays the J.O.L.T. (Java Online Learning Tool) interface. At the top left is the logo "J.O.L.T." in a stylized, glowing font. To its right are four blue buttons: "HOME", "PROFILE", "SUPPORT", and "LOG OUT", followed by a small "(S)" icon. Below the navigation bar is a section titled "Announcements (None)". A horizontal line separates this from the main content area, which begins with the text "Welcome Test Student". Underneath, the heading "Current Courses:" is followed by a single course entry: "Illogical Programming : CSIS-329-05" with the instructor "Taught by Dale Bryant" listed to its right. Below the course list is the heading "Enroll in a Course:" followed by a "Course Pin:" label and a white input field. A blue "SUBMIT" button is positioned below the input field. At the bottom of the page, it says "POWERED BY" next to the "518 Interactive" logo, and "© 2010" is centered at the very bottom.

This screen is shown when a Student user enters a correct PIN to register for a course. The newly added course is displayed on the screen. Clicking on the course name will bring the student to the section homepage. Clicking on the “Home” button brings the user back to this page.

4.2.14 Section Home Page

The screenshot shows the J.O.L.T interface. At the top left is the 'J.O.L.T' logo in a stylized, glowing font. To its right are four blue buttons: 'HOME', 'PROFILE', 'SUPPORT', and 'LOG OUT'. A small '(S)' icon is positioned to the right of the 'LOG OUT' button. Below the navigation bar is a section titled 'Announcements (None)'. The main content area features the course ID 'CSIS-329-05' in large white text. Underneath, the 'Tasks:' section shows a single bullet point: 'There are no pending tasks at this time.' To the right of this text is a blue 'GRADEBOOK' button. At the bottom of the page, it says 'POWERED BY' followed by the '518 Interactive' logo and '© 2010'.

This is an example Section Home Page that a Student user would see once selecting a Section on their Home Page. This screen indicates that there are no tasks pending, and no announcements. The “Gradebook” button brings the student to their grade book.

4.2.15 Student Section Home (Populated)

The screenshot shows the J.O.L.T Student Section Home page. At the top left is the J.O.L.T logo in a stylized, glowing font. To its right are four blue buttons: HOME, PROFILE, SUPPORT, and LOG OUT. A small '(S)' is visible to the right of the LOG OUT button. Below the navigation bar is a section titled 'Announcements (1)'. Underneath, it says 'From: Timoth Lederman' followed by a link 'Assignment Active'. Below this is a large heading 'CSIS-329-05'. Underneath the heading is a 'Tasks:' section with a bullet point: 'Homework 1 is due on 03/15/2010 08:10'. To the right of the tasks is a blue button labeled 'GRADEBOOK'. At the bottom of the page, it says 'POWERED BY' followed by the '518 Interactive' logo. Below that is the copyright notice '© 2010'.

This is the section homepage with an active assignment as well as an announcement. Clicking the task brings the student to the Problem Set Overview screen. Clicking the announcement opens the announcement in a dialog.

4.2.16 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, glowing font. To its right are four blue buttons: "HOME", "PROFILE", "SUPPORT", and "LOG OUT (S)". Below these is a "BACK" button. The main heading is "Assignment Overview: Homework 1". Below the heading is a table with the following data:

Problem Name	Problem Category	Difficulty	Point Value	Status
Boolean Logic	Practice	Unable to Calculate	100	--

At the bottom of the screen, it says "POWERED BY" followed by the "518 interactive" logo and "© 2010".

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

4.2.17 Solve Problem

J.O.L.T. HOME PROFILE SUPPORT LOG OUT (S)

PREVIOUS OVERVIEW NEXT

Problem Information

Problem Name: Boolean Logic
Category: Practice
Description: return false

Student Solution

```
public static boolean returnFalse(boolean bool1) {  
  
}
```

COMPILE, SAVE, RUN

POWERED BY 518 interactive
© 2010

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. Clicking on the “Previous” and “Next” buttons brings the user to a different problem in the problem set. The “Overview” button brings the user back to the problem set overview screen.

4.2.18 Student Solution Attempt (Compile Error)

The screenshot displays the J.O.L.T. (Java Online Learning Tool) interface. At the top left is the logo "J.O.L.T." in a stylized font. To its right are navigation buttons: "HOME", "PROFILE", "SUPPORT", and "LOG OUT (S)". Below these are "PREVIOUS", "OVERVIEW", and "NEXT" buttons. The main content area is divided into two sections. On the left, under "Problem Information", the details are: "Problem Name: Boolean Logic", "Category: Practice", and "Description: return false". Below this is the "Student Solution" section, which contains a text area with the following Java code:

```
public static boolean returnFalse(boolean bool1){  
return false  
}
```

 A "COMPILE, SAVE, RUN" button is positioned below the code. On the right side, under "Compilation Errors", the error message is:

```
',' expected  
return false  
^
```

 At the bottom of the interface, it says "POWERED BY 518 interactive" and "© 2010".

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.

4.2.19 Student Solution Attempt (Incorrect Output)

The screenshot shows the J.O.L.T. interface with the following elements:

- Navigation:** HOME, PROFILE, SUPPORT, LOG OUT (S), PREVIOUS, OVERVIEW, NEXT
- Problem Information:**
 - Problem Name: *Boolean Logic*
 - Category: *Practice*
 - Description: return false
- Student Solution:**

```
public static boolean returnFalse(boolean bool1) {
    return true;
}
```
- Results Table:**

Passed In	Expected Output	Actual Output	Result
false	false	true	FAIL
false	false	true	FAIL
false	false	true	FAIL
false	false	true	FAIL
Number Correct: 0	Number Incorrect: 4	Result:	FAIL
- Buttons:** COMPILER, SAVE, RUN
- Footer:** POWERED BY 518 interactive © 2010

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.

4.2.20 Student Solution Attempt (Timeout)

J.O.L.T. HOME PROFILE SUPPORT LOG OUT (S)

PREVIOUS OVERVIEW NEXT

Problem Information

Problem Name: Boolean Logic
Category: Practice
Description: return false

Student Solution

```
public static boolean returnFalse(boolean bool1){
while(!bool1){
}
return false;|
}
```

COMPILER, SAVE, RUN

Passed In	Expected Output	Actual Output	Result
false	false	Timeout	FAIL
false	false	Timeout	FAIL
false	false	Timeout	FAIL
false	false	Timeout	FAIL
Number Correct: 0	Number Incorrect: 4	Result:	FAIL

POWERED BY 518 Interactive

© 2010

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.

4.2.21 Updated Problem Set Overview Screen (Navigate Away)

J.O.L.T HOME PROFILE SUPPORT LOG OUT (S)

BACK

Assignment Overview: Homework 1

Problem Name	Problem Category	Difficulty	Point Value	Status
Boolean Logic	Practice	Unable to Calculate	100	In Progress

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

4.2.22 Student Solution Attempt (Completed)

J.O.L.T HOME PROFILE SUPPORT LOG OUT (S)

PREVIOUS OVERVIEW NEXT

Problem Information
Problem Name: Boolean Logic
Category: Practice
Description: return false

Student Solution

```
public static boolean returnFalse(boolean bool1) {
    return false;
}
```

COMPILE, SAVE, RUN

Passed In	Expected Output	Actual Output	Result
false	false	false	PASS
false	false	false	PASS
false	false	false	PASS
false	false	false	PASS
Number Correct: 4	Number Incorrect: 0	Result:	PASS

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

4.2.23 Updated Problem Set Screen

J.O.L.T HOME PROFILE SUPPORT LOG OUT (S)

BACK

Assignment Overview: Homework 1

Problem Name	Problem Category	Difficulty	Point Value	Status
Boolean Logic	Practice	Unable to Calculate	100	Complete

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This is an example Problem Set Overview Screen showing a completed problem.

4.2.24 View Gradebook

HOME PROFILE SUPPORT LOG OUT (S)

Show 10 entries
 Search: BACK

Assignment Name	Due Date	Points Earned	Points Possible	Percentage
Practice with JOLT	12/30/2009	90	100	90%
Practice with JOLT	12/30/2009	9	100	9%
Practice with JOLT II	12/30/2009	90	100	90%
Practice with JOLT II	12/30/2009	0	10	0%

Showing 1 to 4 of 4 entries

POWERED BY 518 Interactive

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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.

4.2.25 View Profile

The screenshot shows a web interface for the Java Online Learning Tool (J.O.L.T). At the top left is the logo "J.O.L.T" in a stylized, glowing font. To its right are four blue buttons: "HOME", "PROFILE", "SUPPORT", and "LOG OUT". The "LOG OUT" button has a small "(S)" next to it. Below the navigation bar is a horizontal line. The main content area is titled "Profile Information" in a large, bold font. Below the title, there is a list of profile details:

Username	518int
Password	*****
Email Address	blah@siena.edu
First Name	Connor
Last Name	VanderBogart
Security Question	What is your First Pets Name?
Security Answer	Fluffy

Below the profile information is a blue button labeled "EDIT". At the bottom of the page, there is a horizontal line, followed by the text "POWERED BY" and the "518 Interactive" logo. Below the logo is the copyright notice "© 2010".

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

4.2.26 Edit Profile

J.O.L.T HOME PROFILE SUPPORT LOG OUT (S)

Profile Information

Username	518int
Password	.....
Confirm Password	.....
Email Address	blah@siena.edu
First Name	Connor
Last Name	VanderBogart
Security Question	What is your First Pets N
Security Answer	.....

SAVE CANCEL

POWERED BY © 2010

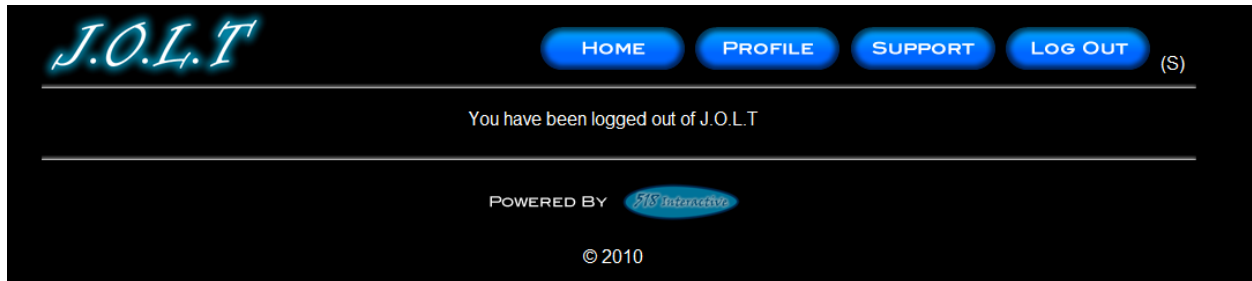
This screen allows a Student user to edit their profile information. The Students gets here by clicking the “Edit Profile” button on the Student Profile Page. All error checking in the registration page applies to this page.

4.2.27 View Announcement

The screenshot displays the J.O.L.T user interface. At the top left is the logo "J.O.L.T". To its right are navigation buttons: "HOME", "PROFILE", "SUPPORT", and "LOG OUT" with a user indicator "(S)". Below this is a section titled "Announcements (1)". A single announcement is listed: "From: Timoth Lederman" with a link to "Assignment Active". Below the announcement is a welcome message: "Welcome Connor VanderBogart". On the left side, there is a "Current Course" section with a link to "Illogical Programm...". A modal overlay is centered on the screen, titled "Assignment Active". It contains the following text: "From: Timoth Lederman" and "Sent: 03/05/2010 17:27". Below this is a message box containing "Homework 1 is now active.". At the bottom of the overlay are two buttons: "CLOSE" and "DELETE". Below the overlay is a "SUBMIT" button. At the bottom of the page, it says "POWERED BY 518 Interactive" and "© 2010".

This overlay appears when a user clicks the announcement title on their homepage or section homepage. Clicking “Close” removes the overlay and keeps the announcement in the system. Clicking “Delete” will remove the announcement from the system.

4.2.28 Logout



This screen shows a Student who has just logged out of J.O.L.T by clicking the Logout button in the header.

4.3 Faculty User

4.3.1 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. Problems that are partially completed will be saved to a “sandbox” where they may finish it at a later date.

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.

4.3.2 Faculty Screens

The Faculty User shall have the following screens available.

4.3.3 J.O.L.T Login

ABOUT REGISTER SUPPORT

LOG IN

USERNAME

PASSWORD

LOG IN

RESET
PASSWORD

POWERED BY 518 Interactive

© 2010

This is the initial screen that Faculty will be presented with when they navigate to J.O.L.T. 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.

Note: All validation that appears on the student screens applies to this page for Faculty.

4.3.4 Faculty Home Page

J.O.L.T. HOME PROFILE SUPPORT LOG OUT (F)


Announcements (None) CREATE ANNOUNCEMENT

Current Courses:

Logical Programming : CSIS-329-05 *Coordinator Timoth Lederman*

Logical Programming : CSIS-329-06 *Coordinator Timoth Lederman*

Logical Programming : CSIS-329-07 *Coordinator Timoth Lederman*

POWERED BY 

© 2010

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.

4.3.5 Section Home Page

The screenshot shows the J.O.L.T interface for a Faculty member. At the top left is the J.O.L.T logo. To the right are navigation buttons: HOME, PROFILE, SUPPORT, and LOG OUT (F). Below this is an Announcements section with the text "(None)" and a "CREATE ANNOUNCEMENT" button. The main content area is titled "CSIS-329-05" and "Tasks". On the left is a vertical menu of buttons: GRADEBOOK, MANAGE ASSIGNMENTS, CREATE PROBLEM, CREATE PROBLEM SET, MANAGE POOLS, MANAGE SANDBOX, and COURSE INFO. The main content area contains a list of tasks:

- You have 0 problems in your sandbox
- 5 students have not completed *Homework 5*
- 6 students have not completed *Homework 3*
- 7 students have not completed *Homework 4*
- 2 students have not completed *Homework 56*
- 3 students have not completed *Homework 8*
- 90 students have not completed *Homework 45a*

At the bottom, it says "POWERED BY 518 interactive" and "© 2010".

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

4.3.6 Create Problem

J.O.L.T HOME PROFILE SUPPORT LOG OUT (F)

Create Problem

Problem Information

Title:

Category: Practice

Method Name:

Description:

Parameters And Test Cases

	Param 1	Param 2	Param 3	Param 4	Param 5	Result	
	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled		
Name	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>		
Type	int	int	int	int	int	int	Hide?
Case 1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>

Solution

Publish Your Solution

Save to Sandbox Create Problem

POWERED BY 518 interactive

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

4.3.7 Create Problem (Invalid Field)

The screenshot shows the 'Create Problem' interface in the J.O.L.T system. At the top left is the 'J.O.L.T' logo. To the right are navigation buttons: HOME, PROFILE, SUPPORT, and LOG OUT. Below these is a red error message: 'Please Correct Indicated Fields'. The main form is divided into two sections: 'Problem Information' and 'Parameters And Test Cases'. The 'Problem Information' section includes fields for Title, Category (set to 'Practice'), Method Name, and Description. The 'Parameters And Test Cases' section features a table with columns for Param 1 through Param 5 and a Result column. Each parameter column has an 'Enabled' checkbox and a 'Name' field. The 'Type' row shows all parameters set to 'int'. Below this are five rows for 'Case 1' through 'Case 5', each with input fields for the parameters and a 'Hide?' checkbox. At the bottom of the form is a 'Solution' section with a 'Publish Your Solution' checkbox and a large text area. Navigation buttons 'Save to Sandbox' and 'Create Problem' are at the bottom left. The footer contains 'POWERED BY 518 Interactive'.

	Param 1	Param 2	Param 3	Param 4	Param 5	Result	
	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled		
Name	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>		
Type	int	int	int	int	int	int	Hide?
Case 1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>

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

4.3.8 Create Problem Compiler Error

The screenshot shows the 'Create Problem' interface in the J.O.L.T tool. The page has a dark theme with the 'J.O.L.T' logo in the top left and navigation buttons (HOME, PROFILE, SUPPORT, LOG OUT) in the top right. The main content is divided into two sections: 'Problem Information' and 'Parameters And Test Cases'.

Problem Information:

- Title: Practice Problem
- Category: Practice
- Method Name: return56
- Description: Return the number 56

Parameters And Test Cases:

	Param 1	Param 2	Param 3	Param 4	Param 5	Result	
	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled		
Name	num1						
Type	int	int	int	int	int	int	Hide?
Case 1	56					56	<input checked="" type="checkbox"/>
Case 2	56					56	<input type="checkbox"/>
Case 3							<input type="checkbox"/>
Case 4							<input type="checkbox"/>
Case 5							<input type="checkbox"/>

Compilation Errors:

```

'; expected
public static int return56(int num1){return 56}
                ^
  
```

Solution:

Publish Your Solution

```

public static int return56(int num1)
{
    return 56
}
  
```

Buttons: Save to Sandbox, Create Problem

POWERED BY 518 Interactive

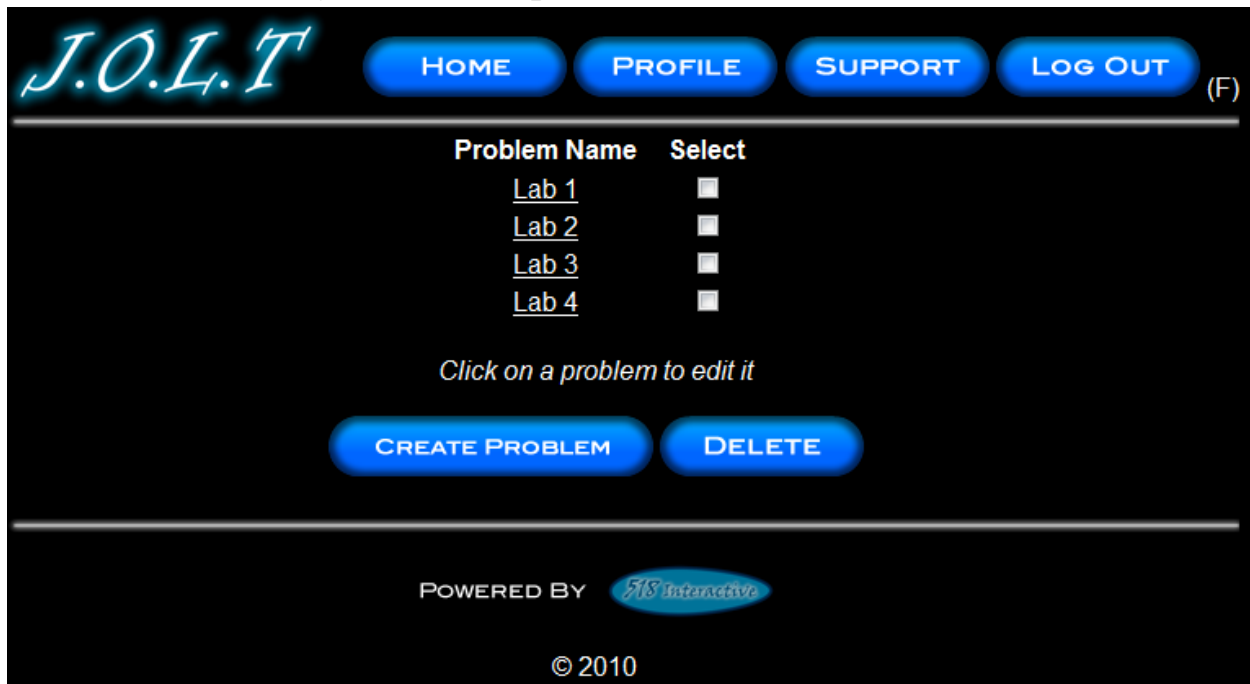
This screen shows an error message pertaining to a compiler error in the Faculty member's solution code.

4.3.9 Faculty Sandbox (Unpopulated)



This is the Faculty sandbox. The sandbox stores all problems that are not completed and ready for the pool.

4.3.10 Faculty Sandbox (Populated)



Clicking a problem name in the sandbox will bring up a window to edit the problem. The user can also select a problem to and click "Delete" to remove it from their sandbox. The user can also Create Problems from this page (The problems created from that create problem screen do not necessarily mean that they will be saved in the sandox.

4.3.11 Edit Problem

J.O.L.T (F)

Create Problem

Problem Information

Title:

Category:

Method Name:

Description:

Parameters And Test Cases

	Param 1	Param 2	Param 3	Param 4	Param 5	Result
	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	
Name	<input type="text" value="lab1param1"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
Type	<input type="text" value="int"/>	<input type="text" value="int"/>	<input type="text" value="int"/>	<input type="text" value="int"/>	<input type="text" value="int"/>	<input type="text" value="int"/> Hide?
Case 1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>

Solution

Publish Your Solution

```
public static int awesomeMethod(int lab1param1)
{
}

```

POWERED BY © 2010

This is the edit problem screen that the Faculty user will see when they choose to edit a problem from their private pool, the course pool, the global pool, or the sandbox. It is simply the create problem screen populated with the information the user provided. All error checking on the Create Problem screen exists on the edit problem screen as well.

4.3.12 Create Problem Set

Showing 1 to 3 of 3 entries
Private Pool
Select Problem name
 Boolean Logic
 Return 5
 Return 100
 Show 10 entries

Showing 0 to 0 of 0 entries
Course Pool
Select Problem name
 No matching records found
 Show 10 entries

Showing 0 to 0 of 0 entries
Global Pool
Select Problem name
 No matching records found
 Show 10 entries

Denotes Problems Pending Approval

ADD TO PROBLEM SET

Set Name:
 Set Category: Practice
 Set Description:

Total Points: 0
 Number of Problems: 0

CREATE PROBLEM SET

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.

4.3.13 Create Problem Set (Error)

The screenshot shows the J.O.L.T interface for creating a problem set. At the top, there are navigation buttons for HOME, PROFILE, SUPPORT, and LOG OUT, along with a (CC) icon. A red error message bar at the top reads "Please correct indicated fields." Below this is the "Create Problem Set" title. The interface is divided into three main sections: "Private Pool", "Course Pool", and "Global Pool".

- Private Pool:** Shows 1 to 3 of 3 entries. It includes a "Select Problem name" dropdown and a list of items: "Boolean Logic" (checked), "Return 5", and "Return 100". A "Show 10 entries" dropdown is at the bottom.
- Course Pool:** Shows 0 to 0 of 0 entries. It includes a "Select Problem name" dropdown and the text "No matching records found". A "Show 10 entries" dropdown is at the bottom.
- Global Pool:** Shows 0 to 0 of 0 entries. It includes a "Select Problem name" dropdown and the text "No matching records found". A "Show 10 entries" dropdown is at the bottom.

Below the pools, there is a red-bordered box around the "Set Name" and "Set Category" fields. The "Set Name" field is empty, and the "Set Category" dropdown is set to "Practice". Below this is a "Set Description" field, also with a red border. A blue "ADD TO PROBLEM SET" button is positioned below the pools. To the right of the button, it says "Total Points: 0" and "Number of Problems: 1". Below the button is a preview box for a problem set titled "Boolean Logic" with a "Point Value" of 0.

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

4.3.14 Create Problem Set (No Problems Added Error)

The screenshot shows the 'Create Problem Set' interface in the J.O.L.T system. At the top, there is a navigation bar with 'HOME', 'PROFILE', 'SUPPORT', and 'LOG OUT' buttons, and a '(CC)' logo. A red error message banner reads: 'Please add at least one problem to the set'. Below this is the main title 'Create Problem Set'. The interface is divided into three columns representing different problem pools: 'Private Pool', 'Course Pool', and 'Global Pool'. The 'Private Pool' contains three items: 'Boolean Logic', 'Return 5', and 'Return 100', with a 'Show 10 entries' dropdown. The 'Course Pool' and 'Global Pool' are empty, both showing 'Showing 0 to 0 of 0 entries' and 'No matching records found' with a 'Show 10 entries' dropdown. A blue 'ADD TO PROBLEM SET' button is centered below the pools. Below the button, there is a form for 'Set Name' (containing 'Test'), 'Set Category' (a dropdown menu set to 'Practice'), and 'Problem Set Description' (a text area). To the right of the description area, it says 'Total Points: 0' and 'Number of Problems: 0'. A large empty rectangular box is at the bottom right of the interface.

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

4.3.15 Create Problem Set (Completed)

The screenshot shows the 'Create Problem Set' interface in the J.O.L.T system. At the top, there are navigation buttons for HOME, PROFILE, SUPPORT, and LOG OUT, along with a (CC) icon. The main heading is 'Create Problem Set'. Below this, there are three panels for selecting problem sets from different pools: Private Pool, Course Pool, and Global Pool. The Private Pool panel shows three selected items: Boolean Logic, Return 5, and Return 100. The Course Pool and Global Pool panels show 'No matching records found'. A central success message box states 'Success Problem Set Has Been Created.' Below this, a blue button labeled 'ADD TO PROBLEM SET' is visible. To the left, there are input fields for 'Set Name: Test' and 'Set Category: Practice'. Below these is a 'Set Description' field containing the text 'Test'. To the right, the summary shows 'Total Points: 0' and 'Number of Problems: 3'. At the bottom right, a list of the added problems is shown, each with its name and a 'Point Value' of 0:

- Boolean Logic (Point Value: 0)
- Return 5 (Point Value: 0)
- Return 100 (Point Value: 0)

This is a confirmation message showing a created Problem Set. This is an overlay dialog that will redirect to their pool management screen.

4.3.16 Edit Problem Set (Completed)

J.O.L.T HOME PROFILE SUPPORT LOG OUT (CC)

Create Problem Set

Showing 1 to 3 of 3 entries

Private Pool

Select Problem name

- Boolean Logic
- Return 5
- Return 100

Show 10 entries

Showing 0 to 0 of 0 entries

Course Pool

Select Problem name

No matching records found

Show 10 entries

Showing 0 to 0 of 0 entries

Global Pool

Select Problem name

No matching records found

Show 10 entries

Denotes Problems Pending Approval

ADD TO PROBLEM SET

Set Name:

Set Category: Practice

Set Description:

Total Points: 0

Number of Problems: 0

CREATE PROBLEM SET

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.

4.3.17 Activate/Assign Problem Set

The screenshot shows the 'Manage Assignments' page in the J.O.L.T system. At the top left is the 'J.O.L.T' logo. To the right are navigation buttons for 'HOME', 'PROFILE', 'SUPPORT', and 'LOG OUT', followed by a '(CC)' icon. The main heading is 'Manage Assignments'. Below this, there are two panels. The left panel, titled 'Active Problem Sets', contains the text 'No Active Assignments Exist for this section.' and a blue 'DEACTIVATE' button. The right panel, titled 'Inactive Problem Sets', lists three items: 'Homework 1 - 1 problems in set', 'Homework 2 - 2 problems in set', and 'Test - 3 problems in set'. Below this list is a blue 'ACTIVATE' button. At the bottom center, it says 'POWERED BY' followed by the '518 Interactive' logo and '© 2010'.

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. Problem Set Deactivation is also accomplished on this screen. Note that this screen is only used for manual deactivation. J.O.L.T will automatically deactivate problem sets once the expiration date and time have been passed.

4.3.18 Create Announcement

The screenshot shows the 'Create Announcement' page in the J.O.L.T application. At the top left is the 'J.O.L.T' logo. To the right are navigation buttons: 'HOME', 'PROFILE', 'SUPPORT', and 'LOG OUT', followed by '(CC)'. The main heading is 'Create Announcement'. Below this, there are four main sections: 1. 'Title:' with a text input field. 2. 'Announcement:' with a large text area. 3. 'Recipients:' with an empty list box and an 'Invert Selection' button below it. 4. 'Available Members:' with a list of names and initials: Connor VanderBogart (S), Dale Bryant (F), Darren Lim (A), Erik Stegmann (S), and Chris Hughto (S). Between the 'Recipients' and 'Available Members' sections are five action buttons: '<', '<<', '>', '>>', and '>>>'. A 'SUBMIT' button is located at the bottom left of the form area. At the bottom center, it says 'POWERED BY 518 Interactive' and '© 2010'.

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.

4.3.19 Create Announcement (Add Recipients)

J.O.L.T HOME PROFILE SUPPORT LOG OUT (CC)

Create Announcement

Title:

Announcement:

Recipients: Dale Bryant (F), Darren Lim (A), Erik Stegmann (S)

Action: < << > >>

Available Members: Connor VanderBogart (S), Chris Hughto (S)

POWERED BY 518 Interactive © 2010

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.

4.3.20 Create Announcement (Missing Field)

The screenshot shows the J.O.L.T. interface for creating an announcement. At the top, there is a navigation bar with buttons for HOME, PROFILE, SUPPORT, and LOG OUT, along with a (CC) icon. Below this is a red-bordered error message: "Please Correct Indicated Fields". The main heading is "Create Announcement".

The form consists of several sections:

- Title:** A text input field that is empty and has a red border, indicating it is a required field that has not been filled.
- Announcement:** A text area containing the text: "New Problem Set Activated for students of CSIS-120 (All Sections)".
- Recipients:** A list box containing three names: Dale Bryant (F), Darren Lim (A), and Erik Stegmann (S). Below the list is an "Invert Selection" button.
- Action:** A set of four buttons: <, <<, >, and >>.
- Available Members:** A list box containing two names: Connor VanderBogart (S) and Chris Hughto (S). Below the list is an "Invert Selection" button.

At the bottom of the form is a blue "SUBMIT" button. Below the form is a footer that says "POWERED BY 518 Interactive" and "© 2010".

This shows an error message for a missing field when creating an announcement. This appears once the user selects the "Submit" button.

4.3.21 Create Announcement (Complete)

The screenshot displays the 'Create Announcement' interface in the J.O.L.T system. At the top, the 'J.O.L.T' logo is on the left, and navigation buttons for 'HOME', 'PROFILE', 'SUPPORT', and 'LOG OUT' are on the right, with a '(CC)' icon. The main heading is 'Create Announcement'. Below this, there are four main sections: 'Title:' with a text input field containing 'New Assignment Posted!'; 'Recipients:' with a list box containing 'Connor VanderBogart (S)', 'Erik Stegmann (S)', and 'Chris Hughto (S)'; 'Action:' with four arrow buttons (<, <<, >, >>); and 'Available Members:' with a list box containing 'Dale Bryant (F)' and 'Darren Lim (A)'. A 'SUBMIT' button is located at the bottom left of the form area. A 'Success' modal dialog box is centered on the screen, containing the text 'Your announcement has been sent to the selected recipients.' and a 'CLOSE' button. At the bottom of the page, there is a 'POWERED BY 518 interactive' logo and a copyright notice '© 2010'.

This shows a successfully created announcement. This appears once the user selects the “Submit” button. Clicking on “Close” removes the overlay, but keeps the user at the announcement screen in case they wish to send another announcement.

4.3.22 View Gradebook

HOME PROFILE SUPPORT LOG OUT (CC)

Show 10 entries
Search:

Student	Assignment Name	Due Date	Grade
Erik Stegmann	Practice with JOLT	12/30/2009	9
Erik Stegmann	Practice with JOLT II	12/30/2009	0
Larry Gregory	Practice with JOLT	12/30/2009	90
Larry Gregory	Practice with JOLT II	12/30/2009	90

Showing 1 to 4 of 4 entries

POWERED BY 518 interactive
© 2010

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.

4.3.23 Edit Gradebook (Editing)

The screenshot shows the J.O.L.T. Gradebook interface. At the top, there are navigation buttons: HOME, PROFILE, SUPPORT, and LOG OUT, along with a (CC) icon. Below these is a search bar and a dropdown menu set to 'Show 10 entries'. The main content is a table with columns: Student, Assignment Name, Due Date, and Grade. The table contains four rows of data. An 'Update Grade' dialog box is overlaid on the table, showing details for Connor VanderBogart's grade for Homework 1. The dialog includes a 'Current Grade' field with the value 0, a 'New Grade' input field, and a 'Comments' text area. At the bottom of the dialog are 'UPDATE' and 'CANCEL' buttons.

Student	Assignment Name	Due Date	Grade
Erik Stegmann	Practice with JOLT	12/30/2009	9
Erik Stegmann			0
Larry Gregory			90
Larry Gregory			90

Update Grade ✕

**Grade Detail For:
Connor VanderBogart**

Assignment: Homework 1

Current Grade: 0
New Grade:

Comments:

UPDATE
CANCEL

This shows a user editing a student's grade. Clicking the grade opens an overlay dialog where a new grade may be entered. A comment field is also provided, but not required.

4.3.24 Manage Pools

The screenshot shows the J.O.L.T Pool Management interface. At the top, there is a navigation bar with buttons for HOME, PROFILE, SUPPORT, and LOG OUT. The main title is "Pool Management". Below the title are two buttons: "CREATE PROBLEM" and "CREATE PROBLEM SET".

The interface is divided into three panels, each showing a list of problems:

- Private Pool:** Showing 0 to 0 of 0 entries. No matching records found.
- Course Pool:** Showing 1 to 10 of 14 entries. The list contains 10 entries, all labeled "Problem Name 2".
- Global Pool:** Showing 1 to 10 of 14 entries. The list contains 10 entries, all labeled "Problem Name 3".

Each panel has a "Select" column with checkboxes, a "Problem name" column, a "With Selected:" dropdown menu (set to "Delete"), an "Ok" button, and a "Show" dropdown menu (set to "10").

A note at the bottom of the panels reads: "*Denotes Problems Pending Approval*"

At the bottom of the page, it says "POWERED BY 518 Interactive".

Clicking the “Manage Pools” button on the Section Home Page brings the user to this screen. Multiple problems can be selected at once. Problems in the private pool can be copied to the course pool. Problems in the private pool can also be removed from the pool. Note that deleting a problem from a pool does NOT remove the problem from the database.

4.3.25 View Profile

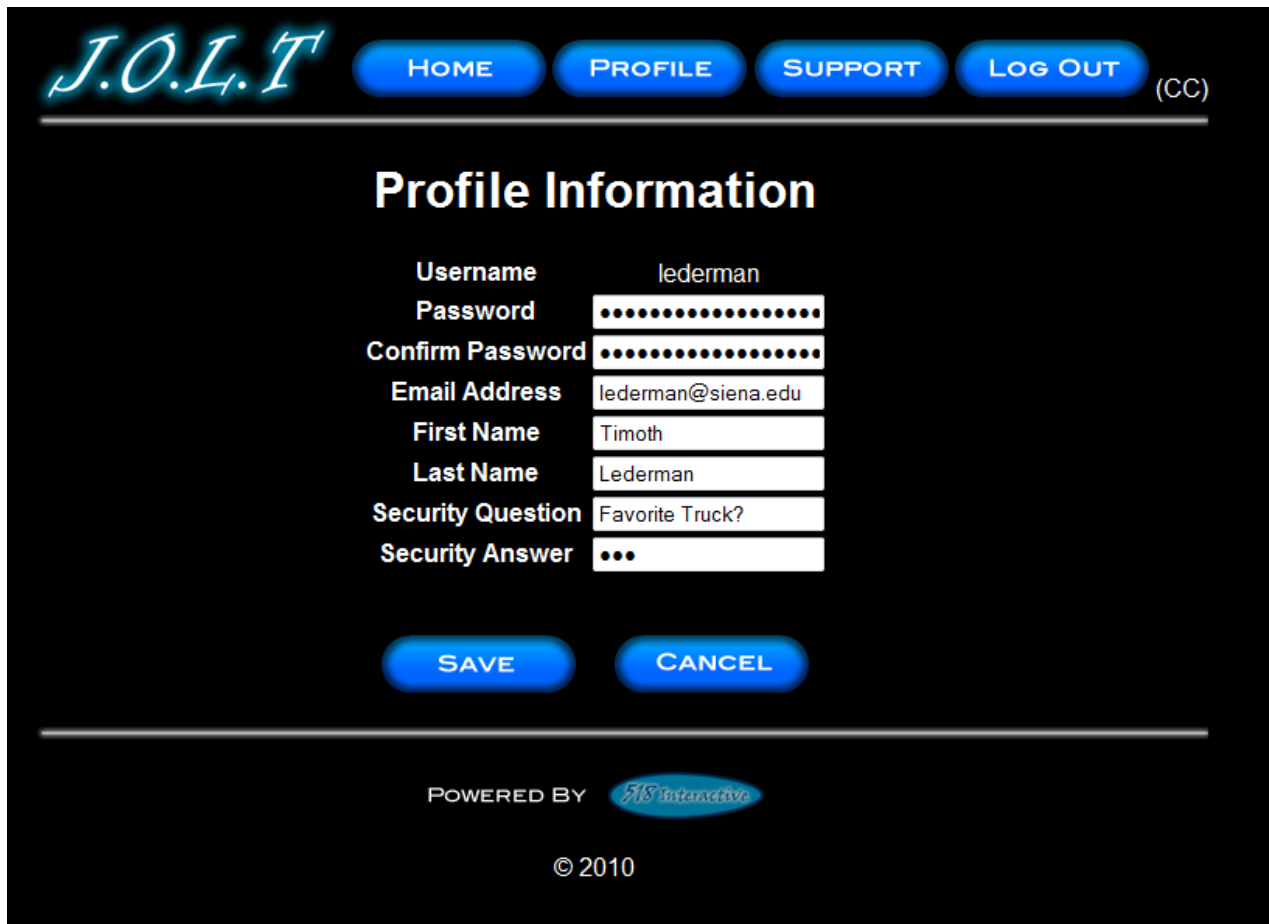
The screenshot shows the 'Profile Information' page of the Java Online Learning Tool (J.O.L.T). At the top, there is a navigation bar with the J.O.L.T logo on the left and four buttons: HOME, PROFILE, SUPPORT, and LOG OUT. A '(CC)' icon is visible to the right of the LOG OUT button. Below the navigation bar, the title 'Profile Information' is centered. The profile details are listed in two columns:

Username	lederman
Password	*****
Email Address	lederman@siena.edu
First Name	Timoth
Last Name	Lederman
Security Question	Favorite Truck?
Security Answer	GMC

Below the profile information, there is a blue button labeled 'EDIT'. At the bottom of the page, it says 'POWERED BY' followed by the 518 Interactive logo and '© 2010'.

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.

4.3.26 Edit Profile



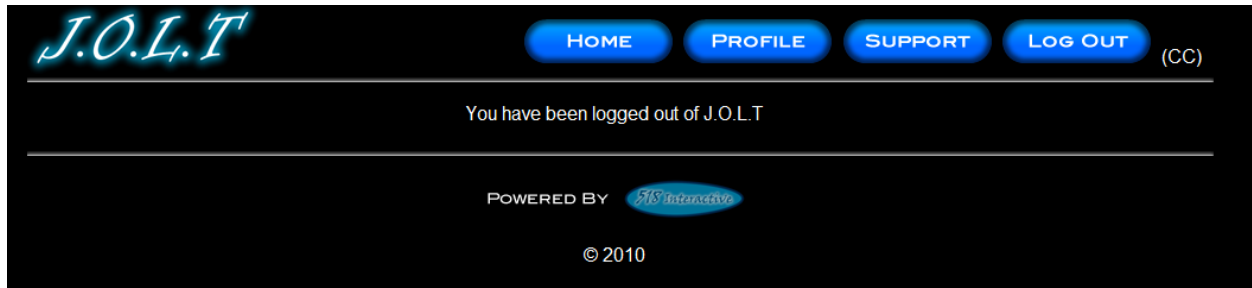
The screenshot shows the 'Profile Information' form in the J.O.L.T interface. At the top, there is a navigation bar with the 'J.O.L.T' logo and buttons for 'HOME', 'PROFILE', 'SUPPORT', and 'LOG OUT (CC)'. The form itself is titled 'Profile Information' and contains several input fields:

Username	lederman
Password	.....
Confirm Password	.....
Email Address	lederman@siena.edu
First Name	Timoth
Last Name	Lederman
Security Question	Favorite Truck?
Security Answer	...

At the bottom of the form are two buttons: 'SAVE' and 'CANCEL'. Below the form, it says 'POWERED BY' followed by the 'SIS Interactive' logo and '© 2010'.

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. All error checking that the student user has also exists on this screen.

4.3.27 Logout



This screen shows a Faculty who has just logged out of J.O.L.T by clicking the Logout button in the header.

4.4 Course Coordinator User

4.4.1 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.

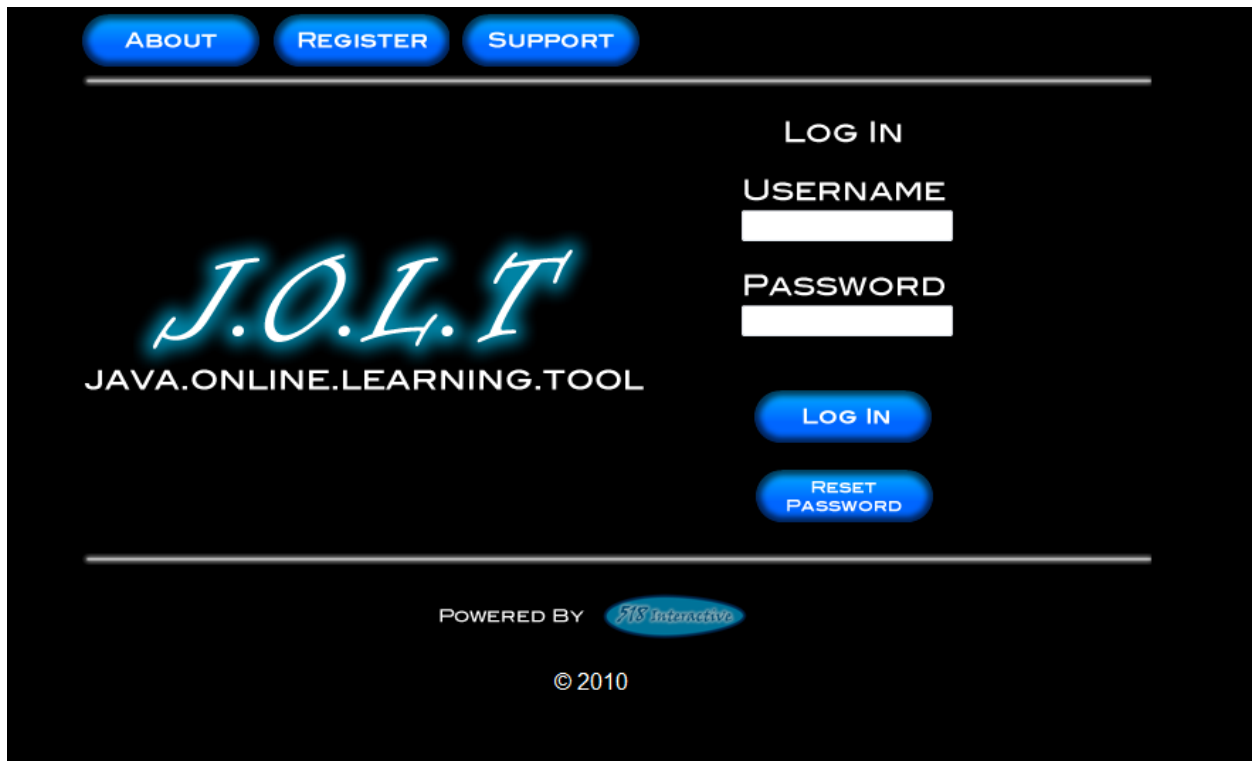
The Course Coordinator will be able to manage the “Course Pool” for each course they manage. The Course Coordinator will be responsible for adding, modifying, and deleting problems and problem sets from the pool. The Course Coordinator submits problems and problem sets to the “Global Pool” for use by all faculty members. Problems that are partially completed will be saved to a “sandbox” where they may finish it at a later date.

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.

4.4.2 Course Coordinator User Screens

The Course Coordinator shall have the following screens available.

4.4.1 J.O.L.T Login



This is the initial screen that Course Coordinator will be presented with when they navigate to J.O.L.T. 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.

Note: All validation that appears on the student screens applies to this page for Course Coordinator.

4.4.2 Course Coordinator Home Page

J.O.L.T HOME PROFILE SUPPORT LOG OUT (CC)

Announcements (None) CREATE ANNOUNCEMENT

Tasks:

- You have 8 problems in your sandbox
- There are 34 problems pending addition to your course pool

Courses and Sections

Fall 2010

CSIS-329 - Illogical Programming (Coordinator: Timoth Lederman)

[CSIS-329-05](#)(Instructor: Dale Bryant)

[CSIS-329-06](#)(Instructor: Dale Bryant)

[CSIS-329-07](#)(Instructor: Dale Bryant)

CREATE FACULTY

MANAGE POOLS

MANAGE COURSES

MANAGE SANDBOX

CREATE PROBLEM

CREATE PROBLEM SET

POWERED BY FIS interactive

© 2010

This is the screen that the Course Coordinator is presented with after they successfully log in. From here, they can Manage Pools, Manage Courses (that they coordinate), Manage their Sandbox, Create a Problem, Create a Problem Set, and Create an Announcement. They can also manage the faculty accounts that teach the courses that the course coordinator manages.

4.4.3 Create Faculty Account

The screenshot shows a web interface for creating a faculty account. At the top left is the 'J.O.L.T' logo in a stylized, glowing font. To its right are four blue buttons: 'HOME', 'PROFILE', 'SUPPORT', and 'LOG OUT', followed by '(CC)'. Below this is a horizontal line. The main heading is 'Faculty Creation' in a large, bold font, with the subtitle 'All fields are required' underneath. The form consists of eight labeled input fields: 'Username', 'Password', 'Confirm Password', 'Email Address', 'First Name', 'Last Name', 'Security Question', and 'Security Answer'. Each label is positioned to the left of a white rectangular input box. Below the input fields is a large blue button labeled 'REGISTER'. At the bottom of the page, there is a horizontal line, followed by the text 'POWERED BY' and the '518 interactive' logo. Below that is the copyright notice '© 2010'.

This screen is used by the Course Coordinator to create a Faculty account. All error checking on the registration screen applies to this screen.

4.4.4 Edit Faculty Account

J.O.L.T HOME PROFILE SUPPORT LOG OUT (CC)

User Information

Username	bryant
Password	<input type="text"/>
Confirm Password	<input type="text"/>
Email Address	bryant@siena.edu
First Name	Dale
Last Name	Bryant
Security Question	Favorite Hair Style?
Security Answer	••••••••
Account Status	Active: <input checked="" type="radio"/> Locked: <input type="radio"/> Disabled: <input type="radio"/>

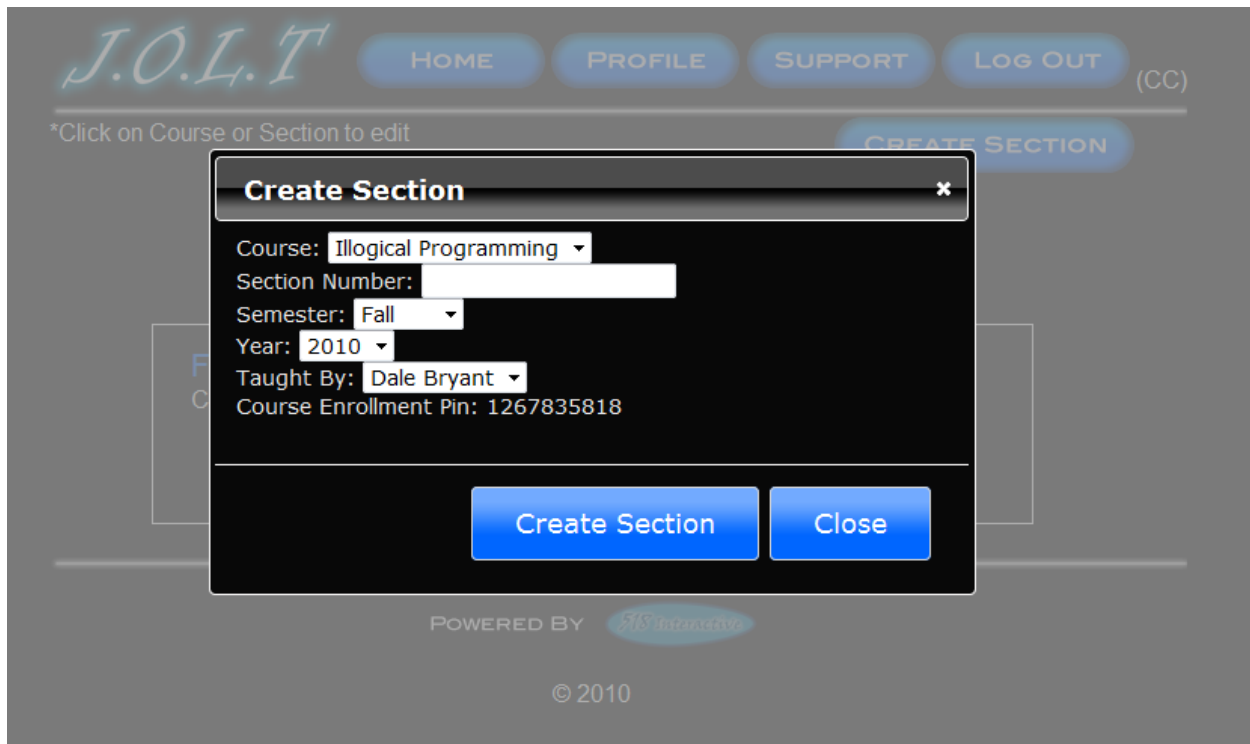
CANCEL UPDATE

POWERED BY 518 Interactive

© 2010

This screen allows a Course Coordinator to edit a faculty member's account. Entering a value in the password fields will update the user's password.

4.4.5 Create Course Section



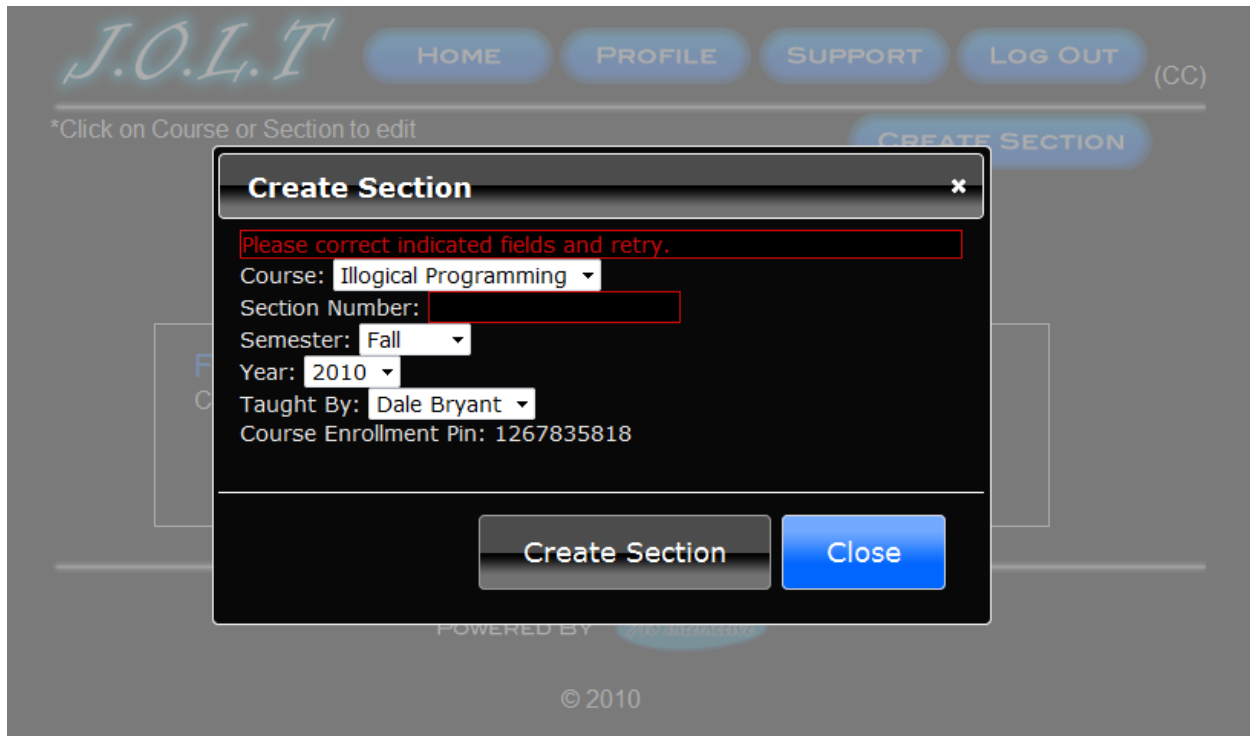
The screenshot displays the J.O.L.T (Java Online Learning Tool) interface. At the top, the logo "J.O.L.T" is visible, along with navigation buttons for "HOME", "PROFILE", "SUPPORT", and "LOG OUT (CC)". A note below the navigation bar states "*Click on Course or Section to edit". A "CREATE SECTION" button is highlighted in blue. A modal dialog box titled "Create Section" is open, featuring a close button (X) in the top right corner. The dialog contains the following fields:

- Course: Illogical Programming (dropdown menu)
- Section Number: [Empty text input field]
- Semester: Fall (dropdown menu)
- Year: 2010 (dropdown menu)
- Taught By: Dale Bryant (dropdown menu)
- Course Enrollment Pin: 1267835818 (text input field)

At the bottom of the dialog, there are two blue buttons: "Create Section" and "Close". Below the dialog, the text "POWERED BY SIS innovative" and "© 2010" are visible.

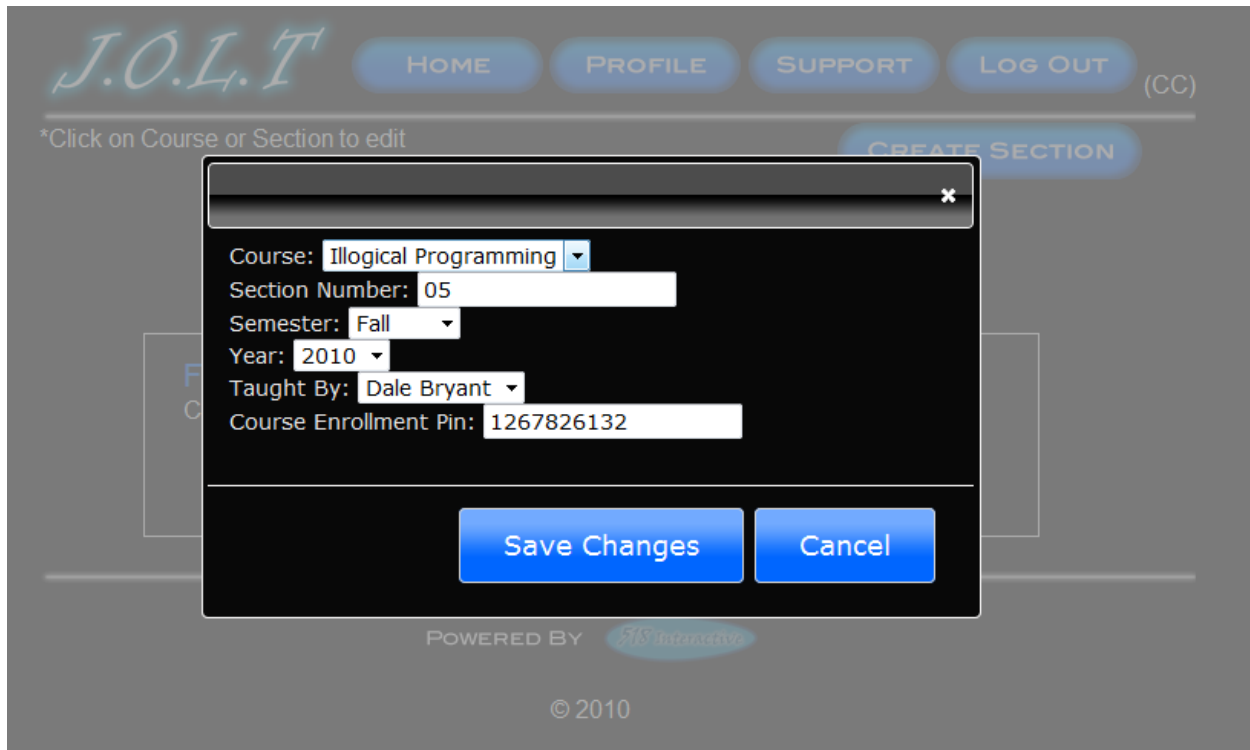
From the Manage Courses button, the “Create Section” button will show this overlay dialog, which will allow the course coordinator to create a section for any course that they manage. Note the Course Enrollment Pin is automatically generated by the system. The Pin can be later changed, if necessary.

4.4.6 Create Course Section (Error)



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

4.4.7 Edit Course Section



The screenshot shows the J.O.L.T interface with a modal overlay for editing a course section. The background is dimmed, showing navigation buttons: HOME, PROFILE, SUPPORT, LOG OUT, and a (CC) icon. A 'CREATE SECTION' button is also visible. The overlay form contains the following fields:

- Course: Illogical Programming (dropdown menu)
- Section Number: 05 (text input)
- Semester: Fall (dropdown menu)
- Year: 2010 (dropdown menu)
- Taught By: Dale Bryant (dropdown menu)
- Course Enrollment Pin: 1267826132 (text input)

At the bottom of the overlay are two buttons: 'Save Changes' and 'Cancel'. The footer of the page includes 'POWERED BY 518 interactive' and '© 2010'.

This overlay allows a Course Coordinator to edit an existing Course Section. Clicking on the course name under the “Manage Courses” screen will bring the user to this overlay. All error checking applies to the edit screen as the create course screen.

4.4.1 View Gradebook

HOME PROFILE SUPPORT LOG OUT (CC)

Show 10 entries
Search:

Student	Assignment Name	Due Date	Grade
Erik Stegmann	Practice with JOLT	12/30/2009	9
Erik Stegmann	Practice with JOLT II	12/30/2009	0
Larry Gregory	Practice with JOLT	12/30/2009	90
Larry Gregory	Practice with JOLT II	12/30/2009	90

Showing 1 to 4 of 4 entries

POWERED BY 518 interactive
© 2010

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.

4.4.2 Edit Gradebook (Editing)

The screenshot shows the J.O.L.T. Gradebook interface. At the top, there are navigation buttons: HOME, PROFILE, SUPPORT, and LOG OUT, along with a (CC) icon. Below these is a search bar and a dropdown menu set to 'Show 10 entries'. The main content is a table with columns: Student, Assignment Name, Due Date, and Grade. The table contains four rows of data. An 'Update Grade' dialog box is overlaid on the table, showing details for Connor VanderBogart's grade for Homework 1. The dialog includes a 'Current Grade' field with the value 0, a 'New Grade' input field, and a 'Comments' text area. At the bottom of the dialog are 'UPDATE' and 'CANCEL' buttons.

Student	Assignment Name	Due Date	Grade
Erik Stegmann	Practice with JOLT	12/30/2009	9
Erik Stegmann			0
Larry Gregory			90
Larry Gregory			90

Update Grade ✕

**Grade Detail For:
Connor VanderBogart**

Assignment: Homework 1

Current Grade: 0
New Grade:

Comments:

UPDATE
CANCEL

This shows a user editing a student's grade. Clicking the grade opens an overlay dialog where a new grade may be entered. A comment field is also provided, but not required.

4.4.1 Create Problem

J.O.L.T HOME PROFILE SUPPORT LOG OUT (F)

Create Problem

Problem Information

Title:
Category: Practice
Method Name:
Description:

Parameters And Test Cases

	Param 1	Param 2	Param 3	Param 4	Param 5	Result	
	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled		
Name	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>		
Type	int	int	int	int	int	int	Hide?
Case 1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>

Solution

Publish Your Solution

Save to Sandbox Create Problem

POWERED BY 518 interactive

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

4.4.2 Create Problem (Invalid Field)

The screenshot shows the 'Create Problem' interface in the J.O.L.T system. At the top left is the 'J.O.L.T' logo. To the right are navigation buttons: HOME, PROFILE, SUPPORT, and LOG OUT. Below these is a red error message: 'Please Correct Indicated Fields'. The main form is divided into two sections: 'Problem Information' and 'Parameters And Test Cases'. The 'Problem Information' section includes fields for Title, Category (set to 'Practice'), Method Name, and Description. The 'Parameters And Test Cases' section features a table with columns for Param 1 through Param 5 and a Result column. Each parameter column has an 'Enabled' checkbox and a 'Name' field. The 'Type' row shows dropdown menus for each parameter, all set to 'int'. Below the table are five rows for 'Case 1' through 'Case 5', each with input fields for the parameters and a 'Hide?' checkbox. At the bottom of the form is a 'Solution' section with a 'Publish Your Solution' checkbox and a large text area. Below the text area are 'Save to Sandbox' and 'Create Problem' buttons. The footer contains the text 'POWERED BY 518 interactive'.

	Param 1	Param 2	Param 3	Param 4	Param 5	Result	
	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled		
Name	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>		
Type	int	int	int	int	int	int	Hide?
Case 1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>

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

4.4.3 Create Problem Compiler Error

The screenshot shows the 'Create Problem' interface in the J.O.L.T tool. The page has a dark theme with the 'J.O.L.T' logo in the top left and navigation buttons (HOME, PROFILE, SUPPORT, LOG OUT) in the top right. The main content is divided into two sections: 'Problem Information' and 'Parameters And Test Cases'.

Problem Information:

- Title: Practice Problem
- Category: Practice
- Method Name: return56
- Description: Return the number 56

Parameters And Test Cases:

	Param 1	Param 2	Param 3	Param 4	Param 5	Result	
	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled		
Name	num1						
Type	int	int	int	int	int	int	Hide?
Case 1	56					56	<input checked="" type="checkbox"/>
Case 2	56					56	<input type="checkbox"/>
Case 3							<input type="checkbox"/>
Case 4							<input type="checkbox"/>
Case 5							<input type="checkbox"/>

Compilation Errors:

```

'; expected
public static int return56(int num1){return 56}
                ^
  
```

Solution:

Publish Your Solution

```

public static int return56(int num1)
{
    return 56
}
  
```

Buttons: Save to Sandbox, Create Problem

POWERED BY 518 Interactive

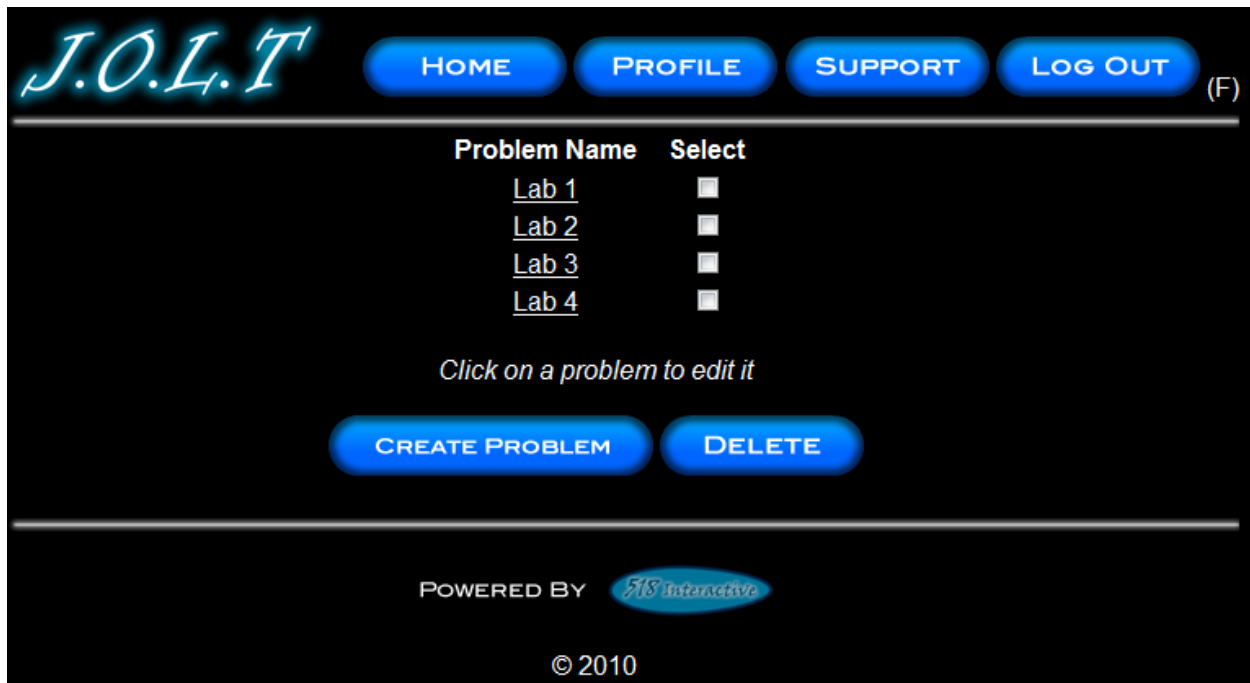
This screen shows an error message pertaining to a compiler error in the Course Coordinator member's solution code.

4.4.1 Course Coordinator Sandbox (Unpopulated)



This is the Course Coordinator sandbox. The sandbox stores all problems that are not completed and ready for the pool.

4.4.2 Course Coordinator Sandbox (Populated)



Clicking a problem name in the sandbox will bring up a window to edit the problem. The user can also select a problem to and click "Delete" to remove it from their sandbox. The user can also Create Problems from this page (The problems created from that create problem screen do not necessarily mean that they will be saved in the sandbox.)

4.4.3 Edit Problem

J.O.L.T (F)

HOME **PROFILE** **SUPPORT** **LOG OUT**

Create Problem

Problem Information

Title:

Category:

Method Name:

Description:

Parameters And Test Cases

	Param 1	Param 2	Param 3	Param 4	Param 5	Result	
	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled		
Name	<input type="text" value="lab1param1"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>		
Type	<input type="text" value="int"/>	<input type="text" value="int"/>	<input type="text" value="int"/>	<input type="text" value="int"/>	<input type="text" value="int"/>	<input type="text" value="int"/>	Hide?
Case 1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>

Solution

Publish Your Solution

```
public static int awesomeMethod(int lab1param1)
{
}

```

POWERED BY © 2010

This is the edit problem screen that the Course Coordinator user will see when they choose to edit a problem from either their private pool, the course pool, the global pool, or the sandbox. It is simply the create problem screen populated with the information the user provided. All error checking on the Create Problem screen exists on the edit problem screen as well.

4.4.4 Create Problem Set

Showing 1 to 3 of 3 entries
Private Pool
 Select Problem name
 Boolean Logic
 Return 5
 Return 100
 Show 10 entries

Showing 0 to 0 of 0 entries
Course Pool
 Select Problem name
 No matching records found
 Show 10 entries

Showing 0 to 0 of 0 entries
Global Pool
 Select Problem name
 No matching records found
 Show 10 entries

Denotes Problems Pending Approval

ADD TO PROBLEM SET

Set Name:
 Set Category: Practice
 Set Description:

Total Points: 0
 Number of Problems: 0

CREATE PROBLEM SET

This is an example of the Create Problem Set Screen. Course Coordinators 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 user to edit the problem. Point values can be assigned to each problem. By selecting problems in the pools using the checkboxes and clicking the “Add to Problem Set” button the problems in the pool are added to the problem set area located underneath the “Total Points” and “Number of Problems” fields.

4.4.5 Create Problem Set (Error)

The screenshot shows the J.O.L.T interface for creating a problem set. At the top, there is a navigation bar with buttons for HOME, PROFILE, SUPPORT, and LOG OUT, along with a (CC) icon. Below the navigation bar, a red error message reads "Please correct indicated fields." The main heading is "Create Problem Set".

There are three problem pools displayed:

- Private Pool:** Showing 1 to 3 of 3 entries. It contains a list of problem names: Boolean Logic (checked), Return 5, and Return 100. A "Show 10 entries" dropdown is at the bottom.
- Course Pool:** Showing 0 to 0 of 0 entries. It contains the message "No matching records found" and a "Show 10 entries" dropdown.
- Global Pool:** Showing 0 to 0 of 0 entries. It contains the message "No matching records found" and a "Show 10 entries" dropdown.

Below the pools, there is a blue button labeled "ADD TO PROBLEM SET" with a note above it: "*Denotes Problems Pending Approval*".

At the bottom left, there are input fields for "Set Name:" (with a red border) and "Set Category:" (set to "Practice"). Below these is a "Set Description:" field with a red border.

At the bottom right, there is a summary box showing "Total Points: 0" and "Number of Problems: 1". Below this is a preview of a problem set entry titled "Boolean Logic" with a "Point Value: 0".

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

4.4.6 Create Problem Set (No Problems Added Error)

The screenshot shows the J.O.L.T interface for creating a problem set. At the top, there is a navigation bar with buttons for HOME, PROFILE, SUPPORT, and LOG OUT, along with a (CC) logo. Below this is a red error message: "Please add at least one problem to the set". The main heading is "Create Problem Set".

There are three panels for selecting problems:

- Private Pool:** Shows 1 to 3 of 3 entries. It contains a list of three items: "Boolean Logic", "Return 5", and "Return 100". A "Show 10" dropdown and navigation arrows are at the bottom.
- Course Pool:** Shows 0 to 0 of 0 entries. It contains the text "No matching records found" and a "Show 10" dropdown with navigation arrows.
- Global Pool:** Shows 0 to 0 of 0 entries. It contains the text "No matching records found" and a "Show 10" dropdown with navigation arrows.

Below the pools is a blue button labeled "ADD TO PROBLEM SET" with a note: "*Denotes Problems Pending Approval*".

At the bottom, there are input fields for "Set Name" (containing "Test") and "Set Category" (a dropdown menu set to "Practice"). To the right, it displays "Total Points: 0" and "Number of Problems: 0". A large empty box is provided for the "Set Description".

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

4.4.7 Create Problem Set (Completed)

The screenshot displays the 'Create Problem Set' interface in the J.O.L.T system. At the top, there are navigation buttons for HOME, PROFILE, SUPPORT, and LOG OUT, along with a (CC) icon. The main heading is 'Create Problem Set'. Below this, there are three panels for selecting problem pools: Private Pool, Course Pool, and Global Pool. The Private Pool panel shows three selected problems: Boolean Logic, Return 5, and Return 100. The Course Pool and Global Pool panels show 'No matching records found'. A central success message box states 'Success Problem Set Has Been Created.' Below this, a blue button labeled 'ADD TO PROBLEM SET' is visible. To the left, there are input fields for 'Set Name: Test', 'Set Category: Practice', and 'Set Description: Test'. To the right, the summary shows 'Total Points: 0' and 'Number of Problems: 3'. A list of the added problems is shown at the bottom right, each with its name and a 'Point Value' of 0.

Showing 1 to 3 of 3 entries
Private Pool
Select Problem name ▾
 Boolean Logic
 Return 5
 Return 100
Show 10 ▾ entries

Showing 0 to 0 of 0 entries
Course Pool
Select Problem name ▾
No matching records found
Show 10 ▾ entries

Showing 0 to 0 of 0 entries
Global Pool
Select Problem name ▾
No matching records found
Show 10 ▾ entries

Success
Problem Set Has Been Created.

Denotes Problems Pending Approval

ADD TO PROBLEM SET

Set Name: Test
Set Category: Practice ▾
Test
Set Description:

Total Points: 0
Number of Problems: 3

Boolean Logic	Point Value: 0
Return 5	Point Value: 0
Return 100	Point Value: 0

This is a confirmation message showing a created Problem Set. This is an overlay dialog that will redirect to their pool management screen.

4.4.8 Edit Problem Set (Completed)

Showing 1 to 3 of 3 entries
Private Pool
Select Problem name ▾
 Boolean Logic
 Return 5
 Return 10
Show 10 ▾ entries

Showing 0 to 0 of 0 entries
Course Pool
Select Problem name ▾
No matching records found
Show 10 ▾ entries

Showing 0 to 0 of 0 entries
Global Pool
Select Problem name ▾
No matching records found
Show 10 ▾ entries

Denotes Problems Pending Approval

ADD TO PROBLEM SET

Set Name:
Set Category: Practice ▾

Set Description:

Total Points: 0
Number of Problems: 0

CREATE PROBLEM SET

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.

4.4.9 Activate/Assign Problem Set

The screenshot shows the 'Manage Assignments' page in the J.O.L.T system. At the top left is the 'J.O.L.T' logo. To its right are navigation buttons for 'HOME', 'PROFILE', 'SUPPORT', and 'LOG OUT', followed by a '(CC)' icon. The main heading is 'Manage Assignments'. Below this, there are two panels. The left panel, titled 'Active Problem Sets', contains the text 'No Active Assignments Exist for this section.' and a blue 'DEACTIVATE' button. The right panel, titled 'Inactive Problem Sets', lists three items: 'Homework 1 - 1 problems in set', 'Homework 2 - 2 problems in set', and 'Test - 3 problems in set'. A blue 'ACTIVATE' button is positioned below this list. At the bottom center, it says 'POWERED BY' followed by the '518 Interactive' logo and '© 2010'.

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. Problem Set Deactivation is also accomplished on this screen. Note that this screen is only used for manual deactivation. J.O.L.T will automatically deactivate problem sets once the expiration date and time have been passed.

4.4.10 Create Announcement

The screenshot shows the 'Create Announcement' page in the J.O.L.T application. At the top left is the 'J.O.L.T' logo. To the right are navigation buttons: 'HOME', 'PROFILE', 'SUPPORT', and 'LOG OUT', followed by '(CC)'. The main heading is 'Create Announcement'. Below this, there are four main sections: 1. 'Title:' with a text input field. 2. 'Announcement:' with a large text area. 3. 'Recipients:' with an empty list box and an 'Invert Selection' button below it. 4. 'Available Members:' with a list of names: Connor VanderBogart (S), Dale Bryant (F), Darren Lim (A), Erik Stegmann (S), and Chris Hughto (S), and an 'Invert Selection' button below it. Between the 'Recipients' and 'Available Members' sections are 'Action:' buttons: '<', '<<', '>', and '>>'. A blue 'SUBMIT' button is located at the bottom left of the form area. At the bottom center, it says 'POWERED BY 518 Interactive' and '© 2010'.

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.

4.4.11 Create Announcement (Add Recipients)

J.O.L.T HOME PROFILE SUPPORT LOG OUT (CC)

Create Announcement

Title:

Announcement:

Recipients:
Dale Bryant (F)
Darren Lim (A)
Erik Stegmann (S)
Invert Selection

Action:
<
<<
>
>>

Available Members:
Connor VanderBogart (S)
Chris Hughto (S)
Invert Selection

SUBMIT

POWERED BY 518 Interactive

© 2010

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.

4.4.12 Create Announcement (Missing Field)

The screenshot shows the J.O.L.T. interface for creating an announcement. At the top, there is a navigation bar with buttons for HOME, PROFILE, SUPPORT, and LOG OUT, along with a (CC) icon. Below this is a red error message: "Please Correct Indicated Fields". The main heading is "Create Announcement".

The form consists of several sections:

- Title:** A text input field that is empty and has a red border, indicating it is a required field that has not been filled.
- Announcement:** A text area containing the text: "New Problem Set Activated for students of CSIS-120 (All Sections)".
- Recipients:** A list box containing three names: Dale Bryant (F), Darren Lim (A), and Erik Stegmann (S). Below the list is an "Invert Selection" button.
- Action:** A set of four buttons: <, <<, >, and >>.
- Available Members:** A list box containing two names: Connor VanderBogart (S) and Chris Hughto (S). Below the list is an "Invert Selection" button.

At the bottom of the form is a blue "SUBMIT" button. Below the form is a footer that says "POWERED BY 518 Interactive" and "© 2010".

This shows an error message for a missing field when creating an announcement. This appears once the user selects the "Submit" button.

4.4.13 Create Announcement (Complete)

The screenshot displays the 'Create Announcement' interface in the J.O.L.T system. At the top, the 'J.O.L.T' logo is on the left, and navigation buttons for 'HOME', 'PROFILE', 'SUPPORT', and 'LOG OUT' are on the right, with a '(CC)' icon. The main heading is 'Create Announcement'. Below this, there are four main sections: 'Title:' with the text 'New Assignment Posted!'; 'Announcement:' with the text 'A new problems set has been activated for all sections of CSIS-120'; 'Recipients:' with a list of three names: 'Connor VanderBogart (S)', 'Erik Stegmann (S)', and 'Chris Hughto (S)'; and 'Available Members:' with a list of two names: 'Dale Bryant (F)' and 'Darren Lim (A)'. Between the 'Recipients' and 'Available Members' lists are four action buttons: '<', '<<', '>', and '>>'. Below the 'Available Members' list is an 'Invert Selection' button. A 'SUBMIT' button is located at the bottom left of the form area. A central modal window with a 'Success' title and a blue border displays the message: 'Your announcement has been sent to the selected recipients.' with a 'CLOSE' button. At the bottom of the page, it says 'POWERED BY 518 interactive' and '© 2010'.

This shows a successfully created announcement. This appears once the user selects the “Submit” button. Clicking on “Close” removes the overlay, but keeps the user at the announcement screen in case they wish to send another announcement.

4.4.14 Manage Pools

Showing 1 to 3 of 3 entries
Private Pool

Select	Problem name
<input type="checkbox"/>	Boolean Logic
<input type="checkbox"/>	Return 5
<input type="checkbox"/>	Return 100

With Selected:

Show 10 entries

Showing 1 to 10 of 16 entries
Course Pool

Select	Problem name
<input type="checkbox"/>	Boolean Logic
<input type="checkbox"/>	Return 100
<input type="checkbox"/>	Problem Name 2
<input type="checkbox"/>	Problem Name 2
<input type="checkbox"/>	Problem Name 2
<input type="checkbox"/>	Problem Name 2
<input type="checkbox"/>	Problem Name 2
<input type="checkbox"/>	Problem Name 2
<input type="checkbox"/>	Problem Name 2
<input type="checkbox"/>	Problem Name 2
<input type="checkbox"/>	Problem Name 2

With Selected:

Show 10 entries

Showing 1 to 10 of 14 entries
Global Pool

Select	Problem name
<input type="checkbox"/>	Problem Name 3
<input type="checkbox"/>	Problem Name 3
<input type="checkbox"/>	Problem Name 3
<input type="checkbox"/>	Problem Name 3
<input type="checkbox"/>	Problem Name 3
<input type="checkbox"/>	Problem Name 3
<input type="checkbox"/>	Problem Name 3
<input type="checkbox"/>	Problem Name 3
<input type="checkbox"/>	Problem Name 3
<input type="checkbox"/>	Problem Name 3

With Selected:

Show 10 entries

Denotes Problems Pending Approval

POWERED BY

This is the Pool Management screen for Course Coordinators. Clicking the “Manage Pools” button on the Section Home Page brings the user to this screen. Multiple problems can be selected at once. Problems in the private pool can be copied to the course pool. Problems in the private pool can also be removed from the pool. Note that deleting a problem from a pool does NOT remove the problem from the database.

4.4.15 Accept Private Problems to Course Pool

J.O.L.T HOME PROFILE SUPPORT LOG OUT (CC)

Pending Problems

- Boolean Logic submitted by lederman.
- Return 100 submitted by lederman.

Course Pool

No Problems exist in this pool

DENY ACCEPT

POWERED BY 518 Interactive

© 2010

Clicking the “Pending 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.

4.4.16 Create Announcement

The screenshot shows the 'Create Announcement' page in the J.O.L.T system. At the top left is the 'J.O.L.T' logo. To the right are navigation buttons for 'HOME', 'PROFILE', 'SUPPORT', and 'LOG OUT', followed by '(CC)'. The main heading is 'Create Announcement'. Below this, there are four main sections: 'Title:' with a text input field; 'Announcement:' with a large text area; 'Recipients:' with an empty list box and an 'Invert Selection' button below it; and 'Action:' with four arrow buttons (<, <<, >, >>). To the right of the action buttons is the 'Available Members:' list, which contains the following members: Connor VanderBogart (S), Dale Bryant (F), Darren Lim (A), Erik Stegmann (S), and Chris Hughto (S). Below this list is another 'Invert Selection' button. At the bottom left of the form area is a blue 'SUBMIT' button. At the bottom center, it says 'POWERED BY 518 interactive' and '© 2010'.

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.

4.4.17 Create Announcement (Add Recipients)

J.O.L.T HOME PROFILE SUPPORT LOG OUT (CC)

Create Announcement

Title:

Announcement:

Recipients:
Dale Bryant (F)
Darren Lim (A)
Erik Stegmann (S)
Invert Selection

Action:
<
<<
>
>>

Available Members:
Connor VanderBogart (S)
Chris Hughto (S)
Invert Selection

SUBMIT

POWERED BY 518 Interactive
© 2010

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.

4.4.18 Create Announcement (Missing Field)

The screenshot shows the J.O.L.T. interface for creating an announcement. At the top, there is a navigation bar with buttons for HOME, PROFILE, SUPPORT, and LOG OUT, along with a (CC) icon. Below this is a red-bordered error message: "Please Correct Indicated Fields". The main heading is "Create Announcement".

The form consists of several sections:

- Title:** A text input field that is empty and has a red border, indicating it is a required field that is missing.
- Announcement:** A text area containing the text: "New Problem Set Activated for students of CSIS-120 (All Sections)".
- Recipients:** A list box containing three names: Dale Bryant (F), Darren Lim (A), and Erik Stegmann (S). Below the list is an "Invert Selection" button.
- Action:** A set of four buttons: <, <<, >, and >>.
- Available Members:** A list box containing two names: Connor VanderBogart (S) and Chris Hughto (S). Below the list is an "Invert Selection" button.

At the bottom of the form is a blue "SUBMIT" button. Below the form is a footer that says "POWERED BY 518 Interactive" and "© 2010".

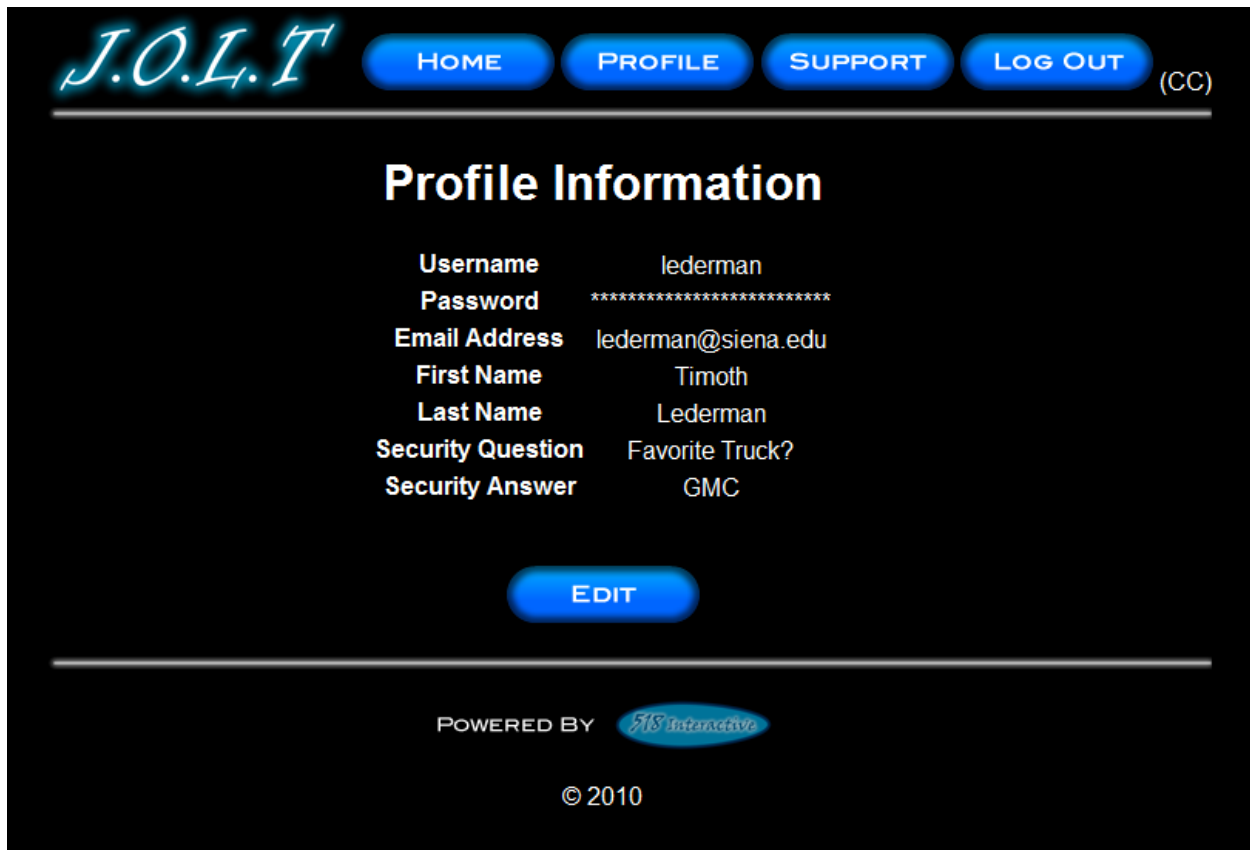
This shows an error message for a missing field when creating an announcement. This appears once the user selects the "Submit" button.

4.4.19 Create Announcement (Complete)

The screenshot displays the 'Create Announcement' interface in the J.O.L.T system. At the top, the 'J.O.L.T' logo is on the left, and navigation buttons for 'HOME', 'PROFILE', 'SUPPORT', and 'LOG OUT' are on the right, with a '(CC)' icon. The main heading is 'Create Announcement'. Below this, there are four main sections: 'Title:' with a text input field containing 'New Assignment Posted!'; 'Recipients:' with a list box containing 'Connor VanderBogart (S)', 'Erik Stegmann (S)', and 'Chris Hughto (S)'; 'Action:' with four arrow buttons (<, <<, >, >>); and 'Available Members:' with a list box containing 'Dale Bryant (F)' and 'Darren Lim (A)', and an 'Invert Selection' button. A 'SUBMIT' button is located at the bottom left. A central modal window with a 'Success' title displays the message: 'Your announcement has been sent to the selected recipients.' with a 'CLOSE' button. At the bottom, it says 'POWERED BY 518 interactive' and '© 2010'.

This shows a successfully created announcement. This appears once the user selects the “Submit” button. Clicking on “Close” removes the overlay, but keeps the user at the announcement screen in case they wish to send another announcement.

4.4.1 View Profile



The screenshot shows the 'Profile Information' page of the J.O.L.T system. At the top, there is a navigation bar with the 'J.O.L.T' logo on the left and four buttons: 'HOME', 'PROFILE', 'SUPPORT', and 'LOG OUT'. A '(CC)' icon is located to the right of the 'LOG OUT' button. Below the navigation bar, the title 'Profile Information' is centered. The profile details are listed in a table-like format:

Username	lederman
Password	*****
Email Address	lederman@siena.edu
First Name	Timoth
Last Name	Lederman
Security Question	Favorite Truck?
Security Answer	GMC

Below the profile information, there is a blue 'EDIT' button. At the bottom of the page, it says 'POWERED BY' followed by the '518 Interactive' logo and '© 2010'.

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


4.4.2 Edit Profile

J.O.L.T HOME PROFILE SUPPORT LOG OUT (CC)

Profile Information

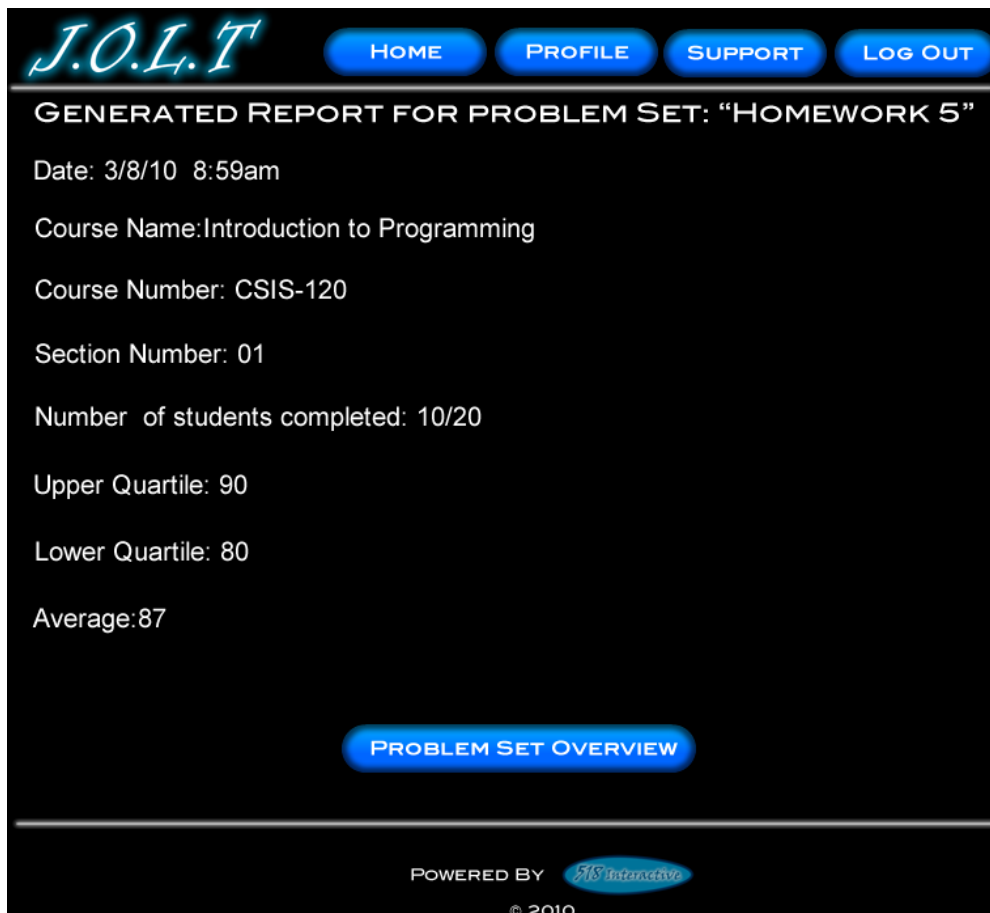
Username	lederman
Password	.....
Confirm Password	.....
Email Address	lederman@siena.edu
First Name	Timoth
Last Name	Lederman
Security Question	Favorite Truck?
Security Answer	...

SAVE CANCEL

POWERED BY  © 2010

This screen allows a Course Coordinator user to edit their profile information. The user gets here by clicking the “Edit Profile” button on the Course Coordinator Profile Page. All error checking that the student user has also exists on this screen.

4.4.3 Sample Report Format



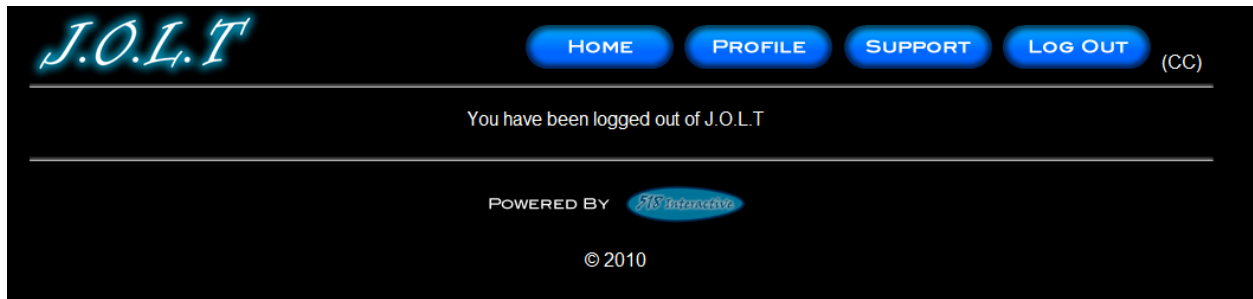
The screenshot displays a report interface for the Java Online Learning Tool (J.O.L.T). At the top left is the J.O.L.T logo. To its right are four navigation buttons: HOME, PROFILE, SUPPORT, and LOG OUT. Below these is the title "GENERATED REPORT FOR PROBLEM SET: 'HOMEWORK 5'". The report lists the following statistics:

- Date: 3/8/10 8:59am
- Course Name: Introduction to Programming
- Course Number: CSIS-120
- Section Number: 01
- Number of students completed: 10/20
- Upper Quartile: 90
- Lower Quartile: 80
- Average: 87

At the bottom of the report area is a button labeled "PROBLEM SET OVERVIEW". Below the report area, it says "POWERED BY 518 Interactive" with the 518 Interactive logo, and "© 2010" below that.

This is a sample report format that the course coordinator will see. Various statistics will be available on a per-problem basis. Statistics are tracked across multiple classes.

4.4.4 Logout



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

4.5 Administrator User

4.5.1 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.

4.5.2 Administrator User Screens

The Administrator shall have the following screens available.

4.5.3 J.O.L.T Login

ABOUT REGISTER SUPPORT

J.O.L.T
JAVA.ONLINE.LEARNING.TOOL


LOG IN

USERNAME

PASSWORD

LOG IN

RESET
PASSWORD

POWERED BY 

© 2010

This is the initial screen that the Administrator will be presented with when they navigate to J.O.L.T. It prompts for a username and password, and provides a link for forgotten password.

Note: All validation that appears on the student screens applies to this page for the Administrator. Note that the administrator account cannot get locked out.

4.5.4 Administrator Home Page

J.O.L.T (A)

HOME **PROFILE** **SUPPORT** **LOG OUT**

Announcements (None) **CREATE ANNOUNCEMENT**

Tasks:

- You have 8 problems in your sandbox
- There are 2 locked accounts
- There are 34 problems pending addition to the global pool

Courses and Sections

Fall 2010

CSIS-329 - Illogical Programming (Coordinator: [Timothy Lederman](#))

[CSIS-329-05](#)(Instructor: [Dale Bryant](#))

[CSIS-329-06](#)(Instructor: [Dale Bryant](#))

[CSIS-329-07](#)(Instructor: [Dale Bryant](#))

MANAGE POOLS

MANAGE COURSES

MANAGE SANDBOX

MANAGE USERS

CREATE PROBLEM

CREATE PROBLEM SET

POWERED BY **FIS Interactive**

© 2010

This is the home page for the Administrator. From here, they can Manage Pools, Manage Courses, Manage their Sandbox, Create a Problem, Create a Problem Set, and Create an Announcement. They can also manage all user accounts, and Create Courses and Sections.

4.5.5 Manage Users

J.O.L.T. HOME PROFILE SUPPORT LOG OUT (A)

CREATE CC CREATE FACULTY CREATE STUDENT

Unlocked Accounts

- [Connor VanderBogart \(S\)](#)
- [Dale Bryant \(F\)](#)
- [Darren Lim \(A\)](#)
- [Timoth Lederman \(CC\)](#)
- [Erik Stegmann \(S\)](#)
- [Chris Hughto \(S\)](#)

Locked Accounts

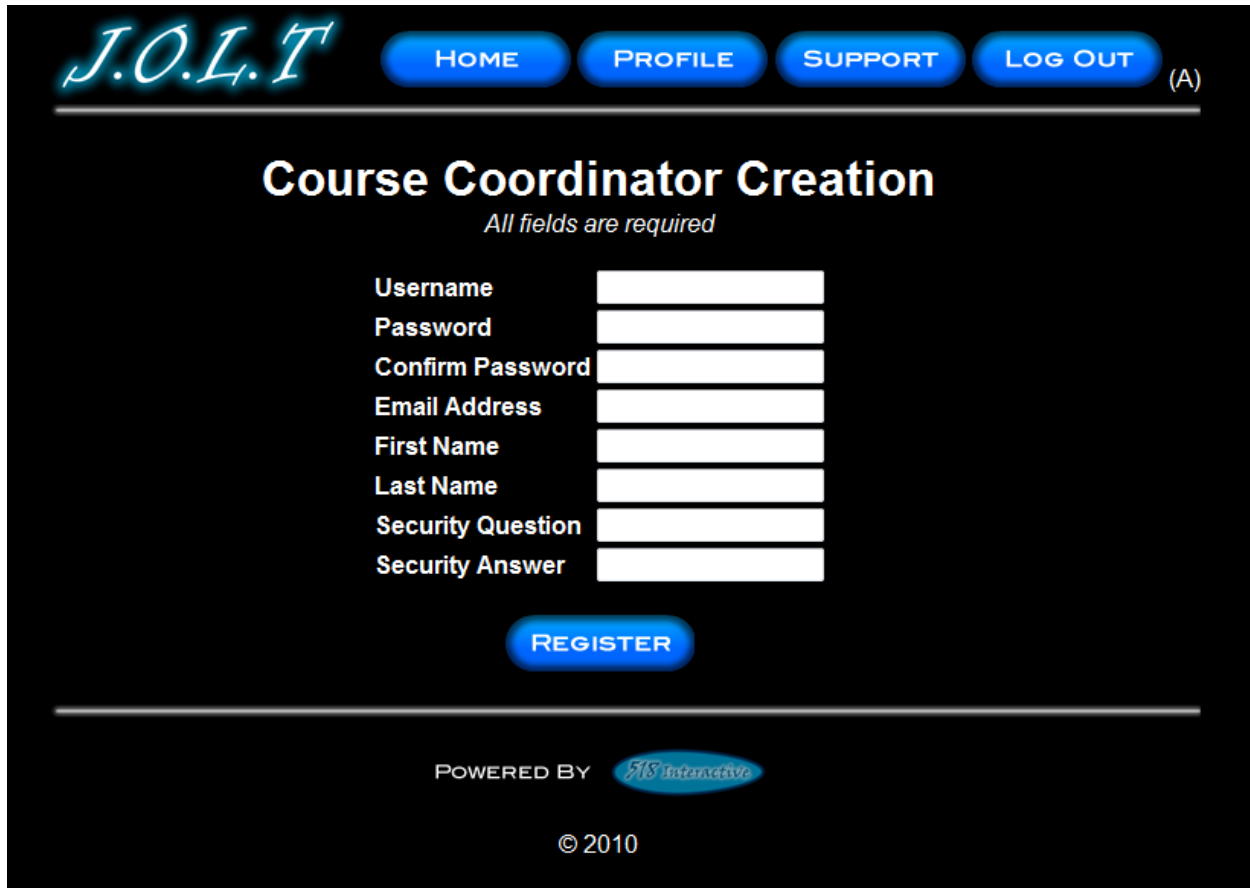
No Locked Accounts Exist

POWERED BY 518 Interactive

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

4.5.6 Create Course Coordinator



The screenshot shows a web interface for creating a Course Coordinator account. At the top left is the J.O.L.T logo in a stylized, glowing font. To its right are four blue buttons: HOME, PROFILE, SUPPORT, and LOG OUT, followed by a small '(A)' in parentheses. Below this is a horizontal line. The main heading is 'Course Coordinator Creation' in a large, bold, white font, with the subtitle 'All fields are required' in a smaller, italicized white font below it. The form consists of eight white input fields stacked vertically, each with a label to its left: Username, Password, Confirm Password, Email Address, First Name, Last Name, Security Question, and Security Answer. Below the fields is a large blue button labeled 'REGISTER'. At the bottom of the page, there is a horizontal line, followed by the text 'POWERED BY' and the 518 Interactive logo, and finally '© 2010'.

This is the screen the Administrator uses to create a Course Coordinator account. All fields are verified for correct values.

4.5.7 Create Faculty Account

J.O.L.T [HOME](#) [PROFILE](#) [SUPPORT](#) [LOG OUT](#) (A)

Faculty Creation

All fields are required

Username

Password

Confirm Password

Email Address


First Name

Last Name

Security Question

Security Answer

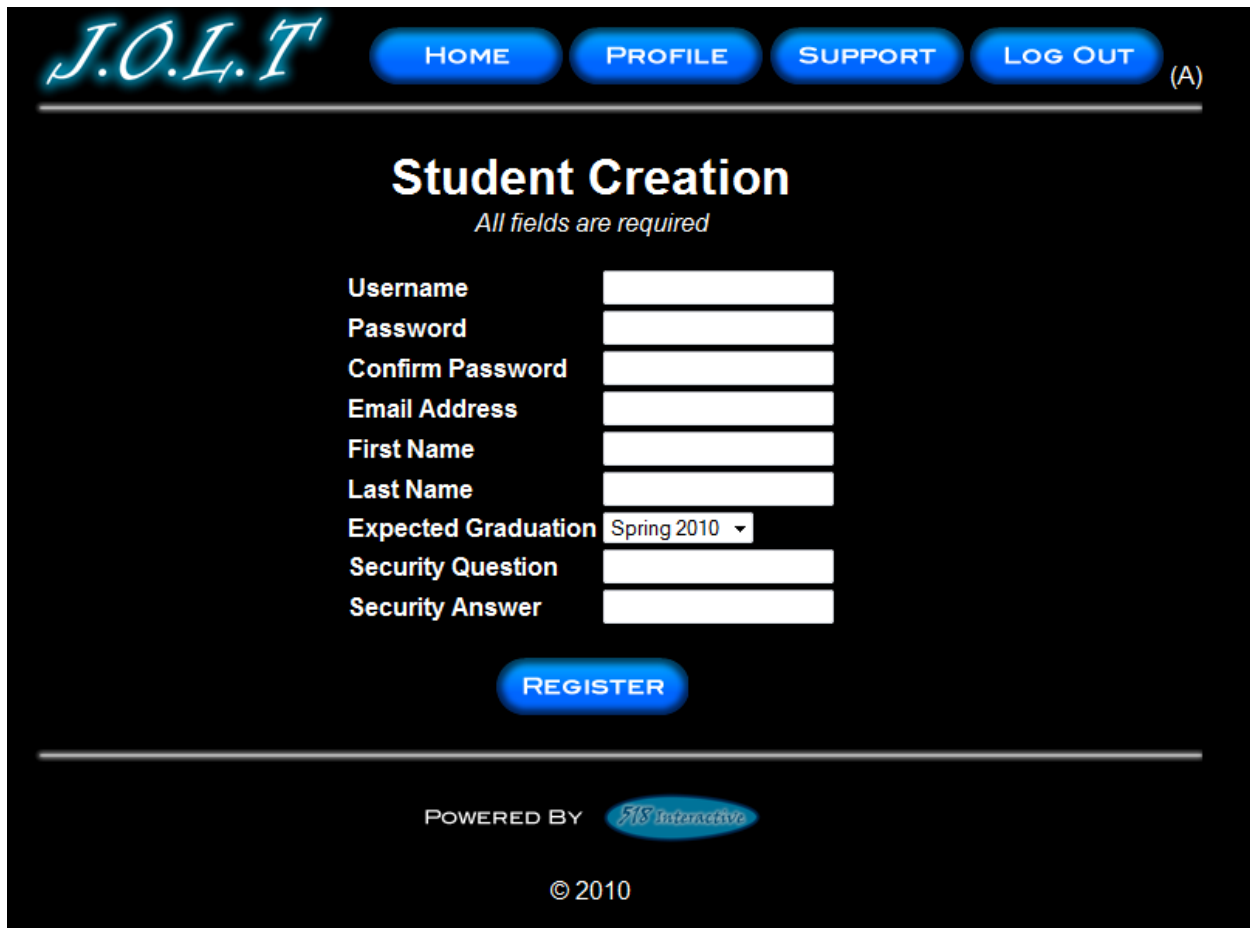
[REGISTER](#)

POWERED BY 

© 2010

This is the screen the Administrator uses to create a Faculty account. All fields are verified for correct values.

4.5.8 Create Student Account



The screenshot shows a web interface for creating a student account. At the top left is the 'J.O.L.T' logo in a stylized, glowing font. To its right are four blue buttons: 'HOME', 'PROFILE', 'SUPPORT', and 'LOG OUT'. A small '(A)' is positioned to the right of the 'LOG OUT' button. Below the navigation bar is a horizontal line. The main heading is 'Student Creation' in a large, bold, white font, with the subtitle 'All fields are required' in a smaller, italicized white font below it. The form consists of several white input fields on a black background, each with a label to its left: 'Username', 'Password', 'Confirm Password', 'Email Address', 'First Name', 'Last Name', 'Expected Graduation' (with a dropdown menu showing 'Spring 2010'), 'Security Question', and 'Security Answer'. Below the form is a large blue button labeled 'REGISTER'. At the bottom of the page, there is a horizontal line, followed by the text 'POWERED BY' and the 'FIS interactive' logo. Below that is the copyright notice '© 2010'.

This is the screen the Administrator uses to create a Student account. All fields are verified for correct values.

4.5.9 Edit User Account

J.O.L.T HOME PROFILE SUPPORT LOG OUT (A)

User Information

Username	myusername
Password	<input type="password"/>
Confirm Password	<input type="password"/>
Email Address	blah@siena.edu
First Name	Erik
Last Name	Stegmann
Security Question	What is your First Pet's N
Security Answer	••••••

Account Status: Active: Locked: Disabled:

CANCEL UPDATE

POWERED BY 518 Interactive

© 2010

This screen is the same for all user types. The administrator has the ability to update all fields for user account management.

4.5.10 Course Management

J.O.L.T (A)

HOME PROFILE SUPPORT LOG OUT

*Click on Course or Section to edit

CREATE SECTION CREATE COURSE

Courses and Sections

Fall 2010


CSIS-225 - Object Oriented Programming (Coordinator: [Timoth Lederman](#))
CSIS-225-01(Instructor: [Dale Bryant](#))

CSIS-329 - Illogical Programming (Coordinator: [Timoth Lederman](#))
CSIS-329-05(Instructor: [Dale Bryant](#))
CSIS-329-07(Instructor: [Dale Bryant](#))

Spring 2010

CSIS-225 - Object Oriented Programming (Coordinator: [Timoth Lederman](#))
CSIS-225-02(Instructor: [Dale Bryant](#))

CSIS-329 - Illogical Programming (Coordinator: [Timoth Lederman](#))
CSIS-329-06(Instructor: [Dale Bryant](#))

POWERED BY 

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Clicking on the “Manage Courses” button brings the administrator to this screen, where they can create sections, create courses, and manage existing sections and courses (by clicking on them).

4.5.11 Create Course

The screenshot shows the J.O.L.T interface with a 'Create Course' modal window open. The background is dimmed, showing navigation buttons (HOME, PROFILE, SUPPORT, LOG OUT) and a list of courses. The modal window has a title bar 'Create Course' with a close button. It contains three input fields: 'Course Number' (with example 'CSIS-120'), 'Course Name' (with example 'Introduction to Programming'), and 'Assign Course Coordinator' (a dropdown menu with 'Timoth Lederman' selected). At the bottom of the modal are two buttons: 'Create Course' and 'Close'. Below the modal, a list of courses is visible, including 'CSIS-329-07' and 'Spring 2010' section listings. The footer of the page includes 'POWERED BY SIS interactive' and '© 2010'.

This overlay allows the Administrator to create a course from the “Manage Courses” screen. The Administrator can also create sections as seen in the course coordinator screen “ Create Course Section/” All error checking applies.

4.5.12 View Gradebook

HOME PROFILE SUPPORT LOG OUT (CC)

Show 10 entries
Search:

Student	Assignment Name	Due Date	Grade
Erik Stegmann	Practice with JOLT	12/30/2009	9
Erik Stegmann	Practice with JOLT II	12/30/2009	0
Larry Gregory	Practice with JOLT	12/30/2009	90
Larry Gregory	Practice with JOLT II	12/30/2009	90

Showing 1 to 4 of 4 entries

POWERED BY 518 interactive
© 2010

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.

4.5.13 Edit Gradebook (Editing)

The screenshot shows the J.O.L.T. Gradebook interface. At the top, there are navigation buttons: HOME, PROFILE, SUPPORT, and LOG OUT, along with a (CC) icon. Below these is a search bar and a dropdown menu set to 'Show 10 entries'. The main content is a table with columns: Student, Assignment Name, Due Date, and Grade. The table contains four rows of data. An 'Update Grade' dialog box is overlaid on the table, showing details for Connor VanderBogart's grade for Homework 1. The dialog includes a 'Current Grade' field with the value 0, a 'New Grade' input field, and a 'Comments' text area. At the bottom of the dialog are 'UPDATE' and 'CANCEL' buttons.

Student	Assignment Name	Due Date	Grade
Erik Stegmann	Practice with JOLT	12/30/2009	9
Erik Stegmann			0
Larry Gregory			90
Larry Gregory			90

Update Grade ✕

**Grade Detail For:
Connor VanderBogart**

Assignment: Homework 1

Current Grade: 0
New Grade:

Comments:

UPDATE
CANCEL

This shows a user editing a student's grade. Clicking the grade opens an overlay dialog where a new grade may be entered. A comment field is also provided, but not required.

4.5.14 Create Problem

J.O.L.T HOME PROFILE SUPPORT LOG OUT (F)

Create Problem

Problem Information

Title

Category

Method Name

Description

Parameters And Test Cases

	Param 1	Param 2	Param 3	Param 4	Param 5	Result	
	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled		
Name	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>		
Type	<input type="text" value="int"/>	<input type="text" value="int"/>	<input type="text" value="int"/>	<input type="text" value="int"/>	<input type="text" value="int"/>	<input type="text" value="int"/>	Hide?
Case 1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>

Solution

Publish Your Solution

POWERED BY

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

4.5.15 Create Problem (Invalid Field)

The screenshot shows the 'Create Problem' interface in the J.O.L.T system. At the top, there is a navigation bar with 'HOME', 'PROFILE', 'SUPPORT', and 'LOG OUT' buttons. Below this is a red error message: 'Please Correct Indicated Fields'. The main form is divided into two sections: 'Problem Information' and 'Parameters And Test Cases'. In the 'Problem Information' section, the 'Title' field, 'Method Name' field, and 'Description' text area are highlighted with red boxes, indicating they contain invalid data. The 'Parameters And Test Cases' section contains a table with 5 columns (Param 1 to Param 5) and 1 column (Result). Each parameter column has an 'Enabled' checkbox and a 'Type' dropdown menu. Below the table are five rows labeled 'Case 1' through 'Case 5', each with input fields for the parameters and a 'Hide?' checkbox. At the bottom of the form, there is a 'Solution' section with a 'Publish Your Solution' checkbox and a large text area. Below the solution area are 'Save to Sandbox' and 'Create Problem' buttons. The footer of the page says 'POWERED BY 518 Interactive'.

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

4.5.16 Create Problem Compiler Error

The screenshot shows the 'Create Problem' interface in the J.O.L.T tool. The page has a dark theme with the 'J.O.L.T' logo in the top left and navigation buttons (HOME, PROFILE, SUPPORT, LOG OUT) in the top right. The main content is divided into two sections: 'Problem Information' and 'Parameters And Test Cases'.

Problem Information:

- Title: Practice Problem
- Category: Practice
- Method Name: return56
- Description: Return the number 56

Parameters And Test Cases:

	Param 1	Param 2	Param 3	Param 4	Param 5	Result	
	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled		
Name	num1						
Type	int	int	int	int	int	int	Hide?
Case 1	56					56	<input checked="" type="checkbox"/>
Case 2	56					56	<input type="checkbox"/>
Case 3							<input type="checkbox"/>
Case 4							<input type="checkbox"/>
Case 5							<input type="checkbox"/>

Compilation Errors:

```

'; expected
public static int return56(int num1){return 56}
                ^
  
```

Solution:

Publish Your Solution

```

public static int return56(int num1)
{
    return 56
}
  
```

Buttons: Save to Sandbox, Create Problem

POWERED BY 518 Interactive

This screen shows an error message pertaining to a compiler error in the Administrator member's solution code.

4.5.17 Course Coordinator Sandbox (Unpopulated)

The screenshot shows the J.O.L.T. interface with a dark background. At the top left is the logo "J.O.L.T." in a glowing blue font. To its right are four blue buttons: "HOME", "PROFILE", "SUPPORT", and "LOG OUT (F)". Below these buttons, the text reads "There are no problems in your sandbox." followed by a link "Click to go back". At the bottom, it says "POWERED BY 518 Interactive" and "© 2010".

This is the Administrator sandbox. The sandbox stores all problems that are not completed and ready for the pool.

4.5.18 Course Coordinator Sandbox (Populated)

The screenshot shows the J.O.L.T. interface with a dark background. At the top left is the logo "J.O.L.T." in a glowing blue font. To its right are four blue buttons: "HOME", "PROFILE", "SUPPORT", and "LOG OUT (F)". Below these buttons is a table with two columns: "Problem Name" and "Select". The table contains four rows, each with a problem name and a checkbox:

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

Below the table, the text reads "Click on a problem to edit it". At the bottom, there are two blue buttons: "CREATE PROBLEM" and "DELETE". At the very bottom, it says "POWERED BY 518 Interactive" and "© 2010".

Clicking a problem name in the sandbox will bring up a window to edit the problem. The user can also select a problem to and click "Delete" to remove it from their sandbox. The user can also Create Problems from this page (The problems created from that create problem screen do not necessarily mean that they will be saved in the sandbox.)

4.5.19 Edit Problem

J.O.L.T HOME PROFILE SUPPORT LOG OUT (F)

Create Problem

Problem Information

Title:

Category:

Method Name:

Description:

Parameters And Test Cases

	Param 1	Param 2	Param 3	Param 4	Param 5	Result	
	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled		
Name	<input type="text" value="lab1param1"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>		
Type	<input type="text" value="int"/>	<input type="text" value="int"/>	<input type="text" value="int"/>	<input type="text" value="int"/>	<input type="text" value="int"/>	<input type="text" value="int"/>	Hide?
Case 1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Case 5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>

Solution

Publish Your Solution

```
public static int awesomeMethod(int lab1param1)
{
}
|
```

POWERED BY JS interactive

© 2010

This is the edit problem screen that the Administrator user will see when they choose to edit a problem from their private pool, the course pool, the global pool, or the sandbox. It is simply the create problem screen populated with the information the user provided. All error checking on the Create Problem screen exists on the edit problem screen as well.

4.5.20 Create Problem Set

Showing 1 to 3 of 3 entries
Private Pool
 Select Problem name ▾
 Boolean Logic
 Return 5
 Return 100
 Show 10 ▾ entries

Showing 0 to 0 of 0 entries
Course Pool
 Select Problem name ▾
 No matching records found
 Show 10 ▾ entries

Showing 0 to 0 of 0 entries
Global Pool
 Select Problem name ▾
 No matching records found
 Show 10 ▾ entries

Denotes Problems Pending Approval

ADD TO PROBLEM SET

Set Name:
 Set Category: Practice ▾

Total Points: 0
 Number of Problems: 0

Set Description:

CREATE PROBLEM SET

This is an example of the Create Problem Set Screen. Administrators 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.

4.5.21 Create Problem Set (Error)

The screenshot shows the 'Create Problem Set' interface. At the top, there is a navigation bar with 'HOME', 'PROFILE', 'SUPPORT', and 'LOG OUT' buttons, and a '(CC)' icon. Below this is a red error message: 'Please correct indicated fields.' The main title is 'Create Problem Set'. There are three columns representing different pools: 'Private Pool', 'Course Pool', and 'Global Pool'. The 'Private Pool' shows 3 entries: 'Boolean Logic', 'Return 5', and 'Return 100'. The 'Course Pool' and 'Global Pool' both show 'No matching records found'. Below the pools is a blue 'ADD TO PROBLEM SET' button. At the bottom, there are fields for 'Set Name', 'Set Category' (set to 'Practice'), and 'Set Description'. A summary box shows 'Total Points: 0' and 'Number of Problems: 1'. A preview window shows a problem titled 'Boolean Logic' with a 'Point Value' of '0'. Red boxes highlight the 'Set Name' and 'Set Description' fields as invalid.

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

4.5.22 Create Problem Set (No Problems Added Error)

The screenshot shows the J.O.L.T interface for creating a problem set. At the top, there is a navigation bar with buttons for HOME, PROFILE, SUPPORT, and LOG OUT, along with a (CC) icon. Below the navigation bar, a red error message reads: "Please add at least one problem to the set". The main heading is "Create Problem Set".

There are three panels for selecting problems:

- Private Pool:** Shows 1 to 3 of 3 entries. A "Select Problem name" dropdown is set to "Return 5". A list of problems includes "Boolean Logic", "Return 5", and "Return 100". A "Show 10 entries" button is visible.
- Course Pool:** Shows 0 to 0 of 0 entries. A "Select Problem name" dropdown is set to "No matching records found". A "Show 10 entries" button is visible.
- Global Pool:** Shows 0 to 0 of 0 entries. A "Select Problem name" dropdown is set to "No matching records found". A "Show 10 entries" button is visible.

Below the pools, a blue button labeled "ADD TO PROBLEM SET" is present. A note below the button reads: "*Denotes Problems Pending Approval*".

At the bottom, there are input fields for "Set Name" (containing "Test") and "Set Category" (set to "Practice"). A "Problem Set Description" text area is also present. To the right, the "Total Points: 0" and "Number of Problems: 0" are displayed. A large empty box is at the bottom right.

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

4.5.23 Create Problem Set (Completed)

The screenshot displays the 'Create Problem Set' interface in the J.O.L.T system. At the top, there are navigation buttons for HOME, PROFILE, SUPPORT, and LOG OUT, along with a (CC) icon. The main heading is 'Create Problem Set'. Below this, there are three panels for selecting problem pools: Private Pool, Course Pool, and Global Pool. The Private Pool panel shows three selected problems: Boolean Logic, Return 5, and Return 100. The Course Pool and Global Pool panels show 'No matching records found'. A central success message box states 'Success Problem Set Has Been Created.' Below this, a blue button labeled 'ADD TO PROBLEM SET' is visible. To the left, there are input fields for 'Set Name: Test', 'Set Category: Practice', and 'Set Description: Test'. To the right, the summary shows 'Total Points: 0' and 'Number of Problems: 3'. A list of the added problems is shown at the bottom right, each with a point value of 0.

Showing 1 to 3 of 3 entries
Private Pool
Select Problem name ▾
 Boolean Logic
 Return 5
 Return 100
Show 10 ▾ entries

Showing 0 to 0 of 0 entries
Course Pool
Select Problem name ▾
No matching records found
Show 10 ▾ entries

Showing 0 to 0 of 0 entries
Global Pool
Select Problem name ▾
No matching records found
Show 10 ▾ entries

Success
Problem Set Has Been Created.

Denotes Problems Pending Approval

ADD TO PROBLEM SET

Set Name: Test
Set Category: Practice ▾
Test
Set Description: Test

Total Points: 0
Number of Problems: 3

Boolean Logic
Point Value: 0

Return 5
Point Value: 0

Return 100
Point Value: 0

This is a confirmation message showing a created Problem Set. This is an overlay dialog that will redirect to their pool management screen.

4.5.24 Edit Problem Set (Completed)

J.O.L.T HOME PROFILE SUPPORT LOG OUT (CC)

Create Problem Set

Showing 1 to 3 of 3 entries

Private Pool

Select Problem name

- Boolean Logic
- Return 5
- Return 100

Show 10 entries

Showing 0 to 0 of 0 entries

Course Pool

Select Problem name

No matching records found

Show 10 entries

Showing 0 to 0 of 0 entries

Global Pool

Select Problem name

No matching records found

Show 10 entries

Denotes Problems Pending Approval

ADD TO PROBLEM SET

Set Name:

Set Category: Practice

Set Description:

Total Points: 0

Number of Problems: 0

CREATE PROBLEM SET

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.

4.5.25 Activate/Assign Problem Set

J.O.L.T HOME PROFILE SUPPORT LOG OUT (CC)

Manage Assignments

Active Problem Sets
No Active Assignments Exist for this section.
DEACTIVATE

Inactive Problem Sets

- Homework 1 - 1 problems in set
- Homework 2 - 2 problems in set
- Test - 2 problems in set
- Test - 3 problems in set

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. Problem Set deactivation is also accomplished on this screen. Note that this screen is only used for manual deactivation. J.O.L.T will automatically deactivate problem sets once the expiration date and time have been passed.

4.5.26 Create Announcement

The screenshot shows the 'Create Announcement' page in the J.O.L.T application. At the top left is the 'J.O.L.T' logo. To the right are navigation buttons: 'HOME', 'PROFILE', 'SUPPORT', and 'LOG OUT', followed by '(CC)'. The main heading is 'Create Announcement'. Below this, there are four main sections: 1. 'Title:' with a text input field. 2. 'Announcement:' with a large text area. 3. 'Recipients:' with an empty list box and an 'Invert Selection' button below it. 4. 'Available Members:' with a list of members: Connor VanderBogart (S), Dale Bryant (F), Darren Lim (A), Erik Stegmann (S), and Chris Hughto (S), and an 'Invert Selection' button below it. Between the 'Recipients' and 'Available Members' sections are 'Action:' buttons: '<', '<<', '>', and '>>'. A blue 'SUBMIT' button is located at the bottom left of the form area. At the bottom center, it says 'POWERED BY JS Interactive' and '© 2010'.

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.

4.5.27 Create Announcement (Add Recipients)

J.O.L.T HOME PROFILE SUPPORT LOG OUT (CC)

Create Announcement

Title:

Announcement:

Recipients: Dale Bryant (F), Darren Lim (A), Erik Stegmann (S)

Action: < << > >>

Available Members: Connor VanderBogart (S), Chris Hughto (S)

POWERED BY 518 Interactive © 2010

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.

4.5.28 Create Announcement (Missing Field)

The screenshot shows the J.O.L.T. interface for creating an announcement. At the top, there is a navigation bar with buttons for HOME, PROFILE, SUPPORT, and LOG OUT, along with a (CC) icon. Below this is a red error message: "Please Correct Indicated Fields". The main heading is "Create Announcement".

The form consists of several sections:

- Title:** A text input field that is empty and has a red border, indicating it is a required field.
- Announcement:** A text area containing the text: "New Problem Set Activated for students of CSIS-120 (All Sections)".
- Recipients:** A list box containing three names: Dale Bryant (F), Darren Lim (A), and Erik Stegmann (S). Below the list is an "Invert Selection" button.
- Action:** A set of four buttons: <, <<, >, and >>.
- Available Members:** A list box containing two names: Connor VanderBogart (S) and Chris Hughto (S). Below the list is an "Invert Selection" button.

At the bottom of the form is a blue "SUBMIT" button. Below the form is a footer that says "POWERED BY 518 Interactive" and "© 2010".

This shows an error message for a missing field when creating an announcement. This appears once the user selects the "Submit" button.

4.5.29 Create Announcement (Complete)

The screenshot displays the 'Create Announcement' interface in the J.O.L.T system. At the top, the 'J.O.L.T' logo is on the left, and navigation buttons for 'HOME', 'PROFILE', 'SUPPORT', and 'LOG OUT' are on the right, with a '(CC)' icon. The main heading is 'Create Announcement'. Below this, there are four main sections: 'Title:' with a text input field containing 'New Assignment Posted!'; 'Recipients:' with a list box containing 'Connor VanderBogart (S)', 'Erik Stegmann (S)', and 'Chris Hughto (S)'; 'Action:' with four arrow buttons (<, <<, >, >>); and 'Available Members:' with a list box containing 'Dale Bryant (F)' and 'Darren Lim (A)'. A 'SUBMIT' button is located at the bottom left of the form area. A 'Success' modal dialog box is centered on the screen, containing the text 'Your announcement has been sent to the selected recipients.' and a 'CLOSE' button. At the bottom of the page, it says 'POWERED BY 518 interactive' and '© 2010'.

This shows a successfully created announcement. This appears once the user selects the “Submit” button. Clicking on “Close” removes the overlay, but keeps the user at the announcement screen in case they wish to send another announcement.

4.5.30 Manage Pools

Showing 0 to 0 of 0 entries
Private Pool

Select	Problem name
No matching records found	

With Selected:
Ok
Show 10 entries

Showing 1 to 10 of 14 entries
Global Pool

Select	Problem name
<input type="checkbox"/>	Problem Name 3
<input type="checkbox"/>	Problem Name 3
<input type="checkbox"/>	Problem Name 3
<input type="checkbox"/>	Problem Name 3
<input type="checkbox"/>	Problem Name 3
<input type="checkbox"/>	Problem Name 3
<input type="checkbox"/>	Problem Name 3
<input type="checkbox"/>	Problem Name 3
<input type="checkbox"/>	Problem Name 3
<input type="checkbox"/>	Problem Name 3

With Selected:
Ok
Show 10 entries

Denotes Problems Pending Approval

POWERED BY 518 interactive

This is the pool management screen for the administrator user. Clicking the “Manage Pools” button on the Section Home Page brings the user to this screen. Multiple problems can be selected at once. Problems in the private pool can be copied to the global pool. Problems in the private pool can also be removed from the pool. Note that deleting a problem from a pool does NOT remove the problem from the database.

4.5.1 Accept Private/Course Problems to Global Pool



Clicking the “Pending 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.

4.5.2 View Profile

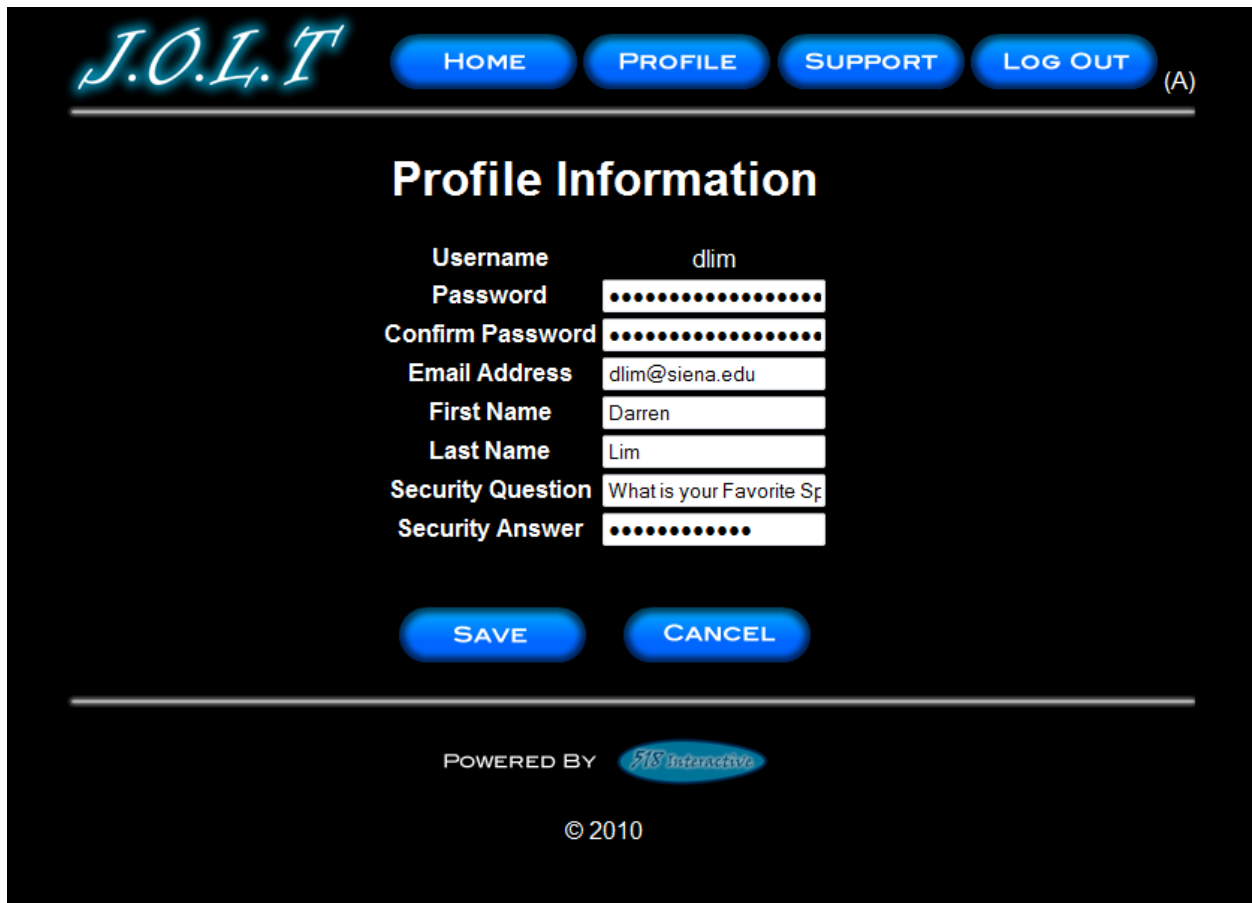
The screenshot shows the 'Profile Information' page of the J.O.L.T system. At the top, there is a navigation bar with the 'J.O.L.T' logo on the left and four buttons: 'HOME', 'PROFILE', 'Support', and 'LOG OUT'. A small '(A)' is located to the right of the 'LOG OUT' button. Below the navigation bar, the title 'Profile Information' is centered. The profile details are listed in two columns:

Username	dlim
Password	*****
Email Address	dlim@siena.edu
First Name	Darren
Last Name	Lim
Security Question	What is your Favorite Sports Team?
Security Answer	Siena Saints

Below the profile information, there is a blue 'EDIT' button. At the bottom of the page, it says 'POWERED BY' followed by the '518 Interactive' logo and '© 2010'.

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.

4.5.3 Edit Profile



The screenshot shows the 'Profile Information' edit page for the J.O.L.T. tool. At the top left is the 'J.O.L.T.' logo. To its right are four blue buttons: 'HOME', 'PROFILE', 'SUPPORT', and 'LOG OUT'. A small '(A)' is located to the right of the 'LOG OUT' button. Below the navigation bar is a horizontal line. The main heading is 'Profile Information'. The form contains the following fields:

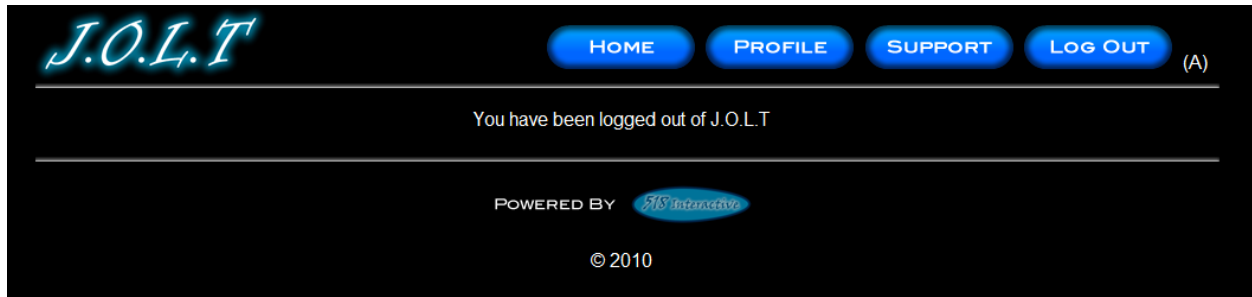
Username	dlim
Password	.....
Confirm Password	.....
Email Address	dlim@siena.edu
First Name	Darren
Last Name	Lim
Security Question	What is your Favorite Sp
Security Answer	.....

At the bottom of the form are two blue buttons: 'SAVE' and 'CANCEL'. Below the form is another horizontal line. At the very bottom, it says 'POWERED BY' followed by the '518 Interactive' logo and '© 2010'.

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.

All error checking for previous users for this screen applies to the Administrator.

4.5.4 Logout



This screen shows the Administrator who has just logged out of J.O.L.T by clicking the Logout button in the header.

4.6 Logical Data Stores

The logical data stores are a set of tables that represent the different fields for the MySQL database. The first part of this is a tabular, text-based description, followed by a graphical representation of the tables.

4.6.1 Announcement Table

This table stores all information regarding announcements within the system.

announcement				
Field	Type	Null	Default	Comments
announcementId	int(5)	No		unique ID for each announcement
fromUser	varchar(30)	Yes	NULL	username of announcement sender
toUser	varchar(30)	Yes	NULL	username of announcement receiver
sendDate	int(20)	Yes	NULL	Timestamp of announcement
subject	varchar(50)	Yes	NULL	Subject of announcement
message	varchar(1000)	Yes	NULL	Announcement Text

4.6.2 Assignment Table

This table lists all assignments (past and current) for all courses in the system.

assignment				
Field	Type	Null	Default	Comments
<u>assignmentId</u>	int(9)	No		Unique id for each assignment
assignmentName	varchar(30)	Yes	NULL	Name of Assignment
beginOn	int(20)	Yes	NULL	timestamp of when problem should be activated
endOn	int(20)	Yes	NULL	timestamp of when problem should be deactivated
problemSet	int(9)	Yes	NULL	id of problem set that the assignment refers to
assignedTo	int(9)	Yes	NULL	Section id that assignment is assigned to

4.6.3 Course Table

This table stores course information for the system.

course				
Field	Type	Null	Default	Comments
<u>courseId</u>	int(9)	No		Unique course id for each course
courseName	varchar(30)	Yes	<i>NULL</i>	Course Name (i.e. Intro To Programming)
courseNumber	varchar(10)	Yes	<i>NULL</i>	Course Number (i.e. CSIS-010)
createdBy	varchar(30)	Yes	<i>NULL</i>	Username that created the course
managedBy	varchar(30)	Yes	<i>NULL</i>	The Course Coordinator that manages the course
poolId	int(9)	Yes	<i>NULL</i>	Id of the pool that belongs to the course

4.6.4 Enrolled Students Table

This table shows which students are enrolled in which section it also shows past and current enrollment information.

enrolledStudents				
Field	Type	Null	Default	Comments
<u>username</u>	varchar(30)	No		username of student enrolled in section
<u>sectionId</u>	int(9)	No	0	section id of section that student is enrolled in

4.6.5 Grade Log Table

This table shows all grade adjustments made by Faculty, Course Coordinators, and Administrators.

gradeLog				
Field	Type	Null	Default	Comments
<u>assignment</u>	int(9)	No		Assignment Id of changed grade
<u>faculty</u>	varchar(30)	No		Username of individual who modified grade
<u>student</u>	varchar(30)	No		Student whose grade was changed
<u>timestamp</u>	int(10)	No		Date/Time of Grade Modification
oldGrade	int(9)	No		Original grade for student.
newGrade	int(9)	No		New grade for student.
comment	varchar(100)	Yes	<i>NULL</i>	Comment of grade change (Optional, viewable by student if set)

4.6.6 Pool Table

This table contains the information for all pools in the system.

pool				
Field	Type	Null	Default	Comments
<u>poolId</u>	int(9)	No		unique id for each pool
poolType	int(1)	Yes	<i>NULL</i>	type of pool (0=sandbox, 1=private, 2=course, 3=global)
poolOwner	varchar(30)	Yes	<i>NULL</i>	userid of pool owner

4.6.7 Problem Table

This table stores all information regarding each problem of the system.

problem				
Field	Type	Null	Default	Comments
<u>problemId</u>	int(9)	No		unique id for each problem
problemName	varchar(30)	No		Name of Problem
problemCategory	varchar(30)	No		Category of problem
problemDescription	varchar(500)	No		description of problem
problemActive	int(1)	No	0	field indicating that problem is active (i.e., that it passes all checks, a valid solution is specified, etc) and can be used in a problem set.
totalAttempts	int(9)	No	0	number of times this problem has been attempted to be solved.
correctAttempts	int(9)	No	0	number of times this problem has been successfully solved.
createdOn	int(10)	No		timestamp of when the problem was created.
createdBy	varchar(30)	No		username if problem creator
methodSignature	varchar(100)	No		method signature of problem
methodName	varchar(40)	No		name of method of problem
numParameters	int(1)	No	1	number of parameters the method contain
parameters	varchar(60)	No		parameter types, in object format (Integer, Boolean, Character, etc)
numTestCases	int(2)	No		number of test cases for this problem
parm1Name	varchar(20)	Yes	NULL	Name of first parameter of problem
parm1Type	varchar(10)	Yes	NULL	Data type of first parameter of problem
parm2Name	varchar(20)	Yes	NULL	Name of second parameter of problem
parm2Type	varchar(10)	Yes	NULL	Data type of second parameter of problem
parm3Name	varchar(20)	Yes	NULL	Name of third parameter of problem
parm3Type	varchar(10)	Yes	NULL	Data type of third parameter of problem
parm4Name	varchar(20)	Yes	NULL	Name of fourth parameter of problem
parm4Type	varchar(10)	Yes	NULL	Data type of fourth parameter of problem
parm5Name	varchar(20)	Yes	NULL	Name of fifth parameter of problem
parm5Type	varchar(10)	Yes	NULL	Data type of fifth parameter of problem
resultType	varchar(10)	Yes	NULL	Data type of result of problem
solution	varchar(1000)	No		Faculty provided solution
publishSolution	int(1)	No	0	Field indicating that the solution should be published for the students to see.

4.6.8 Problem Location Table

This table links problems to pools in the system. Problems may exist in more than one pool.

problemLocation				
Field	Type	Null	Default	Comments
<u>problemId</u>	int(9)	No		Problem ID identifying a unique problem in the Problem table
<u>poolId</u>	int(9)	No		Pool ID identifying the pool that the problem resides in
status	int(1)	No	0	Status of problem (0=pending approval, 1=approved)

4.6.9 Problem Set Table

This table shows data regarding the problem sets.

problemSet				
Field	Type	Null	Default	Comments
setId	int(9)	No		Unique id for each problem set
setName	varchar(30)	Yes	NULL	Name of Problem Set
setCategory	varchar(30)	Yes	NULL	Category of Problem Set
setDescription	varchar(500)	Yes	NULL	Description of Problem Set
numProblems	int(2)	Yes	NULL	Number of Problems in problem set
problem1Id	int(9)	Yes	NULL	Id of Problem #1 in Problem set
problem1Point	int(9)	Yes	NULL	Point value for this problem
problem2Id	int(9)	Yes	NULL	Id of Problem #2 in Problem set
problem2Point	int(9)	Yes	NULL	Point value for this problem
problem3Id	int(9)	Yes	NULL	Id of Problem #3 in Problem set
problem3Point	int(9)	Yes	NULL	Point value for this problem
problem4Id	int(9)	Yes	NULL	Id of Problem #4 in Problem set
problem4Point	int(9)	Yes	NULL	Point value for this problem
problem5Id	int(9)	Yes	NULL	Id of Problem #5 in Problem set
problem5Point	int(9)	Yes	NULL	Point value for this problem
problem6Id	int(9)	Yes	NULL	Id of Problem #6 in Problem set
problem6Point	int(9)	Yes	NULL	Point value for this problem
problem7Id	int(9)	Yes	NULL	Id of Problem #7 in Problem set
problem7Point	int(9)	Yes	NULL	Point value for this problem
problem8Id	int(9)	Yes	NULL	Id of Problem #8 in Problem set
problem8Point	int(9)	Yes	NULL	Point value for this problem
problem9Id	int(9)	Yes	NULL	Id of Problem #9 in Problem set
problem9Point	int(9)	Yes	NULL	Point value for this problem
problem10Id	int(9)	Yes	NULL	Id of Problem #10 in Problem set
problem10Point	int(9)	Yes	NULL	Point value for this problem
problem11Id	int(9)	Yes	NULL	Id of Problem #11 in Problem set
problem11Point	int(9)	Yes	NULL	Point value for this problem
problem12Id	int(9)	Yes	NULL	Id of Problem #12 in Problem set
problem12Point	int(9)	Yes	NULL	Point value for this problem
problem13Id	int(9)	Yes	NULL	Id of Problem #13 in Problem set
problem13Point	int(9)	Yes	NULL	Point value for this problem
problem14Id	int(9)	Yes	NULL	Id of Problem #14 in Problem set
problem14Point	int(9)	Yes	NULL	Point value for this problem
problem15Id	int(9)	Yes	NULL	Id of Problem #15 in Problem set
problem15Point	int(9)	Yes	NULL	Point value for this problem
problem16Id	int(9)	Yes	NULL	Id of Problem #16 in Problem set
problem16Point	int(9)	Yes	NULL	Point value for this problem
problem17Id	int(9)	Yes	NULL	Id of Problem #17 in Problem set
problem17Point	int(9)	Yes	NULL	Point value for this problem
problem18Id	int(9)	Yes	NULL	Id of Problem #18 in Problem set
problem18Point	int(9)	Yes	NULL	Point value for this problem
problem19Id	int(9)	Yes	NULL	Id of Problem #19 in Problem set

problem19Point	int(9)	Yes	<i>NULL</i>	Point value for this problem
problem20Id	int(9)	Yes	<i>NULL</i>	Id of Problem #20 in Problem set
problem20Point	int(9)	Yes	<i>NULL</i>	Point value for this problem
problem21Id	int(9)	Yes	<i>NULL</i>	Id of Problem #21 in Problem set
problem21Point	int(9)	Yes	<i>NULL</i>	Point value for this problem
problem22Id	int(9)	Yes	<i>NULL</i>	Id of Problem #22 in Problem set
problem22Point	int(9)	Yes	<i>NULL</i>	Point value for this problem
problem23Id	int(9)	Yes	<i>NULL</i>	Id of Problem #23 in Problem set
problem23Point	int(9)	Yes	<i>NULL</i>	Point value for this problem
problem24Id	int(9)	Yes	<i>NULL</i>	Id of Problem #24 in Problem set
problem24Point	int(9)	Yes	<i>NULL</i>	Point value for this problem
problem25Id	int(9)	Yes	<i>NULL</i>	Id of Problem #25 in Problem set
problem25Point	int(9)	Yes	<i>NULL</i>	Point value for this problem

4.6.10 Section Table

This table shows information about each section in the system.

section				
Field	Type	Null	Default	Comments
<u>sectionId</u>	int(9)	No		Unique id for each section
semester	varchar(6)	Yes	NULL	Semester that section is active for
year	int(4)	Yes	NULL	Year that section is active for
courseId	int(9)	Yes	NULL	ID of course section belongs to
sectionName	varchar(30)	Yes	NULL	Name of section
sectionNumber	varchar(30)	Yes	NULL	Number of Section
faculty	varchar(30)	Yes	NULL	Faculty username in charge of section
coordinator	varchar(30)	Yes	NULL	Coordinator for course that section lies in.
enrollPin	varchar(10)	No		PIN for section that students use to enroll in course

4.6.11 Set Location Table

This table links problems sets to pools in the System. Problems sets may exist in more than one pool.

setLocation				
Field	Type	Null	Default	Comments
<u>setId</u>	int(9)	No		Problem Set ID identifying a unique problem in the Problem Set table
<u>poolId</u>	int(9)	No		Pool ID identifying the pool that the problem set resides in
status	int(1)	No	0	Status of problem (0=pending approval, 1=approved)

4.6.12 Solution Attempt Table

This table stores the most recent attempt for each student at solving a problem in the system.

solutionAttempt				
Field	Type	Null	Default	Comments
<u>assignmentId</u>	int(9)	No	0	Assignment ID that solution attempt belongs to.
<u>problemId</u>	int(9)	No	0	Problem ID that is being solved
<u>student</u>	varchar(30)	No		Username of student attempting a solution
timestamp	int(20)	Yes	NULL	Timestamp of last submission
code	varchar(1000)	Yes	NULL	Java Source that student used
numAttempts	int(9)	Yes	NULL	Number of attempts student has used for this particular solution
score	int(9)	Yes	NULL	Grade that student received (NULL indicates unsuccessful attempt)
comment	varchar(100)	Yes	NULL	Comment field for faculty to explain a grade change.

4.6.13 Test Case Table

This table stores a single test case for a problem in the system.

testCase				
Field	Type	Null	Default	Comments
<u>problemId</u>	int(9)	No	0	Id of problem that test case belongs to
<u>testCaseNumber</u>	int(2)	No	0	The test case number (1 – 25)
param1	varchar(100)	Yes	NULL	Data for first parameter of test case.
param2	varchar(100)	Yes	NULL	Data for second parameter of test case.
param3	varchar(100)	Yes	NULL	Data for third parameter of test case.
param4	varchar(100)	Yes	NULL	Data for fourth parameter of test case.
param5	varchar(100)	Yes	NULL	Data for fifth parameter of test case.
result	varchar(100)	Yes	NULL	Data for result of test case.
hidden	int(1)	Yes	NULL	Indicates that this is a hidden test case.


4.6.14 User Table

This table stores the information for all users in the system.


user				
Field	Type	Null	Default	Comments
<u>username</u>	varchar(30)	No		username of user
password	varchar(32)	No		md5 hash of user password
firstname	varchar(30)	No		user first name
lastname	varchar(30)	No		user last name
email	varchar(30)	No		user email address
squestion	varchar(50)	No		security question for password reset
sanswer	varchar(100)	No		security answer for password reset
gradSemester	varchar(6)	Yes	<i>NULL</i>	Graduation Semester (Spring/Fall) - Only used for students
gradYear	int(4)	Yes	<i>NULL</i>	Graduation year (20XX) - Only used for students
loginAttempts	int(1)	No	0	number of incorrect login attempts
userType	int(1)	No	0	type of user (0=student, 1=faculty, 2=course coordinator, 3=administrator)
confirmed	varchar(32)	No		This is a md5 hash of the username field concatenated with the email field. When user successfully registers, the field changes to "true"

bornOn	varchar(20)	No		timestamp of when the account was registered.
active	int(1)	No	1	field indicating status of account (1=active, 0=inactive).

4.6.15 Graphical Representation Key

Could Be Null 

1 Relationship 1

Not Null 

Many Relationship ∞


Primary Key or Foreign Key 

Table Name

 **problem** ▼

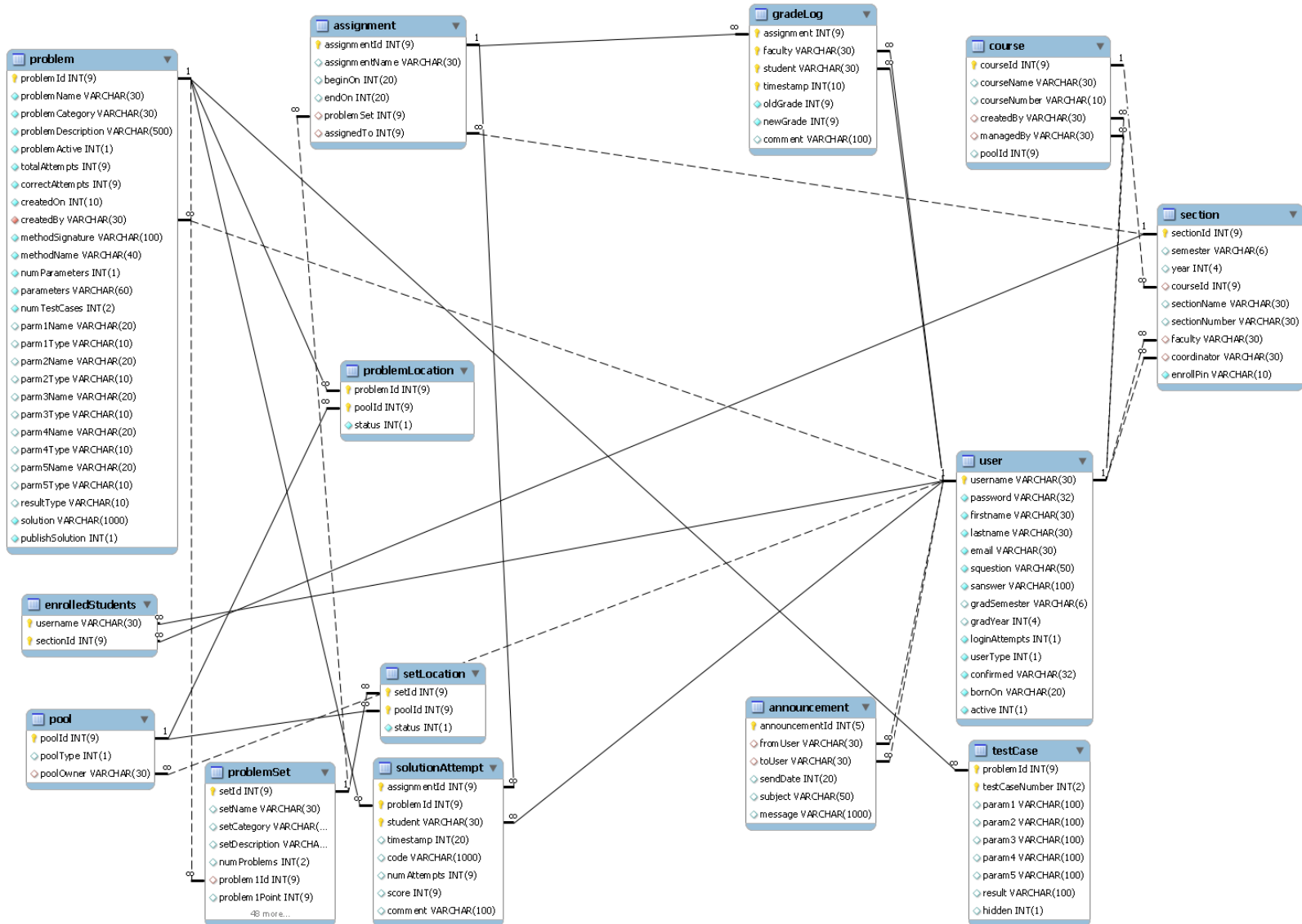
Links Primary Key to Primary Key



Link meaning at least one of the fields is not a Primary Key



4.6.16 Graphical Representation (Entity Relationship Diagram)



4.7 Packaging Specification

518 Interactive will provide all required source files and setup scripts (such as database create table statements) to the client, Dr. Lim, on a portable media device, such as a CD or DVD. Instructions on installation, setup, and configuration will also be provided.

5 Appendices

- Appendix 1: Sources of Information
- Appendix 2: Glossary of Terms
- Appendix 3: Current Timeline
- Appendix 4: Data Flow Diagrams
- Appendix 5: Activity Diagrams
- Appendix 6: Data Dictionary
- Appendix 7: Test Plan

5.1 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.

5.2 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 J.O.L.T.

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.

J.O.L.T: *Java Online Learning Tool* 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.

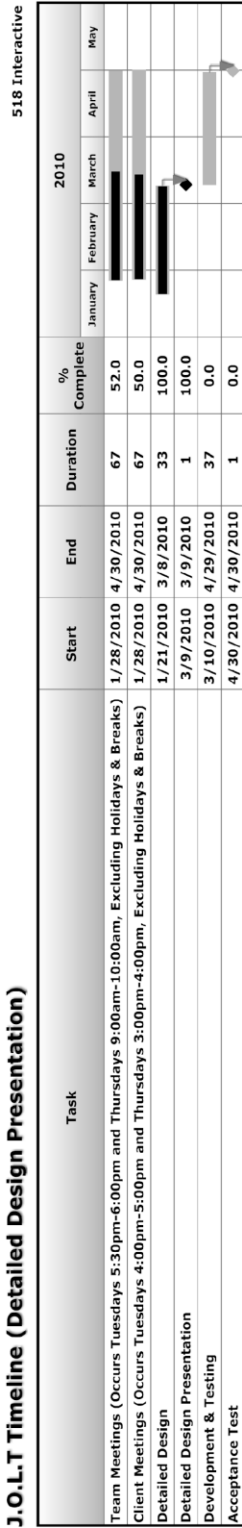
Source/Sink: This is a term used within Data Flow Diagrams to represent an entity that either provides (source) or receives (sink) data.

System: Used within this document to describe the Java Online Learning Tool (J.O.L.T).

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.

5.3 Appendix 4: Current Timeline



Key:

- ◆ Completed Milestone
- ◆ Incomplete Milestone
- █ Completed Task
- █ Incomplete Task
- ▶ Linked Task

5.4 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.

5.5 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.

5.6 Data Dictionary

The Data Dictionary lists all data entities within J.O.L.T.

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

5.7 Test Plan

The Test Plan describes the testing that will take place to verify that all the functional requirements have been met.

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