

Team Members:

Luke Greiner
Denis Kalic
Abigail McCarthy
Robert Tateo
Nguyen Truong
Patrick White

Detailed Design

Java Problem Repository & Education Platform

JPREP

Revision: 1.1
Date: 3/07/14

Table of Contents

1 Product Overview and Summary	7
2 User Case Narratives	7
2.1 Student	7
2.2 Faculty	8
2.3 Course Coordinator	8
2.4 Administrator	8
3 UML Use Case Diagram	9
3.1 UML Use Case Diagram Legend	9
3.2 UML Use Case Diagram	10
4 UML Deployment Diagram	11
5 Activity Diagram	12
5.1 Activity Diagram - Login	12
5.2 Activity Diagram – Student Gradebook	13
5.4 Activity Diagram – Faculty Gradebook	15
5.5 Activity Diagram – Answer Problem	16
6 Website Map	17
6.1 Home Page	17
6.2 Student Page	18
6.3 Faculty Page	19
6.4 Course Coordinator Page	20
6.5 Administrator Page	21
7 Data Flow Diagram	22
7.1 Data Flow Diagram Legend	22
7.2 Context Diagram	23
7.3 Level 0 Data Flow Diagram	24

7.4 Level 1 Data Flow Diagrams	25
7.4.1 Answer Problem Level 1 Data Flow Diagram	25
7.4.2 View Grade Book Level 1 Data Flow Diagram	26
7.4.3 Manage Assignments Level 1 Data Flow Diagram	27
7.4.4 Manage Users Level 1 Data Flow Diagram	28
7.4.5 Manage Users Level 1 Data Flow Diagram	29
7.4.6 Login Level 1 Data Flow Diagram	30
7.4.6 Question Pool Level 1 Data Flow Diagram	31
7.5 Level 2 Data Flow Diagrams	32
7.5.1 Add Question Level 2 Data Flow Diagram	32
7.5.2 Manage Course – Add Course Level 2 Data Flow Diagram	33
7.5.3 Manage Course – Edit Course Level 2 Data Flow Diagram	34
7.5.4 Manage Question Pool – Edit Level 2 Data Flow Diagram	35
7.5.5 Manage Question Pool – Add Question to Personal Pool Level 2 Data Flow Diagram	36
7.5.6 Manage Question Pool – Course Coordinator Level 2 Data Flow Diagram	37
7.5.7 Manage Question Pool – Faculty Level 2 Data Flow Diagram	38
7.5.7 Question Pool – Use Question Level 2 Data Flow Diagram	39
7.5.6 Manage Users – Add User Level 2 Data Flow Diagram	40
7.5.7 View Grades –Students Level 2 Data Flow Diagram	41
7.5.8 Process Grades Level 2 Data Flow Diagram	42
7.5.9 Get Individual Grades Level 2 Data Flow Diagram	43
7.5.10 Generate Results Level 2 Data Flow Diagram	44
7.6 Level 3 Data Flow Diagrams	45
7.6.1 Add Question Level 3 Data Flow Diagram	45
7.6.2 Deploy Assignment Level 3 Data Flow Diagram	46
7.6.3 Manage Course – Edit Course – Edit Section Level 3 Data Flow Diagram	47
7.6.4 Manage Course – Add Course – Edit Section Level 3 Data Flow Diagram	48
7.6.5 Manage User – Add Student User Level 3 Data Flow Diagram	49
7.6.6 Manage User – Add Faculty User Level 3 Data Flow Diagram	50
7.6.7 Manage User – Add Course Coordinator User Level 3 Data Flow Diagram	51

7.7 Level 4 Data Flow Diagrams _____	52
7.7.1 Manage Assignments – Add Test Case Information User Level 3 Data Flow Diagram _____	52
8 Hierarchy Diagram _____	53
9 Entity-Relationships Diagram and Table Relations _____	54
9.1 Entity Relationship Diagram Legend _____	54
9.2 Entity Relationship Diagram _____	55
9.3 Expanded Tables Diagram 10 Prototypes _____	56
10 Prototypes _____	57
10.1 Prototype 1: Login Screen _____	57
10.2 Prototype 2: Invalid Login Screen _____	58
10.3 Prototype 3: Logout Screen _____	59
10.4 Prototype 4: Forgot Password – Security Question _____	60
10.5 Prototype 5: Student Course View _____	61
10.6 Prototype 6: Student Assignment View _____	62
10.8 Prototype 8: Student View Profile _____	63
10.9 Prototype 9: Student Edit Profile _____	64
10.10 Prototype 10: Student Change Password View _____	65
10.11 Prototype 11: Student Course Grade Book Selection _____	66
10.12 Prototype 12: Student Grade Book View _____	67
10.13 Prototype 13: Faculty Courses _____	68
10.14 Prototype 14: Faculty Course Question Pool _____	69
10.15 Prototype 15: Faculty Create Assignment _____	70
10.16 Prototype 16: Faculty Create Problem _____	71
10.17 Prototype 17: Faculty Cancel Problem _____	72
10.18 Prototype 18: Faculty Profile _____	73
10.19 Prototype 19: Faculty Edit Profile _____	74
10.20 Prototype 20: Faculty Change Password _____	75
10.21 Prototype 21: Faculty Question Pool _____	76
10.22 Prototype 22: Faculty Personal Private Question Pool _____	77
10.23 Prototype 23: Faculty Gradebook Course selection _____	78

10.24 Prototype 24: Faculty Assignment Gradebook	79
10.25 Prototype 25: Faculty All Student Gradebook	80
10.26 Prototype 26: Faculty Single Student's Gradebook	81
10.27 Prototype 27: Faculty Edit Student's Gradebook	82
10.28 Prototype 28: Faculty Edit Student's Problem Grade	83
10.29 Prototype 29: Course Coordinator Courses	84
10.30 Prototype 30: Course Coordinator Profile	85
10.31 Prototype 31: Course Coordinator Edit Profile	86
10.32 Prototype 32: Course Coordinator Change Password	87
10.33 Prototype 33: Course Coordinator Courses' Question Pools	88
10.34 Prototype 34: Course Coordinator Course Question Pool	89
10.35 Prototype 35: Course Coordinator Create Problem	90
10.36 Prototype 36: Admin Courses	91
10.37 Prototype 37: Admin Create Course	92
10.38 Prototype 38: Admin Disable Course	93
10.39 Prototype 39: Admin Create Student	94
10.40 Prototype 40: Admin Create Faculty	95
10.41 Prototype 41: Admin Create Course Coordinator	96
10.42 Prototype 42: Admin Edit Student	97
10.43 Prototype 43: Admin Edit Faculty	98
10.44 Prototype 44: Admin Edit Course Coordinator	99
10.45 Prototype 45: Admin Manage Students	100
10.46 Prototype 46: Admin Manage Faculty	101
10.47 Prototype 47: Admin Manage Course Coordinators	102
10.48 Prototype 48: Admin Manage Accounts	103
10.49 Prototype 49: Admin Profile	104
10.50 Prototype 50: Admin Edit Profile	105
10.51 Prototype 51: Admin Course Question Pools	106
10.52 Prototype 52: Admin Course's Question Pool	107
12 Non-Functional Requirements Inventory	109

13 Testing Plan	110
13.1 Overview & Strategy	110
13.2 Exception Handling	110
13.3 Acceptance Test	110
13.4 Unit Test	110
13.5 Test Cases	110
13.6 Integration/Regression Testing	111
13.7 System Testing	111
14 Development, Operating, and Maintenance	111
Environments	111
15 Logical Data Dictionary	112
Appendices	112
Appendix A – Glossary of Terms	112
Appendix B – Project Timeline	112
Appendix C – Unit Tests	112
Appendix D– Logical Data Dictionary	112

1 Product Overview and Summary

DeltaTech's client, Dr. Darren Lim, is in need of a web based system for delivering Java programming problems to the students in the Java programming sequence. The Java Problem Repository and Education Platform (JPREP) will be utilized by Dr. Lim and other faculty members to create problems and assignments or reuse old problems from the question pool. Students will be able to write, compile, and run code within the web browser and then get immediate feedback from test cases.

2 User Case Narratives

2.1 Student

A student will login with credentials provided by the administrator. The username will be the student's Siena email address, and a password will be created by the administrator. Once logged on to JPREP, the student will have access to all enrolled courses. The student will have access to that course's assignments. Pending and past assignments will be available to view, but only pending assignments can be worked on and submitted. Through the submission process, the student's code will be compiled and validated using predetermined test cases. If the student wishes to work on the problem at a later time, the student will be able to save the code from the most recent question that the student had worked on. The student will be able to see the completion status and grade for each assignment. If the student is enrolled in more than one course, the student will be able to switch between courses as needed. Once the student wishes to end the session on JPREP, the student will be able to log out and return to the login page.

2.2 Faculty

A faculty member will login with credentials provided by the administrator. The username will be the faculty member's Siena email address, and a password will be created by the administrator. Once logged on to JPREP, a faculty member will have access to the courses that the administrator has associated with that faculty member. Once a course has been selected, the faculty member will be able to create and edit assignments. When an assignment is selected, the faculty member will be able to create, edit, and delete questions within that assignment. In addition to creating questions, the faculty member will be able to add a question to the faculty member's personal question pool. At any point, the faculty member can reuse a question from either the personal question pool or the course question pool. The faculty member will also be able to set a due date for each assignment. The faculty member will be able to see which students have completed past assignments. The faculty member will also have access to a grade book that displays which questions for each assignment students have completed. Once the faculty member wishes to end the session on JPREP, the faculty member will be able to log out and return to the login page.

2.3 Course Coordinator

A course coordinator will login with credentials provided by the administrator. The username will be the course coordinator's Siena email address, and a password created by the administrator. The course coordinator will be able to create questions for the course question pool. The purpose of the course coordinator is to deliver the same questions across all sections of a course, when multiple faculty members are teaching the same course. The course coordinator will also have the same privileges as *Faculty*.

2.4 Administrator

An administrator will be able to login with unique credentials. The administrator will be in charge of creating student and faculty accounts. The administrator will provide the unique credentials for all users. The administrator will be able to create and remove courses from JPREP. The administrator will be able to create questions for any particular course question pool. The administrator will assign courses to faculty members. The administrator will be able to enroll students into a course and lock out users who have completed or dropped the course.

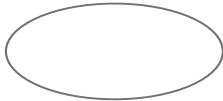
3 UML Use Case Diagram

A use case diagram is a representation of a user's interaction with the system.

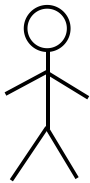
3.1 UML Use Case Diagram Legend



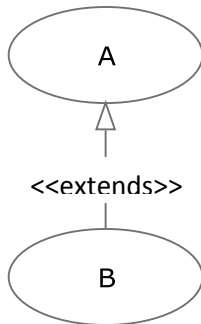
System Boundary: Contains all the Use Cases an Actor is capable of performing within JPREP.



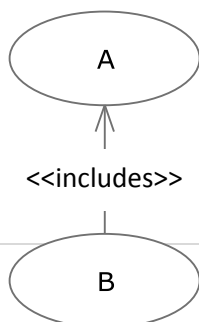
Use Case: Actions done by Actors to interact with JPREP.



Actors: Human or non-human entities that interact with JPREP through various Use Cases.



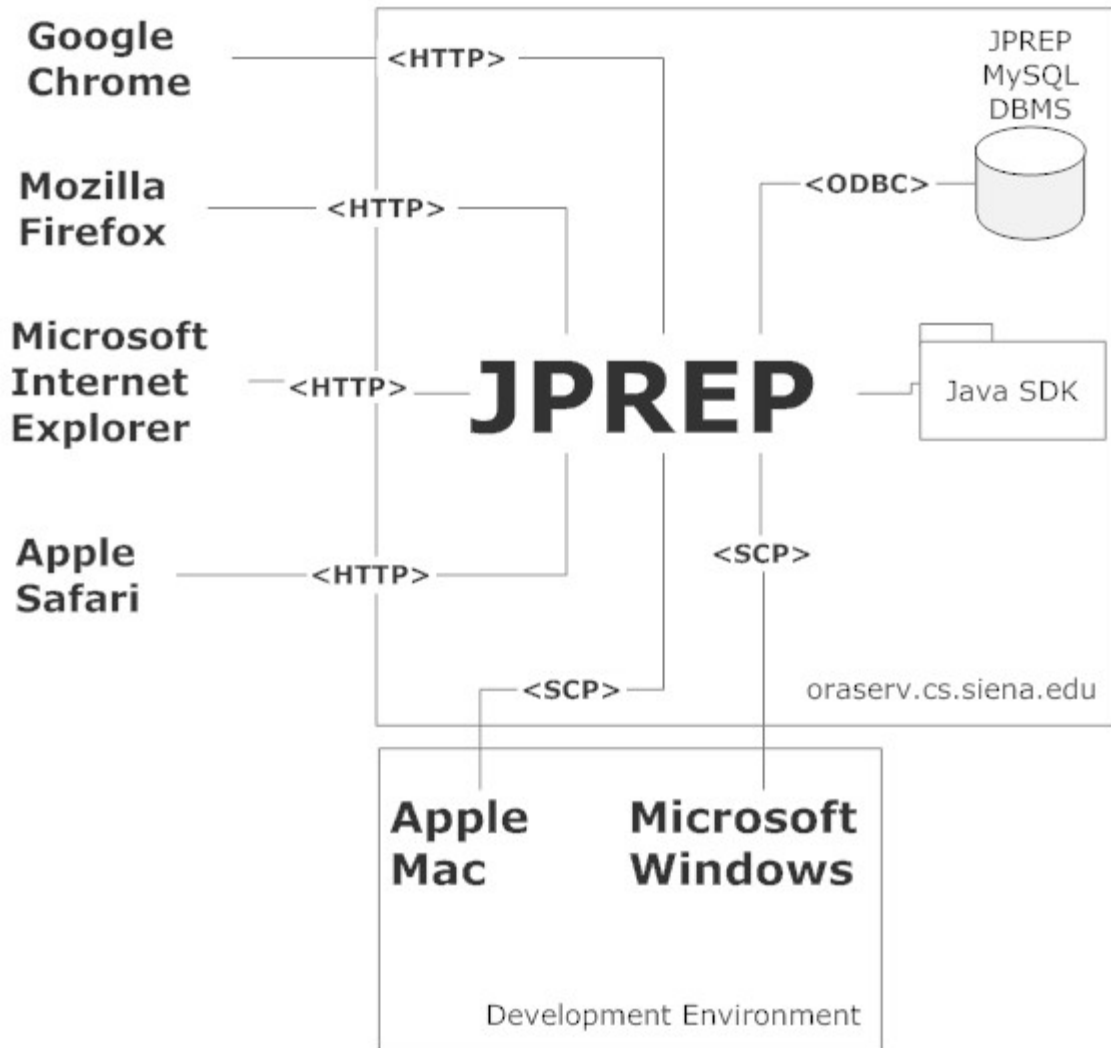
Extends Relationship: Indicates a relationship from one Use Case to another—Use Case B contains features of Use Case A.



Includes Relationship: Indicates a dependency of one Use Case on another Use Case—Use Case B requires Use Case A.

4 UML Deployment Diagram

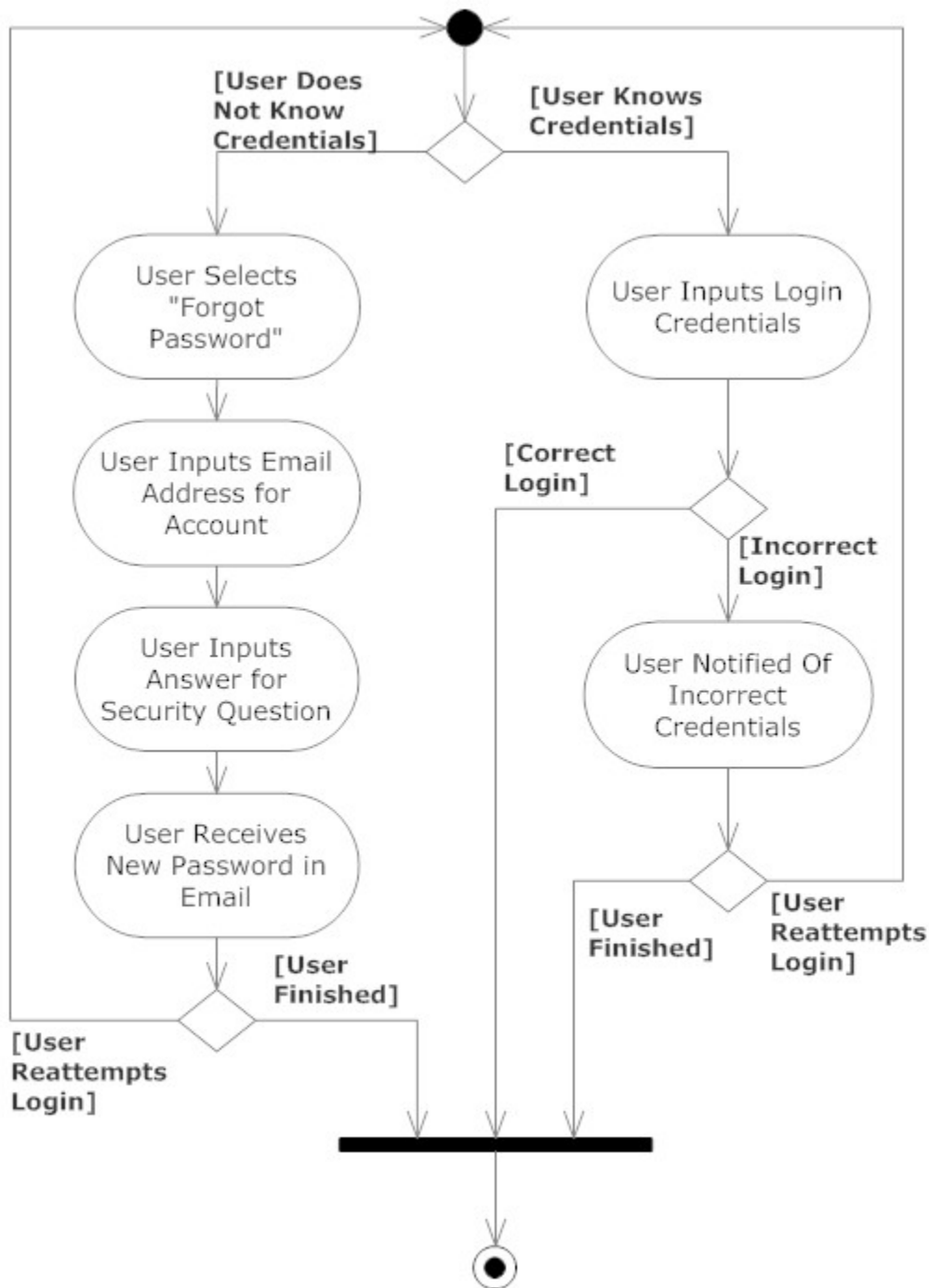
A deployment diagram models the deployment of artifacts on nodes.



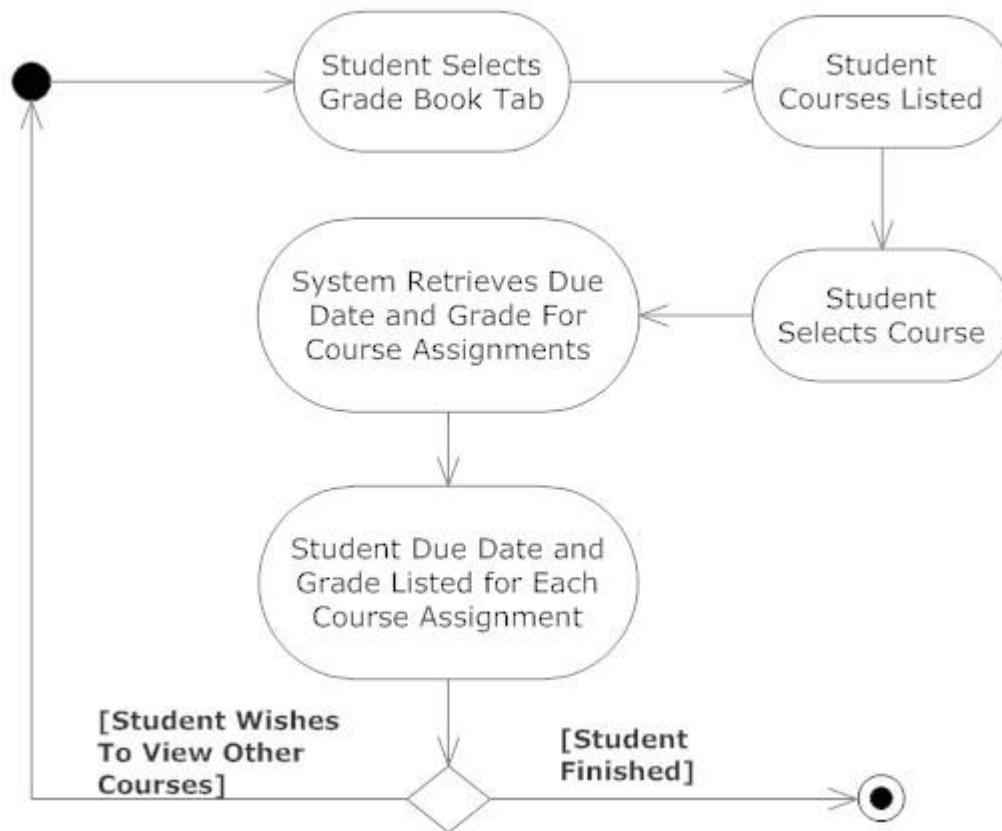
5 Activity Diagram

An activity diagram is a graphical representation of workflows of stepwise activities and actions with support for choice, iteration and concurrency.

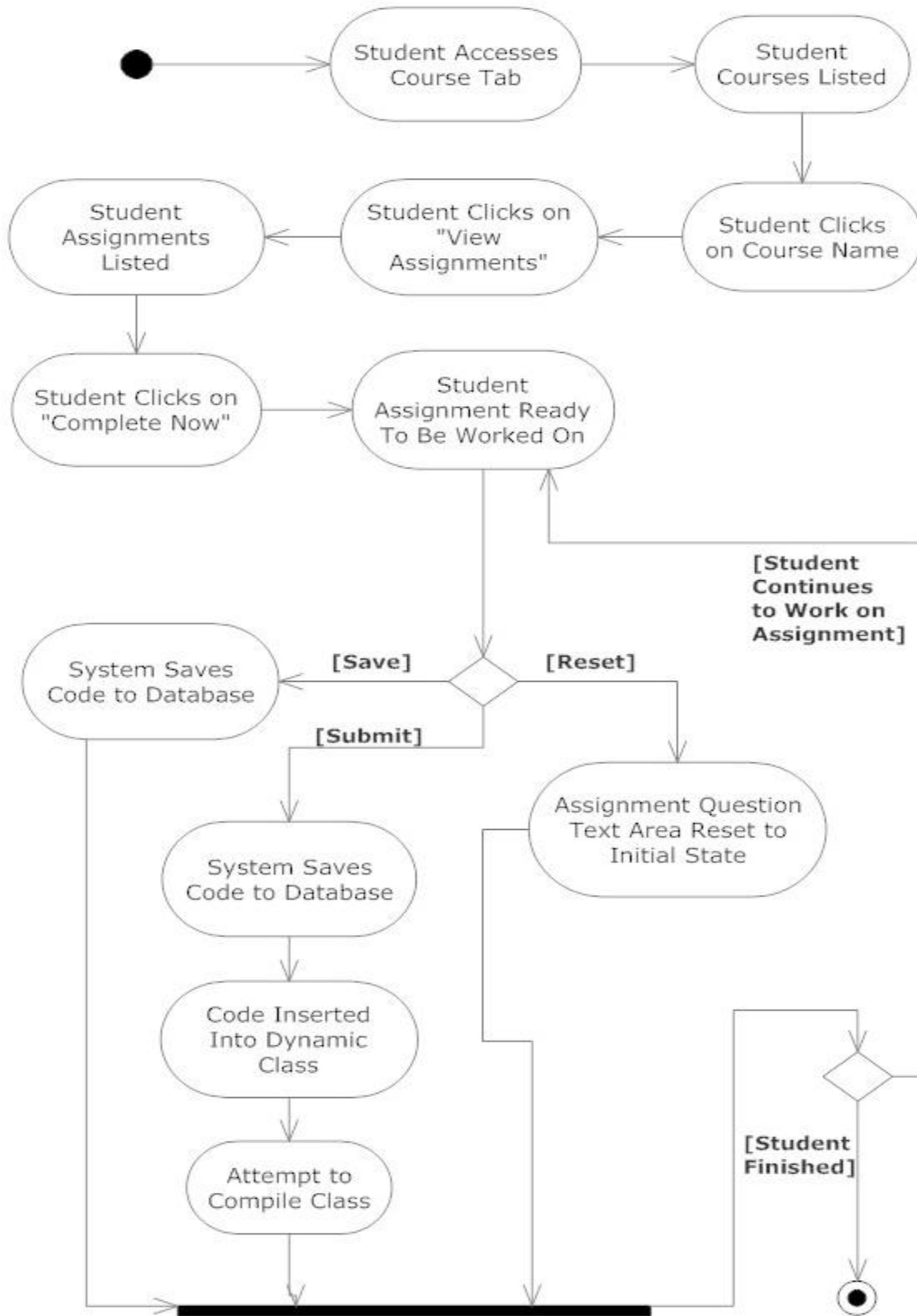
5.1 Activity Diagram - Login



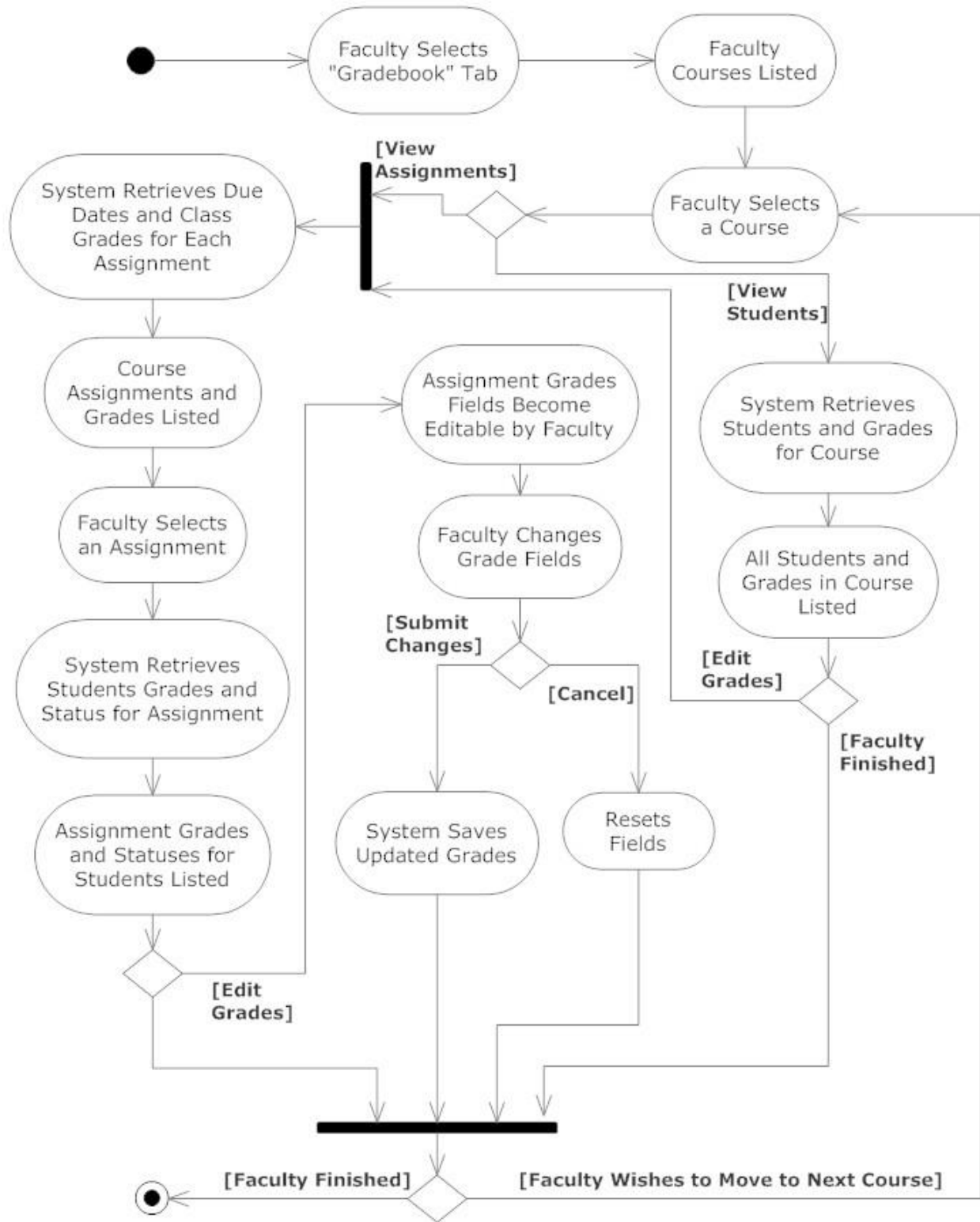
5.2 Activity Diagram – Student Gradebook



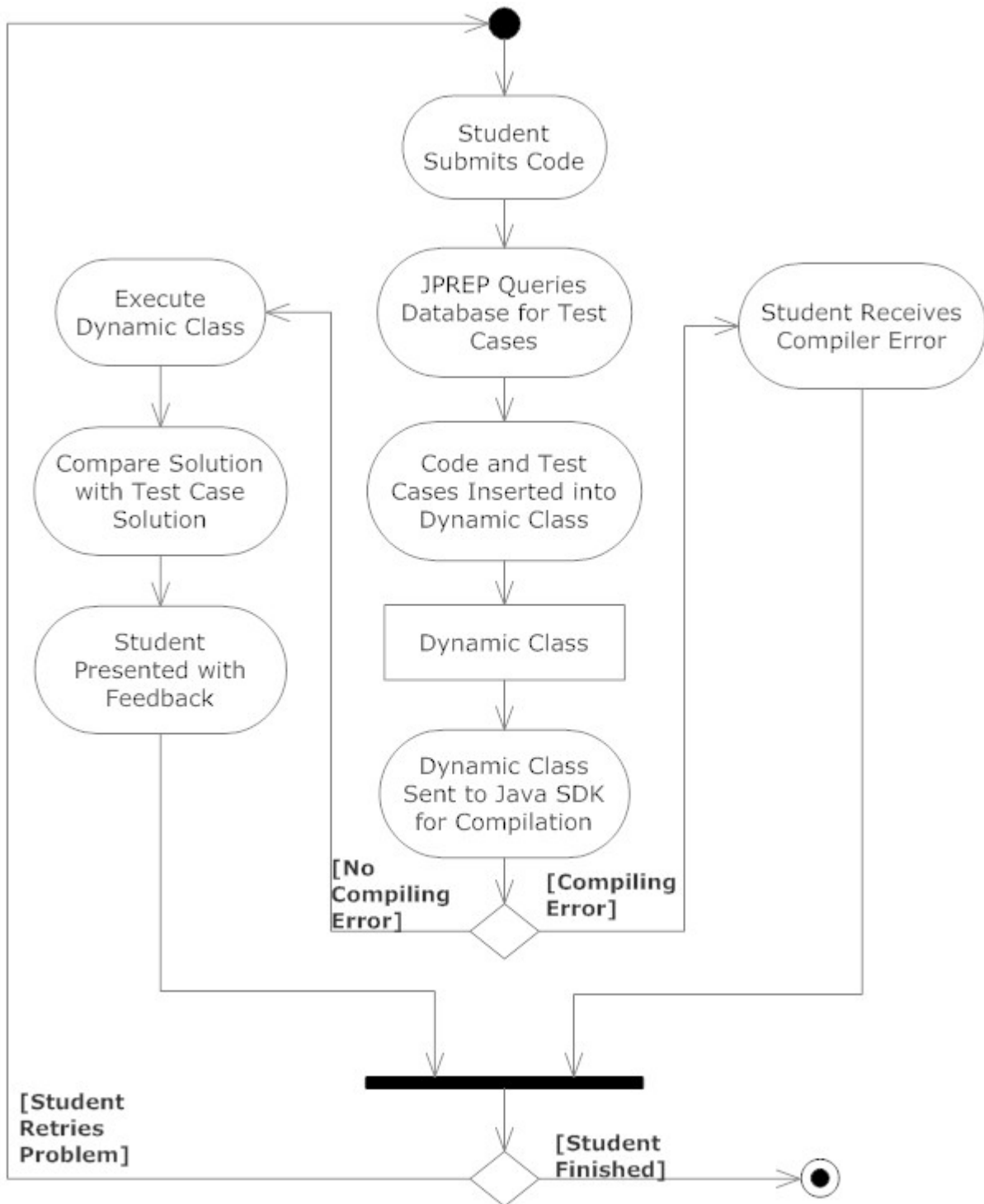
5.3 Activity Diagram – View Web Interface



5.4 Activity Diagram – Faculty Gradebook



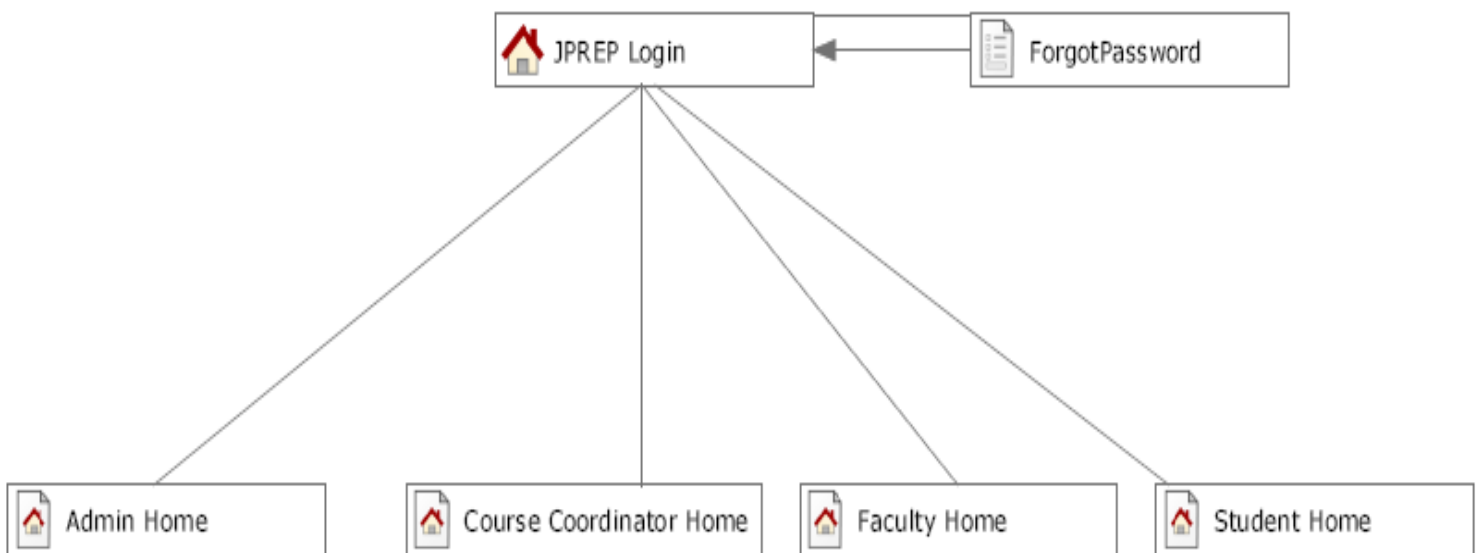
5.5 Activity Diagram – Answer Problem



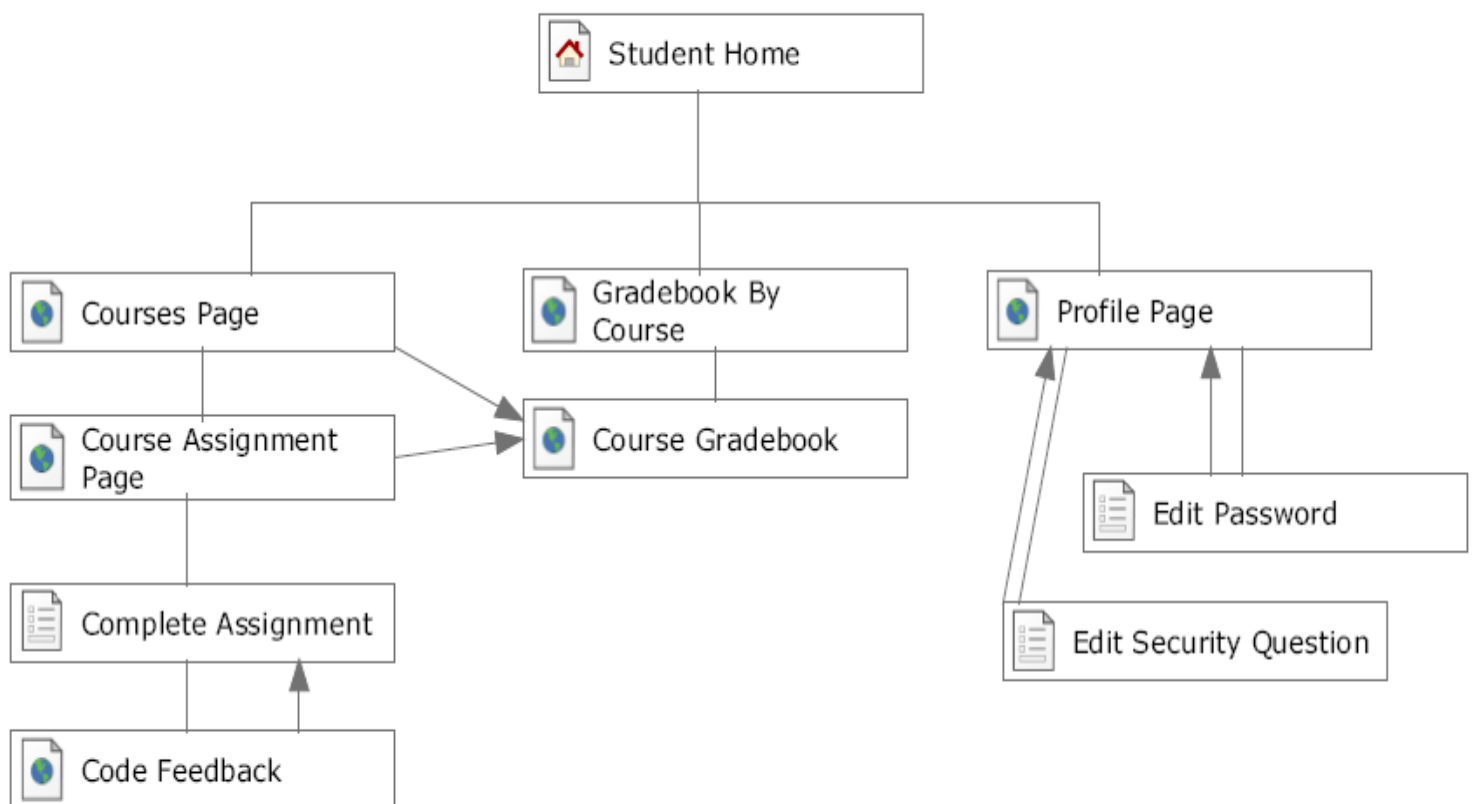
6 Website Map

The website map will show where a user can navigate to from a specific web page through a link. The boxes in the diagram represent web pages where a user can land. The links connecting each box represents a possible route to the web page.

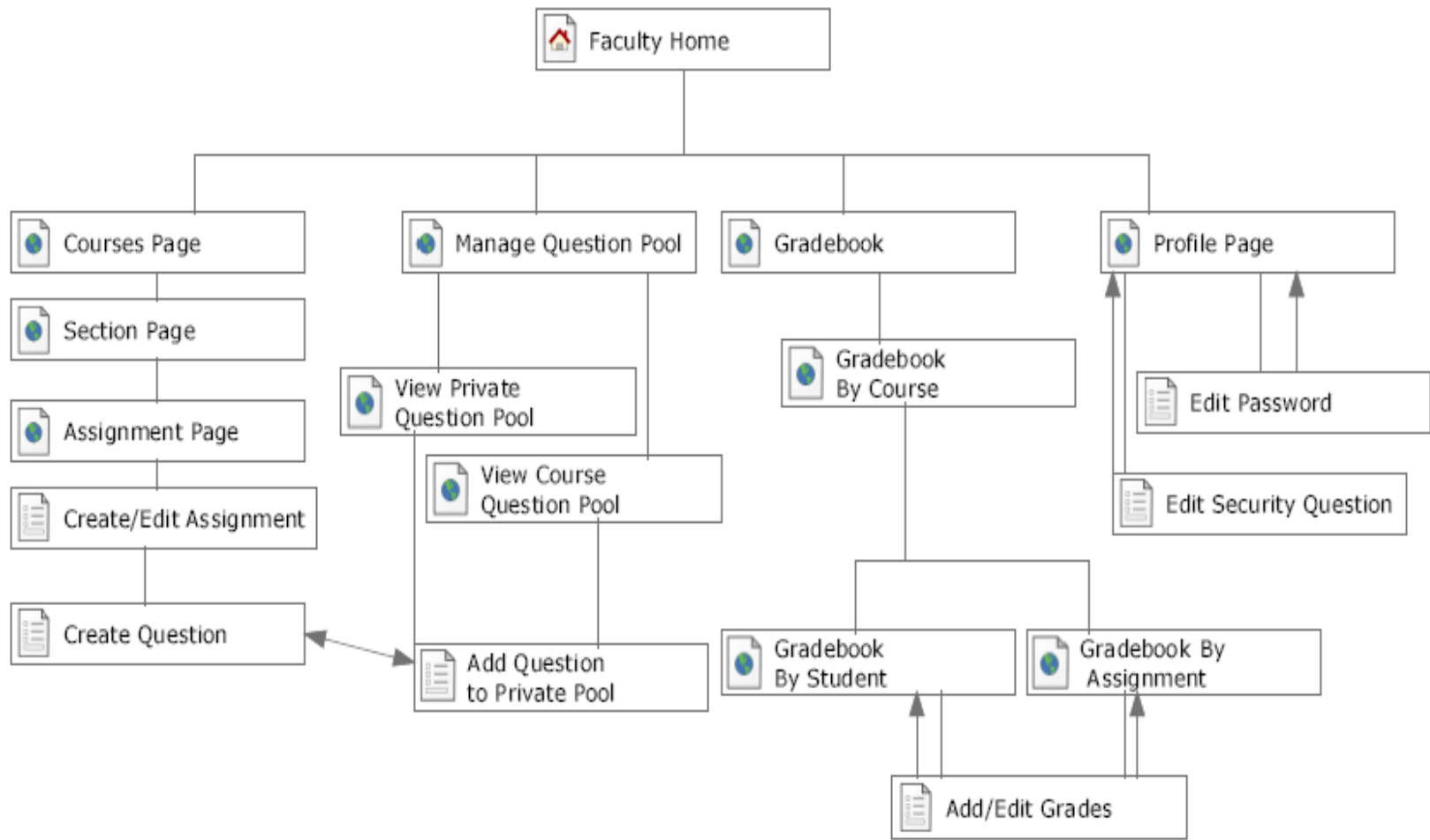
6.1 Home Page



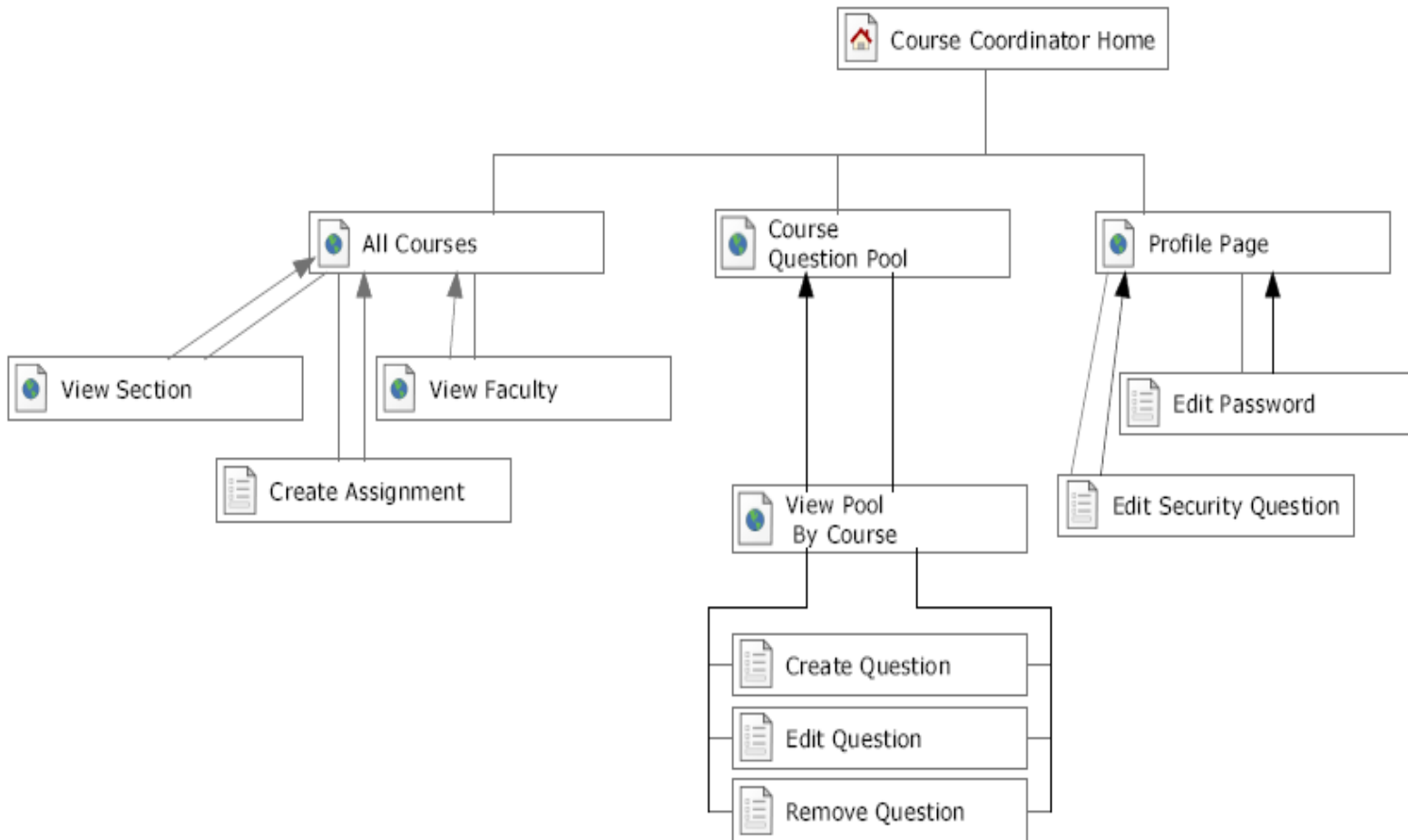
6.2 Student Page



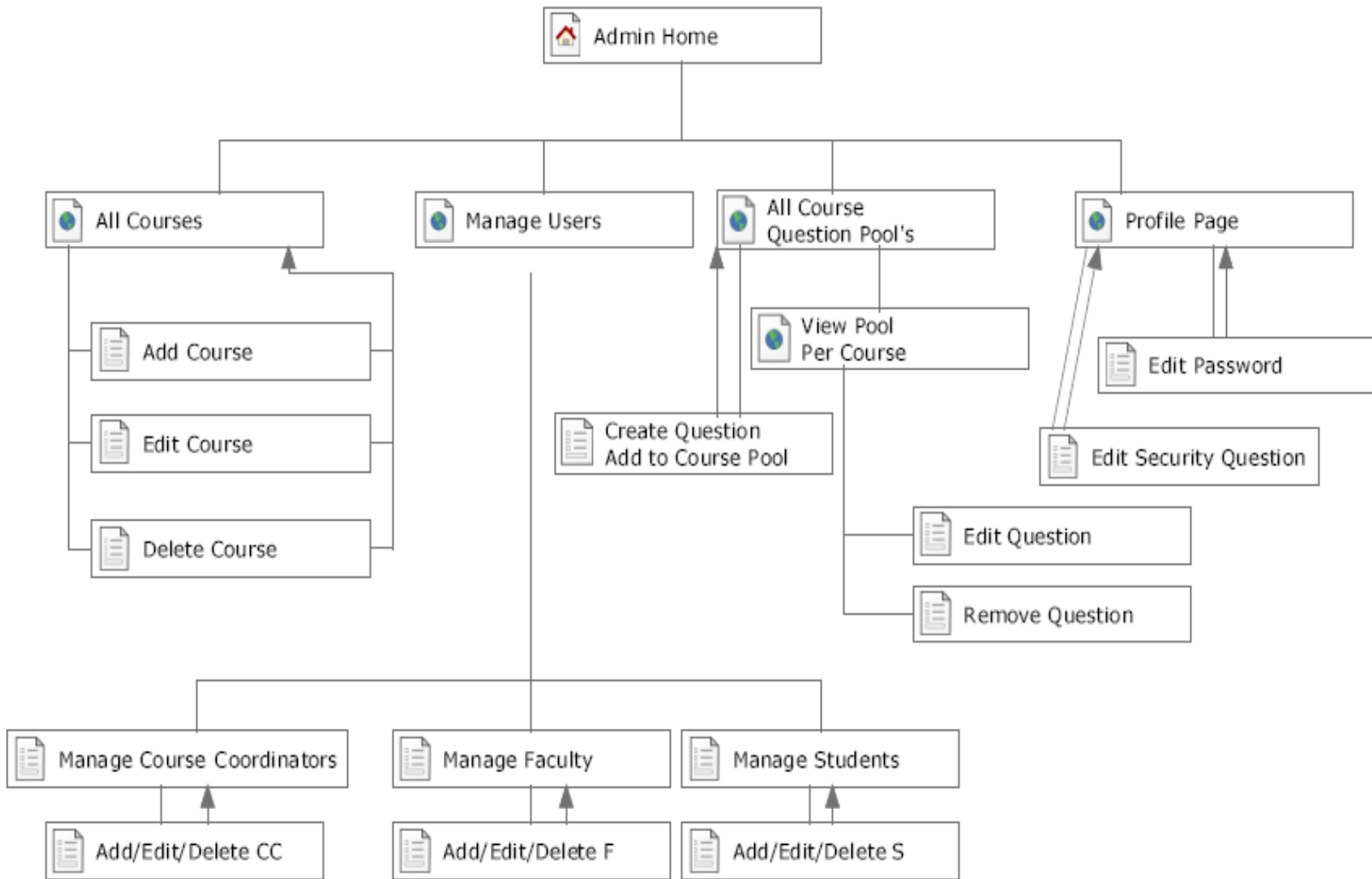
6.3 Faculty Page



6.4 Course Coordinator Page



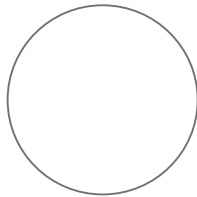
6.5 Administrator Page



7 Data Flow Diagram

A dataflow diagram is a graphical representation of the flow of data through a system.

7.1 Data Flow Diagram Legend



Process: Action where data is manipulated or transformed



Entity: A human, system, or subsystem where data goes to or originates from



Data Flow: The flow of information



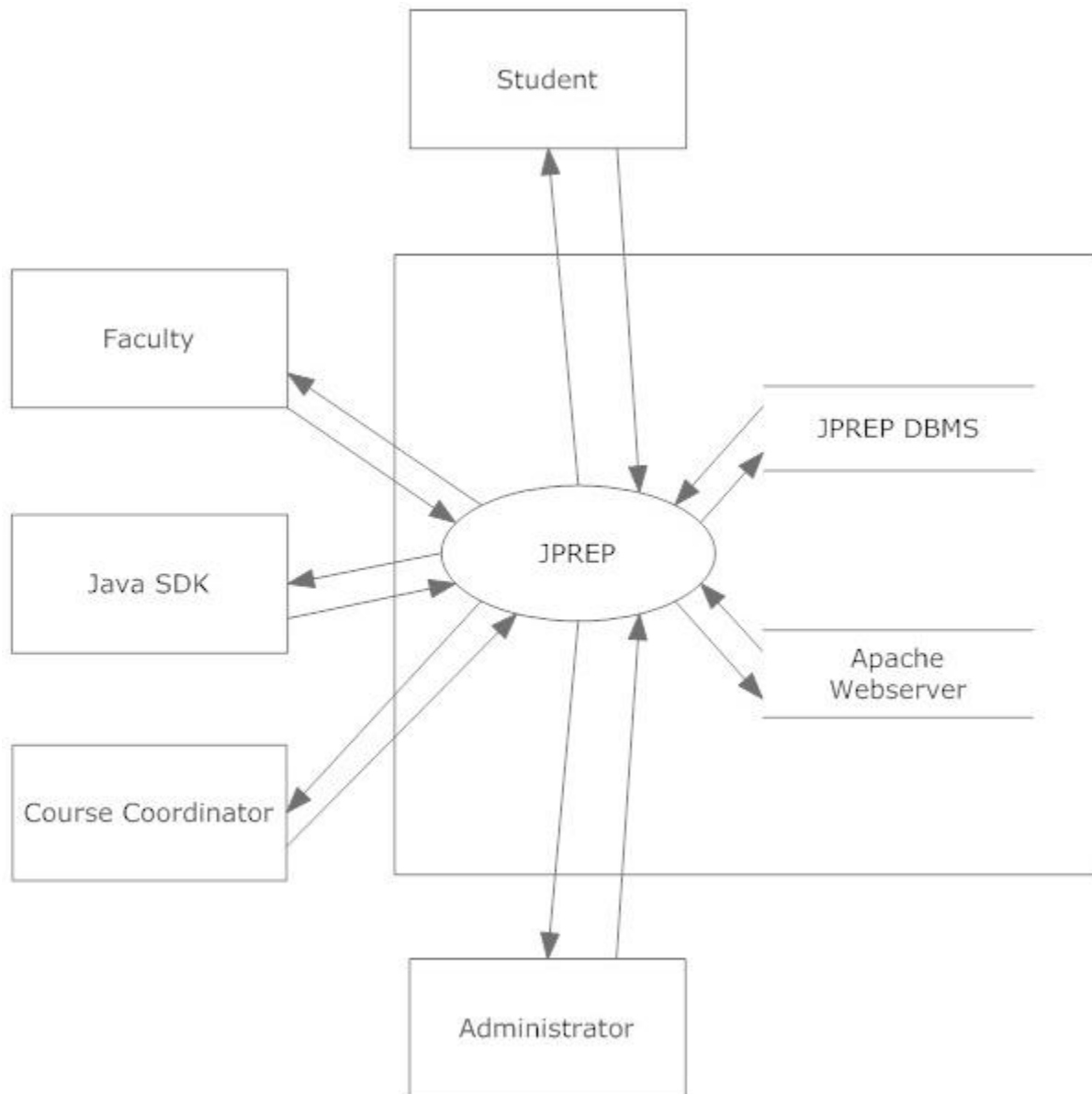
Data Store: Repository of information that is used by JPREP. Can either be contained within JPREP or be an external source of information.



System Boundary: Indicates edge of JPREP. Entities and Data Stores inside the boundary are directly controlled by JPREP and ones outside the boundary are not directly controlled by JPREP. The context diagram is the only data flow diagram that includes a system boundary.

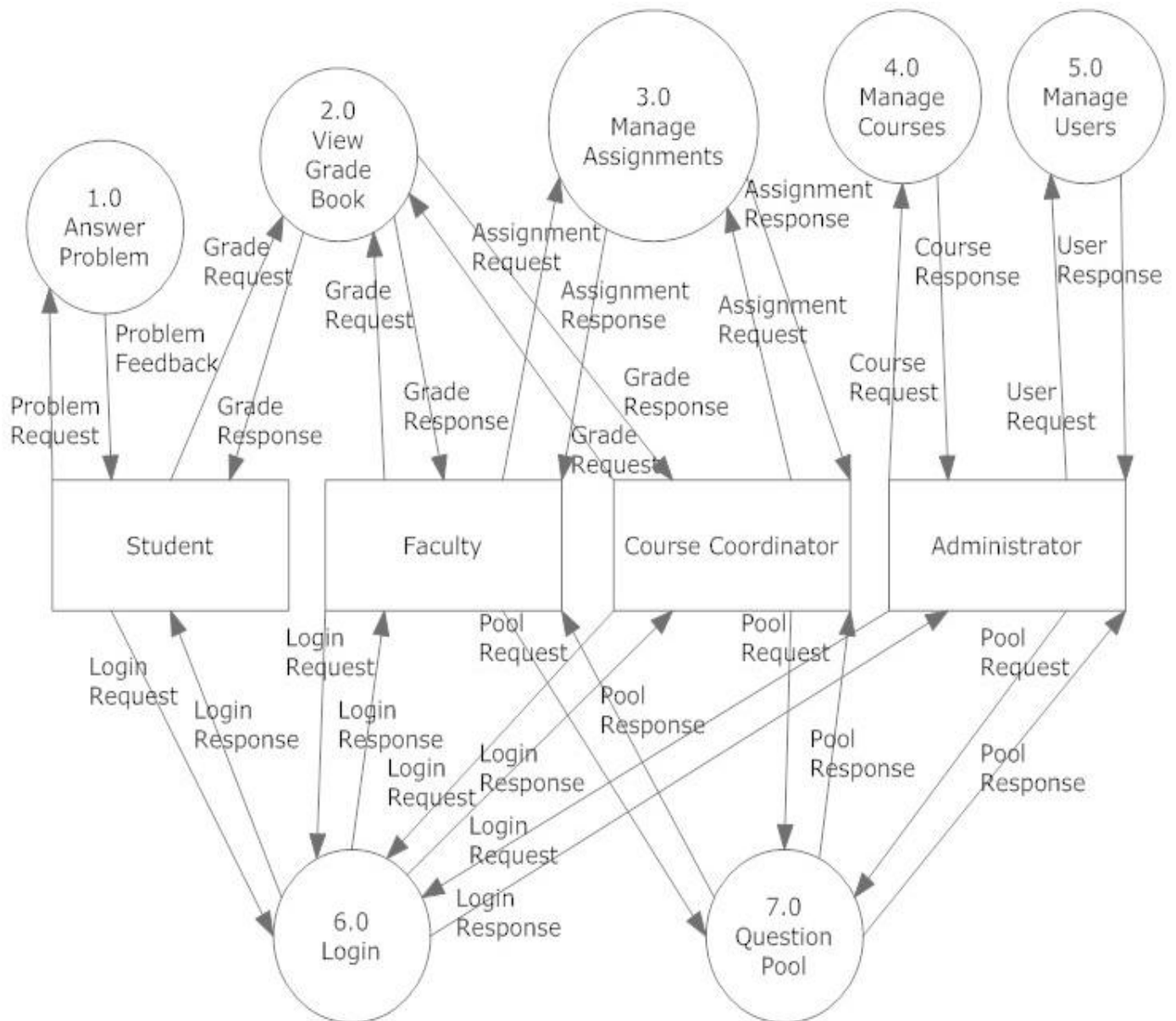
Java Problem Repository and Education Platform

7.2 Context Diagram



Java Problem Repository and Education Platform

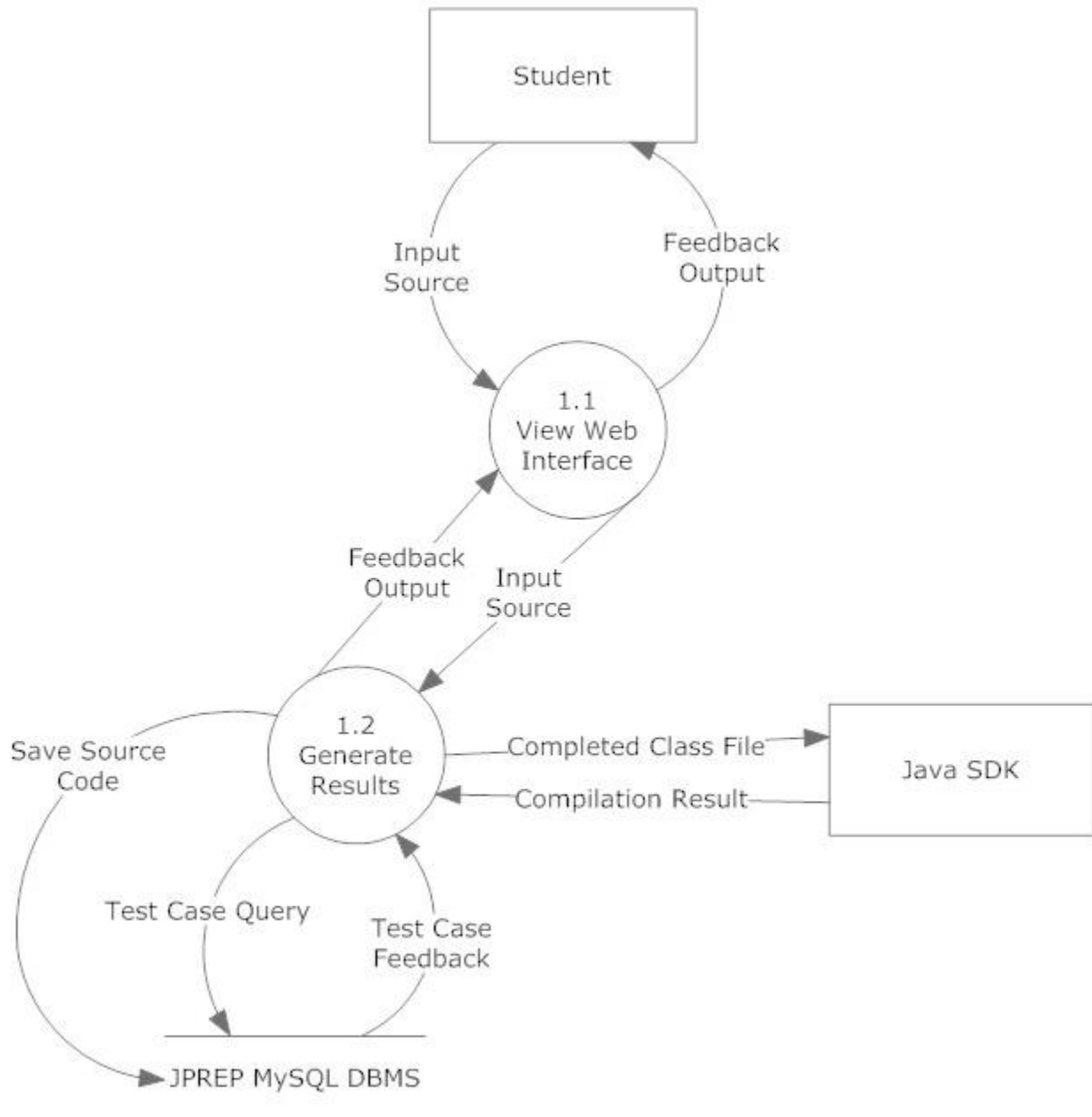
7.3 Level 0 Data Flow Diagram



7.4 Level 1 Data Flow Diagrams

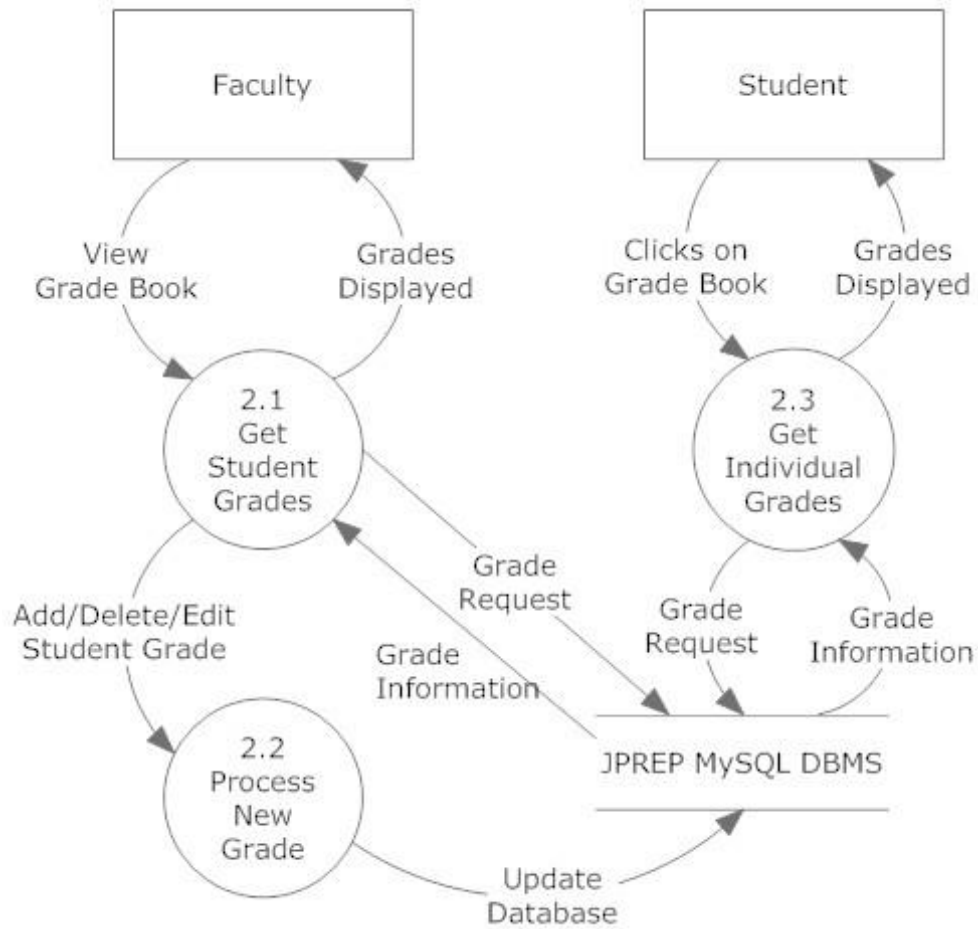
Java Problem Repository and Education Platform

7.4.1 Answer Problem Level 1 Data Flow Diagram



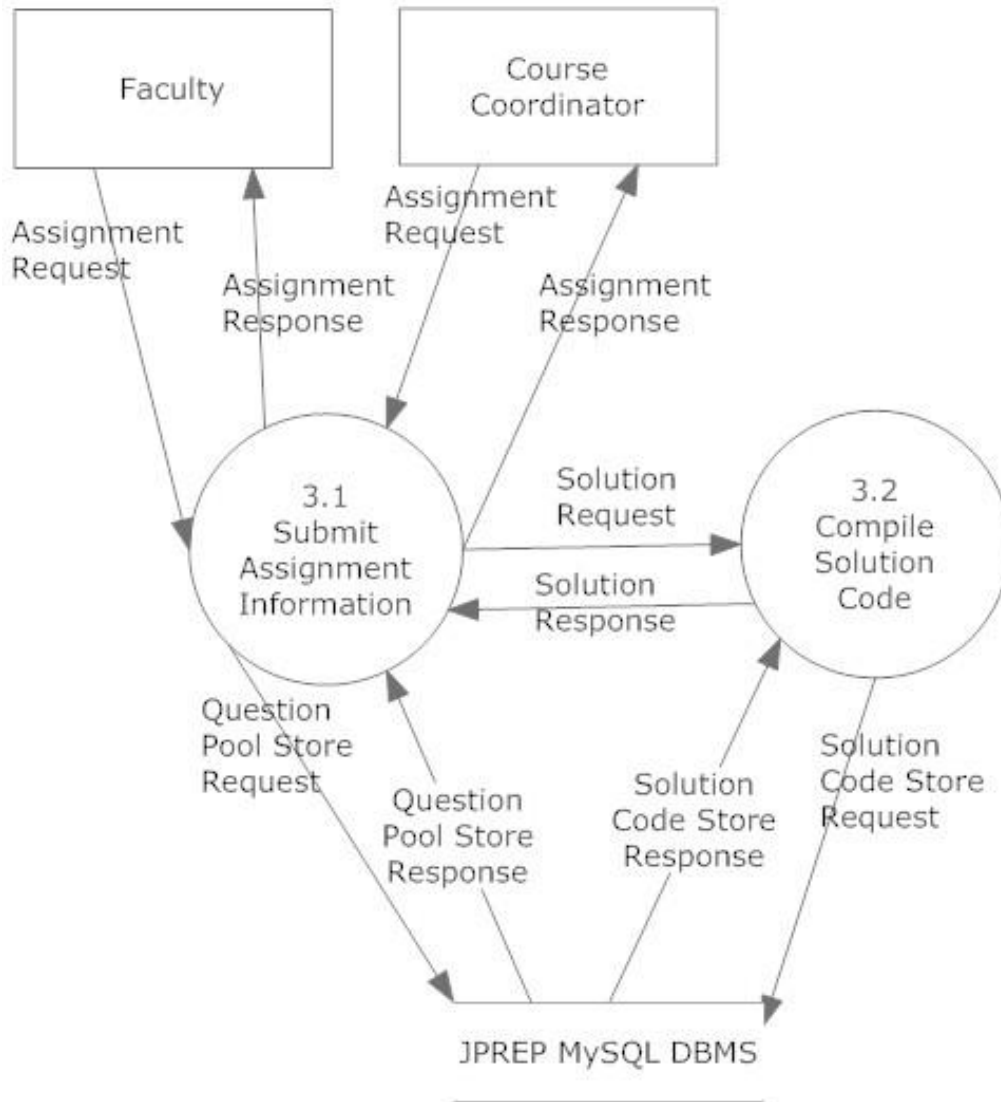
Java Problem Repository and Education Platform

7.4.2 View Grade Book Level 1 Data Flow Diagram



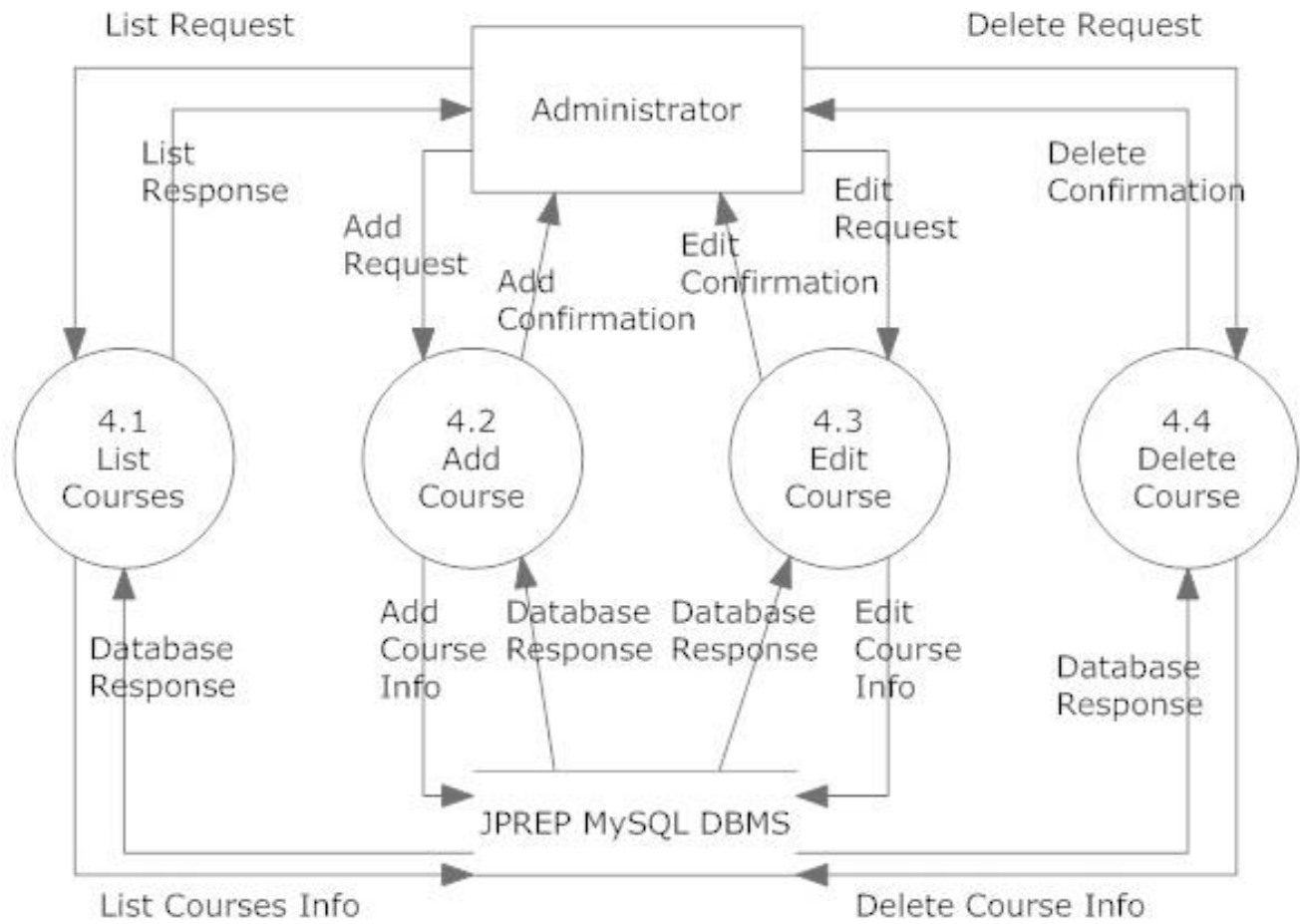
Java Problem Repository and Education Platform

7.4.3 Manage Assignments Level 1 Data Flow Diagram



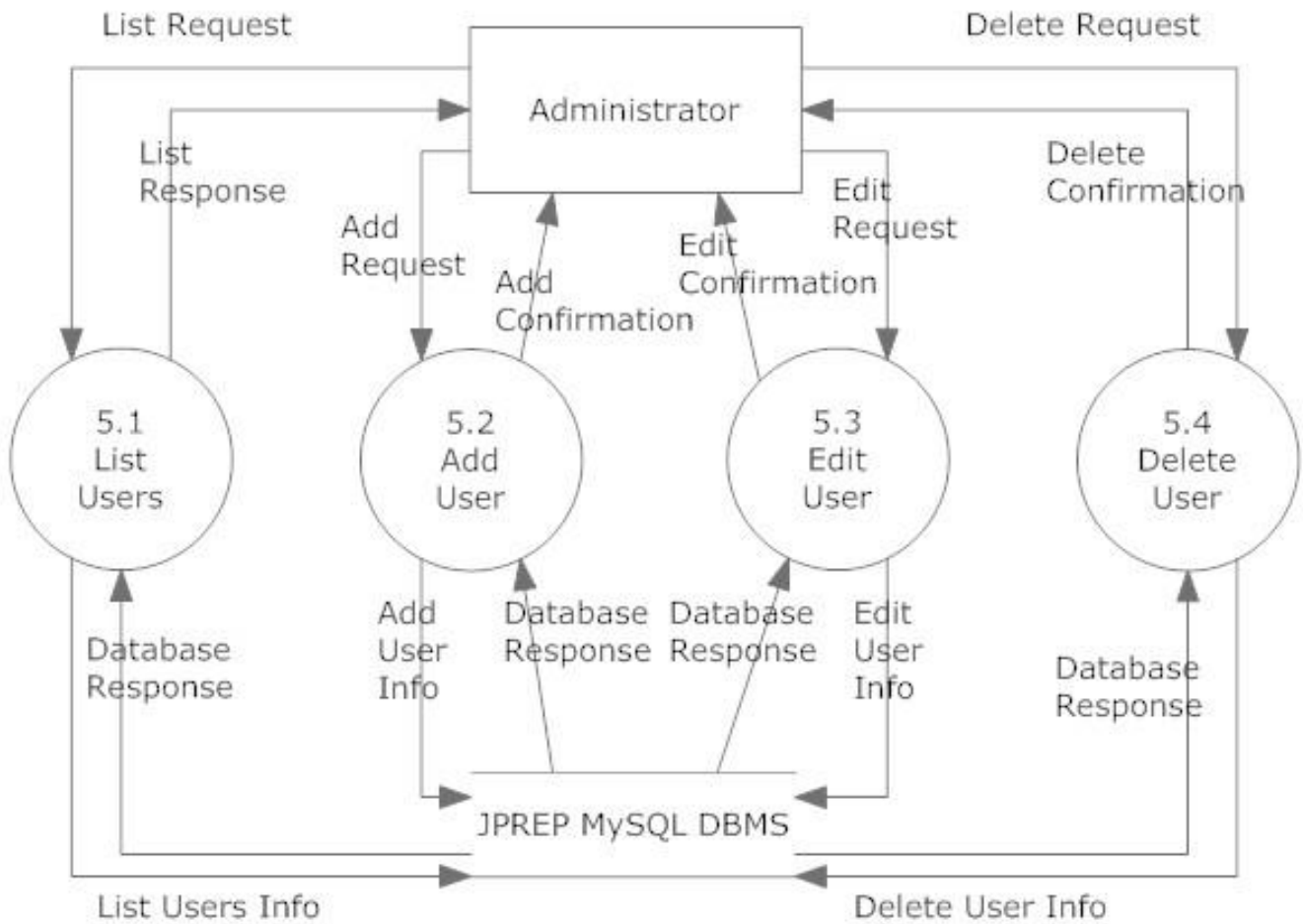
Java Problem Repository and Education Platform

7.4.4 Manage Users Level 1 Data Flow Diagram



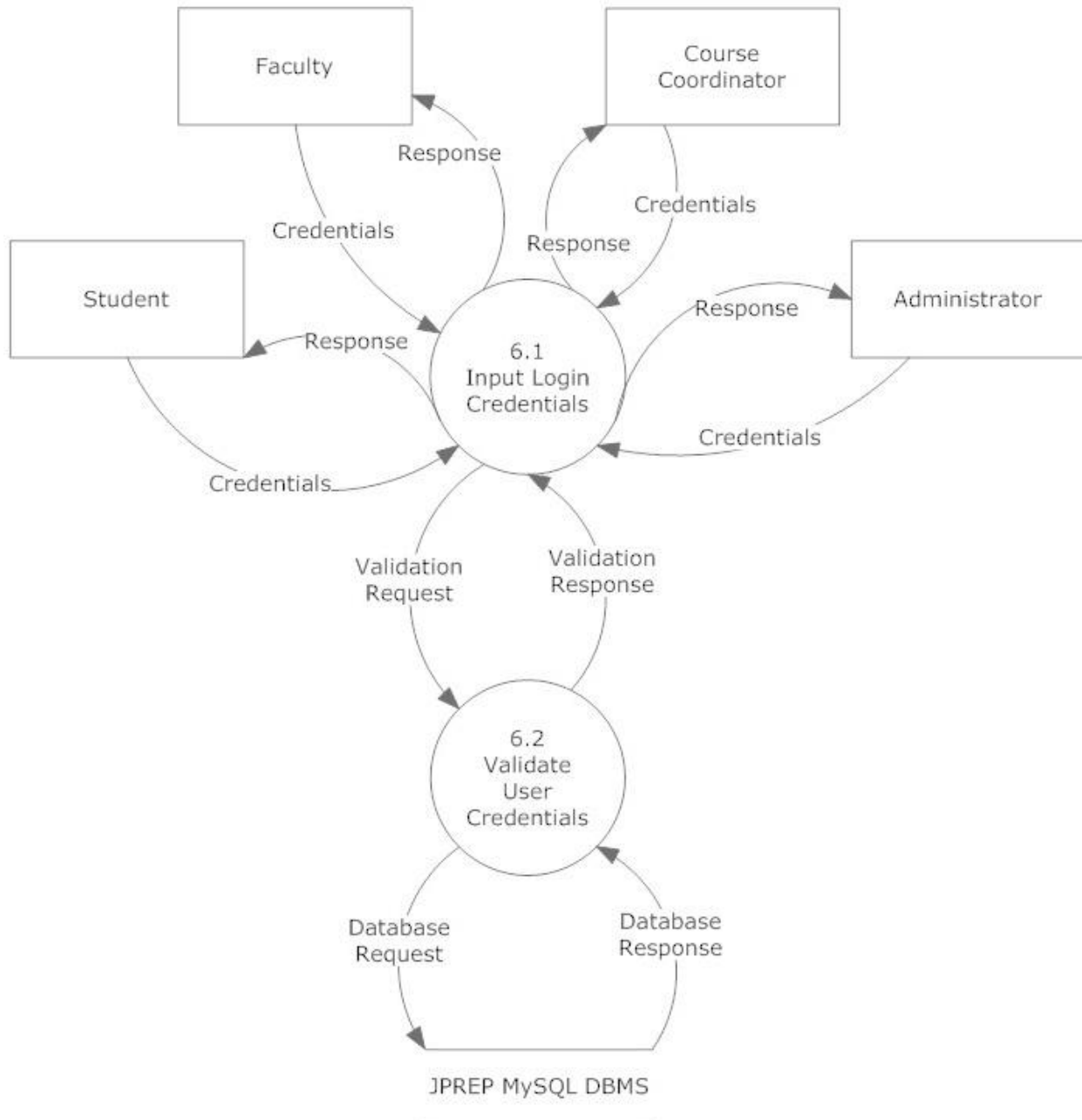
Java Problem Repository and Education Platform

7.4.5 Manage Users Level 1 Data Flow Diagram



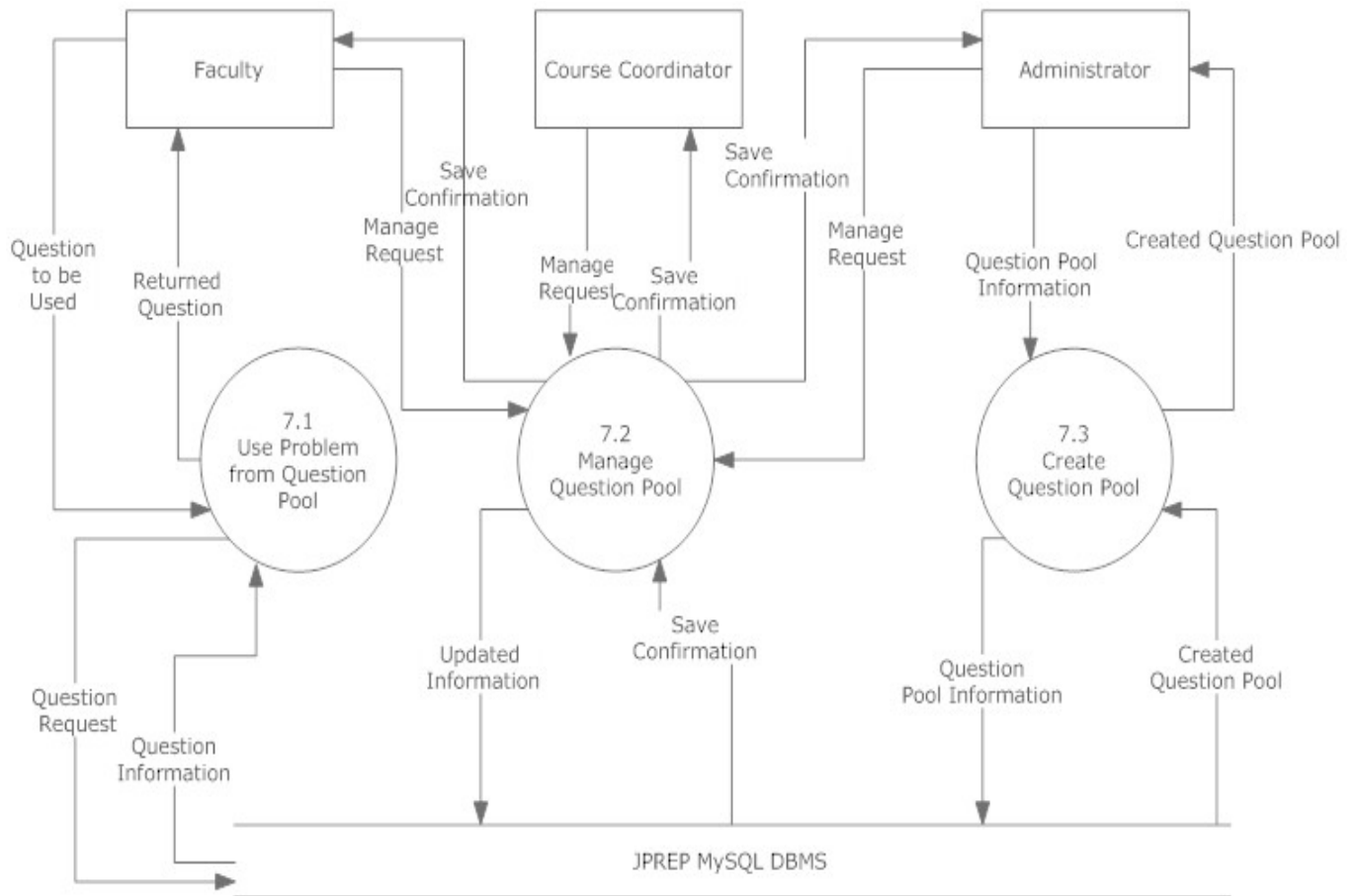
Java Problem Repository and Education Platform

7.4.6 Login Level 1 Data Flow Diagram



Java Problem Repository and Education Platform

7.4.6 Question Pool Level 1 Data Flow Diagram

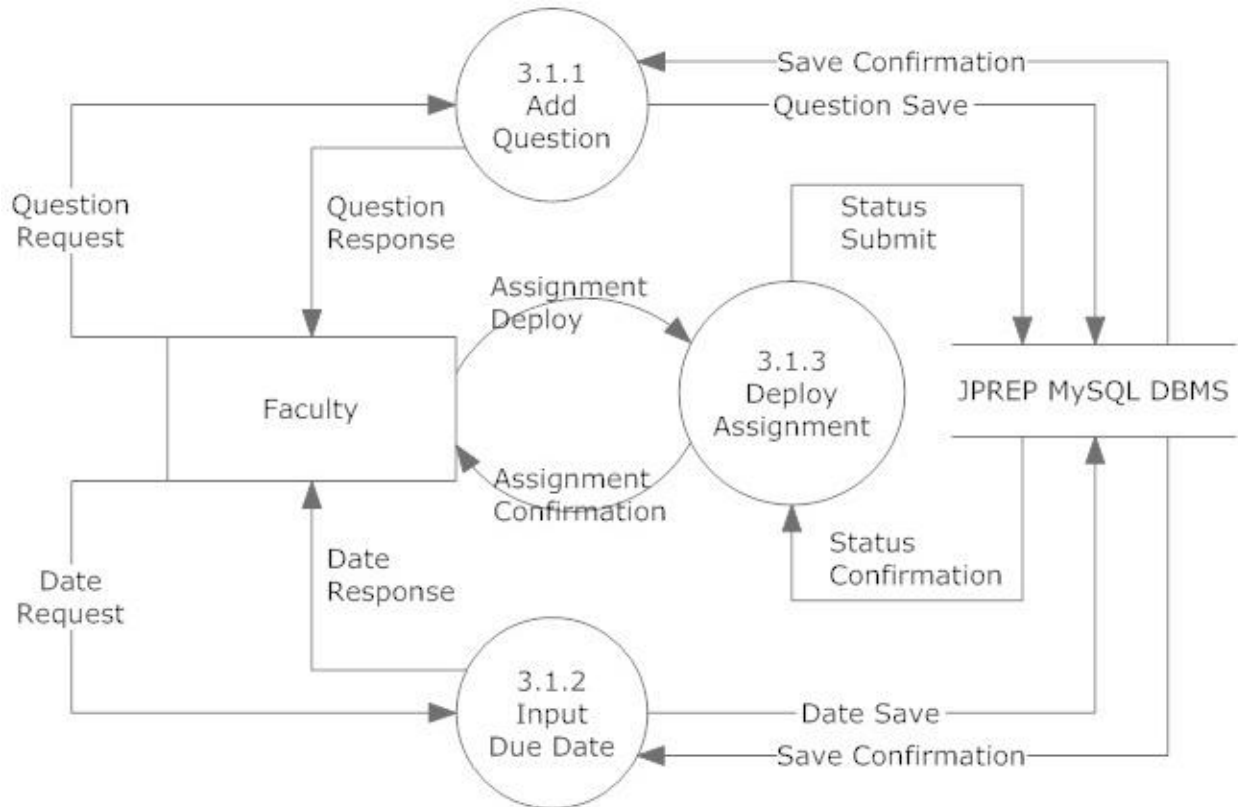


Question pool level 1

7.5 Level 2 Data Flow Diagrams

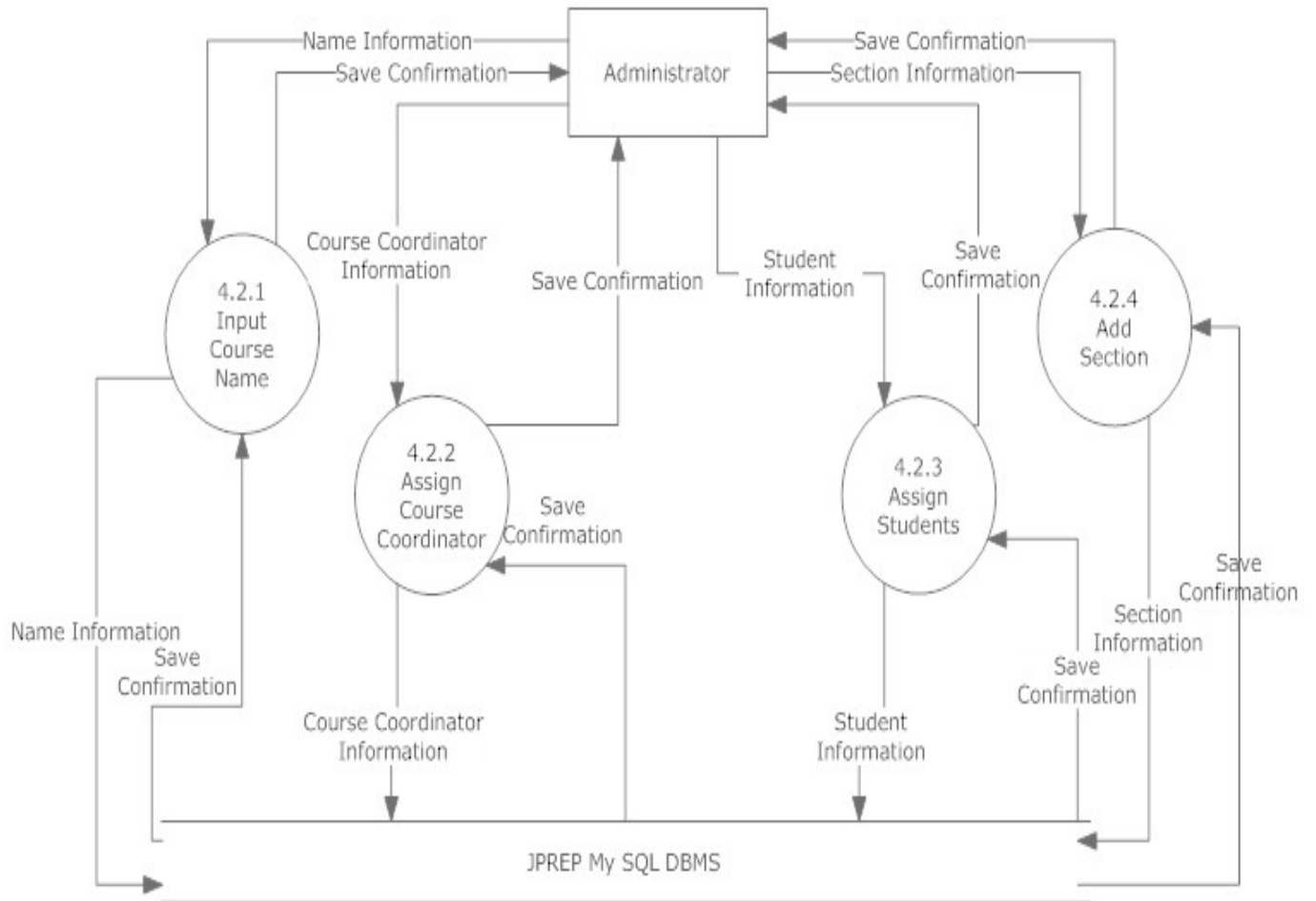
Java Problem Repository and Education Platform

7.5.1 Add Question Level 2 Data Flow Diagram



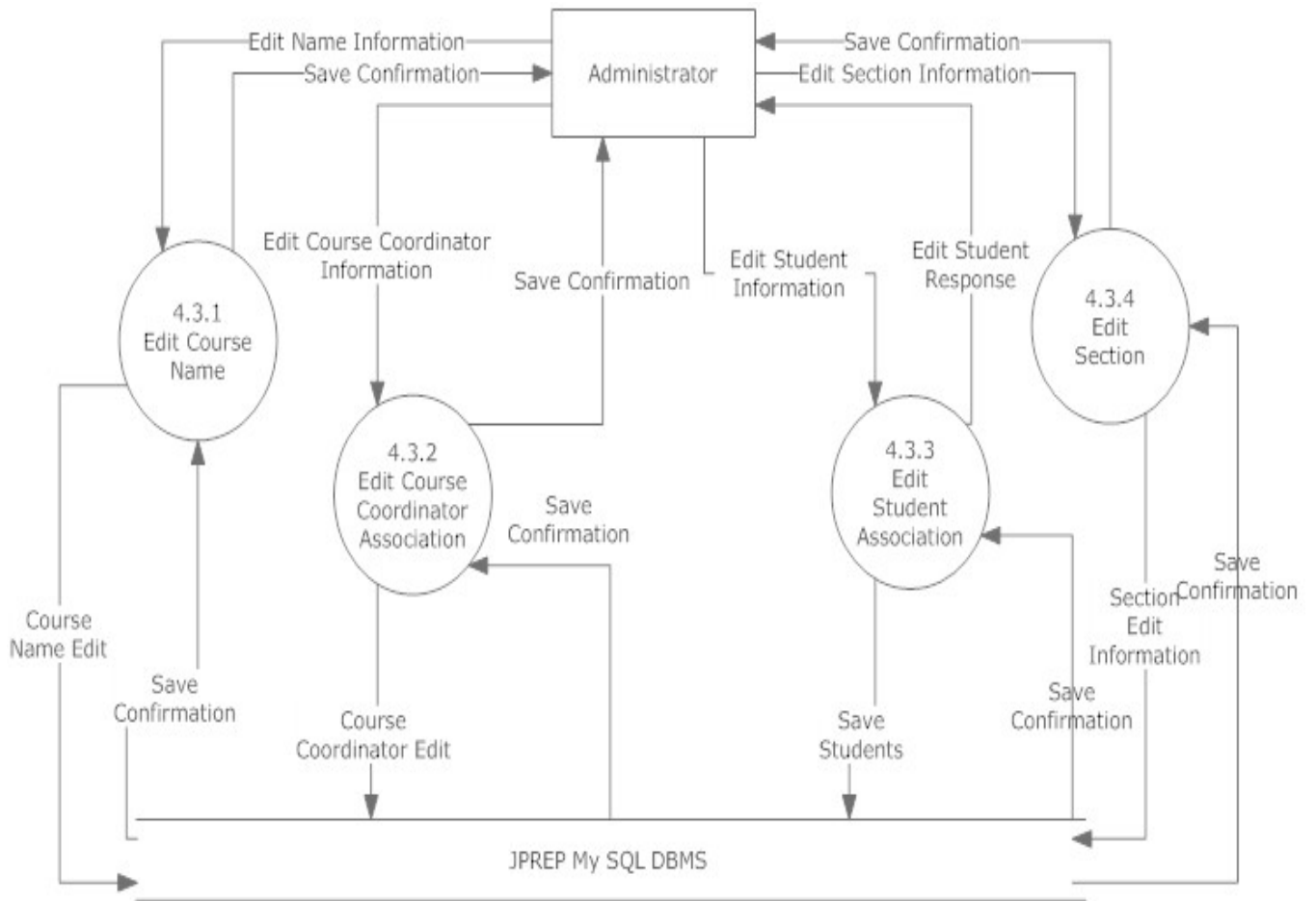
Java Problem Repository and Education Platform

7.5.2 Manage Course – Add Course Level 2 Data Flow Diagram



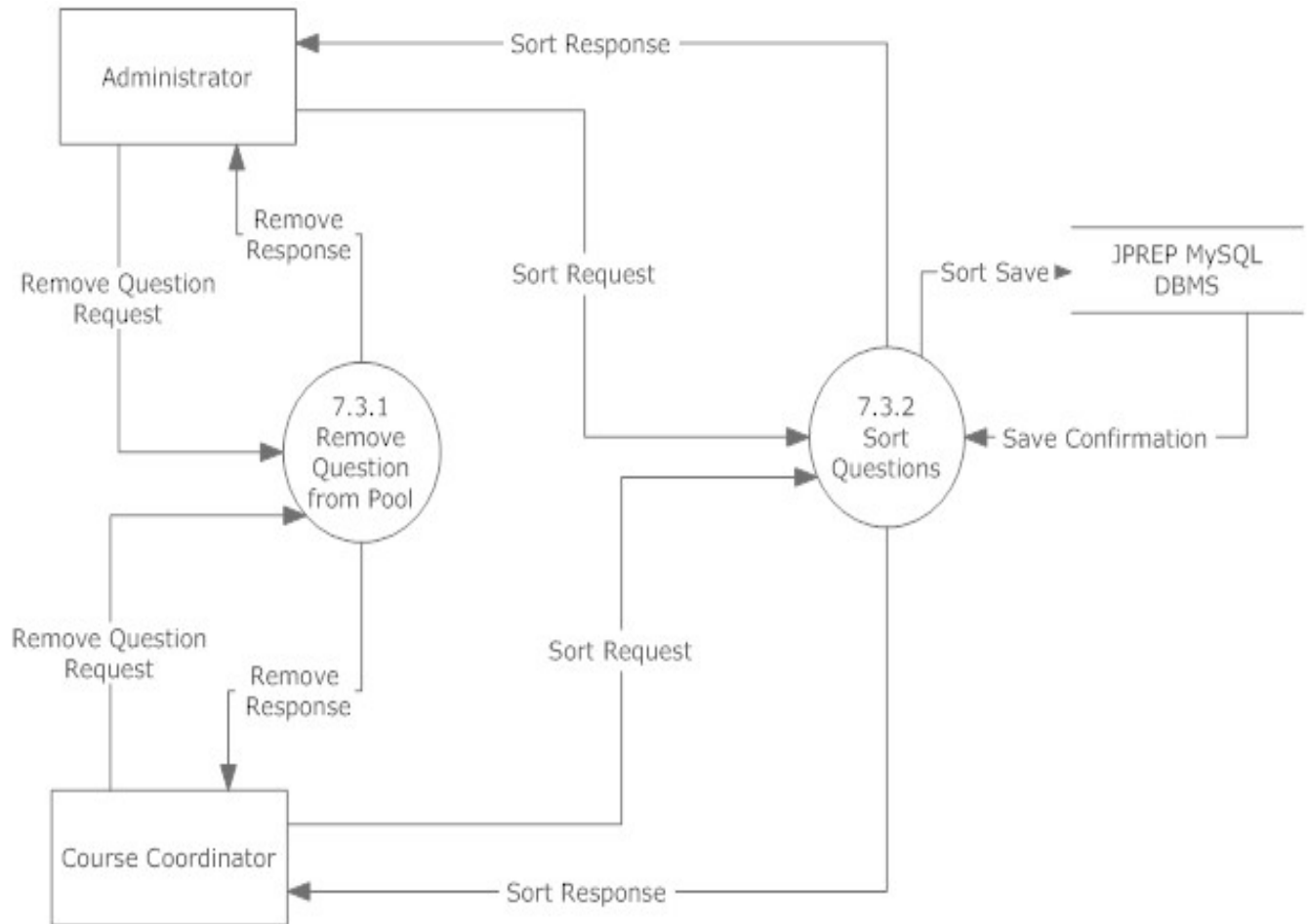
Java Problem Repository and Education Platform

7.5.3 Manage Course – Edit Course Level 2 Data Flow Diagram



Java Problem Repository and Education Platform

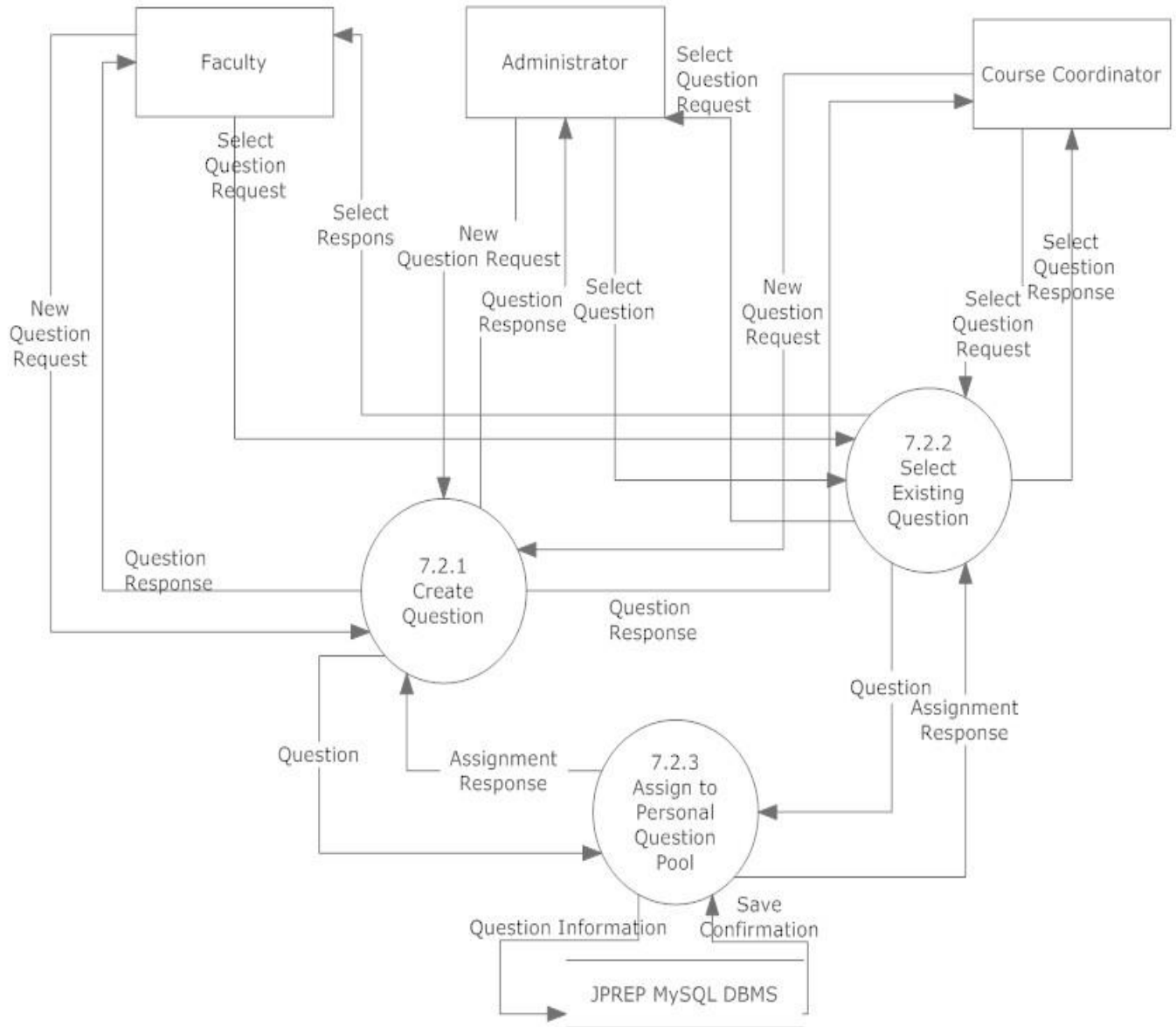
7.5.4 Manage Question Pool – Edit Level 2 Data Flow Diagram



Java Problem Repository and Education Platform

7.5.5 Manage Question Pool – Add Question to Personal Pool Level 2 Data Flow

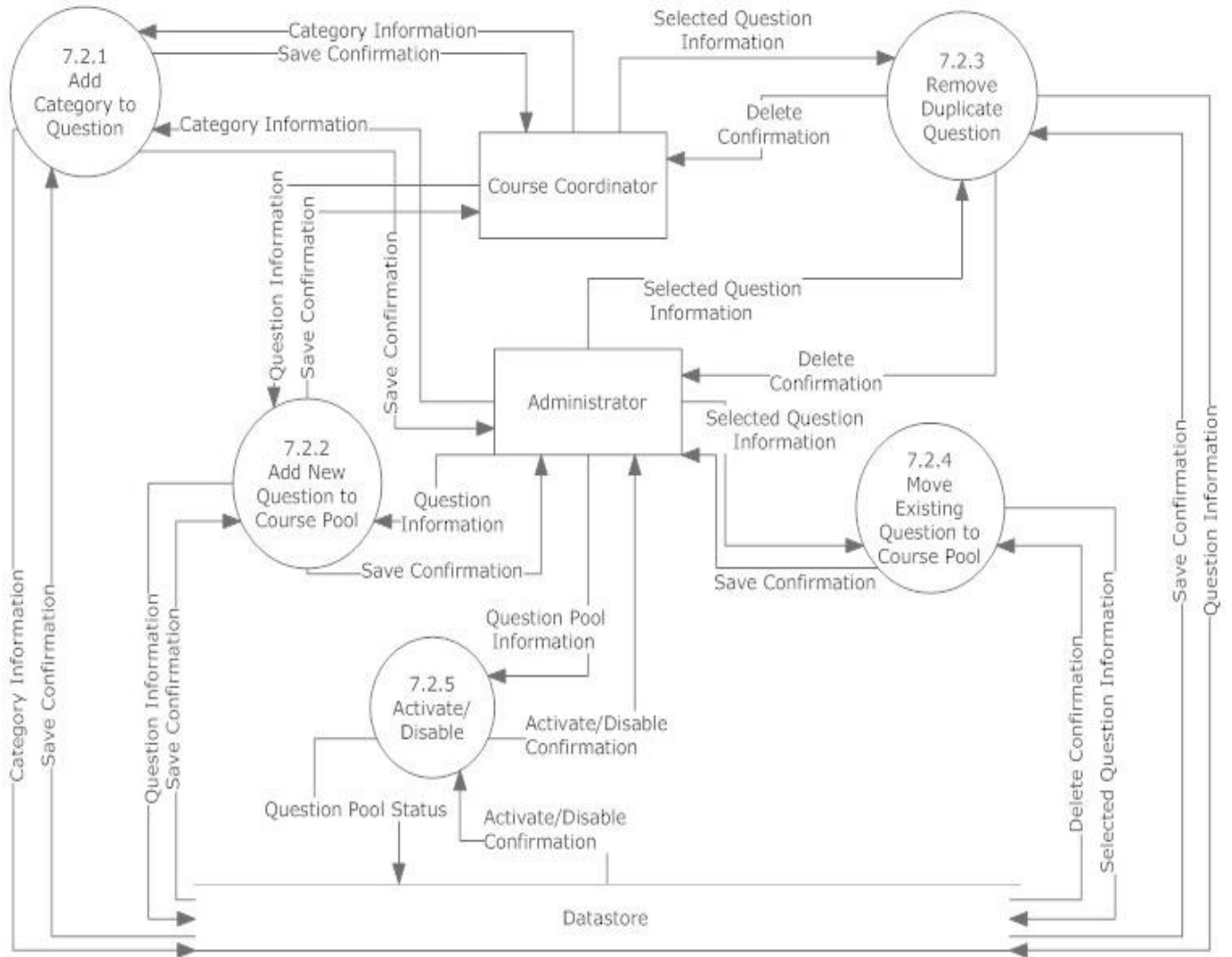
Diagram



Java Problem Repository and Education Platform

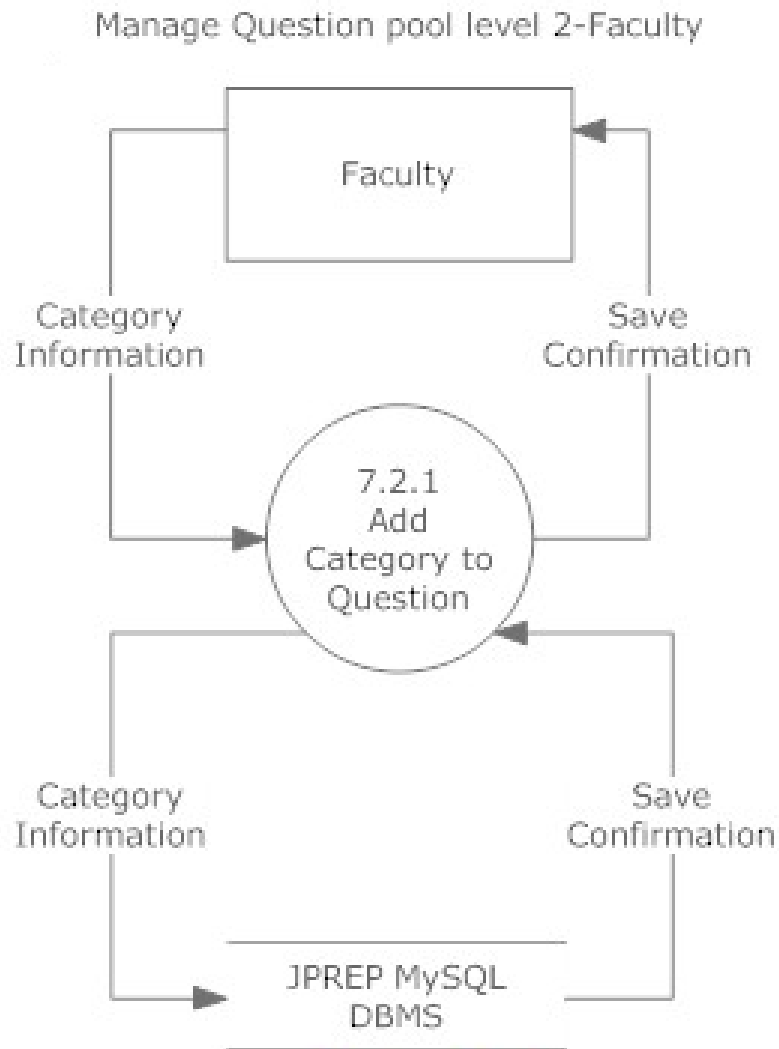
7.5.6 Manage Question Pool – Course Coordinator Level 2 Data Flow Diagram

Manage Question Pool Level 2-Course Coordinator



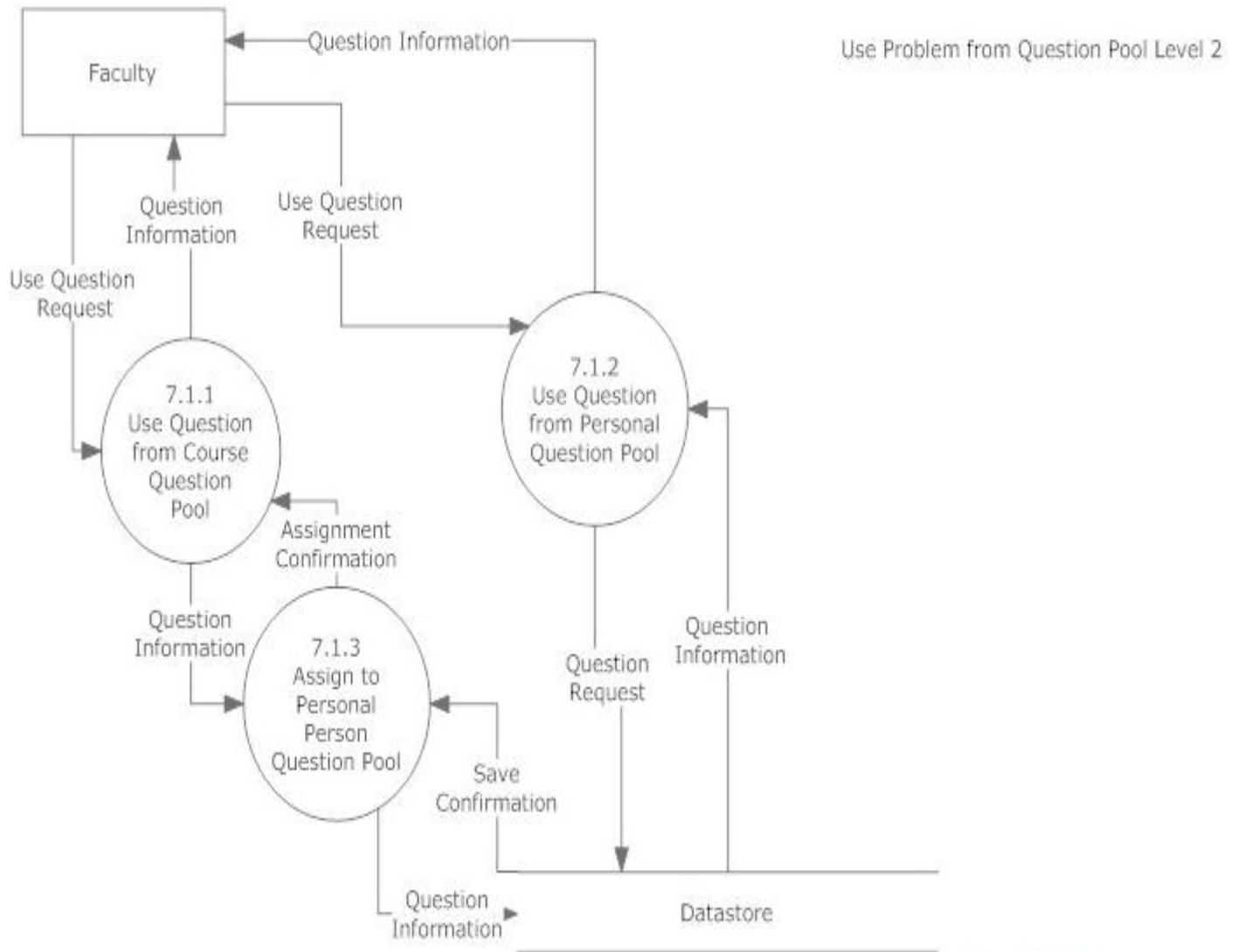
Java Problem Repository and Education Platform

7.5.7 Manage Question Pool – Faculty Level 2 Data Flow Diagram



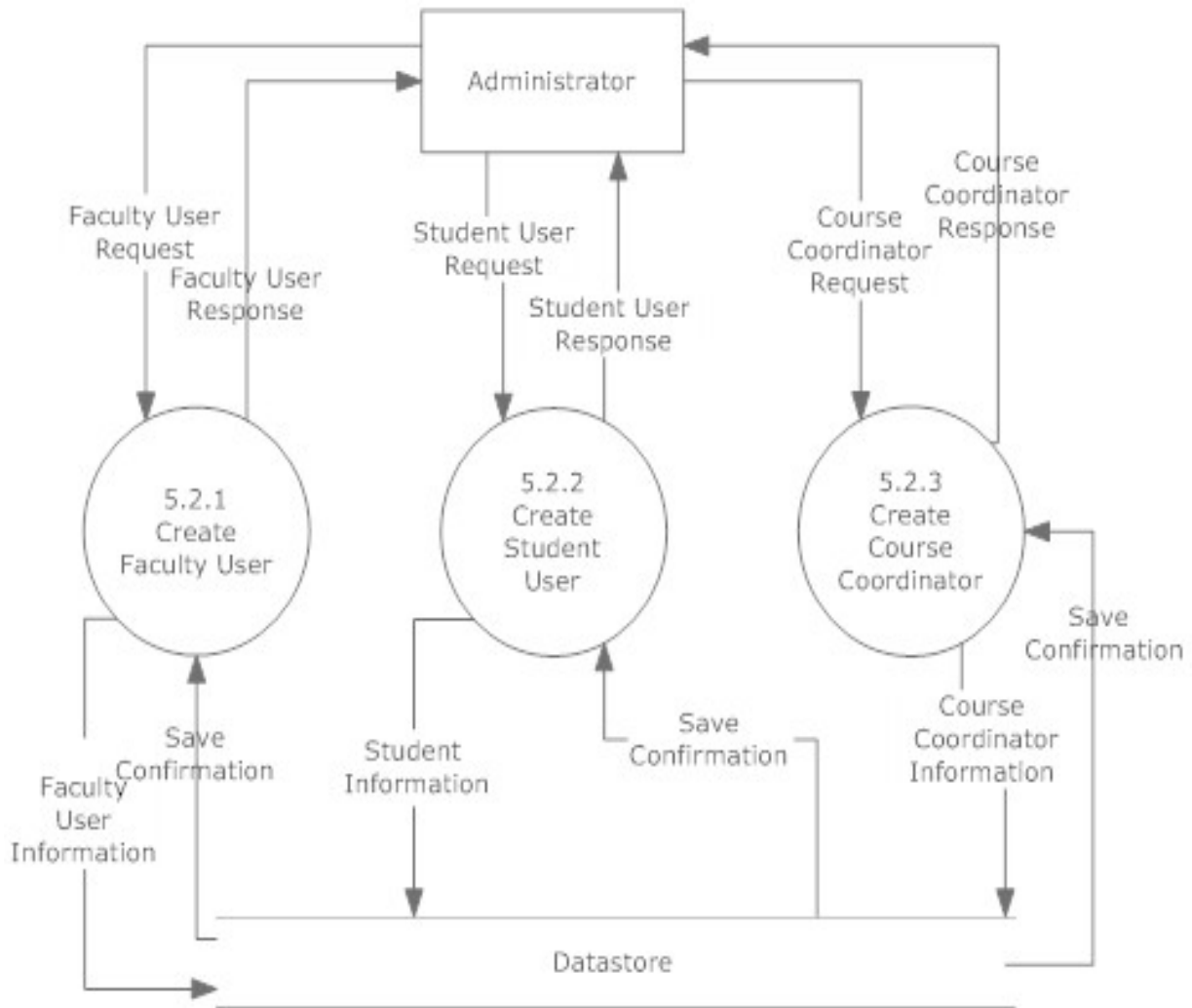
Java Problem Repository and Education Platform

7.5.7 Question Pool – Use Question Level 2 Data Flow Diagram



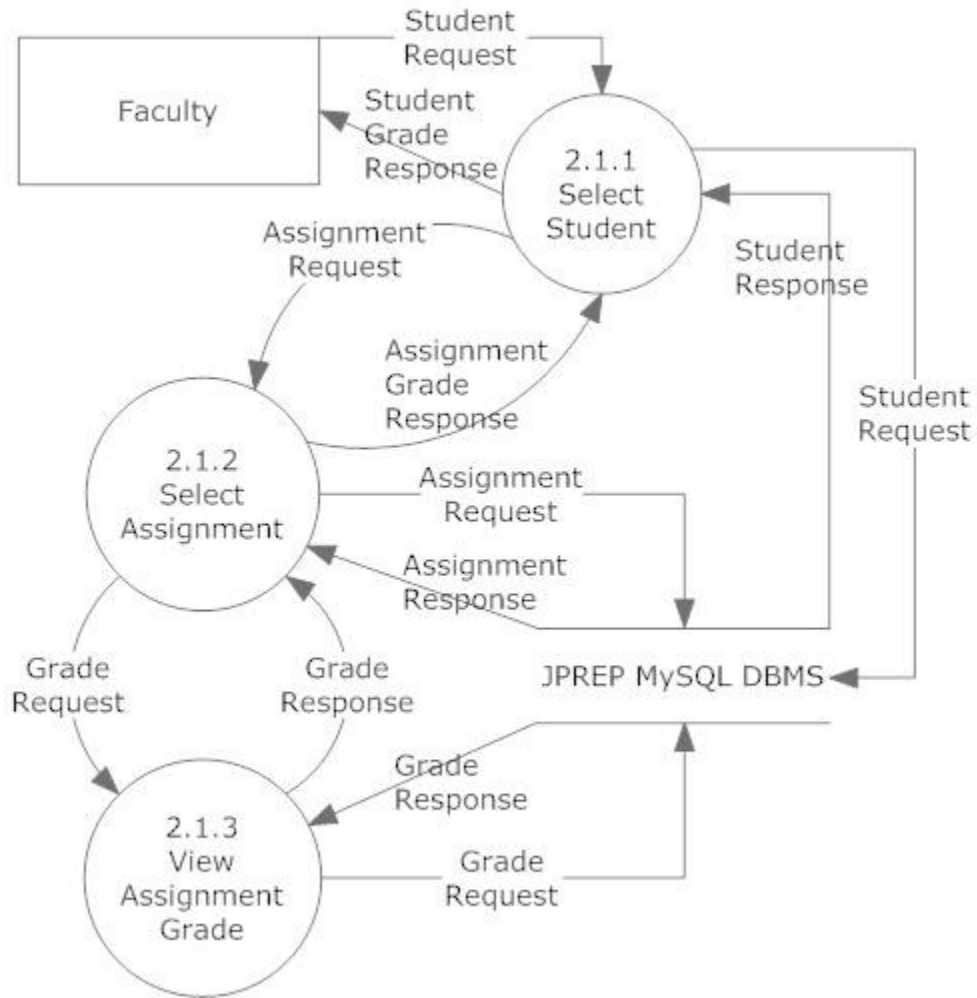
Java Problem Repository and Education Platform

7.5.6 Manage Users – Add User Level 2 Data Flow Diagram



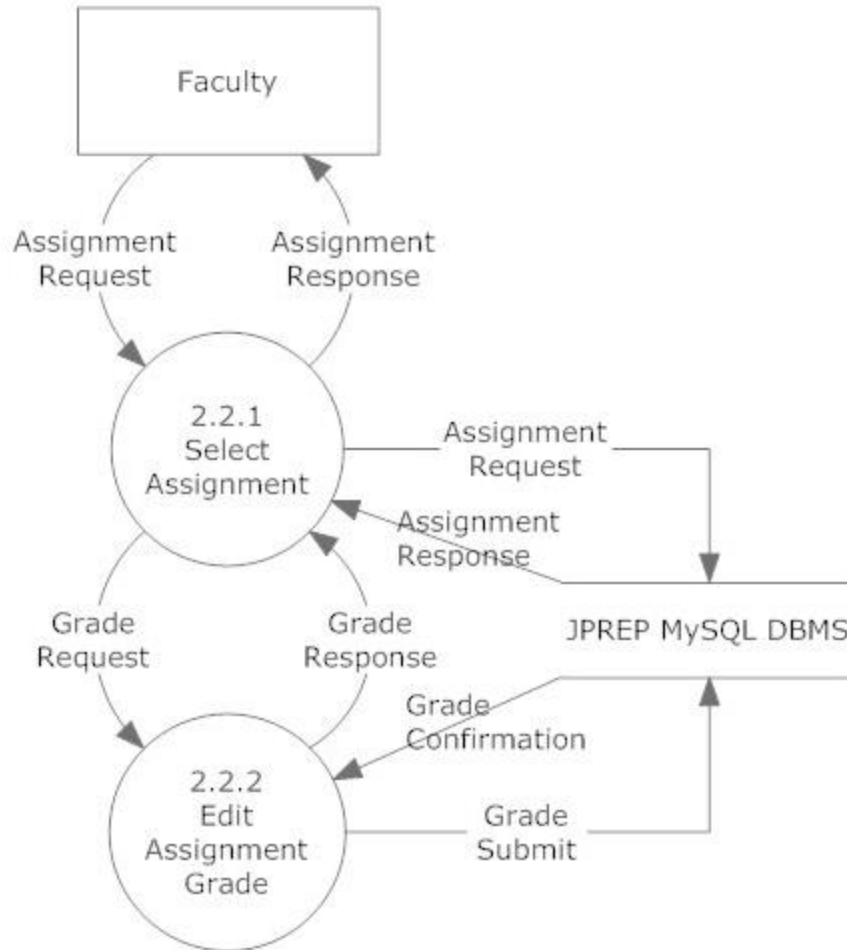
Java Problem Repository and Education Platform

7.5.7 View Grades –Students Level 2 Data Flow Diagram



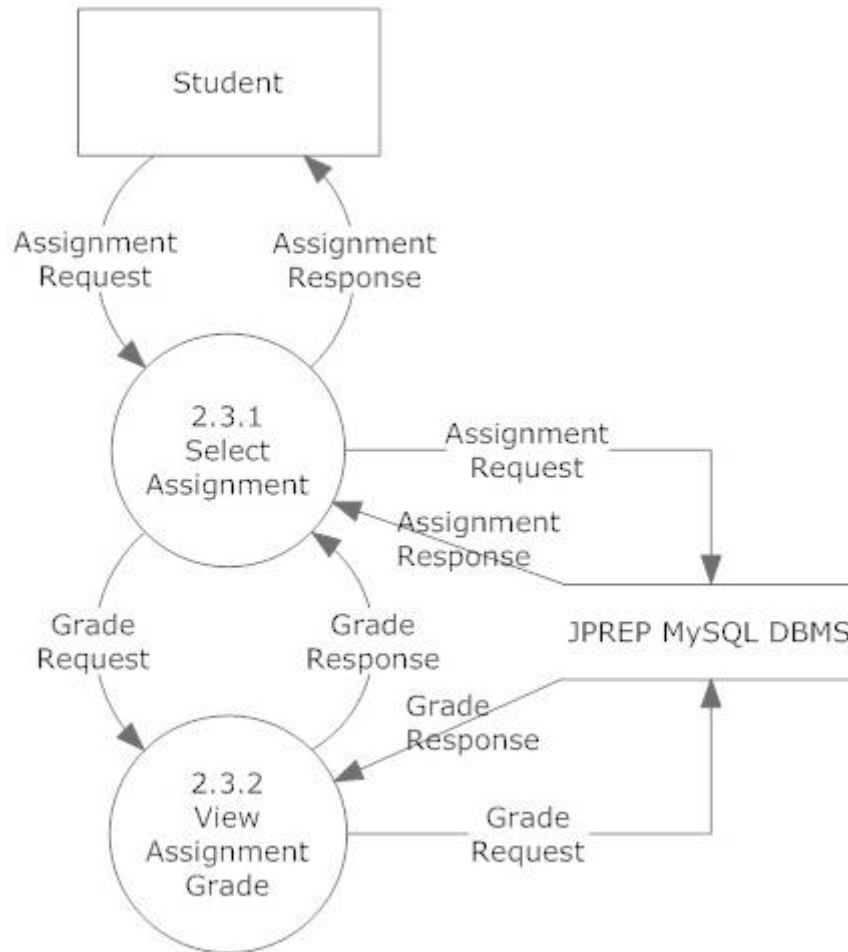
Java Problem Repository and Education Platform

7.5.8 Process Grades Level 2 Data Flow Diagram



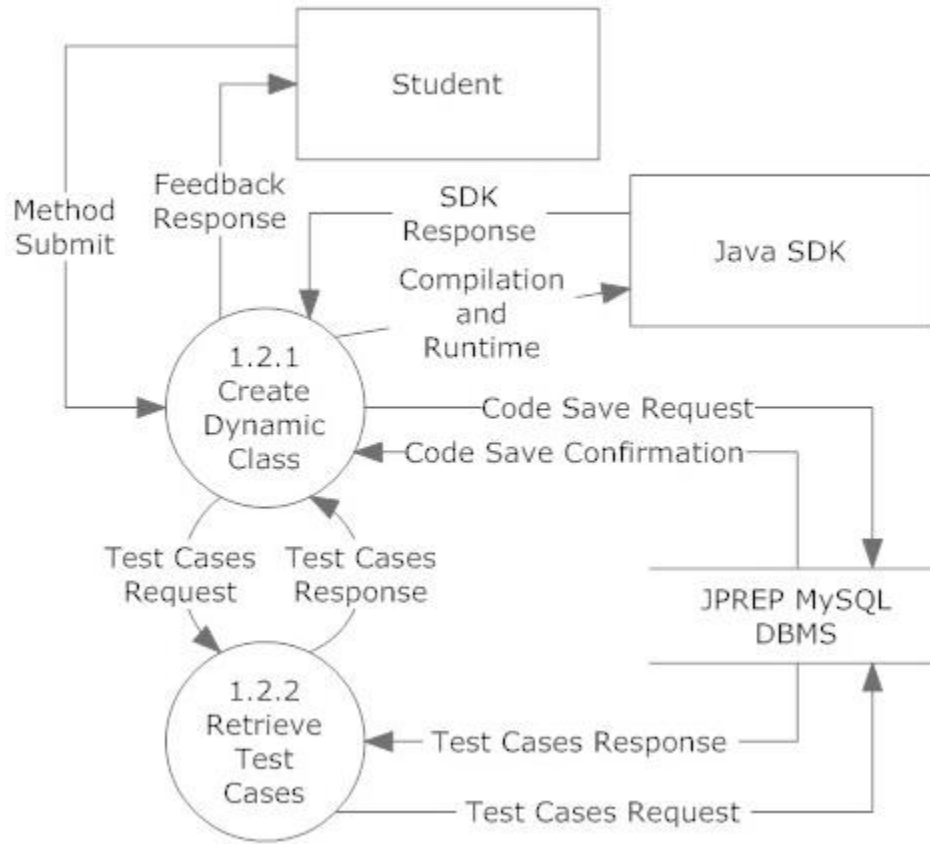
Java Problem Repository and Education Platform

7.5.9 Get Individual Grades Level 2 Data Flow Diagram



Java Problem Repository and Education Platform

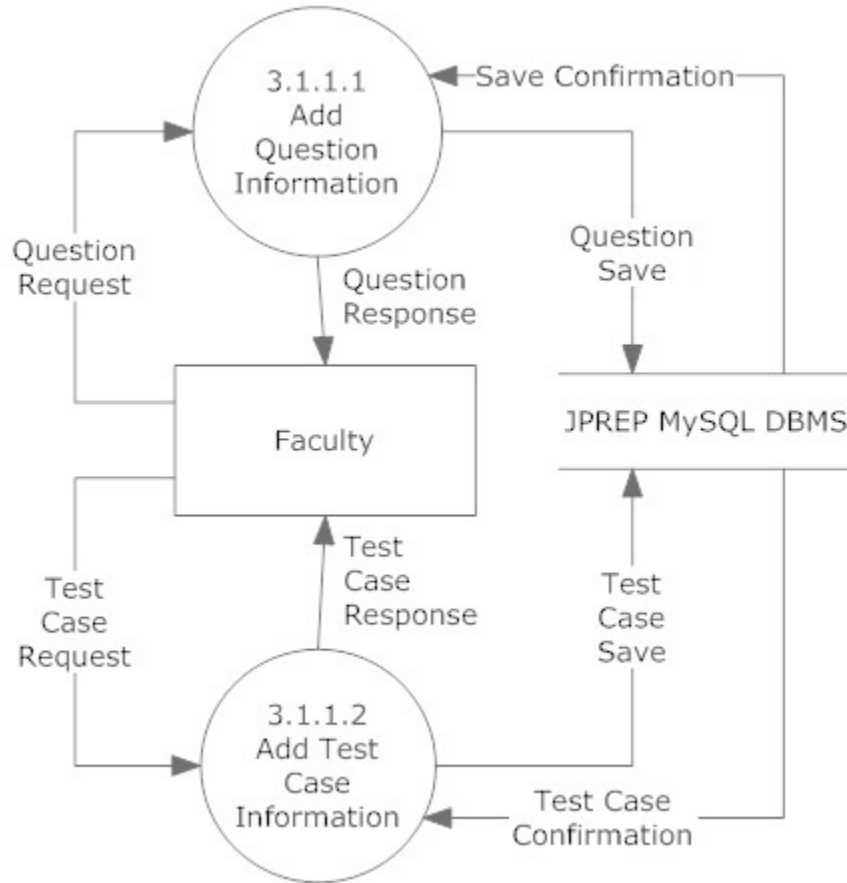
7.5.10 Generate Results Level 2 Data Flow Diagram



7.6 Level 3 Data Flow Diagrams

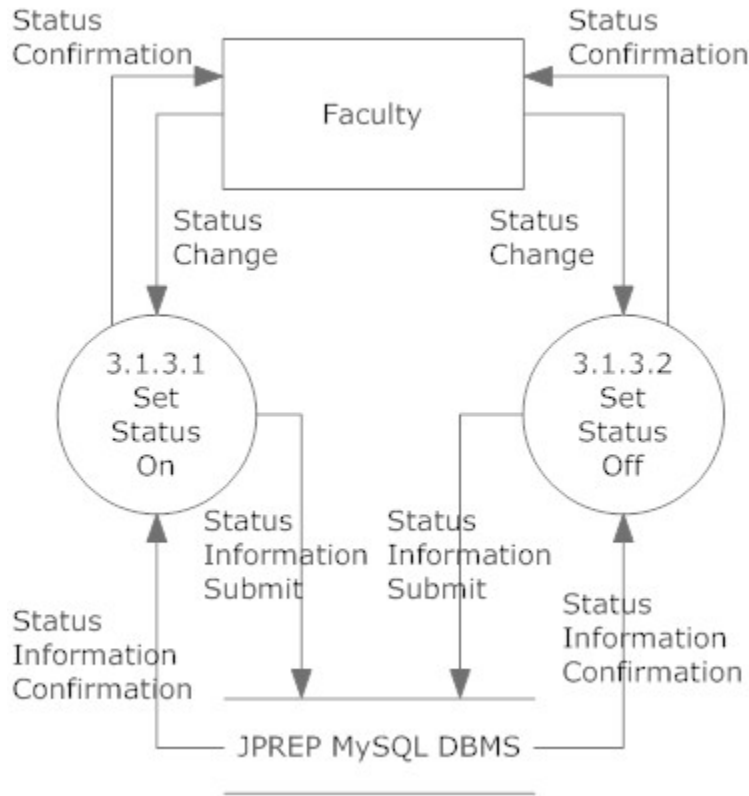
Java Problem Repository and Education Platform

7.6.1 Add Question Level 3 Data Flow Diagram



Java Problem Repository and Education Platform

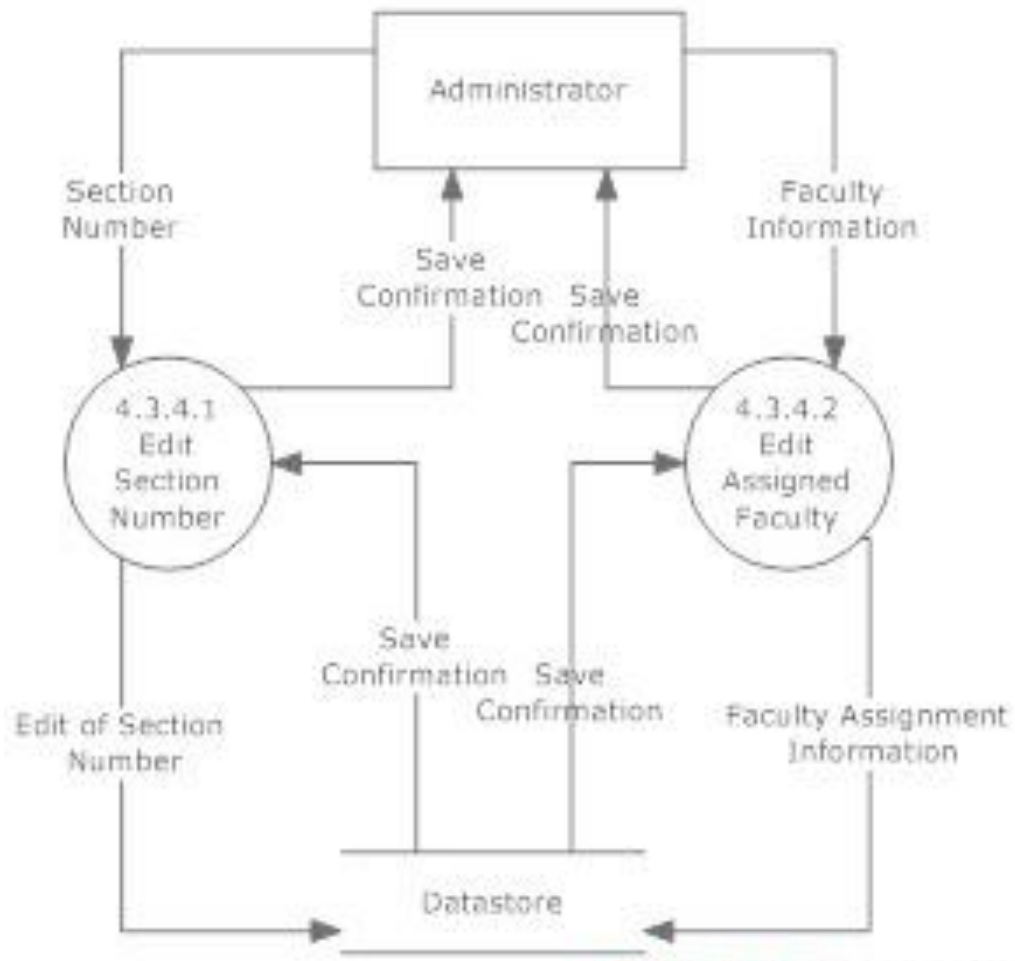
7.6.2 Deploy Assignment Level 3 Data Flow Diagram



Java Problem Repository and Education Platform

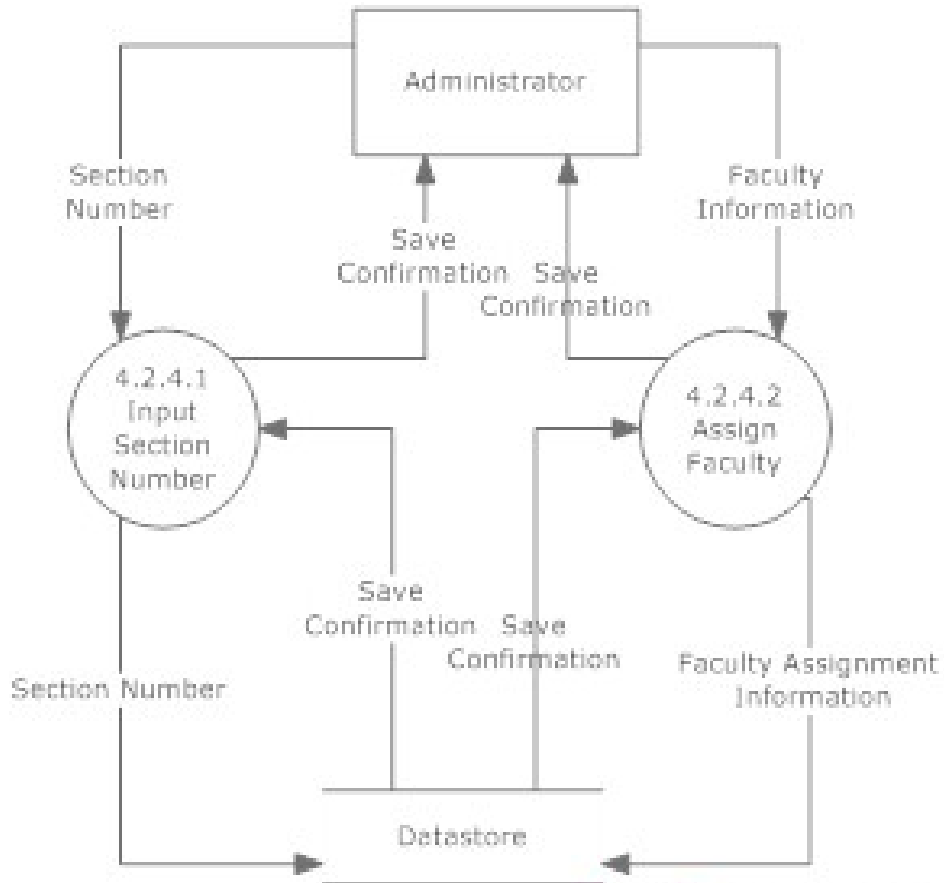
7.6.3 Manage Course – Edit Course – Edit Section Level 3 Data Flow Diagram

Manage Course-Edit Course- Edit section



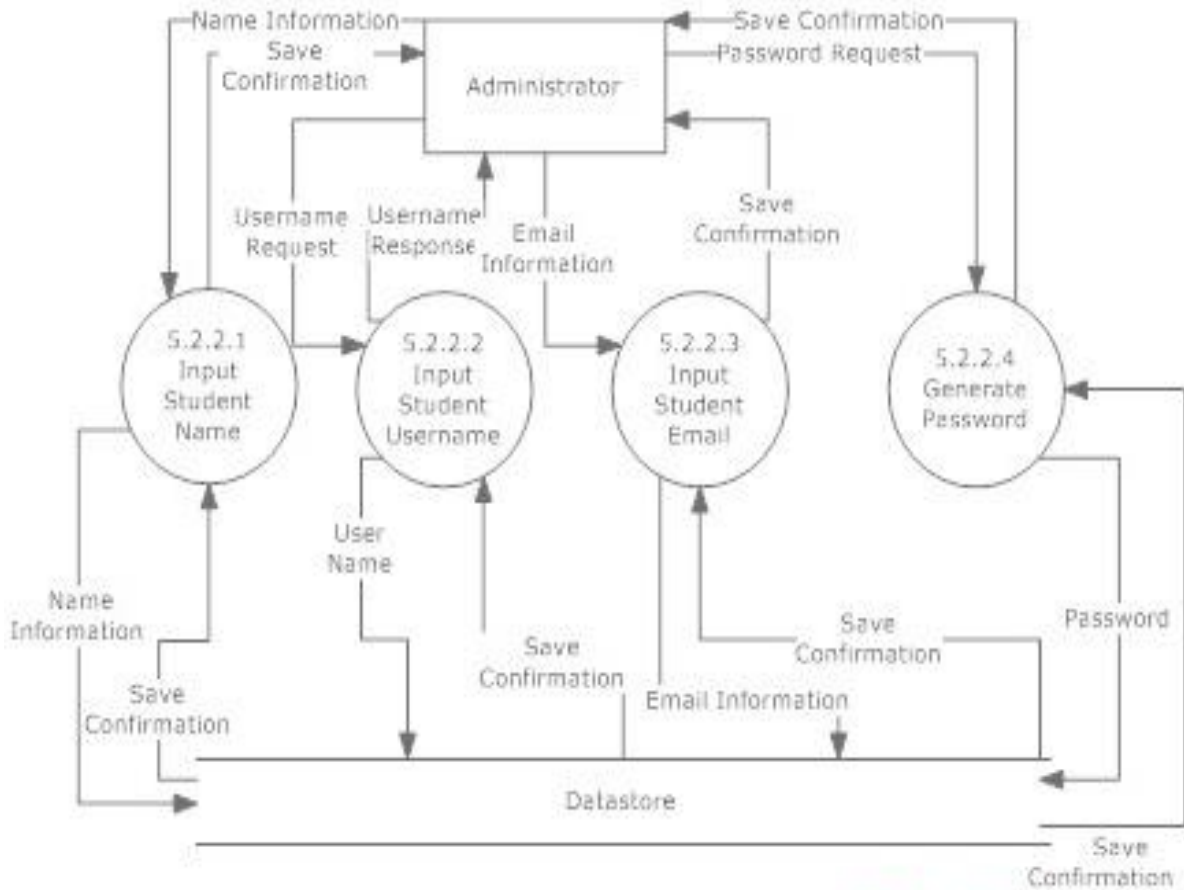
Java Problem Repository and Education Platform

7.6.4 Manage Course – Add Course – Edit Section Level 3 Data Flow Diagram



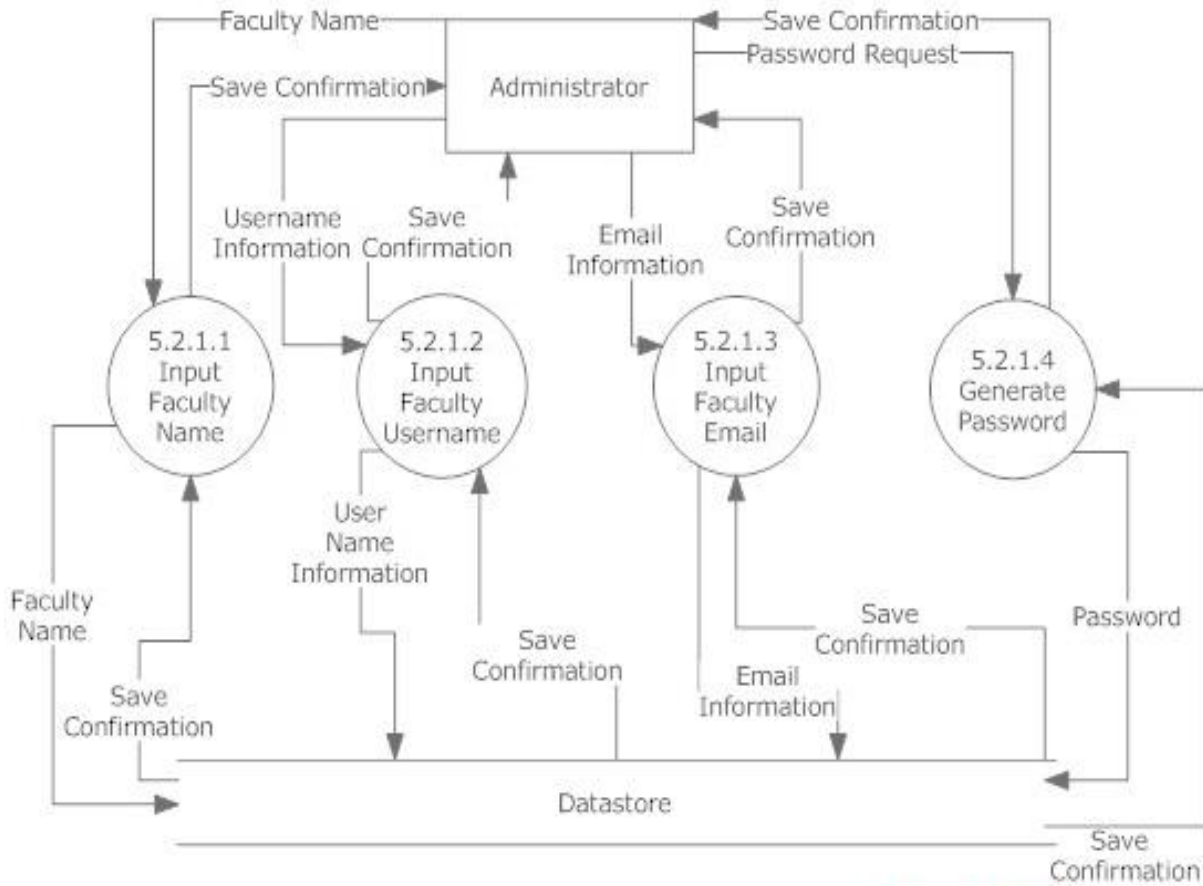
Java Problem Repository and Education Platform

7.6.5 Manage User – Add Student User Level 3 Data Flow Diagram



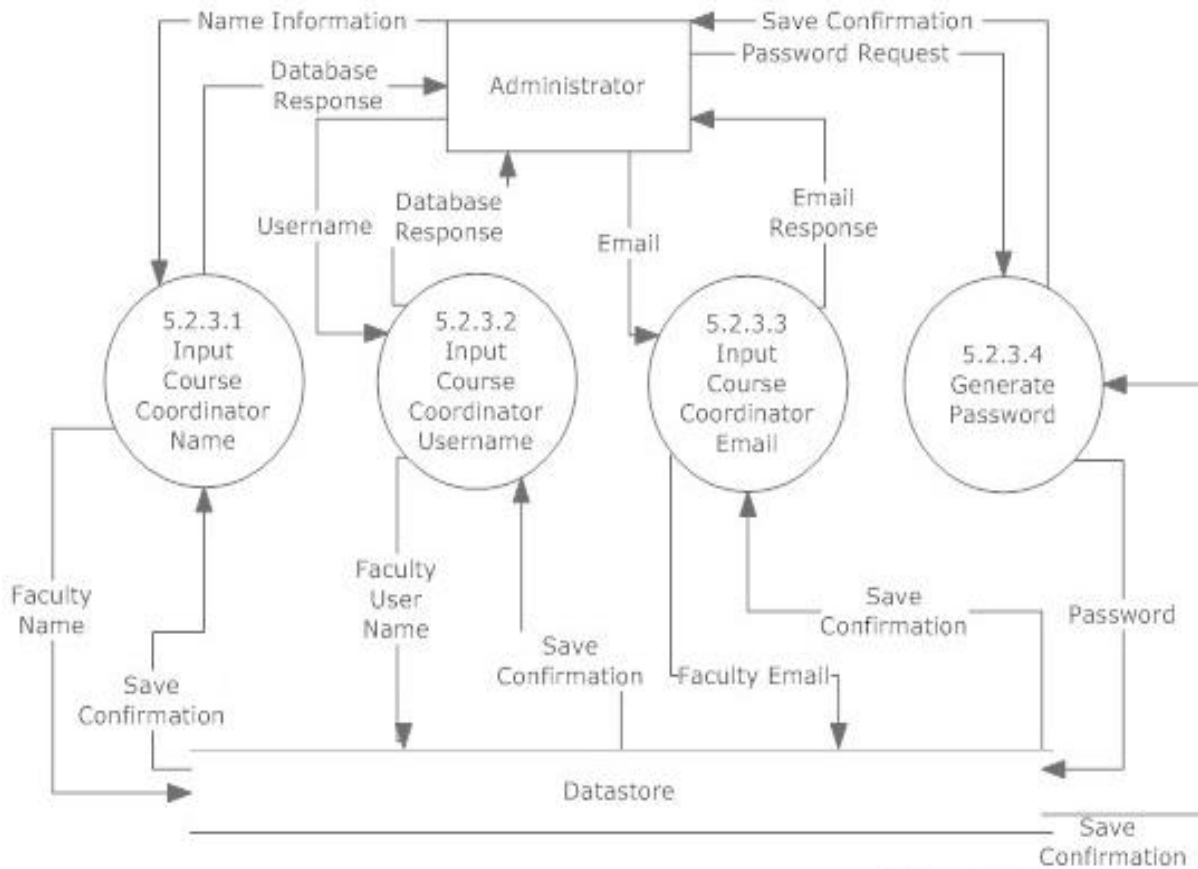
Java Problem Repository and Education Platform

7.6.6 Manage User – Add Faculty User Level 3 Data Flow Diagram



Java Problem Repository and Education Platform

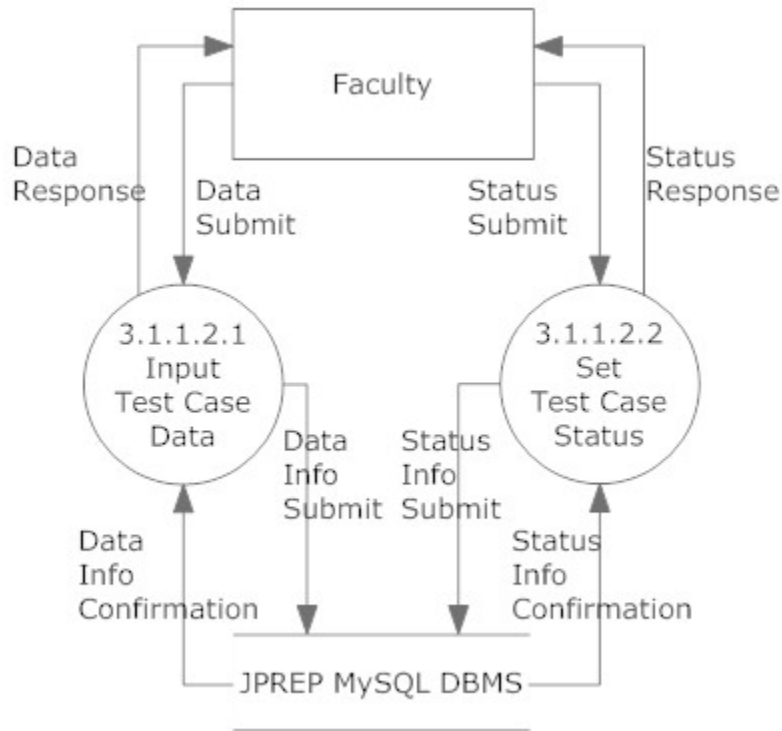
7.6.7 Manage User – Add Course Coordinator User Level 3 Data Flow Diagram



7.7 Level 4 Data Flow Diagrams

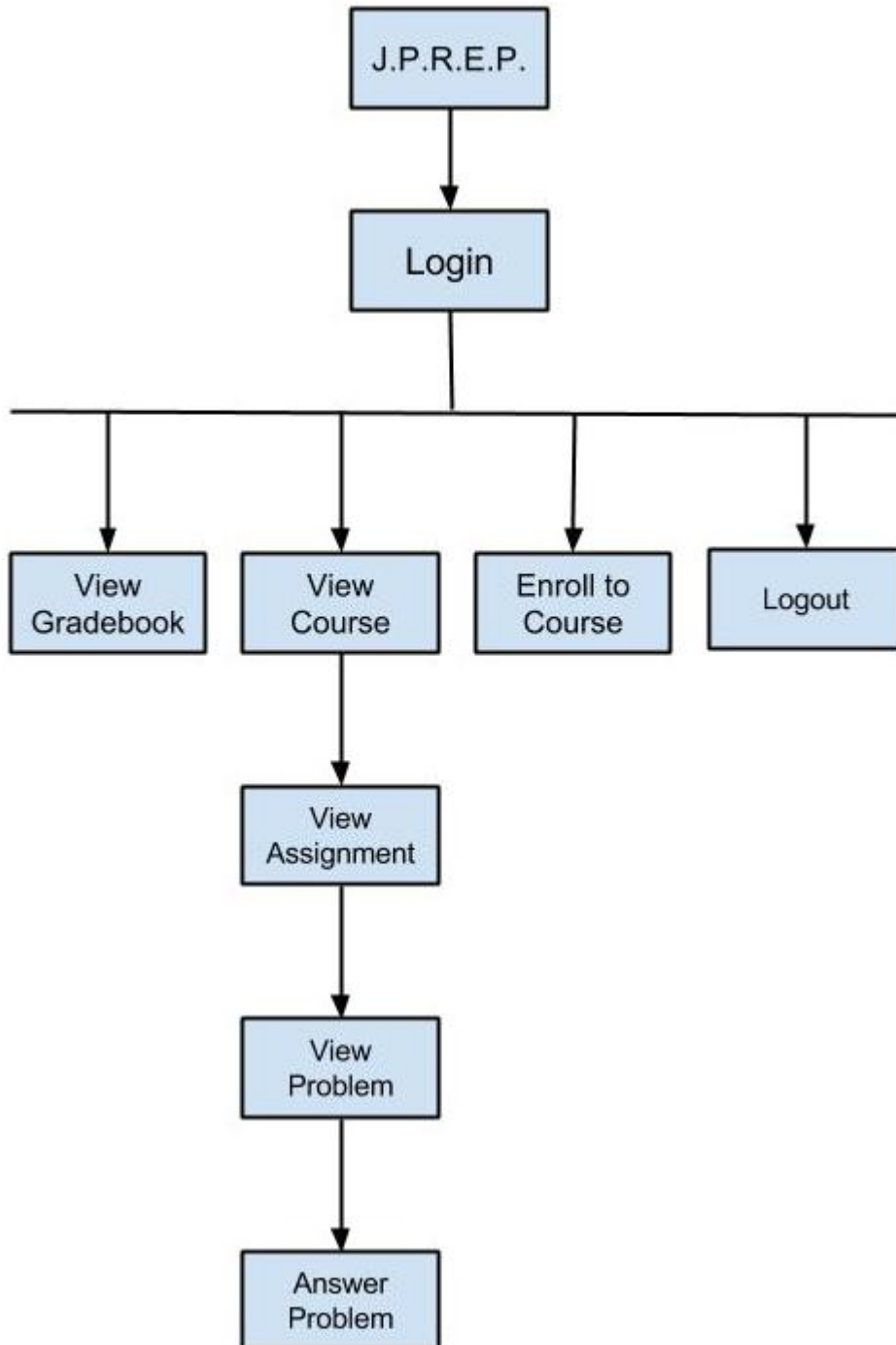
Java Problem Repository and Education Platform

7.7.1 Manage Assignments – Add Test Case Information User Level 3 Data Flow Diagram



8 Hierarchy Diagram

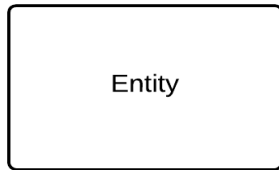
A hierarchy diagram is a diagram that is used to show the relationship between various units.



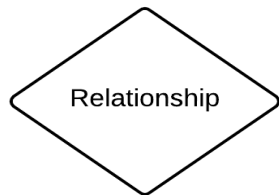
9 Entity-Relationships Diagram and Table Relations

A ER Diagram is the representation of the design of a database

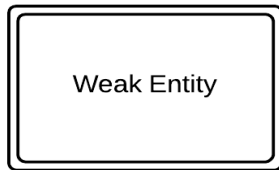
9.1 Entity Relationship Diagram Legend



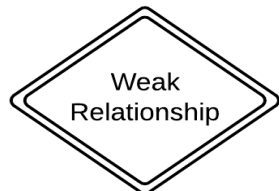
Entity—Represents an object that can be written into a table



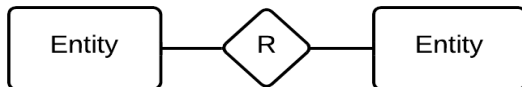
Relationship—Describes how entities are related



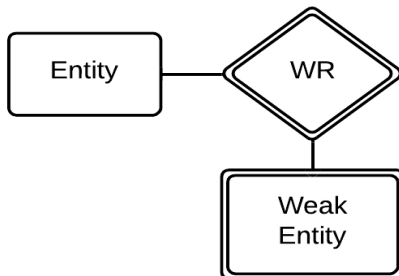
Weak Entity—Represents objects that can be written into a table but whose existence relies on another table



Weak Relationship—Describes how Entities are related to Weak Entities

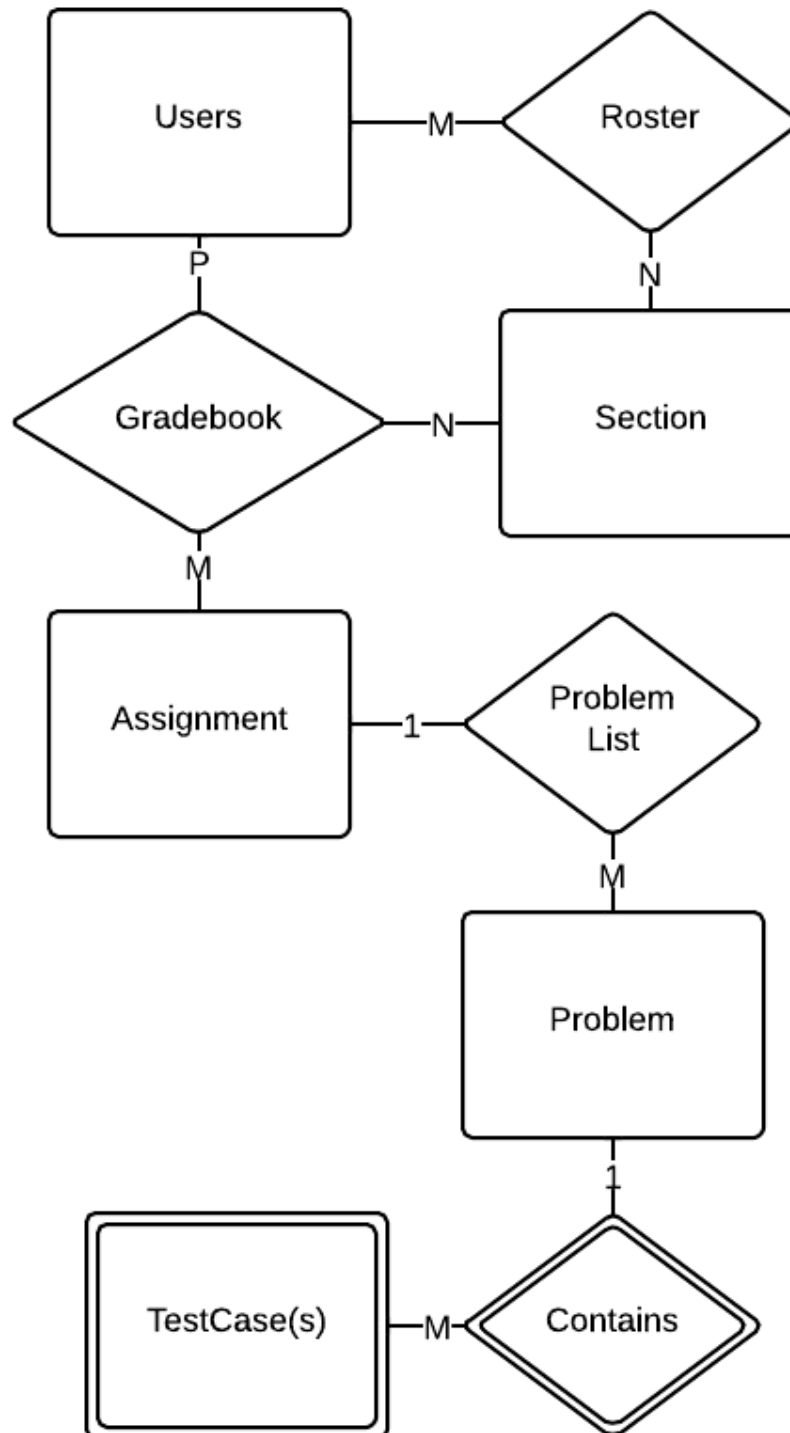


Entity to Entity Relationship—Shows how two Entities are related

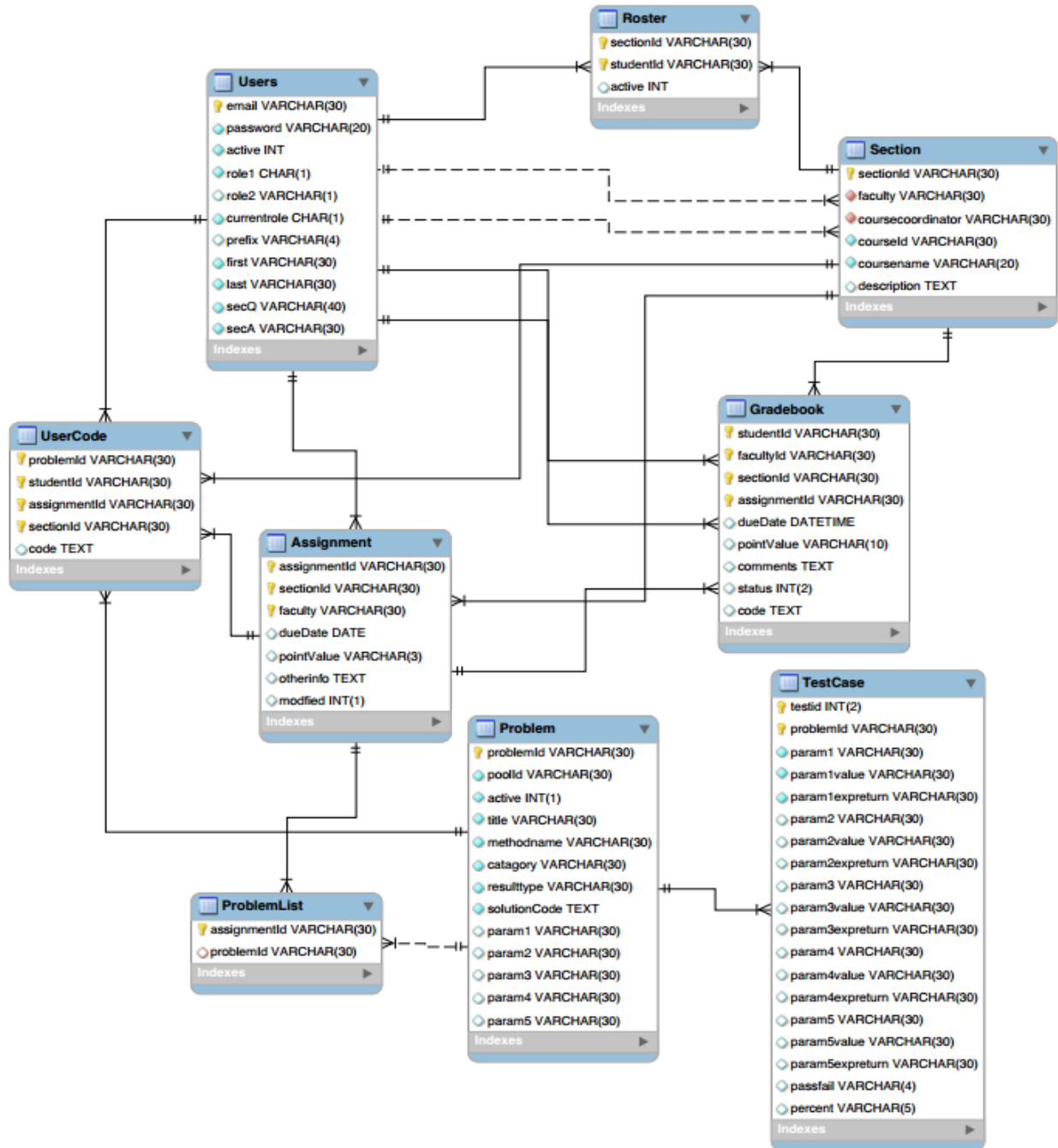


Entity to Weak Entity Relationship—Shows how an Entity is related to a Weak Entity

9.2 Entity Relationship Diagram



9.3 Expanded Tables Diagram



10 Prototypes

The following images represent current prototypes that are being used to develop JPREP further. The prototypes do not represent the final design of JPREP and are subject to change.

10.1 Prototype 1: Login Screen

This screen represents the login screen for JPREP. All users will be presented with this screen, in order to provide user credentials.



10.2 Prototype 2: Invalid Login Screen



10.3 Prototype 3: Logout Screen



10.4 Prototype 4: Forgot Password – Security Question

This screen represents the view a user will see when they have forgotten their password.

Reset your password

Security Question: What is your middle name?

[Cancel](#) [Reset Password](#)

Your new password will be sent to you in an email

10.5 Prototype 5: Student Course View

This screen represents the view of a student when logged in. A list of courses and the respective course assignments and grade book are presented.

The screenshot shows the JPREP (Java Problem Repository & Education Platform) interface for a student. The header features the JPREP logo and the text "Welcome, Luke Logout". Below the header, a navigation bar contains three tabs: "Courses", "Gradebook", and "Profile". The main content area is titled "You are currently logged in as a STUDENT" and displays a list of courses. The list is divided into two sections: "Current Courses" and "Previous Courses". Each course entry is preceded by a blue square icon containing a white plus sign. The footer of the interface includes the text "Created by Delta Tech", the Delta Tech logo, and the copyright notice "Copyright © 2013 Delta Tech. All Rights Reserved".

Java Problems Repository & Education Platform

Welcome, Luke [Logout](#)

You are currently logged in as a **STUDENT**

Courses Gradebook Profile

Current Courses

- [+] Course 1
- [+] Course 2
- [+] Course 3

Previous Courses

- [+] Course 4
- [+] Course 5

Created by Delta Tech

Delta Tech

Copyright © 2013 Delta Tech. All Rights Reserved

10.6 Prototype 6: Student Assignment View

This screen represents the view a student would have if an assignment was chosen under a certain course.

The screenshot shows the JPREP (Java Problem Repository & Education Platform) interface. At the top left is the JPREP logo and name. At the top right, it says "Welcome, Luke" with a "Logout" link. Below this, it states "You are currently logged in as a STUDENT". There are three tabs: "Courses", "Gradebook", and "Profile". The "Courses" tab is active, showing details for a course: "Course", "Professor: Dr. John Smith", and "Semester: Spring 2014".

Under "Pending Assignments", there is a table with 4 columns: Assignment, Due Date, Status, and an action link.

Assignment	Due Date	Status	
Assignment 1	3/10/14 11:59 PM	Not Completed	Complete Now
Assignment 2	3/11/14 11:59 PM	Completed	View Grade
Assignment 3	3/12/14 11:59 PM	Not Completed	Complete Now

Under "Past Assignments", there is another table with 4 columns: Assignment, Due Date, Status, and an action link.

Assignment	Due Date	Status	
Assignment 4	1/10/14 11:59 PM	Completed	View Grade
Assignment 5	1/11/14 11:59 PM	Completed	View Grade
Assignment 6	1/12/14 11:59 PM	Completed	View Grade

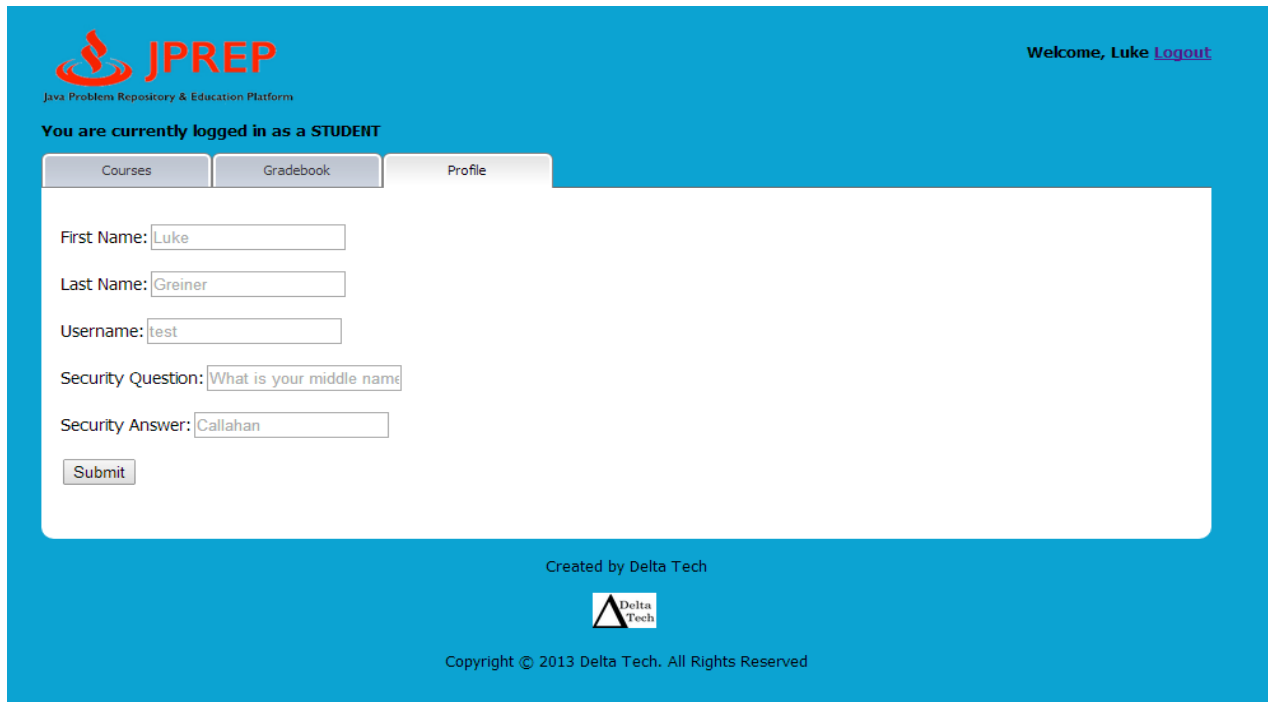
10.8 Prototype 8: Student View Profile

This screen represents a student viewing the profile.

The screenshot shows a web interface for the Java Problem Repository & Education Platform (JPREP). The page has a blue background. In the top left corner, there is the JPREP logo, which consists of a stylized red and orange flame-like shape next to the text 'JPREP' in red, with 'Java Problem Repository & Education Platform' in smaller black text below it. In the top right corner, the text 'Welcome, Luke' is displayed in white, followed by a blue 'Logout' link. Below the logo, the text 'You are currently logged in as a STUDENT' is shown in white. A navigation bar contains three tabs: 'Courses', 'Gradebook', and 'Profile', with 'Profile' being the active tab. Below the navigation bar, there are two links: 'Edit Profile' and 'Change Password'. A list of profile details is displayed in white text on a blue background, including: First Name: Luke, Last Name: Greiner, Email Address: test, Password: *****, Security Question: What is your middle name?, and Security Answer: Callahan. At the bottom of the page, the text 'Created by Delta Tech' is centered, followed by the Delta Tech logo (a stylized 'A' with 'Delta Tech' text) and the copyright notice 'Copyright © 2013 Delta Tech. All Rights Reserved'.

10.9 Prototype 9: Student Edit Profile

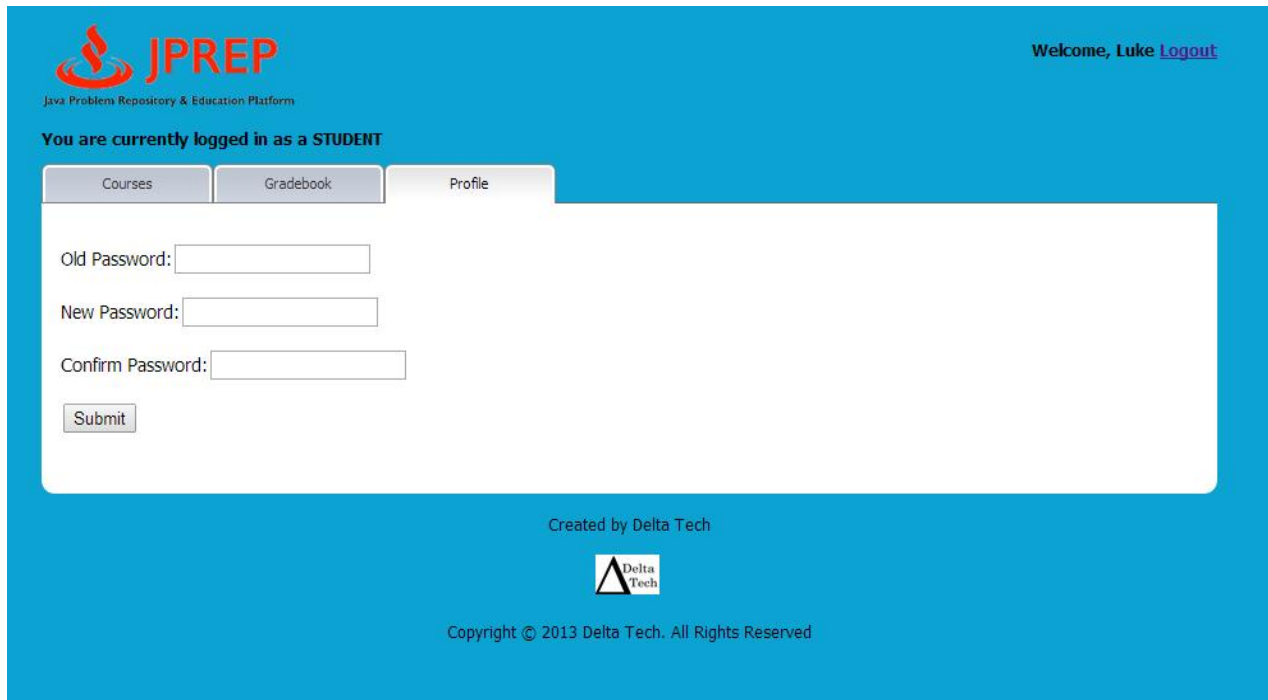
This screen represents a student editing the profile.



The screenshot shows the JPREP (Java Problem Repository & Education Platform) interface. At the top left is the JPREP logo with the text "Java Problem Repository & Education Platform". At the top right, it says "Welcome, Luke" with a [Logout](#) link. Below the logo, it states "You are currently logged in as a STUDENT". There are three tabs: "Courses", "Gradebook", and "Profile", with "Profile" being the active tab. The profile form contains the following fields: "First Name" (Luke), "Last Name" (Greiner), "Username" (test), "Security Question" (What is your middle name), and "Security Answer" (Callahan). A "Submit" button is located at the bottom of the form. At the bottom of the page, it says "Created by Delta Tech" with the Delta Tech logo, and "Copyright © 2013 Delta Tech. All Rights Reserved".

10.10 Prototype 10: Student Change Password View

This screen represents the student's ability to change the password.



The screenshot shows a web interface for a student to change their password. The page has a blue header with the JPREP logo on the left and a welcome message on the right. Below the header, there is a navigation bar with three tabs: 'Courses', 'Gradebook', and 'Profile'. The 'Profile' tab is active. The main content area is a white box containing three text input fields labeled 'Old Password:', 'New Password:', and 'Confirm Password:'. A 'Submit' button is located below the input fields. At the bottom of the page, there is a footer with the text 'Created by Delta Tech', the Delta Tech logo, and the copyright notice 'Copyright © 2013 Delta Tech. All Rights Reserved'.

Java Problem Repository & Education Platform

Welcome, Luke [Logout](#)

You are currently logged in as a STUDENT

Courses Gradebook Profile


Old Password:

New Password:

Confirm Password:

Submit

Created by Delta Tech

 Delta Tech

Copyright © 2013 Delta Tech. All Rights Reserved

10.11 Prototype 11: Student Course Grade Book Selection

This screen represents what courses the student can view the course grade book for.

The screenshot displays the JPREP (Java Problem Repository & Education Platform) interface for a student. At the top left is the JPREP logo and the text "Java Problem Repository & Education Platform". At the top right, it says "Welcome, Luke" with a "Logout" link. Below the header, a message states "You are currently logged in as a STUDENT". There are three navigation tabs: "Courses", "Gradebook", and "Profile". The "Courses" tab is active. The main content area prompts the user to "Select a course to view your grade" and lists two categories of courses: "Current Courses" (Course 1, Course 2, Course 3) and "Previous Courses" (Course 4, Course 5). At the bottom, it says "Created by Delta Tech" with the Delta Tech logo and "Copyright © 2013 Delta Tech. All Rights Reserved".

10.12 Prototype 12: Student Grade Book View

This screen represents the student's view of a course grade book.

The screenshot shows the JPREP (Java Problem Repository & Education Platform) interface. At the top left is the JPREP logo and the text "Java Problem Repository & Education Platform". At the top right, it says "Welcome, Luke Logout". Below this, a message states "You are currently logged in as a STUDENT". There are three navigation tabs: "Courses", "Gradebook", and "Profile", with "Gradebook" being the active tab. The main content area displays "Course" and "Semester: Spring 2014". A table lists five assignments with their due dates, grades, percentages, and comments. A "Total" row shows an overall grade of 429/500 and a percentage of 85%. A "Back" button is located below the table. At the bottom of the page, it says "Created by Delta Tech" with the Delta Tech logo, and "Copyright © 2013 Delta Tech. All Rights Reserved".

JPREP
Java Problem Repository & Education Platform

Welcome, Luke [Logout](#)

You are currently logged in as a **STUDENT**

[Courses](#) [Gradebook](#) [Profile](#)

Course **Semester: Spring 2014**

Assignment	Due Date	Grade	Percentage	Comments
Assignment 1	5/1/2014 11:59 PM	90/100	90%	Great job!
Assignment 2	5/2/2014 11:59 PM	100/100	100%	
Assignment 3	5/3/2014 11:59 PM	75/100	75%	
Assignment 4	5/4/2014 11:59 PM	84/100	84%	
Assignment 5	5/5/2014 11:59 PM	80/100	80%	
Total		429/500	85%	

[Back](#)

Created by Delta Tech

Copyright © 2013 Delta Tech. All Rights Reserved

10.13 Prototype 13: Faculty Courses

This screen represents the faculty's view of their courses.

JPREP
Java Problem Repository & Education Platform

Welcome, Pat [Logout](#)

You are currently logged in as a **FACULTY** Faculty

Courses Question Pool Gradebook Profile

Current Courses

[-] Course 1

- [Create New Problem](#)
- [Create New Assignment](#)
- [Manage Assignments](#)
- [View Question Pool](#)
- [View Gradebook](#)

[+] Course 2

[+] Course 3


Previous Courses

[-] Course 4

- [Create New Problem](#)
- [Create New Assignment](#)
- [Manage Assignments](#)
- [View Question Pool](#)
- [View Gradebook](#)

[+] Course 5

Created by Delta Tech



Copyright © 2013 Delta Tech. All Rights Reserved

10.14 Prototype 14: Faculty Course Question Pool

This screen represents the faculty's view of the course's question pool.

The screenshot shows the JPREP (Java Problem Repository & Education Platform) interface. At the top left is the JPREP logo. At the top right, it says "Welcome, Pat Logout". Below the logo, it indicates the user is logged in as a FACULTY member. There are navigation tabs for "Courses", "Question Pool", "Gradebook", and "Profile". The "Question Pool" tab is active. The main content area is titled "Course Pool" and contains a table with four rows of problem data. Each row includes a problem name, category, course ID, and two action links: "Add to Private Pool" and "Edit". A "Back" button is located below the table. At the bottom of the page, it says "Created by Delta Tech" with the Delta Tech logo and "Copyright © 2013 Delta Tech. All Rights Reserved".

Name	Category	Course		
Problem 1	String	CSIS-225	Add to Private Pool	Edit
Problem 2	Recursion	CSIS-225	Add to Private Pool	Edit
Problem 3	Array	CSIS-225	Add to Private Pool	Edit
Problem 4	Logic	CSIS-225	Add to Private Pool	Edit

10.15 Prototype 15: Faculty Create Assignment

This screen represents the faculty's view of creating a question.

The screenshot shows the 'Create New Assignment' interface in the JPREP system. At the top left is the JPREP logo and the text 'Java Problem Repository & Education Platform'. At the top right, it says 'Welcome, Pat Logout'. Below the logo, it indicates the user is logged in as a 'FACULTY' with a dropdown menu. There are four tabs: 'Courses', 'Question Pool', 'Gradebook', and 'Profile'. The main content area is titled 'Create New Assignment' and contains several input fields: 'Title', 'Category' (a dropdown menu), 'Course' (a dropdown menu), and 'Due Date' (a date and time picker). Below these is a large text area for 'Description'. There are three links: 'Create and Add New Problem', 'Add Problem from Private Question Pool', and 'Add Problem from Global Question Pool'. A table lists the current assignment with columns for 'Problem Name', 'Category', and 'Point Value'. The table shows one problem named 'String Problem' with a category of 'String' and a point value of 0. There are 'Edit' and 'Remove' links for this problem. Below the table, it shows 'Total Points: 0'. At the bottom right of the form are 'Cancel' and 'Create Assignment' buttons. The footer includes 'Created by Delta Tech', the Delta Tech logo, and 'Copyright © 2013 Delta Tech. All Rights Reserved'.

JPREP
Java Problem Repository & Education Platform

Welcome, Pat [Logout](#)

You are currently logged in as a **FACULTY** Faculty

Courses Question Pool Gradebook Profile

Create New Assignment

Title: Category: Course: Due Date: / / :

Description

[Create and Add New Problem](#) [Add Problem from Private Question Pool](#) [Add Problem from Global Question Pool](#)

Problem Name	Category	Point Value	
Problem 1: String Problem	String	<input type="text"/>	Edit Remove
Total Points:		0	

Created by Delta Tech

Copyright © 2013 Delta Tech. All Rights Reserved

10.16 Prototype 16: Faculty Create Problem

This screen represents the faculty's view of creating a problem.

The screenshot shows the 'Create New Problem' interface for a faculty member. At the top left is the JPREP logo and the text 'Java Problem Repository & Education Platform'. At the top right, it says 'Welcome, Pat Logout'. Below the logo, it indicates 'You are currently logged in as a FACULTY Faculty'. There are navigation tabs for 'Courses', 'Question Pool', 'Gradebook', and 'Profile'. The main form area is titled 'Create New Problem' and contains several input fields: 'Title', 'Method Name', 'Category' (a dropdown menu), and 'Course' (a dropdown menu). Below these is a large text area for 'Question/Description'. The 'Parameter' section includes five columns labeled 'Param 1' through 'Param 5' and a 'Result Type' column. Each column has a 'Parameter Name' input field and a 'Parameter Type' dropdown menu (all set to 'int'). There are 'Add Parameter' and 'Remove Parameter' buttons. Below the parameters is a 'Test Case 1' section with input fields and 'Add Test Case' and 'Remove Test Case(s)' buttons. A 'Hidden' checkbox and a 'Remove' button are also present. At the bottom of the form is a 'Solution Code' text area. At the bottom right of the form are 'Cancel', 'Save', and 'Create' buttons. The footer of the page includes 'Created by Delta Tech', the Delta Tech logo, and 'Copyright © 2013 Delta Tech. All Rights Reserved'.

10.17 Prototype 17: Faculty Cancel Problem

This screen represents the faculty's view of cancel a problem.

The page at localhost says: Are you sure you want to cancel?

OK Cancel

Welcome, Pat [Logout](#)

You are currently logged in as a FACULTY Faculty

Courses Question Pool Gradebook Profile

Create New Problem

Title Method Name Category Course

Question/Description

Parameter Name	Param 1	Param 2	Param 3	Param 4	Param 5	Result Type
Parameter Name	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Parameter 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"/>
	<input type="button" value="Add Parameter"/>	<input type="button" value="Remove Parameter"/>				
Test Case 1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	<input type="button" value="Add Test Case"/>	<input type="button" value="Remove Test Case(s)"/>				<input type="checkbox"/> <input type="checkbox"/>

Solution Code

Created by Delta Tech

Copyright © 2013 Delta Tech. All Rights Reserved

10.18 Prototype 18: Faculty Profile

This screen represents the faculty's view of a profile.

Java Problems Repository & Education Platform

Welcome, Pat [Logout](#)


You are currently logged in as a FACULTY Faculty

Courses Question Pool Gradebook Profile

[Edit Profile](#) [Change Password](#)

- Prefix: Mr
- First Name: Pat
- Last Name: White
- Email Address: test1
- Password: *****
- Security Question: Who is your best friend?
- Security Answer: Luke

Created by Delta Tech



Copyright © 2013 Delta Tech. All Rights Reserved

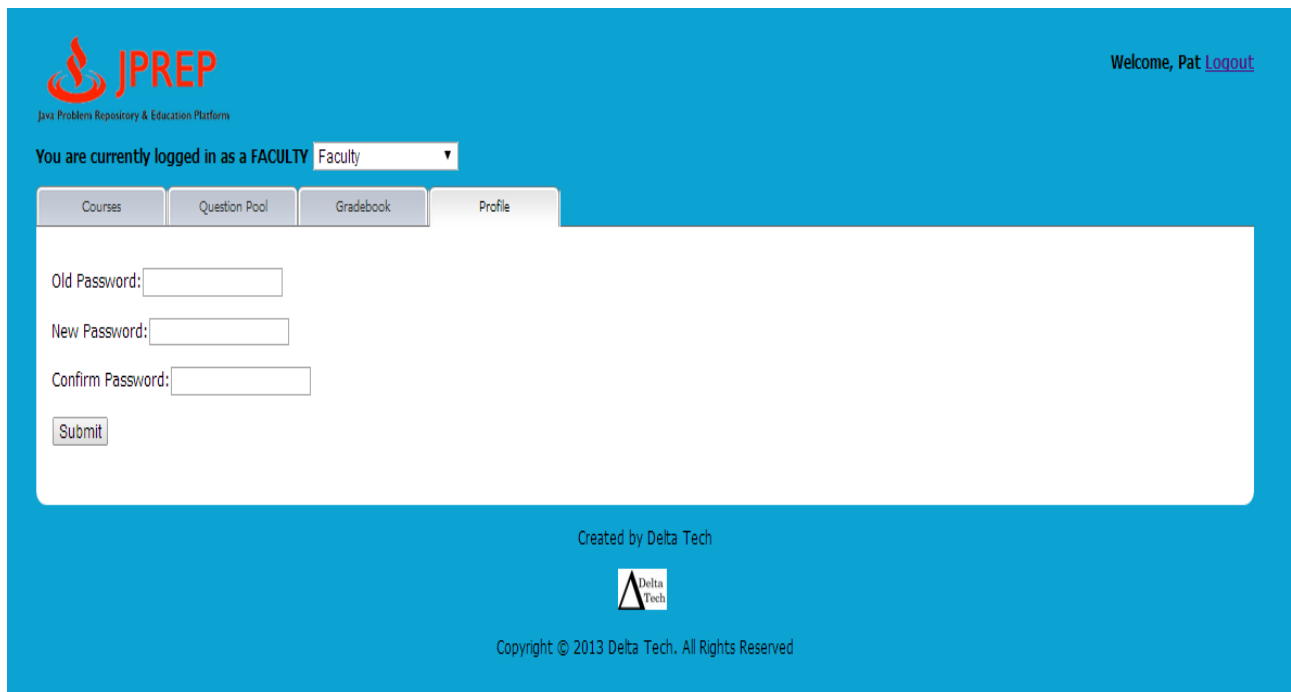
10.19 Prototype 19: Faculty Edit Profile

This screen represents the faculty's view of a profile.

The screenshot shows the JPREP (Java Problem Repository & Education Platform) interface. At the top left is the JPREP logo. At the top right, it says "Welcome, Pat" with a "Logout" link. Below the logo, it indicates the user is logged in as a "FACULTY" member. There are four tabs: "Courses", "Question Pool", "Gradebook", and "Profile", with "Profile" being the active tab. The profile form contains the following fields: "Prefix" (Mr), "First Name" (Pat), "Last Name" (White), "Username" (test1), "Security Question" (Who is your best friend), and "Security Answer" (Luke). A "Submit" button is located at the bottom of the form. At the bottom of the page, it says "Created by Delta Tech" with the Delta Tech logo and "Copyright © 2013 Delta Tech. All Rights Reserved".

10.20 Prototype 20: Faculty Change Password

This screen represents the faculty changing their password.



The screenshot shows a web interface for the Java Problem Repository and Education Platform (JPREP). The header is blue with the JPREP logo on the left and a welcome message "Welcome, Pat [Logout](#)" on the right. Below the header, a navigation bar contains buttons for "Courses", "Question Pool", "Gradebook", and "Profile". The main content area is white and contains a form for changing a password. The form includes three text input fields labeled "Old Password:", "New Password:", and "Confirm Password:", followed by a "Submit" button. At the bottom of the page, there is a footer with the text "Created by Delta Tech", the Delta Tech logo, and "Copyright © 2013 Delta Tech. All Rights Reserved".

Java Problems Repository & Education Platform

Welcome, Pat [Logout](#)

You are currently logged in as a FACULTY Faculty


Courses Question Pool Gradebook Profile

Old Password:

New Password:

Confirm Password:

Created by Delta Tech



Copyright © 2013 Delta Tech. All Rights Reserved

10.21 Prototype 21: Faculty Question Pool

This screen represents the faculty's access to question pools.

The screenshot shows the JPREP (Java Problem Repository & Education Platform) interface for a faculty member. The header is blue and contains the JPREP logo on the left and the text "Welcome, Pat [Logout](#)" on the right. Below the header, a navigation bar shows "You are currently logged in as a FACULTY" with a dropdown menu set to "Faculty". Below this are four buttons: "Courses", "Question Pool", "Gradebook", and "Profile". The main content area is white and contains the text "Click a link to view that question pool" followed by a link labeled "Private". Below this are two sections: "Current Courses" with links for "Course 1", "Course 2", and "Course 3"; and "Previous Courses" with links for "Course 4" and "Course 5". At the bottom of the page, it says "Created by Delta Tech" with the Delta Tech logo and "Copyright © 2013 Delta Tech. All Rights Reserved".

10.22 Prototype 22: Faculty Personal Private Question Pool

This screen represents the faculty's personal private question pool.

The screenshot shows the JPREP (Java Problem Repository & Education Platform) interface. At the top left is the JPREP logo and the text "Java Problem Repository & Education Platform". At the top right, it says "Welcome, Pat" with a "Logout" link. Below this, it indicates the user is logged in as a "FACULTY" with a dropdown menu currently showing "Faculty". There are four navigation tabs: "Courses", "Question Pool", "Gradebook", and "Profile". The "Question Pool" tab is active, displaying a "Private Pool" section. This section contains a table with four rows of question pool items. Each row has columns for Name, Category, Course, Edit, and Remove. Below the table is a "Back" button. At the bottom of the page, it says "Created by Delta Tech" with the Delta Tech logo, and "Copyright © 2013 Delta Tech. All Rights Reserved".

Java Problem Repository & Education Platform

Welcome, Pat [Logout](#)

You are currently logged in as a FACULTY Faculty


Courses Question Pool Gradebook Profile

Private Pool

Name	Category	Course		
Problem 1	String	CSIS-225	Edit	Remove
Problem 2	Recursion	CSIS-120	Edit	Remove
Problem 3	Array	CSIS-225	Edit	Remove
Problem 4	Logic	CSIS-225	Edit	Remove

[Back](#)

Created by Delta Tech



Copyright © 2013 Delta Tech. All Rights Reserved

10.23 Prototype 23: Faculty Gradebook Course selection

This screen represents the faculty's gradebook course selection.

The screenshot shows the JPREP (Java Problem Repository & Education Platform) interface for a faculty member. The header is blue with the JPREP logo on the left and the text "Welcome, Pat [Logout](#)" on the right. Below the header, a navigation bar contains four tabs: "Courses", "Question Pool", "Gradebook", and "Profile". The "Gradebook" tab is currently selected. The main content area is white and displays the following information:

- You are currently logged in as a FACULTY** Faculty
- Current Courses**
 - [-] Course 1**
 - [View Students](#)
 - [View Assignments](#)
 - [+] Course 2**
 - [+] Course 3**
- Previous Courses**
 - [+] Course 4**
 - [+] Course 5**

At the bottom of the page, it says "Created by Delta Tech" with the Delta Tech logo, and "Copyright © 2013 Delta Tech. All Rights Reserved".

10.24 Prototype 24: Faculty Assignment Gradebook

This screen represents the faculty's assignment gradebook.

Java Problem Repository & Education Platform

Welcome, Pat [Logout](#)

You are currently logged in as a FACULTY Faculty

Courses Question Pool **Gradebook** Profile


Course Semester: Spring 2014

Click on an assignment's name to view individual student grades for that assignment

Assignment Name	Due Date	Class Average	Highest Grade	Lowest Grade
Assignment 1	3/10/2014 11:59 PM	90%	100	82
Assignment 2	3/11/2014 11:59 PM	98%	100	92
Assignment 3	3/12/2014 11:59 PM	75%	93	55
Assignment 4	3/13/2014 11:59 PM	84%	87	81
Assignment 5	3/14/2014 11:59 PM	80%	95	60

[Back](#)


Created by Delta Tech



Copyright © 2013 Delta Tech. All Rights Reserved

10.25 Prototype 25: Faculty All Student Gradebook

This screen represents the faculty's view of all as all students' gradebook.

Logo:  **JPREP**
Java Problem Repository & Education Platform

Welcome, Pat [Logout](#)

You are currently logged in as a **FACULTY** Faculty

Courses Question Pool **Gradebook** Profile


All Students Course 1

[Edit Grades](#)

Student Name	Assignment	Due Date	Grade	Percentage	Status
Student 1	Assignment 1	5/1/2014 11:59 PM	100/100	100%	Complete
Student 1	Assignment 2	5/1/2014 11:59 PM	90/100	90%	In Progress
Student 2	Assignment 1	5/2/2014 11:59 PM	90/100	90%	Complete
Student 2	Assignment 2	5/2/2014 11:59 PM	100/100	100%	Complete
Student 3	Assignment 1	5/3/2014 11:59 PM	65/100	65%	Complete
Student 3	Assignment 2	5/3/2014 11:59 PM	75/100	75%	Complete
Student 4	Assignment 1	5/4/2014 11:59 PM	74/100	74%	In Progress
Student 4	Assignment 2	5/4/2014 11:59 PM	84/100	84%	Complete

[Back](#)

Created by Delta Tech



Copyright © 2013 Delta Tech. All Rights Reserved

10.26 Prototype 26: Faculty Single Student's Gradebook

This screen represents the faculty's view of a single student's gradebook.

The screenshot shows the JPREP (Java Problem Repository & Education Platform) interface. At the top left is the JPREP logo. At the top right, it says "Welcome, Pat Logout". Below the logo, it indicates the user is logged in as a FACULTY. There are four navigation tabs: Courses, Question Pool, Gradebook (which is selected), and Profile. The main content area is titled "Student" and "Assignment" and includes a link for "Edit Grades". A table displays the gradebook data for three assignments. Below the table is a "Back" button. At the bottom of the page, it says "Created by Delta Tech" with the Delta Tech logo and "Copyright © 2013 Delta Tech. All Rights Reserved".

Problem Name	Points Earned	Possible Points	Status
Hello World	45	45	Complete
Fun with Recursion	30	40	Complete
Strings	15	15	Complete

10.27 Prototype 27: Faculty Edit Student's Gradebook

This screen represents the faculty's view of editing a single student's gradebook.

JPREP
Java Problem Repository & Education Platform

Welcome, Pat [Logout](#)

You are currently logged in as a **FACULTY** Faculty

Courses Question Pool **Gradebook** Profile

Edit All Students **Course 1**

Student Name	Assignment	Due Date	Grade	Percentage	Status
Student 1	Assignment 1	5/1/2014 11:59 PM	100/100	<input type="text" value="100"/> %	Complete
Student 1	Assignment 2	5/1/2014 11:59 PM	90/100	<input type="text" value="90"/> %	In Progress
Student 2	Assignment 1	5/2/2014 11:59 PM	90/100	<input type="text" value="90"/> %	Complete
Student 2	Assignment 2	5/2/2014 11:59 PM	100/100	<input type="text" value="100"/> %	Complete
Student 3	Assignment 1	5/3/2014 11:59 PM	65/100	<input type="text" value="65"/> %	Complete
Student 3	Assignment 2	5/3/2014 11:59 PM	75/100	<input type="text" value="75"/> %	Complete
Student 4	Assignment 1	5/4/2014 11:59 PM	74/100	<input type="text" value="74"/> %	In Progress
Student 4	Assignment 2	5/4/2014 11:59 PM	84/100	<input type="text" value="84"/> %	Complete

Created by Delta Tech

10.28 Prototype 28: Faculty Edit Student's Problem Grade

This screen represents the faculty's view of editing a single student's problem grade.

The screenshot shows the JPREP (Java Problem Repository & Education Platform) interface. At the top left is the JPREP logo. At the top right, it says "Welcome, Pat Logout". Below the logo, it indicates the user is logged in as a FACULTY. There are navigation tabs for Courses, Question Pool, Gradebook, and Profile. The main content area is titled "Student Assignment" and includes an "Edit Grades" link. A table displays the following data:

Problem Name	Points Earned	Possible Points	Status
Hello World	<input type="text" value="45"/>	45	Complete
Fun with Recursion	<input type="text" value="30"/>	40	Complete
Strings	<input type="text" value="15"/>	15	Complete

Below the table is a "Back" button. At the bottom of the page, it says "Created by Delta Tech" with the Delta Tech logo and "Copyright © 2013 Delta Tech. All Rights Reserved".

10.29 Prototype 29: Course Coordinator Courses

This screen represents the Course Coordinator's view of their courses.

The screenshot displays the JPREP (Java Problem Repository & Education Platform) interface for a Course Coordinator. The header includes the JPREP logo and the text "Welcome, Pat Logout". Below the header, a notification states "You are currently logged in as a FACULTY Course Coordinator" with a dropdown menu. A navigation bar contains tabs for "Courses", "Question Pool", "Gradebook", and "Profile". The main content area is titled "Current Courses" and lists "Course 1" with a minus sign icon. Under "Course 1", there are five links: "Create New Problem", "Create New Assignment", "Manage Assignments", "View Question Pool", and "View Gradebook". Below "Course 1" are "Course 2" and "Course 3", both with plus sign icons. A section titled "Previous Courses" lists "Course 4" and "Course 5", both with plus sign icons. The footer of the interface includes the text "Created by Delta Tech", the Delta Tech logo, and the copyright notice "Copyright © 2013 Delta Tech. All Rights Reserved".

10.30 Prototype 30: Course Coordinator Profile

This screen represents the Course Coordinator's view of their profile.

The screenshot shows the JPREP (Java Problem Repository & Education Platform) interface. At the top left is the JPREP logo with the text "Java Problem Repository & Education Platform". At the top right, it says "Welcome, Pat Logout". Below the logo, it indicates "You are currently logged in as a FACULTY Course Coordinator" with a dropdown arrow. There are four navigation tabs: "Courses", "Question Pool", "Gradebook", and "Profile", with "Profile" being the active tab. The profile page contains two links: "Edit Profile" and "Change Password". Below these links is a list of user details:

- Prefix: Mr
- First Name: Pat
- Last Name: White
- Email Address: test1
- Password: *****
- Security Question: Who is your best friend?
- Security Answer: Luke

At the bottom of the page, it says "Created by Delta Tech" with the Delta Tech logo, and "Copyright © 2013 Delta Tech. All Rights Reserved".

10.31 Prototype 31: Course Coordinator Edit Profile

This screen represents the Course Coordinator's view of editing their profile.

Java Problem Repository & Education Platform

Welcome, Pat [Logout](#)

You are currently logged in as a **FACULTY** Course Coordinator ▾

Courses Question Pool Gradebook Profile

Prefix:

First Name:


Last Name:

Username:

Security Question:

Security Answer:

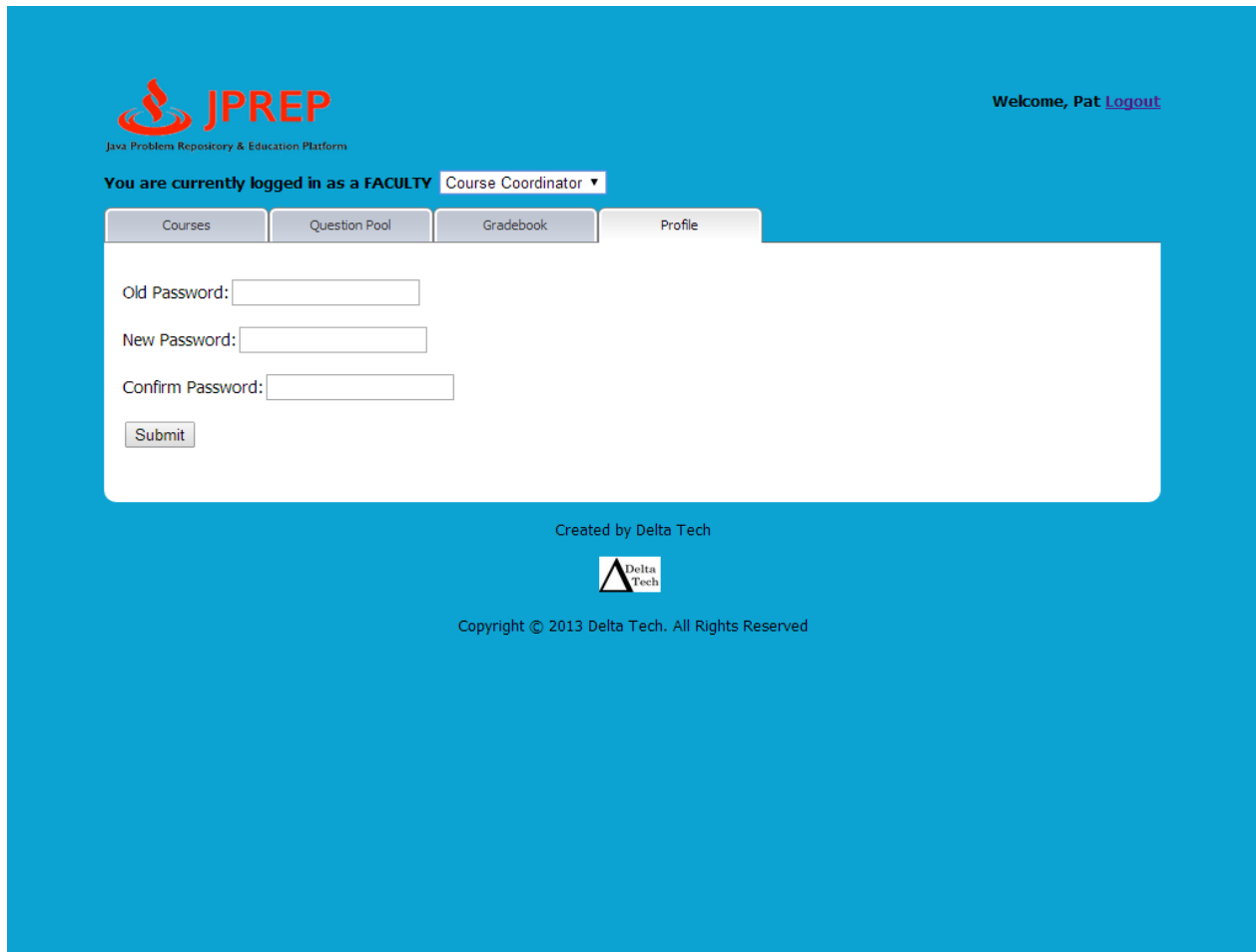
Created by Delta Tech



Copyright © 2013 Delta Tech. All Rights Reserved

10.32 Prototype 32: Course Coordinator Change Password

This screen represents the Course Coordinator's view of changing their password.



The screenshot shows a web interface for changing a password. At the top left is the JPREP logo (Java Problem Repository & Education Platform). At the top right, it says "Welcome, Pat [Logout](#)". Below this, it indicates the user is logged in as a "FACULTY Course Coordinator" with a dropdown arrow. There are four navigation tabs: "Courses", "Question Pool", "Gradebook", and "Profile". The "Profile" tab is active, showing a form with three input fields: "Old Password:", "New Password:", and "Confirm Password:". A "Submit" button is located below the "Confirm Password" field. At the bottom of the page, it says "Created by Delta Tech" with the Delta Tech logo and "Copyright © 2013 Delta Tech. All Rights Reserved".

10.33 Prototype 33: Course Coordinator Courses' Question Pools

This screen represents the Course Coordinator's ability to select which course question pool they want to view

The screenshot displays the JPREP (Java Problem Repository & Education Platform) interface for a Course Coordinator. The header includes the JPREP logo and the text "Java Problem Repository & Education Platform". A user is logged in as "Pat" with a "Logout" link. The user's role is "Course Coordinator". The interface features four tabs: "Courses", "Question Pool", "Gradebook", and "Profile". The "Question Pool" tab is active, showing a message: "Click a link to view that question pool". Below this message, there is a link for "Private". The "Current Courses" section lists three courses: "Course 1", "Course 2", and "Course 3". The "Previous Courses" section lists two courses: "Course 4" and "Course 5". The footer includes the text "Created by Delta Tech", the Delta Tech logo, and the copyright notice "Copyright © 2013 Delta Tech. All Rights Reserved".

10.34 Prototype 34: Course Coordinator Course Question Pool

This screen represents the Course Coordinator's view of the course question pool.

The screenshot shows the JPREP (Java Problem Repository & Education Platform) interface. At the top left is the JPREP logo with the text "Java Problem Repository & Education Platform". At the top right, it says "Welcome, Pat Logout". Below the logo, it indicates "You are currently logged in as a FACULTY Course Coordinator" with a dropdown arrow. There are four navigation tabs: "Courses", "Question Pool", "Gradebook", and "Profile". The "Question Pool" tab is active. Below the tabs, the section is titled "Private Pool". It contains a table with four rows of question pool entries. Each row has columns for Name, Category, Course, Edit, and Remove. Below the table is a "Back" button. At the bottom of the page, it says "Created by Delta Tech" with the Delta Tech logo, and "Copyright © 2013 Delta Tech. All Rights Reserved".

JPREP
Java Problem Repository & Education Platform

Welcome, Pat [Logout](#)

You are currently logged in as a FACULTY **Course Coordinator** ▼

Courses Question Pool Gradebook Profile

Private Pool

Name	Category	Course		
Problem 1	String	CSIS-225	Edit	Remove
Problem 2	Recursion	CSIS-120	Edit	Remove
Problem 3	Array	CSIS-225	Edit	Remove
Problem 4	Logic	CSIS-225	Edit	Remove

[Back](#)

Created by Delta Tech

Copyright © 2013 Delta Tech. All Rights Reserved

10.35 Prototype 35: Course Coordinator Create Problem

This screen represents the Course Coordinator's view of creating a problem.

JPREP
Java Problem Repository & Education Platform

Welcome, Pat [Logout](#)

You are currently logged in as a **FACULTY** Course Coordinator ▾

Courses | Question Pool | Gradebook | Profile

Create New Problem

Title Method Name Category Course

Question/Description

	Param 1	Param 2	Param 3	Param 4	Param 5	Result Type
Parameter Name	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Parameter 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"/>
	<input type="button" value="Add Parameter"/>	<input type="button" value="Remove Parameter"/>				
Test Case 1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	<input type="button" value="Add Test Case"/>	<input type="button" value="Remove Test Case(s)"/>				<input type="checkbox"/> <input type="checkbox"/>

Solution Code

Created by Delta Tech

Copyright © 2013 Delta Tech. All Rights Reserved

10.36 Prototype 36: Admin Courses

This screen represents the administrator's view of courses.

Java Problem Repository & Education Platform

Welcome, Denis [Logout](#)

You are currently logged in as a ADMIN

Courses Manage Accounts Question Pool Profile

[Add Course](#) [Delete Course](#)

Current Courses

Course 1


[Edit Course](#)
[Create New Problem](#)

Course 2
 Course 3

Previous Courses

Course 4
 Course 5

Created by Delta Tech



Copyright © 2013 Delta Tech. All Rights Reserved

10.37 Prototype 37: Admin Create Course

This screen represents the administrator's ability to add a course

The screenshot shows the 'Create New Course' form within the JPREP Admin interface. The page has a blue header with the JPREP logo and the text 'Java Problem Repository & Education Platform'. A user is logged in as 'ADMIN', and the interface shows navigation tabs for 'Courses', 'Manage Accounts', 'Question Pool', and 'Profile'. The 'Create New Course' form includes the following fields and controls:

- Course Number:** CSIS- **Section Number:**
- Course Name:**
- Description:**
- Semester:**
- Assign Faculty Member:**
- Assign Course Coordinator:**
- Buttons:**


At the bottom of the page, it says 'Created by Delta Tech' with the Delta Tech logo, and 'Copyright © 2013 Delta Tech. All Rights Reserved'.

10.38 Prototype 38: Admin Disable Course

This screen represents the administrator's ability to disable a course

The screenshot shows the JPREP Admin interface. At the top left is the JPREP logo with the text "Java Problem Repository & Education Platform". At the top right, it says "Welcome, Denis Logout". Below the logo, it states "You are currently logged in as a ADMIN". There are four tabs: "Courses", "Manage Accounts", "Question Pool", and "Profile". The "Courses" tab is active, showing a form to "Select the course(s) to be deleted". The form is divided into two sections: "Current Courses" and "Previous Courses". Under "Current Courses", there are three items: "Course 1", "Course 2", and "Course 3", each with a checkbox. Under "Previous Courses", there are two items: "Course 4" and "Course 5", each with a checkbox. At the bottom of the form are two buttons: "Cancel" and "Delete Course(s)".

Created by Delta Tech



Copyright © 2013 Delta Tech. All Rights Reserved

10.39 Prototype 39: Admin Create Student

This screen represents the administrator's ability to create a student account.

The screenshot shows the 'Create New Student' form in the JPREP Admin interface. The page has a blue header with the JPREP logo and the text 'Welcome, Denis Logout'. Below the header, there is a navigation bar with buttons for 'Courses', 'Manage Accounts', 'Question Pool', and 'Profile'. The main content area is titled 'Create New Student' and contains several input fields: 'First Name:', 'Last Name:', 'Username:', 'Security Question:', and 'Security Answer:'. Below these fields is a table with columns 'Course Number', 'Course Name', and 'Enroll'. The table lists seven courses, each with an 'Enroll' checkbox. At the bottom of the form are 'Cancel' and 'Create Account' buttons. The footer of the page includes the text 'Created by Delta Tech', the Delta Tech logo, and 'Copyright © 2013 Delta Tech. All Rights Reserved'.

JPREP
Java Problem Repository & Education Platform

Welcome, Denis [Logout](#)

You are currently logged in as a **ADMIN**

Courses Manage Accounts Question Pool Profile

Create New Student

First Name:

Last Name:

Username:

Security Question:

Security Answer:

Course Number	Course Name	Enroll
CSIS-120-01	Intro to Programming	<input type="checkbox"/>
CSIS-120-02	Intro to Programming	<input type="checkbox"/>
CSIS-120-03	Intro to Programming	<input type="checkbox"/>
CSIS-120-04	Intro to Programming	<input type="checkbox"/>
CSIS-225-01	Object Oriented	<input type="checkbox"/>
CSIS-225-02	Object Oriented	<input type="checkbox"/>
CSIS-225-03	Object Oriented	<input type="checkbox"/>

Created by Delta Tech

Copyright © 2013 Delta Tech. All Rights Reserved

10.40 Prototype 40: Admin Create Faculty

This screen represents the administrator's ability to create a faculty account.

The screenshot shows the 'Create New Faculty' form in the JPREP admin interface. The page has a blue header with the JPREP logo and the text 'Welcome, Denis Logout'. Below the header, there are navigation tabs: 'Courses', 'Manage Accounts', 'Question Pool', and 'Profile'. The 'Manage Accounts' tab is active. The form contains the following fields:


- Prefix:
- First Name:
- Last Name:
- Username:
- Security Question:
- Security Answer:

Below the form is a table with the following data:

Course Number	Course Name	Assign
CSIS-120-01	Intro to Programming	<input type="checkbox"/>
CSIS-120-02	Intro to Programming	<input type="checkbox"/>
CSIS-120-03	Intro to Programming	<input type="checkbox"/>
CSIS-120-04	Intro to Programming	<input type="checkbox"/>
CSIS-225-01	Object Oriented	<input type="checkbox"/>
CSIS-225-02	Object Oriented	<input type="checkbox"/>
CSIS-225-03	Object Oriented	<input type="checkbox"/>

At the bottom of the form are two buttons: 'Cancel' and 'Create Account'.

Created by Delta Tech



Copyright © 2013 Delta Tech. All Rights Reserved

10.41 Prototype 41: Admin Create Course Coordinator

This screen represents the administrator's ability to create a course coordinator account.

The screenshot shows the JPREP Admin interface. At the top left is the JPREP logo with the text 'Java Problem Repository & Education Platform'. At the top right, it says 'Welcome, Denis Logout'. Below the logo, it indicates 'You are currently logged in as a ADMIN'. There are four navigation tabs: 'Courses', 'Manage Accounts', 'Question Pool', and 'Profile'. The 'Manage Accounts' tab is active, and the 'Create New Course Coordinator' form is displayed. The form includes input fields for 'Prefix', 'First Name', 'Last Name', 'Username', 'Security Question', and 'Security Answer'. There is a 'Faculty Privileges' checkbox which is unchecked. Below this is a table with columns 'Course Number', 'Course Name', and 'Assign'. The table lists four courses: CSIS-120 (Intro to Programming), CSIS-210 (Data Structures), CSIS-220 (Assembly Language), and CSIS-225 (Object Oriented), each with an 'Assign' checkbox. At the bottom of the form are 'Cancel' and 'Create Account' buttons. The footer of the page includes 'Created by Delta Tech', the Delta Tech logo, and 'Copyright © 2013 Delta Tech. All Rights Reserved'.

Java Problem Repository & Education Platform

Welcome, Denis [Logout](#)

You are currently logged in as a ADMIN

Courses Manage Accounts Question Pool Profile

Create New Course Coordinator

Prefix:

First Name:

Last Name:

Username:


Security Question:

Security Answer:

Faculty Privileges:

Course Number	Course Name	Assign
CSIS-120	Intro to Programming	<input type="checkbox"/>
CSIS-210	Data Structures	<input type="checkbox"/>
CSIS-220	Assembly Language	<input type="checkbox"/>
CSIS-225	Object Oriented	<input type="checkbox"/>

Created by Delta Tech



Copyright © 2013 Delta Tech. All Rights Reserved

10.42 Prototype 42: Admin Edit Student

This screen represents the administrator's ability to edit a student account.

Java Problem Repository & Education Platform

Welcome, Denis [Logout](#)

You are currently logged in as a **ADMIN**

[Courses](#) [Manage Accounts](#) [Question Pool](#) [Profile](#)

First Name:

Last Name:

Email:


Confirm Email:

Security Question:

Security Answer:

Course Number	Course Name	Enroll
CSIS-120-01	Intro to Programming	<input type="checkbox"/>
CSIS-120-02	Intro to Programming	<input checked="" type="checkbox"/>
CSIS-120-03	Intro to Programming	<input type="checkbox"/>
CSIS-120-04	Intro to Programming	<input type="checkbox"/>
CSIS-225-01	Object Oriented	<input type="checkbox"/>
CSIS-225-02	Object Oriented	<input type="checkbox"/>
CSIS-225-03	Object Oriented	<input checked="" type="checkbox"/>

Created by Delta Tech



Copyright © 2013 Delta Tech. All Rights Reserved

10.43 Prototype 43: Admin Edit Faculty

This screen represents the administrator's ability to edit a faculty account.

Java Problem Repository & Education Platform

Welcome, Denis [Logout](#)

You are currently logged in as a ADMIN

Courses Manage Accounts Question Pool Profile

Prefix:

First Name:

Last Name:

Email:


Confirm Email:

Security Question:

Security Answer:

Course Number	Course Name	Enroll
CSIS-120-01	Intro to Programming	<input checked="" type="checkbox"/>
CSIS-120-02	Intro to Programming	<input type="checkbox"/>
CSIS-120-03	Intro to Programming	<input type="checkbox"/>
CSIS-120-04	Intro to Programming	<input type="checkbox"/>
CSIS-225-01	Object Oriented	<input checked="" type="checkbox"/>
CSIS-225-02	Object Oriented	<input checked="" type="checkbox"/>
CSIS-225-03	Object Oriented	<input checked="" type="checkbox"/>

Created by Delta Tech



Copyright © 2013 Delta Tech. All Rights Reserved

10.44 Prototype 44: Admin Edit Course Coordinator

This screen represents the administrator's ability to edit a course coordinator account.

The screenshot shows the JPREP (Java Problem Repository & Education Platform) interface. At the top left is the JPREP logo. At the top right, it says "Welcome, Denis Logout". Below the logo, it states "You are currently logged in as a ADMIN". There are four tabs: "Courses", "Manage Accounts", "Question Pool", and "Profile". The "Manage Accounts" tab is active, showing a form for editing a course coordinator account. The form includes fields for Prefix (Dr), First Name (Darren), Last Name (Lim), Email (dlim@siena.edu), Confirm Email (dlim@siena.edu), Security Question (Whos the best student), and Security Answer (Luke). Below the form is a table with columns for Course Number, Course Name, and Enroll. The table has two rows: CSIS-120 Intro to Programming (Enroll checkbox unchecked) and CSIS-225 Object Oriented (Enroll checkbox checked). At the bottom of the form are "Cancel" and "Submit" buttons. Below the form, it says "Created by Delta Tech" and shows the Delta Tech logo. At the very bottom, it says "Copyright © 2013 Delta Tech. All Rights Reserved".

Prefix:

First Name:

Last Name:

Email:


Confirm Email:

Security Question:

Security Answer:

Course Number	Course Name	Enroll
CSIS-120	Intro to Programming	<input type="checkbox"/>
CSIS-225	Object Oriented	<input checked="" type="checkbox"/>

Created by Delta Tech



Copyright © 2013 Delta Tech. All Rights Reserved

10.45 Prototype 45: Admin Manage Students

This screen represents the administrator's ability to manage student accounts.

The screenshot shows the JPREP Admin interface for managing student accounts. At the top left is the JPREP logo with the text "Java Problem Repository & Education Platform". At the top right, it says "Welcome, Denis Logout". Below the logo, it indicates "You are currently logged in as a ADMIN". There are four navigation tabs: "Courses", "Manage Accounts", "Question Pool", and "Profile". The "Manage Accounts" tab is active. The main content area is titled "Manage Student Accounts" and includes a link "Create New Student Account". Below this is a table with four columns: "First Name", "Last Name", "Edit", and "Delete". The table contains four rows of student data. At the bottom of the table area is a "Back" button. At the very bottom of the page, it says "Created by Delta Tech" with the Delta Tech logo and "Copyright © 2013 Delta Tech. All Rights Reserved".

JPREP
Java Problem Repository & Education Platform

Welcome, Denis [Logout](#)

You are currently logged in as a **ADMIN**

[Courses](#) [Manage Accounts](#) [Question Pool](#) [Profile](#)


Manage Student Accounts

[Create New Student Account](#)

First Name	Last Name	Edit	Delete
Petey	Cruiser	Edit	Delete
Robin	Banks	Edit	Delete
Will	Power	Edit	Delete
Mary	Christmas	Edit	Delete

[Back](#)

Created by Delta Tech



Copyright © 2013 Delta Tech. All Rights Reserved

10.46 Prototype 46: Admin Manage Faculty

This screen represents the administrator's ability to manage faculty accounts.

The screenshot shows the 'Admin Manage Faculty Accounts' interface. At the top left is the JPREP logo (Java Problem Repository & Education Platform). At the top right, it says 'Welcome, Denis Logout'. Below the logo, it indicates 'You are currently logged in as a ADMIN'. There are four navigation tabs: 'Courses', 'Manage Accounts' (selected), 'Question Pool', and 'Profile'. The main content area is titled 'Manage Faculty Accounts' and includes a link 'Create New Faculty Account'. A table lists four faculty members with columns for Prefix, First Name, Last Name, Edit, and Delete. Below the table is a 'Back' button. At the bottom, it says 'Created by Delta Tech' with the Delta Tech logo and 'Copyright © 2013 Delta Tech. All Rights Reserved'.

Java Problem Repository & Education Platform

Welcome, Denis [Logout](#)

You are currently logged in as a ADMIN

Courses Manage Accounts Question Pool Profile


Manage Faculty Accounts

[Create New Faculty Account](#)

Prefix	First Name	Last Name		
Mr	Vic	Tory	Edit	Delete
Dr	Luke	Warm	Edit	Delete
Dr	Will	Power	Edit	Delete
Mrs	Tara	Zona	Edit	Delete

[Back](#)

Created by Delta Tech



Copyright © 2013 Delta Tech. All Rights Reserved

10.47 Prototype 47: Admin Manage Course Coordinators

This screen represents the administrator's ability to manage course coordinator accounts.

The screenshot shows the JPREP (Java Problem Repository & Education Platform) admin interface. At the top left is the JPREP logo. At the top right, it says "Welcome, Denis Logout". Below the logo, it states "You are currently logged in as a ADMIN". There are four navigation tabs: "Courses", "Manage Accounts", "Question Pool", and "Profile". The "Manage Accounts" tab is selected. The main content area is titled "Manage Course Coordinator Accounts" and includes a link "Create New Course Coordinator Account". Below this is a table with columns for Prefix, First Name, Last Name, Edit, and Delete. The table contains three rows of data. At the bottom of the table area is a "Back" button. At the bottom of the page, it says "Created by Delta Tech" with the Delta Tech logo and "Copyright © 2013 Delta Tech. All Rights Reserved".

Java Problem Repository & Education Platform

Welcome, Denis [Logout](#)

You are currently logged in as a ADMIN

Courses Manage Accounts Question Pool Profile


Manage Course Coordinator Accounts

[Create New Course Coordinator Account](#)

Prefix	First Name	Last Name	Edit	Delete
Mr	Nick	Nack	Edit	Delete
Dr	Cliff	Diver	Edit	Delete
Mrs	Patty	Whack	Edit	Delete

[Back](#)

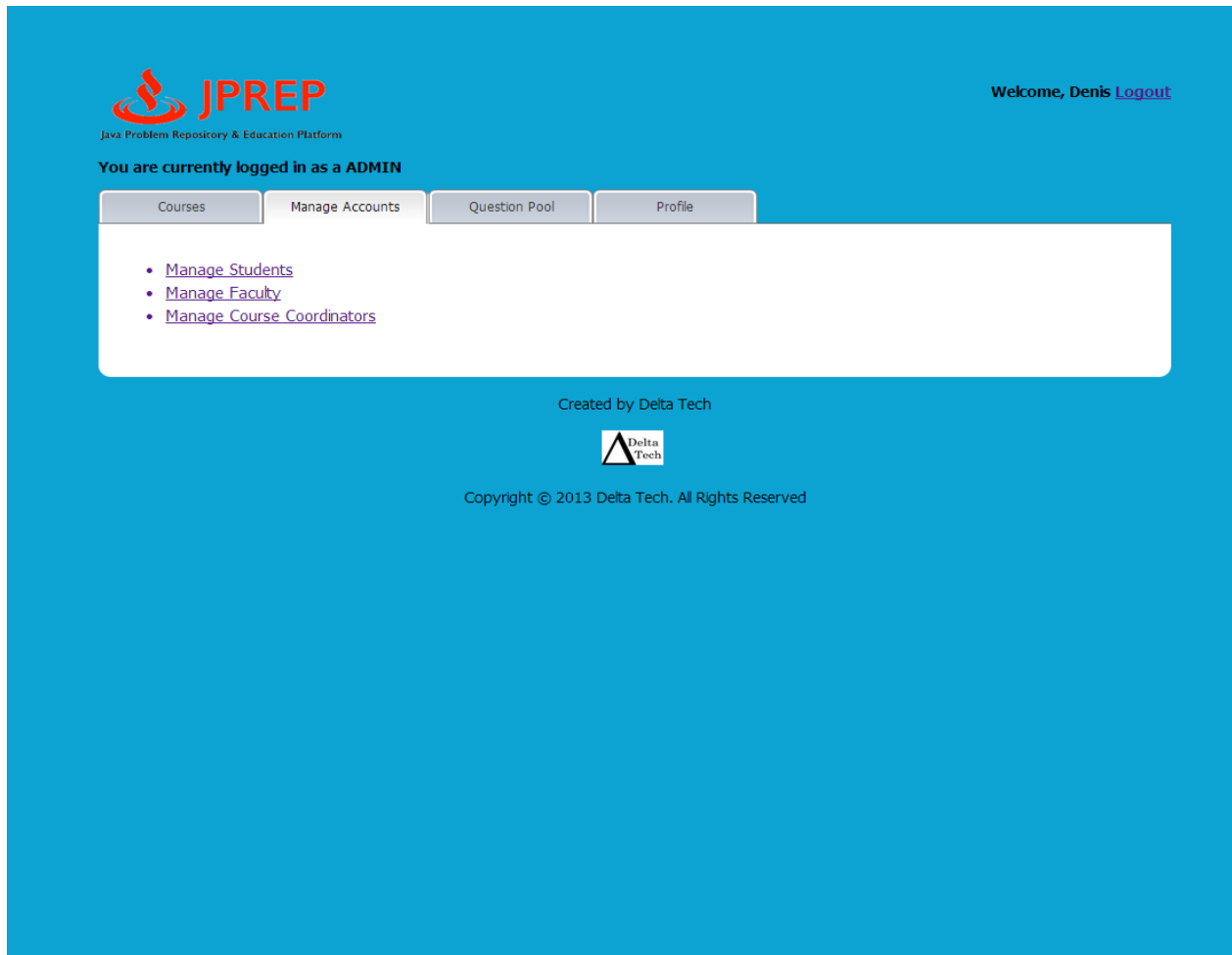
Created by Delta Tech



Copyright © 2013 Delta Tech. All Rights Reserved

10.48 Prototype 48: Admin Manage Accounts

This screen represents the administrator's ability to manage accounts.



The screenshot shows the JPREP (Java Problem Repository & Education Platform) interface. At the top left is the JPREP logo with the text "Java Problem Repository & Education Platform". At the top right, it says "Welcome, Denis [Logout](#)". Below the logo, it states "You are currently logged in as a ADMIN". There are four tabs: "Courses", "Manage Accounts", "Question Pool", and "Profile". The "Manage Accounts" tab is active, displaying a list of links:

- [Manage Students](#)
- [Manage Faculty](#)
- [Manage Course Coordinators](#)

At the bottom of the page, it says "Created by Delta Tech" with the Delta Tech logo, and "Copyright © 2013 Delta Tech. All Rights Reserved".

10.49 Prototype 49: Admin Profile

This screen represents the administrator's ability to manage their profile.


The screenshot shows the JPREP (Java Problem Repository & Education Platform) interface. At the top left is the JPREP logo with the text "Java Problem Repository & Education Platform". At the top right, it says "Welcome, Denis [Logout](#)". Below the logo, it states "You are currently logged in as a ADMIN". There are four tabs: "Courses", "Manage Accounts", "Question Pool", and "Profile". The "Profile" tab is active, showing a white box with the following information:

- [Edit Profile](#) [Change Password](#)
- Prefix: Mrs
- First Name: Denis
- Last Name: Kalc
- Email Address: test2
- Password: *****
- Security Question: who is the LVP?
- Security Answer: Denis Kalc

At the bottom of the page, it says "Created by Delta Tech" with the Delta Tech logo, and "Copyright © 2013 Delta Tech. All Rights Reserved".

10.50 Prototype 50: Admin Edit Profile

This screen represents the administrator's ability to manage edit their profile.

 **JPREP**
Java Problem Repository & Education Platform

Welcome, Denis [Logout](#)

You are currently logged in as a **ADMIN**

[Courses](#) [Manage Accounts](#) [Question Pool](#) [Profile](#)

Prefix:

First Name:


Last Name:

Username:

Security Question:

Security Answer:

Created by Delta Tech

 Delta Tech

Copyright © 2013 Delta Tech. All Rights Reserved

10.51 Prototype 51: Admin Course Question Pools

This screen represents the administrator's view of course question pools

The screenshot shows the JPREP (Java Problem Repository & Education Platform) administrator interface. The page has a blue header with the JPREP logo on the left and a user greeting 'Welcome, Denis' with a 'Logout' link on the right. Below the header, a message states 'You are currently logged in as a ADMIN'. A navigation bar contains four tabs: 'Courses', 'Manage Accounts', 'Question Pool', and 'Profile'. The 'Question Pool' tab is active, displaying a white content area with the instruction 'Click a link to view that question pool'. This area is divided into two sections: 'Current Courses' and 'Previous Courses'. Under 'Current Courses', there are three links: 'Course 1', 'Course 2', and 'Course 3'. Under 'Previous Courses', there are two links: 'Course 4' and 'Course 5'. At the bottom of the page, it says 'Created by Delta Tech' with the Delta Tech logo, and a copyright notice: 'Copyright © 2013 Delta Tech. All Rights Reserved'.

10.52 Prototype 52: Admin Course's Question Pool

This screen represents the administrator's view of a course's question pool.

The screenshot shows the JPREP (Java Problem Repository & Education Platform) interface. At the top left is the JPREP logo with the text "Java Problem Repository & Education Platform". At the top right, it says "Welcome, Denis Logout". Below the logo, it states "You are currently logged in as a ADMIN". There are four navigation tabs: "Courses", "Manage Accounts", "Question Pool", and "Profile". The "Question Pool" tab is selected. The main content area is titled "Course Pool" and contains a table with the following data:

Name	Category	Course		
Problem 1	String	CSIS-225	Edit	Remove
Problem 2	Recursion	CSIS-225	Edit	Remove
Problem 3	Array	CSIS-225	Edit	Remove
Problem 4	Logic	CSIS-225	Edit	Remove

Below the table is a "Back" button. At the bottom of the page, it says "Created by Delta Tech" with the Delta Tech logo, and "Copyright © 2013 Delta Tech. All Rights Reserved".

11 Functional Requirements Inventory

Student:

- Will be able to log into JPREP.
 - An incorrect login will display an error message
- Will be able to enroll in classes they are registered for
 - Will receive email with unique course code from professor
- Will be able to switch between classes that the student is currently enrolled in at any time
- Will be able to view assignments for each course they are in enrolled in
 - Will be able to view past and pending assignments
- Will be able to view problems in each assignment
- Will be able to submit solutions to individual problems using the Java™ programming language
 - Code will be compiled by JPREP
 - If they exist, the student will instantly receive feedback on compile errors
 - The student will instantly receive feedback on how their solution performed when run against the test cases
- Will be able to complete assignments
 - Will be able to work on any problem in the assignment; order does not matter
 - Will be able to save code for most recent problem
- Will be able to view grades for each class in a grade book
 - Will be able to view progress for each assignment
- Will be able to view all solutions that have been previously submitted
- Will be able to log out of JPREP

Faculty:

- Will be able to log into JPREP.
 - An incorrect login will display an error message
- Will be able to create and edit assignments
 - Will be able to import problems from the question pool to any assignment
 - Will be able to create a problem for an assignment
 - Will be able to delete a problem from an assignment
 - Will be able to edit a problem in an assignment
- Will be able to assign a grading rule for assignments
 - Will be able to assign different point values for problems in the assignments
- Will be able to administer assignments to any courses that the faculty instructs
 - Will be able to set due dates for each assignment
- Will be able to search the question pool for potential problems
- Will be able to view a grade book for each of the courses
 - Will be able to view student's progress for each assignment
- Will be able to modify grades for all students in each of the courses they are currently instructing
- Will be able to log out of JPREP

Course Coordinator:

The functionality of a course coordinator will include all of the functionality that a Faculty Member has.

- Will be able to manage question pool
 - Will create questions for the course question pool
 - Will disable questions from the course question pool
 - Will edit questions that exist in the course question pool
- Will be able to switch to Faculty view without logging out

Administrator:

- Will be able to log into JPREP.
 - An incorrect login will display an error message
- Will be able to add and delete courses
- Will be able to manage all user accounts on JPREP
 - Will be able to modify all account information for any user
 - Will be able to delete accounts
 - Will be able to lock out expired students
- Will be able to manage question pool
 - Will create questions for the course question pools
 - Will delete questions from the course question pools
 - Will edit questions that exist in the course question pools
- Will be able to create course coordinator and faculty accounts
 - Will be able to assign courses to faculty
- Will be able to log out

12 Non-Functional Requirements Inventory

The following list contains non-functional requirements that identify whether properties are not specific features in the software and have no definitive way of measuring:

- The system will have an intuitive user interface.
- The system will run efficiently
- The system will be stable

13 Testing Plan

13.1 Overview & Strategy

Delta Tech will ensure that JPREP meets all functional and non-functional requirements, as stated in sections 1.5 and 1.6 in this document. The functional requirements will be directly tested, while the non-functional requirements will be tested as thoroughly as possible. JPREP will also need to be tested in all four major browsers: Google Chrome, Mozilla Firefox, Safari and Internet Explorer. Unit tests will be used to test the separate parts of the system. A system test will be implemented after all unit tests have passed. The system test will ensure all units work together properly. A more detailed testing plan will be further developed in the Detailed Design.

13.2 Exception Handling

In the instance that an exception occurs or JPREP experiences a crash, PHP has catch functionality that will trigger. This statement will log the error and deliver it in a document accessible to the administrator for debugging purposes. This document may contain other aspects of the error such as the code, time, and system conditions. In the event that a crash occurs, an error page will display and the system will be handled appropriately.

13.3 Acceptance Test

The acceptance criteria for JPREP will be the previously stated functional requirements and non-functional requirements of the system defined throughout the Requirements specification document. JPREP's ability to satisfy the functional requirements will be verified through testing and data analysis. The non-functional requirements describe how JPREP should behave under a given condition and cannot be tested. If a functional or non-functional requirement is not met upon final testing and delivery, there must be an acceptable justification for the decision to leave the requirement out of the final version of JPREP.

13.4 Unit Test

Each unit will be tested on its own. If it passes all individual tests, then Delta Tech will run a full system test. A system test will ensure all units work together appropriately. Unit tests for JPREP can be found in Appendix C. The excel file of JPREP's unit tests will also be on the Delta Tech website.

13.5 Test Cases

The protocol and requirements needed to test JPREP will be created by *DeltaTech* using the Functional Requirements. Computers running Windows Vista and Mac OS X will be used to test JPREP along with the web browsers: Mozilla Firefox, Apple Safari, Internet Explorer, and Google Chrome.

13.6 Integration/Regression Testing

Within the unit test, each unit will have associations with other units. When any change occurs in the code for any unit, testing will occur for the connected units. This integration/regression testing will continue for all linking of units until the all coupled units are tested. The goal of this testing phase is to determine if units still function properly if an attached unit has been altered in any way.

13.7 System Testing

The functional and non-functional requirement specifications for JPREP will be tested to determine if the system satisfies the conditions found in the Requirement Specification document. These tests will focus on analysis of the overall system to decide if JPREP complies with its specified requirements.

14 Development, Operating, and Maintenance Environments

The development environment listed below is the hardware and the software that *DeltaTech* plans to use during the production phase of JPREP.

Server:

Server Name: oraserv.cs.siena.edu
Operating System: CentOS 5.2, Kernel 2.6.18-92e15
Processor: Intel Xeon
Speed: 2.66 GHz
Memory (RAM): 8.00 GB

Windows Machine:

Dell Optiplex 760
Operating System: Microsoft Windows Vista Enterprise Service Pack 2
Processor: Intel® Core™2 Duo CPU
Model: E7500
Speed: 2.93 GHz
System Type: 32-bit
Memory (RAM): 4.00 GB

Macintosh Machine:

Operating System: Apple Mac OS X Lion Version 10.7.5
Processor: Intel core i5
Model: iMac 21.5 mid 2011
Speed: 2.5 GHz
System Type: 64-bit
Memory (RAM): 4.00 GB

15 Logical Data Dictionary

The logical data dictionary will show details regarding the data that will be used in JPREP. The data dictionary can be found in the Appendix D.

16 Packaging Specifications

DeltaTech will deliver all documentation, testing information, and program files to our client Dr. Darren Lim after the Acceptance Test phase has been determined complete. DeltaTech will also assist in installation and training of the JPREP system to aid in the full deployment of the system as needed by the client.

Appendices

Appendix A - Glossary of Terms

Appendix B - Project Timeline

Appendix C - Unit Tests

Appendix D- Logical Data Dictionary

Appendix A – Glossary of Terms

DFD – **Data Flow Diagram** – used to show the flow of data in the system.

HTML – **Hypertext Markup Language** – The language used to describe the information on websites.

Java – the programming language in which students will be asked to respond to questions in, designed by Sun Microsystems

Java SDK (Software Development Kit) - The Java Development Kit (JDK) is an implementation of either one of the Java SE, Java EE or Java ME platforms[1] released by Oracle Corporation in the form of a binary product aimed at Java developers on Solaris, Linux, Mac OS X or Windows.

JPREP – **Java Problem Repository & Education Platform**, the application being developed for the client, Dr. Darren Lim

Mac – a type of computer made by Apple that runs on the operating system Mac OS

MySQL – language that will be used to easily access data from a database

Oracle SQL Server – a database management system used to store and retrieve information from databases

SQL – **Structured Query Language** – used to manage data in a relational database management system

UML – **Unified Modeling Language** is a standardized, general-purpose modeling language in the field of software engineering

Use Case Diagram – Graphical representation of how users interact with the system.

Appendix B – Project Timeline

Appendix C – Unit Tests

System Test - Test Results for All Unit Tests								
Team Name: Delta Tech								
Project Name: Java Problem Repository & Education Platform (JPREP)								
Client: Dr. Darren Lim								
Directory of Unit Tests (note: this could also be called an Index or a Catalog)								
Unit Test Number	Unit Test Name	Date Last Tested	Pass/Fail Status		Passed	Failed	Comments or brief description	Integrated with these units
1	Login	02/18/14	P	100%	8	0	Tests user's ability to login	
2	Edit Profile	02/12/14	P	100%	5	0	Tests user's ability to edit their profile	1
3	Change Password	01/16/14	P	100%	5	0	Tests user's ability to change their password	1, 2
4	Answer Question	02/23/14	P	100%	6	0	Tests student's ability to answer a question	1
5	Manage Question	01/18/14	F	94%	15	1	Tests faculty/course coordinator's ability to manage a question	1
6	Manage Assignment	01/25/14	P	100%	16	0	Tests faculty/course coordinator's ability to manage an assignment	1, 5
7	Manage Question Pool	01/20/14	P	100%	7	0	Tests faculty/course coordinator's ability to manage a question pool	1, 5
8	View Grade Book	02/14/14	P	100%	6	0	Tests student/faculty's ability to view the Grade Book	1
9	Edit Grade Book	02/14/14	P	100%	5	0	Tests faculty's ability to edit the Grade Book	1, 8
10	Manage User Account	02/04/14	P	100%	4	0	Tests administrator's ability to manage user accounts	1, 2, 3
					98.72%	of Test Cases Passed (99.44% passes the Ivory Snow Test)		

		<i>Team Name: Delta Tech</i>		<i>Project Name: Java Problem Repository & Education Platform (JPREP)</i>						
		Unit Test 1: Login								
		Description: Tests user's ability to login								
		Test Cases								
Pass / Fail Status	Test Number	Description	Action to Perform Test (Input)	Steps to be Executed	State Before Test	Expected Result	Observed Result	Comments	Tested By	Test Date
P	1.001	Null input for username	Submit form with no username input	Leave username field empty, fill out rest of form correctly	Empty form	Login error, "Incorrect username"	Login error, "Incorrect username"	Detailed Design Generated - Test Not Performed	P.T	2/18/14
P	1.002	Invalid username	Submit form with username not in database	fill out form with invalid username, correctly fill out other fields	Empty form	Login error, "Incorrect username"	Login error, "Incorrect username"	Detailed Design Generated - Test Not Performed	A.M	2/1/14
P	1.003	Valid username-password check	Check if password is valid for that username	submit form with correct username password combo	Empty form	Login successful, redirect to correct username page	Login successful, redirect to correct username page	Manually check data base to see if submitted username and password are correctly associated to each other	A.M	2/2/14
P	1.004	Null password	Submit form with null password field	Leave password field blank, correctly fill other fields	Empty form	Login error, invalid password but valid username	Login error, invalid password but valid username	Detailed Design Generated - Test Not Performed	A.M	2/3/14
P	1.005	Forgot password Link	Click Forgot Password link	Correctly fill out username field, enter incorrect/null password, click link	form with valid username	redirect to the forgot password page	redirect to the forgot password page	may be different version of same page	A.M	2/4/14

		<i>Team Name: Delta Tech</i>		<i>Project Name: Java Problem Repository & Education Platform (JPREP)</i>						
		Unit Test 1: Login								
		Description: Tests user's ability to login								
		Test Cases								
Pass / Fail Status	Test Number	Description	Action to Perform Test (Input)	Steps to be Executed	State Before Test	Expected Result	Observed Result	Comments	Tested By	Test Date
P	1.006	Security question selection, correct answer	Pick a Security question from list	Select Security question, correctly input answer	Empty Forgot Password Form	Error message if wrong question selected	Error message if wrong question selected	Should be repeated for each security question available	A.M	2/5/14
P	1.007	Security Question Answer (valid)	Answer security question with correct input	Correctly select security question, input valid answer	Empty Forgot Password Form	Email sent to correct user email with new password information	Email sent to correct user email with new password information	Check JPREP DBMS to ensure new password information has been updated	A.M	2/6/14
P	1.008	Security Question Answer (non-valid)	Answer security question with incorrect input	Correctly select security question, input invalid answer	Empty Forgot Password Form	Error message, invalid/null answer for question	Error message, invalid/null answer for question	Incorrect input includes null or input that user did not fill out for security question, no specific formatting of answers stated	A.M	2/7/14
P	Unit Summary		100%	Passing	8	Passed	Date of Last Test:		2/18/14	
	8	Tests			0	Failed				
	Directory Page									

Team Name: Delta Tech			Project Name: Java Problem Repository & Education Platform (JPREP)							
Unit Test 2: Edit Profile										
Description: Tests user's ability to edit profile page										
Test Cases										
Pass / Fail Status	Test Number	Description	Action to Perform Test (Input)	Steps to be Executed	State Before Test	Expected Result	Observed Result	Comments	Tested By	Test Date
P	2.001	Edit Profile link	Clicking Edit Profile Link from User Profile page	Click Link	User Profile page	Correct Edit Profile page	Correct Edit Profile page	Detailed Design Generated - Test Not Performed	P.T	2/10/14
P	2.002	Null first name	Enter null first name field	Leave first name field blank, correctly fill out all other fields	Empty Form	Error message "User must have first name"	Error message "User must have first name"	Detailed Design Generated - Test Not Performed	L.G	2/12/14
P	2.003	Null last name	Enter null last name field	Leave last name field blank, correctly fill out all other fields	Empty Form	Error message "User must have last name"	Error message "User must have last name"	Detailed Design Generated - Test Not Performed	P.W	2/1/14
P	2.004	Null security answer	Null security answer field	Leave security answer field blank, correctly fill out the rest of the form	Empty Form	Error Message "Security question must have answer"	Error Message "Security question must have answer"	Detailed Design Generated - Test Not Performed	P.W	2/2/14
P	2.005	Save Changes	Click Save Changes	Correctly fill out form, click save changes	Complete Form	Redirect to User Profile page with fields updated	Redirect to User Profile page with fields updated	Manually check JPREP DBMS to see if results saved properly	P.W	2/3/14
P	Unit Summary		100%	Passing	5	Passed	0	Failed	Date of Last Test: 2/12/14	
	5	Tests								
	Directory Page									

Team Name: Delta Tech		Project Name: Java Problem Repository & Education Platform (JPREP)								
Unit Test 3: Change Password										
Description: Tests user's ability to change their password										
Test Cases										
Pass / Fail Status	Test Number	Description	Action to Perform Test (Input)	Steps to be Executed	State Before Test	Expected Result	Observed Result	Comments	Tested By	Test Date
P	3.001	Correctly Linked Pages	Click Change Password link	Click Link	User Profile page	Change Password page	Change Password page	Detailed Design - Test Not Performed	L.G	1/12/14
P	3.002	Invalid old password	Input invalid password	Input invalid password into old password field, correct input for all other fields	Empty Form	Error message "Invalid old password"	Error message "Invalid old password"	Detailed Design - Test Not Performed	L.G	1/13/14
P	3.003	Invalid new password	Input invalid password	Input invalid password into new password field, correct inputs for all other fields	Empty Form	Error message "Invalid new password"	Error message "Invalid new password"	An example of an invalid password is a null password	L.G	1/14/14
P	3.004	Matching password	Input non-matching passwords into new password and confirm new password fields	Input two different passwords into new password and confirm new password fields and correct input for all other fields	Empty Form	Error message "Passwords do not match"	Error message "Passwords do not match"	Detailed Design - Test Not Performed	L.G	1/15/14
P	3.005	Correctly saving password change	Enter all fields correctly	Input correct inputs for old, new, and confirm password, click save changes	Empty Form	New error messages, correctly redirects to user profile page	New error messages, correctly redirects to user profile page	Manual check JPREP DBMS for updated information	L.G	1/16/14
P	Unit Summary		100%	Passing	5	Passed		Date of Last Test:		1/16/14
	5	Tests			0	Failed				
	Directory Page									

		<i>Team Name: Delta Tech</i>		<i>Project Name: Java Problem Repository & Education Platform (JPREP)</i>						
		Unit Test 4: Answer Question								
		Description: Tests student's ability to answer a question								
		Test Cases								
Pass / Fail Status	Test Number	Description	Action to Perform Test (Input)	Steps to be Executed	State Before Test	Expected Result	Observed Result	Comments	Tested By	Test Date
P	4.001	Null Input for Submission Field	Submit solution with no text in submission field	Leave submission field empty	Empty form	Compilation error	Compilation error	Detailed Design Generated - Test Not Performed	P.T	2/18/14
P	4.002	Submit Solution (Valid)	Click 'Submit' button	Submit solution with correct code	Submission field that contains a solution	Test cases marked correct, problem provides full points	Test cases marked correct, problem provides full points	Detailed Design Generated - Test Not Performed	P.T	2/19/14
P	4.003	Submit Solution (Invalid)	Click 'Submit' button	Submit solution with incorrect code	Submission field that contains a solution	Test cases marked incorrect, problem remains with no points	Test cases marked incorrect, problem remains with no points	Detailed Design Generated - Test Not Performed	P.T	2/20/14
P	4.004	Reset Submission Field	Click 'Reset' button	Input a solution and then deletes form of solution	Submission field that contains a solution	Submission field deletes of any text and resets form	Submission field deletes of any text and resets form	Detailed Design Generated - Test Not Performed	P.T	2/21/14
P	4.005	Save Solution Submission Field	Click 'Save' button	Input a solution and then save solution to work on later	Submission field that contains a solution	Notification appears that notifies user that solution has been saved	Notification appears that notifies user that solution has been saved	Detailed Design Generated - Test Not Performed	P.T	2/22/14
P	4.006	Save Solution Submission Field (Empty)	Click 'Save' button	Attempt to save a solution that is empty	Empty form	Notification appears that notifies user that the solution is empty	Notification appears that notifies user that the solution is empty	Detailed Design Generated - Test Not Performed	P.T	2/23/14
P	Unit Summary		100%	Passing	6	Passed		Date of Last Test:		2/23/14
	6	Tests			0	Failed				
		Directory Page								

		<i>Team Name: Delta Tech</i>		<i>Project Name: Java Problem Repository & Education Platform (JPREP)</i>						
		Unit Test 5: Manage Question								
		Description: Tests faculty/course coordinator's ability to manage a question								
		Test Cases								
Pass / Fail Status	Test Number	Description	Action to Perform Test (Input)	Steps to be Executed	State Before Test	Expected Result	Observed Result	Comments	Tested By	Test Date
F	5.001	Null Input for Title Field	Submit question with no title	Leave title form empty	Empty form	Notification indicating that a question requires a title	NO NOTIFICATION	Detailed Design Generated - Test Not Performed	A.M	1/10/14
P	5.002	Null Input for Method Name Field	Submit question with no method name	Leave method name form empty	Empty form	Notification indicating that a question requires a method name	Notification indicating that a question requires a method name	Detailed Design Generated - Test Not Performed	A.M	1/11/14
P	5.003	Null Input for Category Selection	Submit question with no category selected	Leave category drop-down as 'Select Category'	Empty form	Notification indicating that a question requires a category	Notification indicating that a question requires a category	Detailed Design Generated - Test Not Performed	A.M	1/12/14
P	5.004	Null Input for Question/Description Field	Submit question with no question or description for the problem	Leave question/description form empty	Empty form	Notification indicating that a question requires text for the question/description	Notification indicating that a question requires text for the question/description	Detailed Design Generated - Test Not Performed	A.M	1/13/14
P	5.005	Null Input for Result Type Selection	Submit question with no result type selected	Leave result type drop-down as 'Type'	Empty form	Notification indicating that a question requires a result type	Notification indicating that a question requires a result type	Detailed Design Generated - Test Not Performed	A.M	1/14/14
P	5.006	Null Input for Test Case Field	Submit question with no initial test case	Leave test case form empty	Empty form	Notification indicating that a question requires at least one test case	Notification indicating that a question requires at least one test case	Detailed Design Generated - Test Not Performed	A.M	1/15/14
P	5.007	Null Input for Solution Code Field	Submit question with no solution code	Leave solution code form empty	Empty form	Notification indicating that a question requires a solution code	Notification indicating that a question requires a solution code	Detailed Design Generated - Test Not Performed	A.M	1/16/14

		<i>Team Name: Delta Tech</i>		<i>Project Name: Java Problem Repository & Education Platform (JPREP)</i>						
		Unit Test 5: Manage Question								
		Description: Tests faculty/course coordinator's ability to manage a question								
		Test Cases								
Pass / Fail Status	Test Number	Description	Action to Perform Test (Input)	Steps to be Executed	State Before Test	Expected Result	Observed Result	Comments	Tested By	Test Date
P	5.008	Create Question (Valid)	Click 'Create' button	Submit question with all required fields filled out and options selected	Create New Problem form filled out	Notification stating that the problem has been created and redirects to pool page that shows the list of problems	Notification stating that the problem has been created and redirects to pool page that shows the list of problems	Detailed Design Generated - Test Not Performed	A.M	1/17/14
P	5.009	Create Question (Invalid)	Click 'Create' button	Submit question with a portion of required fields filled out and options selected	Create New Problem form partially filled out or empty form	An error notification will pop-up stating the list of errors/missing fields for the form	An error notification will pop-up stating the list of errors/missing fields for the form	Detailed Design Generated - Test Not Performed	A.M	1/18/14
P	5.010	Save Question	Click 'Save' button	Save question progress for future development	Create New Problem form partially/all filled out	Notification appears that notifies user that the question has been saved	Notification appears that notifies user that the question has been saved	Detailed Design Generated - Test Not Performed	R.T	1/1/14
P	5.011	Save Question (Empty)	Click 'Save' button	Attempt to save a question that has none of the fields filled out or options selected	Empty form	An error notification will pop-up stating the list of errors/missing fields for the form	An error notification will pop-up stating the list of errors/missing fields for the form	Detailed Design Generated - Test Not Performed	R.T	1/2/14
P	5.012	Cancel Question Creation	Click 'Cancel' button	Attempt to cancel the progress of question development	Create New Problem form partially/all filled out or empty	Notification indicating if the user is sure of canceling the question, and if confirmed, the user is directed to the previous page	Notification indicating if the user is sure of canceling the question, and if confirmed, the user is directed to the previous page	Detailed Design Generated - Test Not Performed	R.T	1/3/14
P	5.013	Select Category Option	Click 'Category' drop-down and select a category for question	Attempt to select a category from the available category choices	Category selected as 'Select Category' or as another available category	Form displays selected category	Form displays selected category	Detailed Design Generated - Test Not Performed	R.T	1/4/14

		<i>Team Name: Delta Tech</i>		<i>Project Name: Java Problem Repository & Education Platform (JPREP)</i>							
		Unit Test 5: Manage Question									
		Description: Tests faculty/course coordinator's ability to manage a question									
		Test Cases									
Pass / Fail Status	Test Number	Description	Action to Perform Test (Input)	Steps to be Executed	State Before Test	Expected Result	Observed Result	Comments	Tested By	Test Date	
P	5.012	Cancel Question Creation	Click 'Cancel' button	Attempt to cancel the progress of question development	Create New Problem form partially/all filled out or empty	Notification indicating if the user is sure of canceling the question, and if confirmed, the user is directed to the previous page	Notification indicating if the user is sure of canceling the question, and if confirmed, the user is directed to the previous page	Detailed Design Generated - Test Not Performed	R.T	1/3/14	
P	5.013	Select Category Option	Click 'Category' drop-down and select a category for question	Attempt to select a category from the available category choices	Category selected as 'Select Category' or as another available category	Form displays selected category	Form displays selected category	Detailed Design Generated - Test Not Performed	R.T	1/4/14	
P	5.014	Select Result Type Option	Click 'Result Type' drop-down and select a result type for question	Attempt to select a result type from the available result type choices	Result Type selected as 'Type' or as another available result type	Form displays selected result type	Form displays selected result type	Detailed Design Generated - Test Not Performed	R.T	1/5/14	
P	5.015	Add Additional Parameter	Click 'Add Parameter'	Attempt to add an additional parameter for the question	The previous number of parameters are present on the form	An additional parameter field appears on the form next to the last available parameter field	An additional parameter field appears on the form next to the last available parameter field	Detailed Design Generated - Test Not Performed	R.T	1/6/14	
P	5.016	Add Additional Test Case	Click 'Add Test Case'	Attempt to add an additional test case for the question	The previous number of test cases are present on the form	An additional test case field appears on the form under the last available test case field	An additional test case field appears on the form under the last available test case field	Detailed Design Generated - Test Not Performed	R.T	1/7/14	
F	Unit Summary		94%	Passing	15	Passed	Date of Last Test:		1/18/14		
	16	Tests			1	Failed					
		Directory Page									

		<i>Team Name: Delta Tech</i>		<i>Project Name: Java Problem Repository & Education Platform (JPREP)</i>						
		Unit Test 6: Manage Assignment								
		Description: Tests faculty/course coordinator's ability to manage an assignment								
		Test Cases								
Pass / Fail Status	Test Number	Description	Action to Perform Test (Input)	Steps to be Executed	State Before Test	Expected Result	Observed Result	Comments	Tested By	Test Date
P	6.001	Null Input for Title Field	Submit assignment with no title	Leave title form empty	Empty form	Notification indicating that an assignment requires a title	Notification indicating that an assignment requires a title	Mreow.	D.K	1/10/14
P	6.002	Null Input for Category Selection	Submit assignment with no category selected	Leave category drop-down as 'Select Category'	Empty form	Notification indicating that an assignment requires a category	Notification indicating that an assignment requires a category	Detailed Design Generated - Test Not Performed	D.K	1/11/14
P	6.003	Null Value for Total Points	Submit assignment with point values totalling 0	Leave all of the point value fields for the problems found in the problem set empty	Empty form	Notification indicating that at least one of the problems needs to include a point value	Notification indicating that at least one of the problems needs to include a point value	Detailed Design Generated - Test Not Performed	D.K	1/12/14
P	6.004	Invalid Due Date Selection	Submit an assignment with an invalid due date	Select a due date that is earlier than the system's time and date	Due Date drop-down options set on default or changed date	Notification indicating that a due date cannot be set to before the present time and date	Notification indicating that a due date cannot be set to before the present time and date	Detailed Design Generated - Test Not Performed	D.K	1/13/14
P	6.005	Create and Add New Problem Option	Click 'Create and Add New Problem' option	Create New Problem form filled out and question created	Problem list empty or containing selected problems	Notification indicating that the question has been added and created question is shown in the problem list	Notification indicating that the question has been added and created question is shown in the problem list	Detailed Design Generated - Test Not Performed	D.K	1/14/14

		<i>Team Name: Delta Tech</i>		<i>Project Name: Java Problem Repository & Education Platform (JPREP)</i>						
		Unit Test 6: Manage Assignment								
		Description: Tests faculty/course coordinator's ability to manage an assignment								
		Test Cases								
Pass / Fail Status	Test Number	Description	Action to Perform Test (Input)	Steps to be Executed	State Before Test	Expected Result	Observed Result	Comments	Tested By	Test Date
P	6.006	Add Problem from Private Question Pool Option	Click 'Add Problem from Private Question Pool' option	Select a problem from user's private question pool	Problem list empty or containing selected problems	Notification indicating that the question has been added and shown in the problem list	Notification indicating that the question has been added and shown in the problem list	Should we be able to add more than one question at a time?	D.K	1/15/14
P	6.007	Add Problem from Global Question Pool Option	Click 'Add Problem from Global Question Pool' option	Select a problem from course's global question pool	Problem list empty or containing selected problems	Notification indicating that the question has been added and shown in the problem list	Notification indicating that the question has been added and shown in the problem list	Should we be able to add more than one question at a time?	D.K	1/16/14
P	6.008	Edit Problem from Problem List	Click 'Edit' next to problem	Enter the Create New Problem form for that problem with its fields filled out and edit problem	Problem list containing selected problems	Notification indicating that the question has been edited and shown in the problem list	Notification indicating that the question has been edited and shown in the problem list	Detailed Design Generated - Test Not Performed	D.K	1/17/14
P	6.009	Remove Problem from Problem List	Click 'Remove' next to problem	Attempt to remove a problem from the problem list	Problem list containing selected problems	Notification indicating if the user is sure of removing the problem and if confirmed, the problem is removed from the problem list	Notification indicating if the user is sure of removing the problem and if confirmed, the problem is removed from the problem list	Detailed Design Generated - Test Not Performed	D.K	1/18/14
P	6.010	Create Assignment (Valid)	Click 'Create' button	Submit assignment with all required fields filled out and options selected	Create New Assignment form filled out	Notification stating that the assignment has been created and redirects to course page that shows the list of assignments	Notification stating that the assignment has been created and redirects to course page that shows the list of assignments	Detailed Design Generated - Test Not Performed	D.K	1/19/14

		<i>Team Name: Delta Tech</i>		<i>Project Name: Java Problem Repository & Education Platform (JPREP)</i>						
		Unit Test 6: Manage Assignment								
		Description: Tests faculty/course coordinator's ability to manage an assignment								
		Test Cases								
Pass / Fail Status	Test Number	Description	Action to Perform Test (Input)	Steps to be Executed	State Before Test	Expected Result	Observed Result	Comments	Tested By	Test Date
P	6.011	Create Assignment (Invalid)	Click 'Create' button	Submit assignment with a portion of required fields filled out and options selected	Create New Assignment form partially filled out or empty form	An error notification will pop-up stating the list of errors/missing fields for the form	An error notification will pop-up stating the list of errors/missing fields for the form	Detailed Design Generated - Test Not Performed	D.K	1/20/14
P	6.012	Save Assignment	Click 'Save' button	Save question assignment for future development	Create New Assignment form partially/all filled out	Notification appears that notifies user that the assignment has been saved	Notification appears that notifies user that the assignment has been saved	Detailed Design Generated - Test Not Performed	D.K	1/21/14
P	6.013	Save Assignment (Empty)	Click 'Save' button	Attempt to save an assignment that has none of the fields filled out or options selected	Empty form	An error notification will pop-up stating the list of errors/missing fields for the form	An error notification will pop-up stating the list of errors/missing fields for the form	Detailed Design Generated - Test Not Performed	D.K	1/22/14
P	6.014	Cancel Assignment Creation	Click 'Cancel' button	Attempt to cancel the progress of assignment development	Create New Assignment form partially/all filled out or empty	Notification indicating if the user is sure of canceling the assignment, and if confirmed, the user is directed to the previous page	Notification indicating if the user is sure of canceling the assignment, and if confirmed, the user is directed to the previous page	Detailed Design Generated - Test Not Performed	D.K	1/23/14
P	6.015	Select Category Option	Click 'Category' drop-down and select a category for assignment	Attempt to select a category from the available category choices	Category selected as 'Select Category' or as another available category	Form displays selected category	Form displays selected category	Detailed Design Generated - Test Not Performed	D.K	1/24/14
P	6.016	Sort Columns	Click a category in order to sort column	Within a list of questions, sort table alphabetically for non-numerical categories and decreasing order for numerical categories	User is viewing a list of questions from the Question Pool	The table sorts alphabetically for non-numerical categories and decreasing order for numerical categories	The table sorts alphabetically for non-numerical categories and decreasing order for numerical categories	Detailed Design Generated - Test Not Performed	D.K	1/25/14
P	Unit Summary		100%	Passing	16	Passed		Date of Last Test:	1/25/14	
	16 Tests				0	Failed				
	Directory Page									

		<i>Team Name: Delta Tech</i>		<i>Project Name: Java Problem Repository & Education Platform (JPREP)</i>						
		Unit Test 7: Manage Question Pool								
		Description: Tests faculty/course coordinator's ability to manage a question pool								
		Test Cases								
Pass / Fail Status	Test Number	Description	Action to Perform Test (Input)	Steps to be Executed	State Before Test	Expected Result	Observed Result	Comments	Tested By	Test Date
P	7.001	View Private Question Pool	Click 'Private' option under list of question pools	Attempt to view the user's personal private pool of questions	User is viewing the 'Question Pool' tab from the program	User is directed to a page that will list out the user's personal private pool of questions	User is directed to a page that will list out the user's personal private pool of questions	Detailed Design Generated - Test Not Performed	R.T	1/15/14
P	7.002	View Course Question Pool	Click on a course name under list of question pools	Attempt to view the course's global pool of questions	User is viewing the 'Question Pool' tab from the program	User is directed to a page that will list out the course's global pool of questions	User is directed to a page that will list out the course's global pool of questions	Detailed Design Generated - Test Not Performed	R.T	1/16/14
P	7.003	Add to Private Question Pool	Click 'Add to Private Pool' option from the Course Question Pool page	Attempt to add a course question pool to the user's personal private pool of questions	User is viewing the Course Question Pool page	Notification indicating that the question has been moved to the user's private pool	Notification indicating that the question has been moved to the user's private pool	Detailed Design Generated - Test Not Performed	R.T	1/17/14
P	7.004	Edit Question from Pool	Click 'Edit' next to a question within a pool page	Attempt to edit a question from any pool page	User is viewing either a Course Question Pool or Private Question Pool page	Notification indicating that the question has been edited and shown in the problem list	Notification indicating that the question has been edited and shown in the problem list	Detailed Design Generated - Test Not Performed	R.T	1/18/14
P	7.005	Remove Question from Private Pool	Click 'Remove' next to a question within Private Pool page	Attempt to remove a question from user's personal private pool of questions	User is viewing the Private Pool page	Notification indicating if the user is sure of removing the problem and if confirmed, the problem is removed from the problem list	Notification indicating if the user is sure of removing the problem and if confirmed, the problem is removed from the problem list	Detailed Design Generated - Test Not Performed	R.T	1/19/14

		<i>Team Name: Delta Tech</i>		<i>Project Name: Java Problem Repository & Education Platform (JPREP)</i>						
		Unit Test 7: Manage Question Pool								
		Description: Tests faculty/course coordinator's ability to manage a question pool								
		Test Cases								
Pass / Fail Status	Test Number	Description	Action to Perform Test (Input)	Steps to be Executed	State Before Test	Expected Result	Observed Result	Comments	Tested By	Test Date
P	7.006	Remove Question from Course Pool (Course Coordinator)	Click 'Remove' next to a question within Course Global Pool page	Attempt to remove a question from course's global pool of questions as a course coordinator	Course Coordinator User is viewing the Course Global Pool page	Notification indicating if the user is sure of removing the problem and if confirmed, the problem is removed from the problem list	Notification indicating if the user is sure of removing the problem and if confirmed, the problem is removed from the problem list	Detailed Design Generated - Test Not Performed	R.T	1/20/14
P	7.007	Sort Columns	Click a category in order to sort column	Within a list of questions, sort table alphabetically for non-numerical categories and decreasing order for numerical categories	User is viewing a list of questions from the Question Pool	The table sorts alphabetically for non-numerical categories and decreasing order for numerical categories	The table sorts alphabetically for non-numerical categories and decreasing order for numerical categories	Detailed Design Generated - Test Not Performed	A.M	1/19/14
P	Unit Summary		100%	Passing	7	Passed		Date of Last Test:	1/20/14	
	7	Tests			0	Failed				
	Directory Page									

		Team Name: Delta Tech		Project Name: Java Problem Repository & Education Platform (JPREP)						
		Unit Test 8: View Grade Book								
		Description: Tests student/faculty's ability to view the Grade Book								
		Test Cases								
Pass / Fail Status	Test Number	Description	Action to Perform Test (Input)	Steps to be Executed	State Before Test	Expected Result	Observed Result	Comments	Tested By	Test Date
P	8.001	Select Course (Student)	Click on a course name under the Grade Book tab as a Student user	As a student, attempt to view a specific course list of grades	Student User is viewing the list of courses under the Grade Book tab	Student User is directed to the course's page listing the grades for that specific course	Student User is directed to the course's page listing the grades for that specific course	Mreow	D.K	2/1/14
P	8.002	Select Course (Faculty)	Click on a course name under the Grade Book tab as a Faculty user	As a faculty, attempt to view the possible options for that specific course: View Students or View Assignments	Faculty User is viewing the list of courses under the Grade Book tab	The options View Students and View Assignments should appear under the selected course	The options View Students and View Assignments should appear under the selected course	Detailed Design Generated - Test Not Performed	D.K	2/2/14
P	8.003	View Students (Faculty)	Click 'View Students' option under selected course as a Faculty User	As a faculty, select a course and then select the View Students option to view the list of student grades	Faculty User is viewing the list of options for a selected course under the Grade Book tab	The Faculty User is directed to a page displaying a list of students and their grades for that selected course	The Faculty User is directed to a page displaying a list of students and their grades for that selected course	Detailed Design Generated - Test Not Performed	D.K	2/3/14
P	8.004	View Course Assignments (Faculty)	Click 'View Assignments' option under selected course as a Faculty User	As a faculty, select a course and then select the View Assignments option to view the assignment grades for that course	Faculty User is viewing the list of options for a selected course under the Grade Book tab	The Faculty User is directed to a page displaying a list of assignments and its grades for that selected course	The Faculty User is directed to a page displaying a list of assignments and its grades for that selected course	Detailed Design Generated - Test Not Performed	D.K	2/4/14
P	8.005	View Assignment (Faculty)	Click on an assignment name under the list of assignment for selected course as a Faculty User	As a faculty, select View Assignments for a course and then click an individual assignment name to view the assignment grades	Faculty User is viewing a list of assignments for a course after selecting View Assignments under the Grade Book tab	The Faculty User is directed to a page displaying all the students' grades for that selected assignment	The Faculty User is directed to a page displaying all the students' grades for that selected assignment	Detailed Design Generated - Test Not Performed	D.K	2/5/14
P	8.006	Sort Columns	Click a category in order to sort column	Within a list of students/courses, sort table alphabetically for non-numerical categories and decreasing order for numerical categories	User is viewing a list of students/courses from the Grade Book tab	The table sorts alphabetically for non-numerical categories and decreasing order for numerical categories	The table sorts alphabetically for non-numerical categories and decreasing order for numerical categories	Detailed Design Generated - Test Not Performed	P.W	2/14/14
P	Unit Summary		100%	Passing	6	Passed	Date of Last Test:		2/14/14	
	6	Tests			0	Failed				
	Directory Page									

		<i>Team Name: Delta Tech</i>		<i>Project Name: Java Problem Repository & Education Platform (JPREP)</i>						
		Unit Test 9: Edit Grade Book								
		Description: Tests faculty's ability to edit the Grade Book								
		Test Cases								
Pass / Fail Status	Test Number	Description	Action to Perform Test (Input)	Steps to be Executed	State Before Test	Expected Result	Observed Result	Comments	Tested By	Test Date
P	9.001	Edit Student Grades	Click 'Edit Grades' option while viewing a Student Grade Book for a specific assignment	View Students for a specific course and attempt to edit the student's individual assignment grade	Viewing an individual student for a specific assignment located in a course	User is directed to a page that has fields that can be edited for the grades for that student's assignment	User is directed to a page that has fields that can be edited for the grades for that student's assignment	Detailed Design Generated - Test Not Performed	L.G	2/1/14
P	9.002	Edit Assignment Grades	Click 'Edit Grades' option while viewing an assignment for a specific course	View Assignments for a specific course and attempt to edit each student's assignment grade	Viewing an individual assignment for a specific course	User is directed to a page that has fields that can be edited for each students' grades	User is directed to a page that has fields that can be edited for each students' grades	Is there a concrete way of editing grades?	L.G	2/2/14
P	9.003	Submit Changes	Click 'Submit Changes' button	After editing grades, attempt to submit the changes to the database	Viewing a page that has fields that can be edited for student/assignment grades	Notification asks user if the changes are correct, and if confirmed, refresh page with new values	Notification asks user if the changes are correct, and if confirmed, refresh page with new values	Detailed Design Generated - Test Not Performed	L.G	2/3/14
P	9.004	Cancel Changes	Click 'Cancel' button	After editing grades, attempt to cancel any changes	Viewing a page that has fields that can be edited for student/assignment grades	Notification asks user if user is sure to cancel, and if confirmed, refresh page with original values	Notification asks user if user is sure to cancel, and if confirmed, refresh page with original values	Detailed Design Generated - Test Not Performed	L.G	2/4/14
P	9.005	Sort Columns	Click a category in order to sort column	Within a list of students/courses, sort table alphabetically for non-numerical categories and decreasing order for numerical categories	User is viewing a list of students/courses from the Grade Book tab	The table sorts alphabetically for non-numerical categories and decreasing order for numerical categories	The table sorts alphabetically for non-numerical categories and decreasing order for numerical categories	Detailed Design Generated - Test Not Performed	P.T	2/14/14
P	Unit Summary		100%	Passing	5	Passed	Date of Last Test:			2/14/14
	5	Tests			0	Failed				
		Directory Page								

		<i>Team Name: Delta Tech</i>		<i>Project Name: Java Problem Repository & Education Platform (JPREP)</i>						
		Unit Test 10: Manage User Account								
		Description: Tests administrator's ability to manage user accounts								
		Test Cases								
Pass / Fail Status	Test Number	Description	Action to Perform Test (Input)	Steps to be Executed	State Before Test	Expected Result	Observed Result	Comments	Tested By	Test Date
P	10.001	Select List of Accounts	Click on 'Manage' for one of the accounts: Students, Faculty, Course Coordinators	Under the Manage Accounts tab as an administrator, select on which account to manage	Viewing the Manage Accounts tab as an administrator	Administrator is redirected to a page that will list the corresponding users for that type of account	Administrator is redirected to a page that will list the corresponding users for that type of account	Detailed Design Generated - Test Not Performed	P.T	2/1/14
P	10.002	Create User Account	Click on 'Create' account for one of the user types: Students, Faculty, Course Coordinators	Within a list displaying the users of that account type, choose to create an account and follow the steps similar to editing a profile	Under the Manage Accounts tab viewing a list of a specific account type	Administrator is redirected to a page that will allow for inputting values for user account creation	Administrator is redirected to a page that will allow for inputting values for user account creation	Detailed Design Generated - Test Not Performed	P.T	2/2/14
P	10.003	Edit User Account	Click on 'Edit' account for one of the user types: Students, Faculty, Course Coordinators	Within a list displaying the users of that account type, choose to edit an account and follow the steps similar to editing a profile	Under the Manage Accounts tab viewing a list of a specific account type	Administrator is redirected to a page that will allow for inputting values for user account creation	Administrator is redirected to a page that will allow for inputting values for user account creation	Detailed Design Generated - Test Not Performed	P.T	2/3/14
P	10.004	Remove User Account	Click on 'Remove' account for one of the user types: Students, Faculty, Course Coordinators	Within a list displaying the users of that account type, choose to remove an account and follow the steps similar to editing a profile	Under the Manage Accounts tab viewing a list of a specific account type	Notification verifying if the user wishes to remove the account, and if confirmed, that user is set to disabled in databases	Notification verifying if the user wishes to remove the account, and if confirmed, that user is set to disabled in databases	Detailed Design Generated - Test Not Performed	P.T	2/4/14
P	Unit Summary		100%	Passing	4	Passed		Date of Last Test:		2/4/14
	4	Tests			0	Failed				
	Directory Page									

Appendix D – Logical Data Dictionary

The Logical Data Dictionary describes data items that will be used within JPREP. The table below shows a numerical representation to the pages each data item will be associated with in JPREP.

ID shorthand	Long Name
0	All pages
1	Logout page.
2	Login
3	forgot Password
4	User Profile
5	Edit Profile
6	Change Password
7	Student HomePage
8	Faculty HomePage
9	CourseCoordinator HomePage
10	Admin HomePage
11	Course HomePage
12	Student Gradebook
13	Faculty Gradebook
14	Student AssignmentPage
15	Faculty AssignmentGradebook
16	Student Answer Problem
17	Create Problem
18	Edit Problem
19	Create Assignment
20	Edit Assignment
21	Question Pool
22	Create Section
23	Create Faculty
24	Create Student
25	Create CourseCoordinator
26	Create Question Pool
27	Create Course
28	Edit Section
29	Edit Faculty
30	Edit Student
31	Edit CourseCoordinator
32	Edit QuestionPool
33	Edit admin

Table	Data Name	Applicable To *	Data Type	Data Size	Description	Acceptable Input	Example	Notes
Users	lastName	all screens	varchar	30	the users last name	ASCII Characters from Dec 32 to Dec 126 inclusive	White	
Users	secQ	2,4,5	varchar	40	the security question	A-Z, a-z	insert question	
Users	secA	2,4,5	varchar	30	the security question answer	A-Z, a-z	da answer	
Section	sectionId	19,21,22,26,27,28,29,32	varchar	30	the Id for the section	0-9,A-Z,a-z	11.f	
Section	faculty	8,9,11,13,22,27,28,29	varchar	30	who teaches that section	A-Z, a-z, 0-9	am20blah@siena.edu	
Section	courseCoordinator	9,8,11,21,25,26,27,28,31	varchar	30	who is the coordinator for that section if applicable	A-Z, a-z, 0-9	am20blah@siena.edu	
Section	courseId	11,12,13,14,15,16,19,21,22,23,25,31,32	varchar	30	the id for the course	A-Z, a-z,0-9	CSIS010	
Section	courseName	11,12,13,14,15,16,19,21,22,23,25,31,32	varchar	20	the name for the course			
Section	courseDesc	11,27	text	65536	any text needed to describe the course			

Table	Data Name	Applicable To *	Data Type	Data Size	Description	Acceptable Input	Example	Notes
ProblemList	assignmentId	12,13,14,15,16,19,20	varchar	30	the assignment the problems are linked to	0-9,A-Z,a-z		1
ProblemList	problemId	12,13,14,15,16,17,18,21,32	varchar	30	the problem that's linked to the assignment	0-9		1
Roster	sectionId	19,21,22,26,27,28,29,32	varchar	30	the id for the section	0-9,A-Z,a-z	11.f	
Roster	studentId	11,12,14,13,15,16	varchar	30	the student in the section	A-Z, a-z, 0-9	am20blah@siena.edu	
Roster	active	11,12,14,13,15,16	int	1	toggle for if a student is in the section	1, 0		0
Assignment	assignmentId	12,13,14,15,16,19,20	varchar	30	the assignments unique identifier	0-9,A-Z,a-z		1
Assignment	sectionId	19,21,22,26,27,28,29,32	varchar	30	the section for that assignement	0-9,A-Z,a-z	11.f	
Assignment	faculty	15,19,20	varchar	30	the faculty that created the assignemnt	A-Z, a-z, 0-9	am20blah@siena.edu	
Assignment	dueDate	19,20,14,16	date	3bytes	the date its due	0-9,/	3/20/2020	
Assignment	pointValue	12,13,14,15,16,19,20	varchar	30	point values for the assignment	0-9		99
Assignment	assignmentInfo	16,19,20	text	65536	the text of the assignment if needed for directions	all characters	bla bla bla blabbaaalla	
Assignment	modified	20	int	1	if this is modified for statistical tracking.	1,0	0 (not modified)	
GradeBook	studentId	12,15,16	varchar	30	determines which gradebook is a students	A-Z, a-z, 0-9	am20blah@siena.edu	
GradeBook	sectionId	15,14,16	varchar	30	the section for this student's grade	0-9,A-Z,a-z	11.f	
GradeBook	assignmentId	12,13,14,15,16	varchar	30	the assignment that is graded for this section	0-9,A-Z,a-z		1
GradeBook	faculty	13,15	varchar	30	the faculty for this section	A-Z, a-z, 0-9	am20blah@siena.edu	
GradeBook	dateDue	12,13,14,15,16	date	3bytes	the date this assignment is due	0-9,/	3/20/2020	
GradeBook	pointValue	12,13,14,15,16	varchar	10	the point value earned	0-9		99

Table	Data Name	Applicable To *	Data Type	Data Size	Description	Acceptable Input	Example	Notes
Problem	problemid	12,13,14,15,16,17,18,21,32	varchar	30	the unique identifier of the problem	0-9		1
Problem	poolid	18,19,20,21,32	varchar	30	what pool the problem is a part of	A-Z,a-z,0-9	Csis120	
Problem	active	18,21,32	int	1	if the problem is active	0, 1		1
Problem	title	17,18,19,20,21,32	varchar	30	the title of the problem	A-Z,a-z,0-9	Problem 1	
Problem	methodname	17,18,19,20,21,32	varchar	30	the method name required	A-Z,a-z,0-9	DoSomething	
Problem	category	17,18,19,20,21,32	varchar	30	the category of the problem	recursion, lists, string	recursion	
Problem	resulttype	17,18,19,20,21,32	varchar	30	what the datatype the result is supposed to be	int, double, string,...	int	JPREP will present the user with a predetermined list of types: int, String, double, etc
Problem	solutionCode	17,18,19,20,21,32	text	65536	the facultys solution for the problem	all characters	test lol	
Problem	param1	17,18,19,20,21,32	varchar	30	the first parameter	A-Z,a-z,0-9	i	JPREP will present the user with a predetermined list of types: int, String, double, etc
Problem	param2	17,18,19,20,21,32	varchar	30	the second parameter	A-Z,a-z,0-9	i	JPREP will present the user with a predetermined list of types: int, String, double, etc
Problem	param3	17,18,19,20,21,32	varchar	30	the third parameter	A-Z,a-z,0-9	i	JPREP will present the user with a predetermined list of types: int, String, double, etc

Table	Data Name	Applicable To *	Data Type	Data Size	Description	Acceptable Input	Example	Notes
Problem	param4	17,18,19,20,21,32	varchar	30	the fourth parameter	A-Z,a-z,0-9	i	JPREP will present the user with a predetermined list of types: int, String, double, etc
Problem	param5	17,18,19,20,21,32	varchar	30	the fifth parameter	A-Z,a-z,0-9	i	JPREP will present the user with a predetermined list of types: int, String, double, etc
TestCase	testid	17,18,19,20,21,32	int	2	the id for the test case	0-24		1
TestCase	problemId	17,18,19,20,21,32	varchar	30	the problem the testcase is for	0-9		1
TestCase	param1	16, 17,18,19,20,21	varchar	30	the first parameter	A-Z,a-z,0-9	i	JPREP will present the user with a predetermined list of types: int, String, double, etc
TestCase	param1value	16, 17,18,19,20,21	varchar	30	the parameter's value	0-9,strings	q	
TestCase	param1expreturn	16, 17,18,19,20,21	varchar	30	the expected return	0-9,strings		9 Used in order to compare a user's returned answer to the expected result
TestCase	param2	16, 17,18,19,20,21	varchar	30	the second parameter	A-Z,a-z,0-9	i	JPREP will present the user with a predetermined list of types: int, String, double, etc
TestCase	param2value	16, 17,18,19,20,21	varchar	30	the parameter's value	0-9,strings		200

Table	Data Name	Applicable To *	Data Type	Data Size	Description	Acceptable Input	Example	Notes
TestCase	param1	16, 17,18,19,20,21	varchar	30	the first parameter	A-Z,a-z,0-9	i	JPREP will present the user with a predetermined list of types: int, String, double, etc
TestCase	param1value	16, 17,18,19,20,21	varchar	30	the parameter's value	0-9,strings	q	
TestCase	param1xpreturn	16, 17,18,19,20,21	varchar	30	the expected return	0-9,strings		Used in order to compare a user's returned answer to the expected result 9
TestCase	param2	16, 17,18,19,20,21	varchar	30	the second parameter	A-Z,a-z,0-9	i	JPREP will present the user with a predetermined list of types: int, String, double, etc
TestCase	param2value	16, 17,18,19,20,21	varchar	30	the parameter's value	0-9,strings		200
TestCase	param2xpreturn	16, 17,18,19,20,21	varchar	30	the expected return	0-9,strings		Used in order to compare a user's returned answer to the expected result 0
TestCase	param3	16, 17,18,19,20,21	varchar	30	the third parameter	A-Z,a-z,0-9	i	JPREP will present the user with a predetermined list of types: int, String, double, etc
TestCase	param3value	16, 17,18,19,20,21	varchar	30	the parameter's value	0-9,strings		89
TestCase	param3xpreturn	16, 17,18,19,20,21	varchar	30	the expected return	0-9,strings		Used in order to compare a user's returned answer to the expected result 0
TestCase	param4	16, 17,18,19,20,21	varchar	30	the fourth parameter	A-Z,a-z,0-9	i	JPREP will present the user with a predetermined list of types: int, String, double, etc

Table	Data Name	Applicable To *	Data Type	Data Size	Description	Acceptable Input	Example	Notes
TestCase	param4value	16, 17,18,19,20,21	varchar	30	the parameter's value	0-9,strings		30
TestCase	param4expreturn	16, 17,18,19,20,21	varchar	30	the expected return	0-9,strings		300
TestCase	param5	16, 17,18,19,20,21	varchar	30	the fifth parameter	A-Z,a-z,0-9	i	JPREP will present the user with a predetermined list of types: int, String, double, etc
TestCase	param5value	16, 17,18,19,20,21	varchar	30	the parameter's value	0-9,strings		230
TestCase	param5expreturn	v	varchar	30	the expected return	0-9,strings		Used in order to compare a user's returned answer to the expected result 3
UserCode	problemId	14,16	varchar	30	the id of the problem	0-9		1
UserCode	studentId	14,16,12	varchar	30	the student's id	A-Z, a-z, 0-9	am20blah@siena.edu	
UserCode	assignmentId	12,13,14,15,16	varchar	30	the assignment this problems for	0-9,A-Z,a-z		1
UserCode	sectionId	12,13,14,15,16	varchar	30	the section the assignments for	0-9,A-Z,a-z	11.f	
UserCode	code	16	text	65536	the code for that problem's solution	A-Z,a-z, any symbol	the code.	