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**Title:** Testr

**Project Summary:** Testr is a web application that facilitates test creation and assessment of students. It will have the functionalities for adding different types of questions, providing assessment feedback, review and analyze performance in tests by students, graders and instructors.

### **Project Requirements:**

#### **User Requirements:**

ID	Requirement	Topic Area	User	Priority
US-001	Users should be able to login using credentials	Authentication	All	Low
US-002	Register with a userid, password and an email id.	Authentication	All	High
US-003	Instructors should be able to create, modify, delete tests containing various types of questions.	Test Creation	Instructors	Critical
US-004	Instructors/Grader should be able to assign grades after the completion of each test.	Test Grading	Instructors	Critical
US-005	Instructors should be able to provide feedback to students after assigning them grades.	Test Grading	Instructors	High
US-006	Instructors should be able to modify grades once they have been giving	Test Grading	Instructors	Critical
US-007	Instructors should be able to elevate select students to the position of instructors so that they are able to create/grade tests	Administration	Instructors	High
US-008	Students should be able to take tests in the allotted time slots and submit it for grading.	Test Taking	Students	Critical

US-009	Students should be able to view all the grades for the course	Test Grading	Student	Medium
US-010	Students must be able to take demo tests whenever they want to check their preparedness in a subject	Test Taking	Student	Medium
US-011	Administrator must be able to add instructors	Authorization	All	Medium
US-012	Administrator must be able to change privileges	Authorization	All	Medium
US-013	Administrator must verify an Instructor, before he is provided with the required privileges.	Authorization	All	Medium
US-014	Students should be able to view their performance and areas of weakness	Performance Analysis	Student	High
US-015	Instructors should be able to view overall performance of class as well as individual students	Performance Analysis	Instructor	High

#### Functional Requirements:

ID	Requirement	Topic Area	User	Priority
FR-001	Mail a link to the registered email id to reset password when user does not remember password.	Authentication	All	High
FR-002	Give user option to change display name.	Profile Management	All	Low
FR-003	A timer counting down the minutes and seconds remaining to complete the test is shown.	Test Taking	Students	Medium
FR-004	Shown warning pop-up when time remaining is 10% of total test time.	Test Taking	Students	Medium
FR-005	Provide option to sort by	Performance	All	Medium

	grade.	Analysis		
FR-006	Provide option to sort by Test date.	Test Taking	Students	Medium

#### Non Functional Requirements:

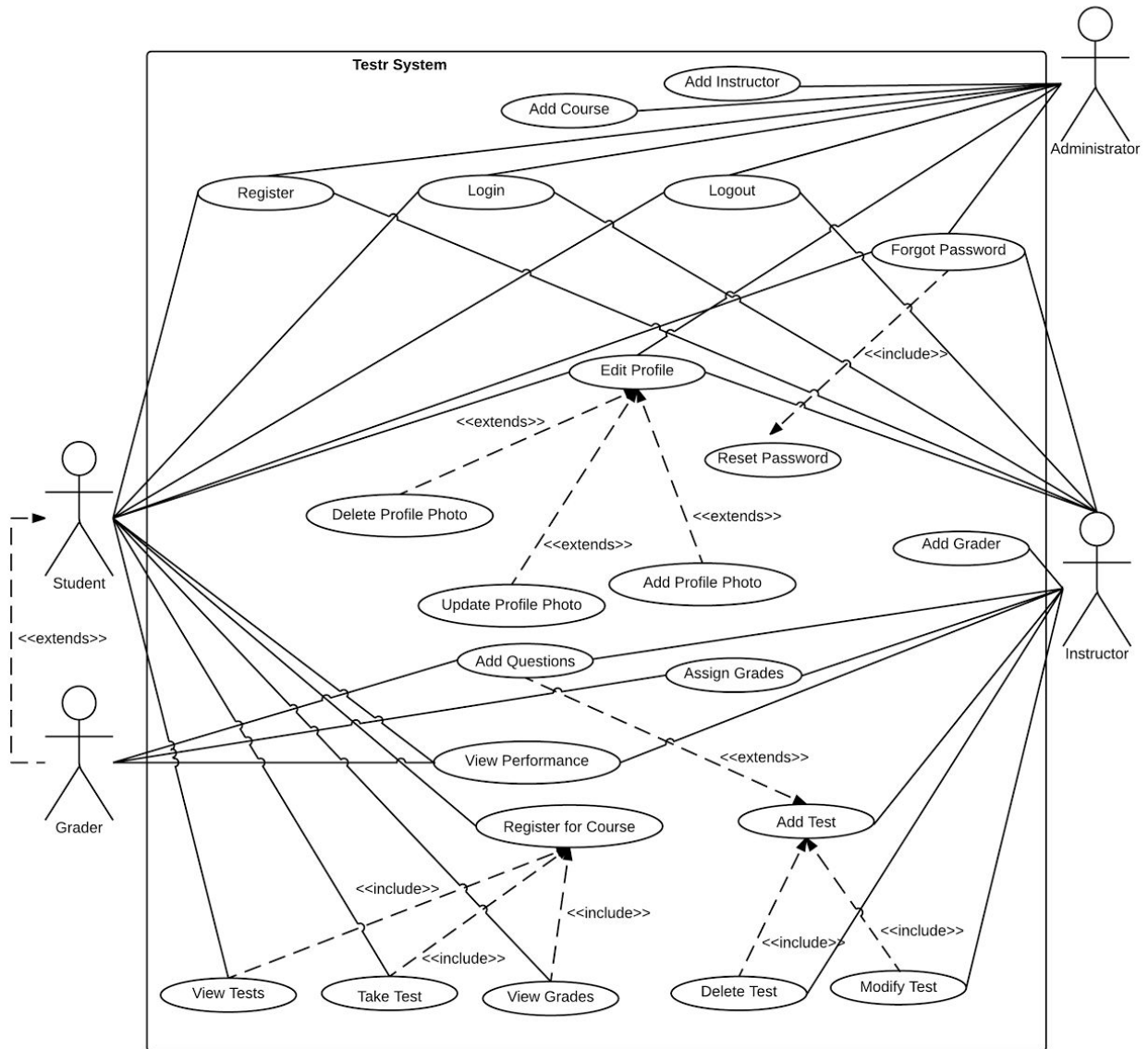
ID	Requirement	Topic Area	User	Priority
NR-001	Must run on all the browsers	User Centered Design	All	High
NR-002	User centered design - Easy operation	User Centered Design	All	Medium
NR-003	Password must be 8 characters in length. Must contain one special character and one character must be uppercase.	Authentication	All	High

#### Use Cases:

**Actors:** Students, Instructor, Graders, Administrator

## Use Case Overview: Testr Usecase Diagram

Link: <https://www.lucidchart.com/documents/edit/abafeaa2-4349-4db0-a3ee-803b4e108e2d>



## Use Case Documents:

<b>Use Case ID:</b>	UC-01		
<b>Use Case Name:</b>	Login		
<b>Description:</b>	All users like administrator, instructors, students can login.		
<b>Created By:</b>	Karthik Kannan	<b>Last Updated By:</b>	Karthik Kannan
<b>Date Created:</b>	02/23/2016	<b>Last Revision Date:</b>	03/01/2016

<b>Actors:</b>	Students, Instructor, Graders, Administrator		
<b>Pre-conditions:</b>	Actors are not signed in.		
<b>Post-conditions:</b>	Actors are signed in.		
<b>Frequency of Use:</b>	Hourly		
<b>Flow of Events:</b>	<b>SN</b>	<b>Actor Action</b>	<b>System Response</b>
	1.	Users will visit the login page.	The username and password fields are displayed
	2.	Users will enter credentials.	The username and password fields are populated
	3.	Select sign in.	Validate credentials and user is logged in.
<b>Variations:</b>	3. When entered credentials are not found, system displays an error.		
<b>Notes and Issues:</b>			
<b>Developer Notes:</b>			

<b>Use Case ID:</b>	UC-02		
<b>Use Case Name:</b>	View upcoming tests		
<b>Description:</b>	Students can see the tests scheduled.		
<b>Created By:</b>	Nikhil Mahendra	<b>Last Updated By:</b>	Nikhil Mahendra
<b>Date Created:</b>	02/23/2016	<b>Last Revision Date:</b>	03/01/2016

<b>Actors:</b>	Students		
<b>Pre-conditions:</b>	Instructor has provided test for the course to which the student has enrolled.		
<b>Post-conditions:</b>	Take test at the scheduled time.		
<b>Frequency of Use:</b>	Daily		
<b>Flow of Events:</b>	<b>SN</b>	<b>Actor Action</b>	<b>System Response</b>
	1.	User selects the view test tab	The page shows all tests in descending order of deadlines.
	2.	Click on the test to see further information.	Shows information regarding the date, syllabus and duration of the test
<b>Variations:</b>			
<b>Notes and Issues:</b>			
<b>Developer Notes:</b>			

<b>Use Case ID:</b>	UC-03		
<b>Use Case Name:</b>	Take Test		
<b>Description:</b>	Students would be able to take test when the Instructor provides test or sample test.		
<b>Created By:</b>	Mahesh Ravindranathan	<b>Last Updated By:</b>	Mahesh Ravindranathan
<b>Date Created:</b>	02/23/2016	<b>Last Revision Date:</b>	03/01/2016

<b>Actors:</b>	Student		
<b>Pre-conditions:</b>	Instructor has provided a test for the course.		
<b>Post-conditions:</b>	Student has taken the test.		
<b>Frequency of Use:</b>	Weekly		
<b>Flow of Events:</b>	<b>SN</b>	<b>Actor Action</b>	<b>System Response</b>
	1	Go to tests page	Show the list of test that the user can take.
	2	Select which test to take	The Application provides option to take the test now or later
	3	Select to take test now	The Application provides questions and slot to enter the answer based on the type of question.
	4	Write answer based on the type of question.	Checks if the student is not exceeding the allocated time
	5	Submit the test once all the answers are provided.	
<b>Variations:</b>	3. Student decides to take the test later 5. Student does not complete all answers within the allocated time and hence the system submits the incomplete test on the behalf of the user.		
<b>Notes and Issues:</b>			

<b>Developer Notes:</b>	
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<b>Use Case ID:</b>	UC-04		
<b>Use Case Name:</b>	Assign grades		
<b>Description:</b>	Provide Grades and Assign Grades to students on the basis of the the answers provided by students		
<b>Created By:</b>	Karthik Kannan	<b>Last Updated By:</b>	Karthik Kannan
<b>Date Created:</b>	02/23/2016	<b>Last Revision Date:</b>	03/01/2016

<b>Actors:</b>	Instructors, Graders		
<b>Pre-conditions:</b>	Students have submitted their test for grading		
<b>Post-conditions:</b>	Students are assigned grades and feedback as per their performance. Grades can be viewed by students, instructors and graders.		
<b>Frequency of Use:</b>	Weekly		
<b>Flow of Events:</b>	<b>SN</b>	<b>Actor Action</b>	<b>System Response</b>
	1	Go to the corresponding test page	The submissions for the test by all the students are displayed
	2	Click on student's name	The students answers to the test questions are displayed
	3	Assign Grades to the students based on performance	The grades are attached to the student's submission
	4	Write feedback that should be displayed to the students	The feedback are attached to the student's submission
	5	Select whether to notify student	The grades and feedback for the corresponding student are released and made available for viewing



<b>Variations:</b>	5. The instructor can defer notifying the students to a later time.
<b>Notes and Issues:</b>	
<b>Developer Notes:</b>	

<b>Use Case ID:</b>	UC-05		
<b>Use Case Name:</b>	View Grades		
<b>Description:</b>	The student can view the feedback and grades from the Grader and Instructor		
<b>Created By:</b>	Nikhil Mahendra	<b>Last Updated By:</b>	Nikhil Mahendra
<b>Date Created:</b>	02/23/2016	<b>Last Revision Date:</b>	03/01/2016

<b>Actors:</b>	Student, Instructor, Grader		
<b>Pre-conditions:</b>	The actor is associated with test's course		
<b>Post-conditions:</b>	The actor has seen the feedback or grade		
<b>Frequency of Use:</b>	Thrice a week		
<b>Flow of Events:</b>	<b>SN</b>	<b>Actor Action</b>	<b>System Response</b>
	1.	Go to grades page.	
	2.	Select test	A page with complete information containing the grade and feedback provided by the instructor or grader.
<b>Variations:</b>			
<b>Notes and Issues:</b>			
<b>Developer Notes:</b>			

<b>Use Case ID:</b>	UC-06		
<b>Use Case Name:</b>	Analyze Performance		
<b>Description:</b>	Show the aggregated scores of different tests taken by students.		
<b>Created By:</b>	Mahesh Ravindranathan	<b>Last Updated By:</b>	Mahesh Ravindranathan
<b>Date Created:</b>	02/23/2016	<b>Last Revision Date:</b>	03/01/2016

<b>Actors:</b>	Students		
<b>Pre-conditions:</b>	Student must have taken at least one test		
<b>Post-conditions:</b>	Student has viewed his performance on test		
<b>Frequency of Use:</b>	Thrice a week		
<b>Flow of Events:</b>	<b>SN</b>	<b>Actor Action</b>	<b>System Response</b>
	1.	Go to tests page	Redirects to the test page
	2.	Select a particular test	Redirects to a page containing the test information
	3.	Click on the show performance	Shows the performance and area of weakness
<b>Variations:</b>	2. Click on “show overall performance” ( Shows the overall performance on all the test and the area of improvement)		
<b>Notes and Issues:</b>			
<b>Developer Notes:</b>			

<b>Use Case ID:</b>	UC-07		
<b>Use Case Name:</b>	Logout		
<b>Description:</b>	Users sign out of the webpage.		
<b>Created By:</b>	Karthik Kannan	<b>Last Updated By:</b>	Karthik Kannan
<b>Date Created:</b>	02/23/2016	<b>Last Revision Date:</b>	03/01/2016

<b>Actors:</b>	Students, Instructor, Graders, Administrator		
<b>Pre-conditions:</b>	Actors are signed in.		
<b>Post-conditions:</b>	Actors are signed out.		
<b>Frequency of Use:</b>	Daily		
<b>Flow of Events:</b>	<b>SN</b>	<b>Actor Action</b>	<b>System Response</b>
	1.	User selects log out.	System logs out the user and responds with status that user has been successfully logged out.
<b>Variations:</b>			
<b>Notes and Issues:</b>			
<b>Developer Notes:</b>			

<b>Use Case ID:</b>	UC-08		
<b>Use Case Name:</b>	Select Grader		
<b>Description:</b>	Instructor selects a student to be grader for a subject.		
<b>Created By:</b>	Nikhil Mahendra	<b>Last Updated By:</b>	Nikhil Mahendra
<b>Date Created:</b>	02/23/2016	<b>Last Revision Date:</b>	03/01/2016

<b>Actors:</b>	Instructor, Grader		
<b>Pre-conditions:</b>	None		
<b>Post-conditions:</b>	Grader has been assigned to the course.		
<b>Frequency of Use:</b>	Once every 6 months		
<b>Flow of Events:</b>	<b>SN</b>	<b>Actor Action</b>	<b>System Response</b>
	1.	Instructor goes to course page.	Course page is loaded.
	2.	Instructor selects option to add grader.	Grader assignment page is loaded.
	3.	Instructor adds the details such as name, ID of the grader in the respective fields.	Validate if such an user exists and is not enrolled in the same course.
	4.	Instructor submits the form.	Grader has been added successfully.
<b>Variations:</b>	4. System Response: If the user does not exist, respond that the grader does not exist on the system.		
<b>Notes and Issues:</b>			
<b>Developer Notes:</b>			

<b>Use Case ID:</b>	UC-09		
<b>Use Case Name:</b>	Add Instructor		
<b>Description:</b>	Administrator		
<b>Created By:</b>	Mahesh Ravindranathan	<b>Last Updated By:</b>	Mahesh Ravindranathan
<b>Date Created:</b>	02/23/2016	<b>Last Revision Date:</b>	03/01/2016

<b>Actors:</b>	Administrator, Instructors		
<b>Pre-conditions:</b>	Course should be added.		
<b>Post-conditions:</b>	Instructor is listed in the course page.		
<b>Frequency of Use:</b>	Once every 6 months		
<b>Flow of Events:</b>	<b>SN</b>	<b>Actor Action</b>	<b>System Response</b>
	1.	Administrator selects the course.	Course page is displayed.
	2.	Administrator selects option to add instructor.	Instructor assignment page is loaded.
	3.	Administrator adds the details such as name, ID of the instructor in the respective fields.	Validate if such an user exists and is not enrolled in the same course.
	4.	Administrator submits the form.	Instructor has been added successfully.
<b>Variations:</b>	4. System Response: If the user does not exist, respond that the instructor does not exist on the system.		
<b>Notes and Issues:</b>			
<b>Developer Notes:</b>			

<b>Use Case ID:</b>	UC-10		
<b>Use Case Name:</b>	Add Course		
<b>Description:</b>	Administrator adds a course for the semester.		
<b>Created By:</b>	Karthik Kannan	<b>Last Updated By:</b>	Karthik Kannan
<b>Date Created:</b>	02/23/2016	<b>Last Revision Date:</b>	03/01/2016

<b>Actors:</b>	Administrator		
<b>Pre-conditions:</b>	None		
<b>Post-conditions:</b>	Course has been updated in the course list page.		
<b>Frequency of Use:</b>	Once every semester		
<b>Flow of Events:</b>	<b>SN</b>	<b>Actor Action</b>	<b>System Response</b>
	1.	Administrator goes to the courses page.	Course page is loaded.
	2.	Administrator selects option to add a course.	Course addition page is loaded.
	3.	Administrator updates the details such as Course ID, Course Description and Credits for the Course.	
	4.	Administrator submits the form.	Course is added to the course list and responses back with success message.
<b>Variations:</b>			
<b>Notes and Issues:</b>			
<b>Developer Notes:</b>			

<b>Use Case ID:</b>	UC-11		
<b>Use Case Name:</b>	Create questions		
<b>Description:</b>	Questions for the tests are added by instructors or graders.		
<b>Created By:</b>	Nikhil Mahendra	<b>Last Updated By:</b>	Nikhil Mahendra
<b>Date Created:</b>	02/23/2016	<b>Last Revision Date:</b>	03/01/2016

<b>Actors:</b>	Instructor, Grader		
<b>Pre-conditions:</b>	NONE		
<b>Post-conditions:</b>	Questions have been created.		
<b>Frequency of Use:</b>	Weekly		
<b>Flow of Events:</b>	<b>SN</b>	<b>Actor Action</b>	<b>System Response</b>
	1	Log in.	The Instructor home page is displayed
	2	Access the question bank creation portal.	The question bank page is displayed
	3	Select number of questions to be created	A question template containing number of questions entered is displayed.
	4	Select type of question for each question	System changes the answer type based on the type of question selected.
	5	Update the question, reference answer and tags for each question. Submit the page	System responds with a message that all the questions have been updated in the database.
<b>Variations:</b>			
<b>Notes and Issues:</b>			
<b>Developer Notes:</b>			

<b>Use Case ID:</b>	UC-12		
<b>Use Case Name:</b>	Create test		
<b>Description:</b>	An instructor creates tests that students can take as per the given allotted time.		
<b>Created By:</b>	Mahesh Ravindranathan	<b>Last Updated By:</b>	Mahesh Ravindranathan
<b>Date Created:</b>	02/23/2016	<b>Last Revision Date:</b>	03/01/2016

<b>Actors:</b>	Instructors		
<b>Pre-conditions:</b>	The instructor is assigned to the course		
<b>Post-conditions:</b>	The test is available to view on the students portal		
<b>Frequency of Use:</b>	Weekly		
<b>Flow of Events:</b>	<b>SN</b>	<b>Actor Action</b>	<b>System Response</b>
	1.	Select Course	Shows course information and option to create a test.
	2.	Select create test option	Redirect to test creation page.
	3.	Select questions to be added from the question bank	Questions are appended to the test
	4.	Select the test opening and closing date and time	System records the time and will open the test students based on the input..
	5	Submit the test	The test is submitted and is shown on the student portals
<b>Variations:</b>	3. Instructors can add questions impromptu, while test creation 5. System Response: Returns an error if the scheduled time of test is a past date/time.		
<b>Notes and Issues:</b>			



<b>Developer Notes:</b>	
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<b>Use Case ID:</b>	UC-13		
<b>Use Case Name:</b>	Delete Test		
<b>Description:</b>	Whenever instructor wants to delete a test.		
<b>Created By:</b>	Karthik Kannan	<b>Last Updated By:</b>	Karthik Kannan
<b>Date Created:</b>	02/27/2016	<b>Last Revision Date:</b>	03/03/2016

<b>Actors:</b>	Instructor		
<b>Pre-conditions:</b>	Test was mistakenly added or test syllabus was changed.		
<b>Post-conditions:</b>	Test was deleted from the application		
<b>Frequency of Use:</b>	Monthly		
<b>Flow of Events:</b>	<b>SN</b>	<b>Actor Action</b>	<b>System Response</b>
	1.	Instructor goes to the test page.	Test page is loaded with all the tests.
	2.	Instructors select a course from the drop down to filter by course	Tests related only to that particular course is displayed.
	3.	Instructor selects the test to be deleted.	The test is selected.
	4.	Instructor click on deletion option	The system deletes the test and responses with a success page.
<b>Variations:</b>	4. System response: The system responses with a message that the test cannot be deleted since a user has taken the test already.		
<b>Notes and Issues:</b>			
<b>Developer Notes:</b>			

<b>Use Case ID:</b>	UC-14		
<b>Use Case Name:</b>	Modify Test		
<b>Description:</b>	Instructor can modify questions or test timings.		
<b>Created By:</b>	Nikhil Mahendra	<b>Last Updated By:</b>	Nikhil Mahendra
<b>Date Created:</b>	02/27/2016	<b>Last Revision Date:</b>	03/03/2016

<b>Actors:</b>	Instructor		
<b>Pre-conditions:</b>	There is an existing test that was added by grader or instructor.		
<b>Post-conditions:</b>	Modified test is updated.		
<b>Frequency of Use:</b>	Biweekly		
<b>Flow of Events:</b>	<b>SN</b>	<b>Actor Action</b>	<b>System Response</b>
	1.	Instructor goes to test page.	Test page is loaded with all the tests.
	2.	Instructor selects the test to be modified.	The test is selected.
	3.	Instructor can change the question, duration of test or time of test.	
	4.	Instructor submits the form.	Updates the tests and returns a success message
<b>Variations:</b>	4. System Response: Returns an error if the scheduled time of test is a past date/time.		
<b>Notes and Issues:</b>			
<b>Developer Notes:</b>			

<b>Use Case ID:</b>	UC-15		
<b>Use Case Name:</b>	Add Profile Photo		
<b>Description:</b>	User can add a photo to to be displayed as their profile picture.		
<b>Created By:</b>	Mahesh Ravindranathan	<b>Last Updated By:</b>	Mahesh Ravindranathan
<b>Date Created:</b>	02/27/2016	<b>Last Revision Date:</b>	03/03/2016

<b>Actors:</b>	Students, Instructor, Graders, Administrator		
<b>Pre-conditions:</b>	User should be signed in.		
<b>Post-conditions:</b>	User profile is updated.		
<b>Frequency of Use:</b>	Once a Semester		
<b>Flow of Events:</b>	<b>SN</b>	<b>Actor Action</b>	<b>System Response</b>
	1.	User selects account settings.	System redirects to settings page of user.
	2.	User can choose to upload image file from local system.	Option to select file in shown.
	3.	User selects picture to be added as profile.	Selected file is uploaded and stored in database.
	4.	User's profile photo is added.	
<b>Variations:</b>	3. Only image files can be selected.		
<b>Notes and Issues:</b>			
<b>Developer Notes:</b>			

<b>Use Case ID:</b>	UC-16		
<b>Use Case Name:</b>	Update Profile Photo		
<b>Description:</b>	User can update a photo which is displayed in their profile.		
<b>Created By:</b>	Karthik Kannan	<b>Last Updated By:</b>	Karthik Kannan
<b>Date Created:</b>	02/27/2016	<b>Last Revision Date:</b>	03/03/2016

<b>Actors:</b>	Students, Instructor, Graders, Administrator		
<b>Pre-conditions:</b>	User should be signed in.		
<b>Post-conditions:</b>	User profile is updated.		
<b>Frequency of Use:</b>	Monthly		
<b>Flow of Events:</b>	<b>SN</b>	<b>Actor Action</b>	<b>System Response</b>
	1.	User selects account settings.	System redirects to settings page of user.
	2.	User can choose option to edit profile photo.	Provide option to upload new photo.
	3.	User can choose to upload image file from local system.	Option to select file is shown.
	4.	User selects picture to be added as profile.	Selected file is uploaded and stored in database.
	5.	User's profile photo is added.	
<b>Variations:</b>	3. Only image files can be selected.		
<b>Notes and Issues:</b>			
<b>Developer Notes:</b>			

<b>Use Case ID:</b>	UC-17		
<b>Use Case Name:</b>	Delete Profile Photo		
<b>Description:</b>	User can delete the photo being displayed as their profile picture.		
<b>Created By:</b>	Nikhil Mahendra	<b>Last Updated By:</b>	Nikhil Mahendra
<b>Date Created:</b>	02/27/2016	<b>Last Revision Date:</b>	03/03/2016

<b>Actors:</b>	Students, Instructor, Graders, Administrator		
<b>Pre-conditions:</b>	User should have a profile picture.		
<b>Post-conditions:</b>	User profile is updated.		
<b>Frequency of Use:</b>	Once a semester		
<b>Flow of Events:</b>	<b>SN</b>	<b>Actor Action</b>	<b>System Response</b>
	1.	User selects account settings.	System redirects to settings page of user.
	2.	User can choose to delete profile picture.	Picture is deleted from the database and default icon is reset.
	3.	User's profile photo is added.	
<b>Variations:</b>			
<b>Notes and Issues:</b>			
<b>Developer Notes:</b>			

<b>Use Case ID:</b>	UC-18		
<b>Use Case Name:</b>	Forgot Password		
<b>Description:</b>	User should have option to access account when password is forgotten.		
<b>Created By:</b>	Mahesh Ravindranathan	<b>Last Updated By:</b>	Mahesh Ravindranathan
<b>Date Created:</b>	02/27/2016	<b>Last Revision Date:</b>	03/03/2016

<b>Actors:</b>	Students, Instructor, Graders, Administrator		
<b>Pre-conditions:</b>	Users should be registered.		
<b>Post-conditions:</b>	User will get a link to reset password.		
<b>Frequency of Use:</b>	Monthly Whenever user has forgotten password.		
<b>Flow of Events:</b>	<b>SN</b>	<b>Actor Action</b>	<b>System Response</b>
	1.	User enters login username.	
	2.	User selects forgot password option.	Ask user to enter registered email id.
	3.	User entered registered email id is the test box.	Validate credentials and display error if email id is not found.
	4.	Send user a mail having link where password can be reset.	
<b>Variations:</b>			
<b>Notes and Issues:</b>			
<b>Developer Notes:</b>			

<b>Use Case ID:</b>	UC-19		
<b>Use Case Name:</b>	Reset Password		
<b>Description:</b>	User can reset password when it is forgotten.		
<b>Created By:</b>	Karthik Kannan	<b>Last Updated By:</b>	Karthik Kannan
<b>Date Created:</b>	02/27/2016	<b>Last Revision Date:</b>	03/03/2016

<b>Actors:</b>	Students, Instructor, Graders, Administrator		
<b>Pre-conditions:</b>	Users will have mail having the link sent to reset password.		
<b>Post-conditions:</b>	User's password is updated.		
<b>Frequency of Use:</b>	Monthly		
<b>Flow of Events:</b>	<b>SN</b>	<b>Actor Action</b>	<b>System Response</b>
	1.	Users should open the page from the mail having link sent for resetting password.	Two text boxes to enter new password is shown when this page is loaded.
	2.	User enters new password in the two text boxes.	
	3.	Select submit to update password.	System checks if password entered in the two text boxes is same, and returns if error if they are not same.
<b>Variations:</b>	2. Minimum length of password and password having special characters or numbers is specified.		
<b>Notes and Issues:</b>			
<b>Developer Notes:</b>			

<b>Use Case ID:</b>	UC-20		
<b>Use Case Name:</b>	Update Display Name		
<b>Description:</b>	User can update the display name shown in their profile.		
<b>Created By:</b>	Nikhil Mahendra	<b>Last Updated By:</b>	Nikhil Mahendra
<b>Date Created:</b>	02/27/2016	<b>Last Revision Date:</b>	03/03/2016

<b>Actors:</b>	Students, Instructor, Graders, Administrator		
<b>Pre-conditions:</b>	User should be signed in.		
<b>Post-conditions:</b>	User profile is updated.		
<b>Frequency of Use:</b>	Biweekly		
<b>Flow of Events:</b>	<b>SN</b>	<b>Actor Action</b>	<b>System Response</b>
	1.	User selects account settings.	System redirects to settings page of user.
	2.	User can choose option to edit the display name.	Show text box to add new display name.
	3.	User enters new display name in the text box given.	Display name is updated.
<b>Variations:</b>	3. Only image files can be selected.		
<b>Notes and Issues:</b>			
<b>Developer Notes:</b>			



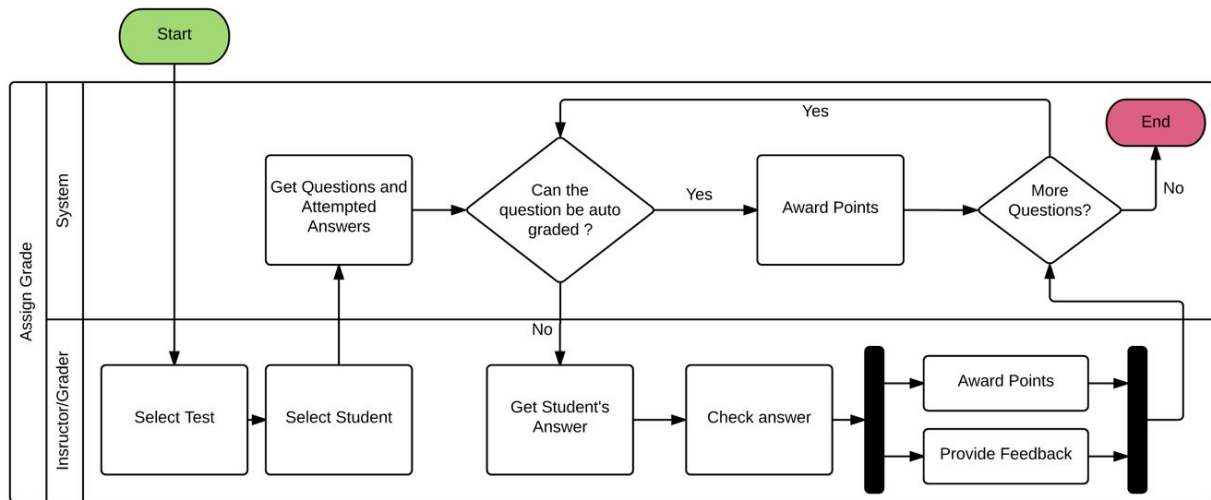
<b>Use Case ID:</b>	UC-21		
<b>Use Case Name:</b>	Register Course		
<b>Description:</b>	Students can register for their classes with a key.		
<b>Created By:</b>	Mahesh Ravindranathan	<b>Last Updated By:</b>	Mahesh Ravindranathan
<b>Date Created:</b>	02/27/2016	<b>Last Revision Date:</b>	03/03/2016

<b>Actors:</b>	Students		
<b>Pre-conditions:</b>	Student should have key to register for classes.		
<b>Post-conditions:</b>	Students are registered for that course.		
<b>Frequency of Use:</b>	Once a semester		
<b>Flow of Events:</b>	<b>SN</b>	<b>Actor Action</b>	<b>System Response</b>
	1.	Student goes to the courses page and selects the course to be enrolled in.	System shows directs to page showing text box for key.
	2.	Student enters key to register for that particular course.	Validates key and adds student to course. Displays error in case key is not valid.
<b>Variations:</b>			
<b>Notes and Issues:</b>			
<b>Developer Notes:</b>			

## Activity Diagrams

### Assign Grades

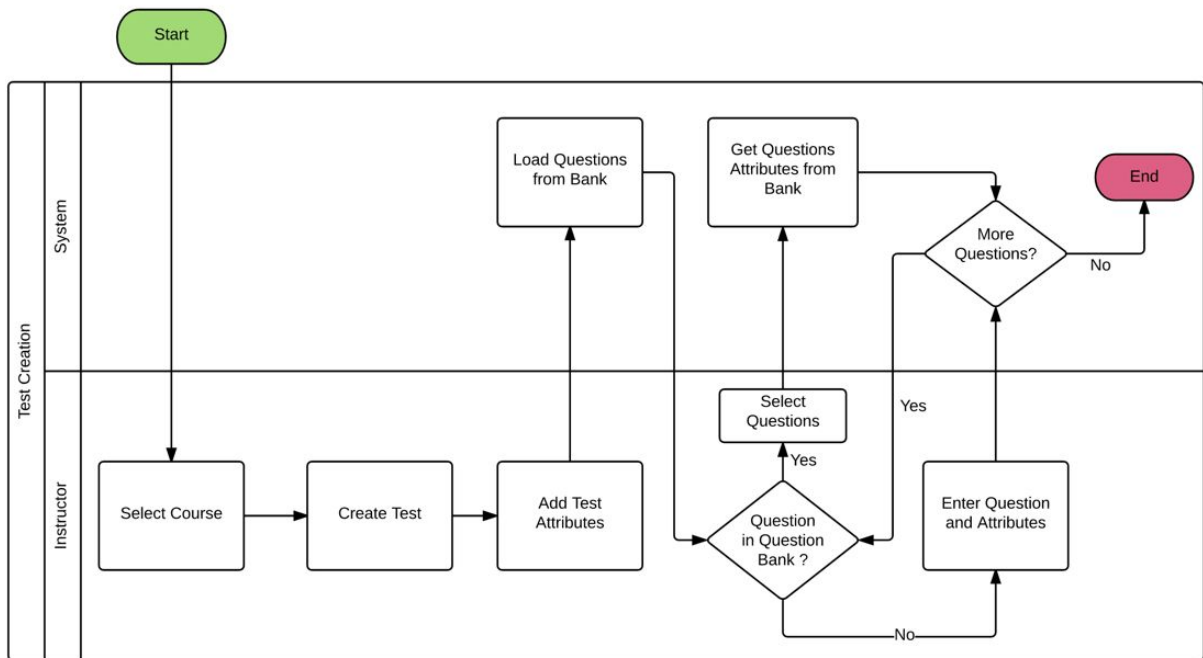
<https://www.lucidchart.com/invitations/accept/b5137813-ad08-462c-b070-8648baefc284>



Requirement ID	Use Case ID	Short Description	Created by
US-004	UC-04	Instructors/Grader should be able to assign grades after the completion of each test.	Karthik Kannan

## Test Creation

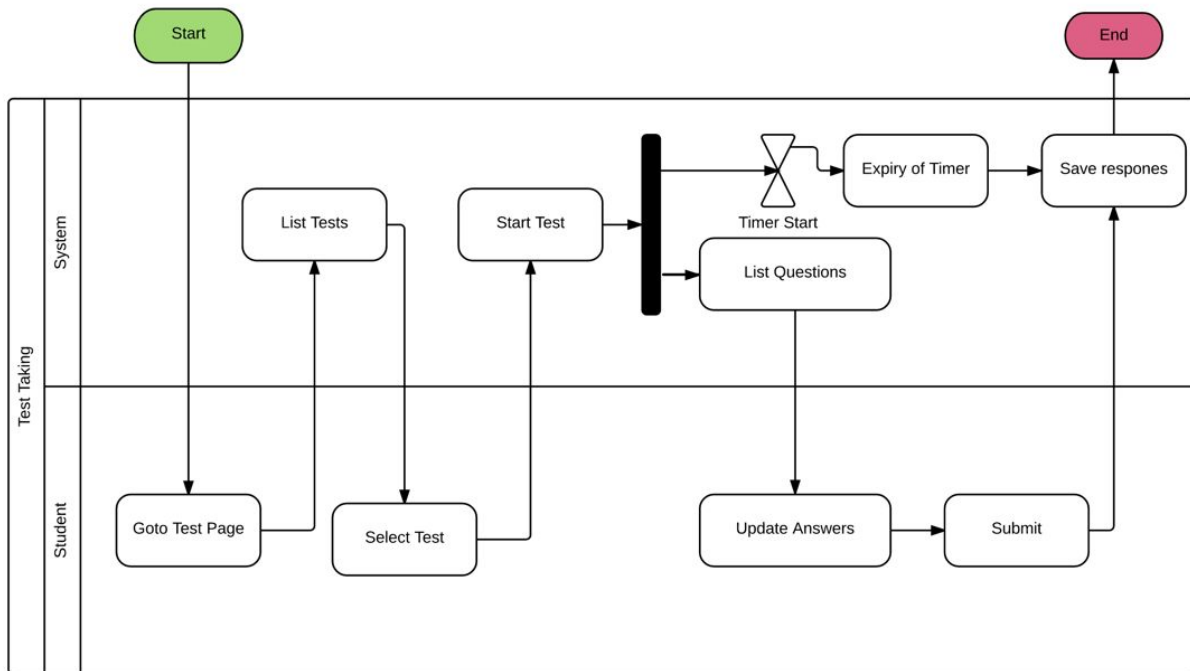
<https://www.lucidchart.com/invitations/accept/644a433c-39b6-4f83-83f1-378b8fcee6c0>



Requirement ID	Use Case ID	Short Description	Created by
US-003	UC-12	Instructors should be able to create test using questions from question bank and manual question creation.	Nikhil Mahendra

## Test Taking

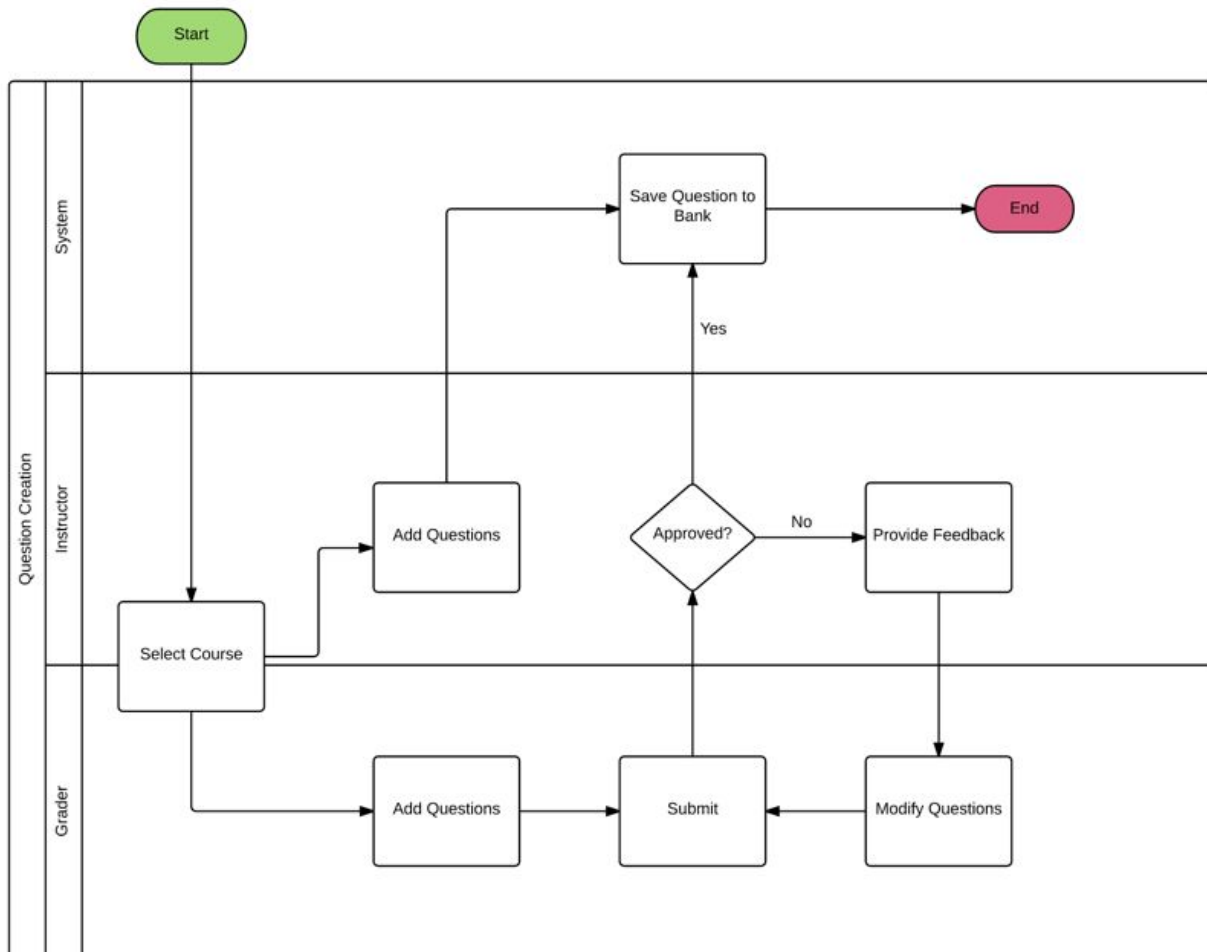
<https://www.lucidchart.com/invitations/accept/f144ab4b-115d-4555-8720-62cfd64cf5de>



Requirement ID	Use Case ID	Short Description	Created by
US-008	UC-03	Students should be able to take tests in the allotted time slots and submit it for grading.	Mahesh Ravindranathan

## Question Creation

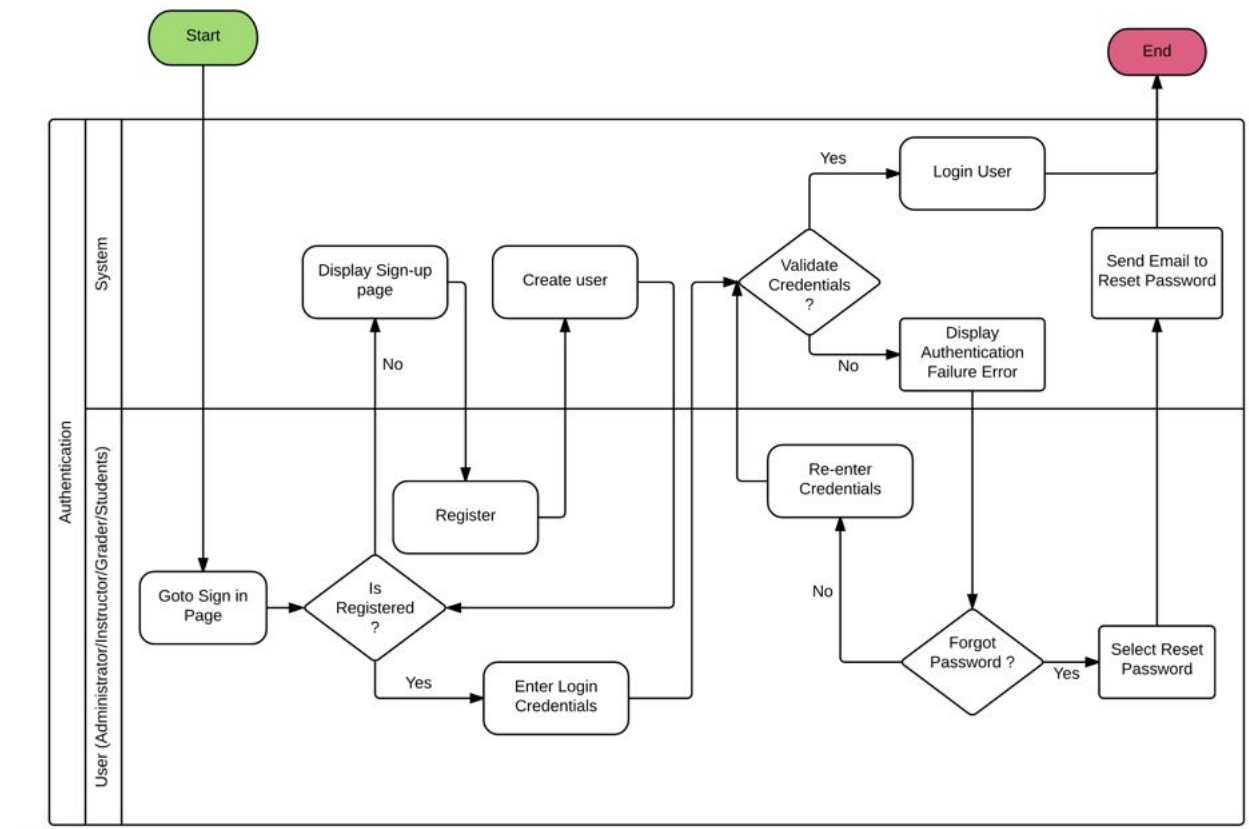
<https://www.lucidchart.com/invitations/accept/db25621b-908d-4b02-9479-c171b2e82f0a>



Requirement ID	Use Case ID	Short Description	Created by
US -003	UC -11	Able to add questions to the Question Bank so that is can be used for Test Creation in future.	Mahesh Ravindranathan

## Authentication

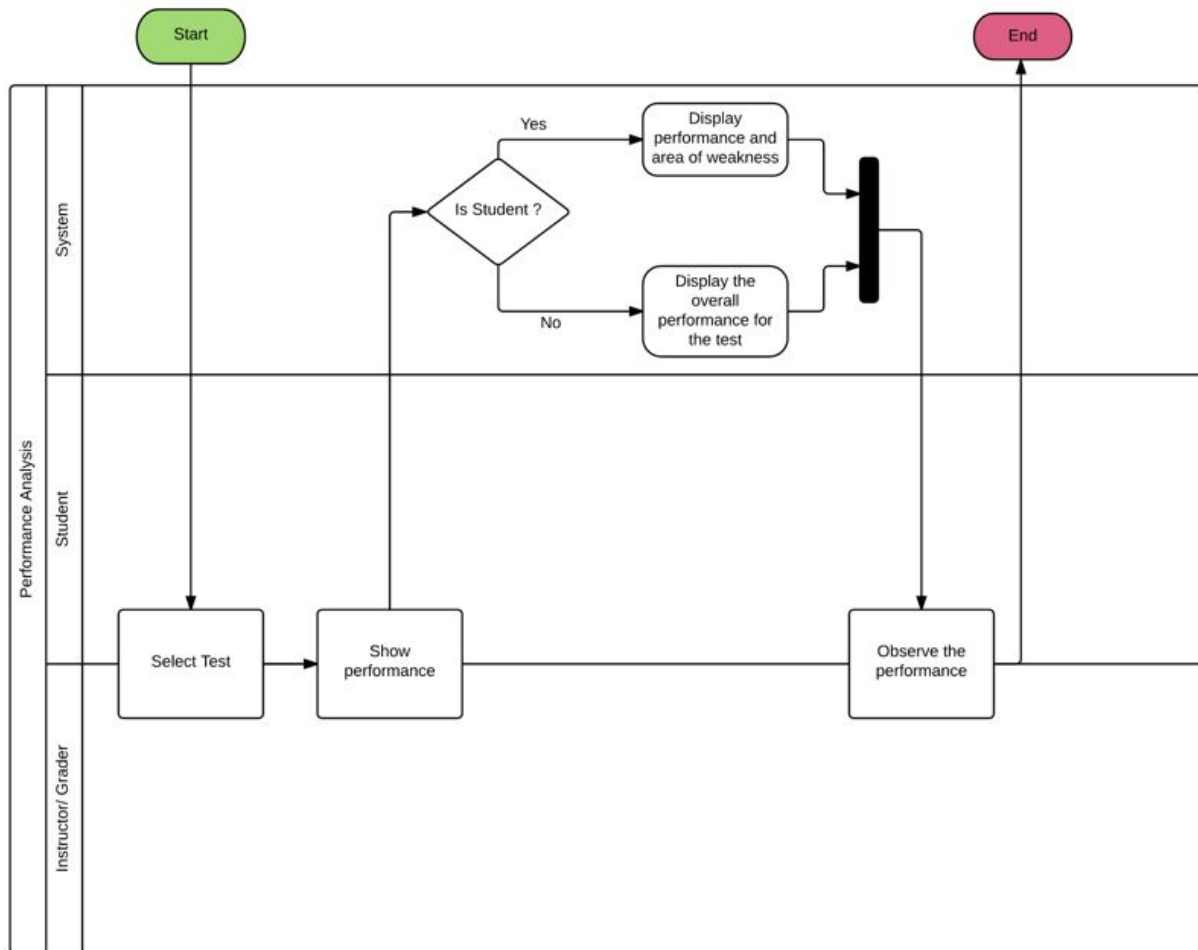
<https://www.lucidchart.com/invitations/accept/764c3d3a-3f55-44d5-8ef9-e2cfce2e0c50>



Requirement ID	Use Case ID	Short Description	Created by
US-001	UC-01	Users should be able to login using credentials.	Karthik Kannan

## Performance Analysis:

<https://www.lucidchart.com/invitations/accept/cff14bf8-89a7-45e8-90cd-770c459d034e>



Requirement ID	Use Case ID	Short Description	Created by
US-014,US-015	UC-06	Students should be able to view their performance and areas of weakness	Nikhil Mahendra

### Data Storage:

- We plan to persist data in our application using a No-SQL Database.
- The data will all be stored in MongoDB.

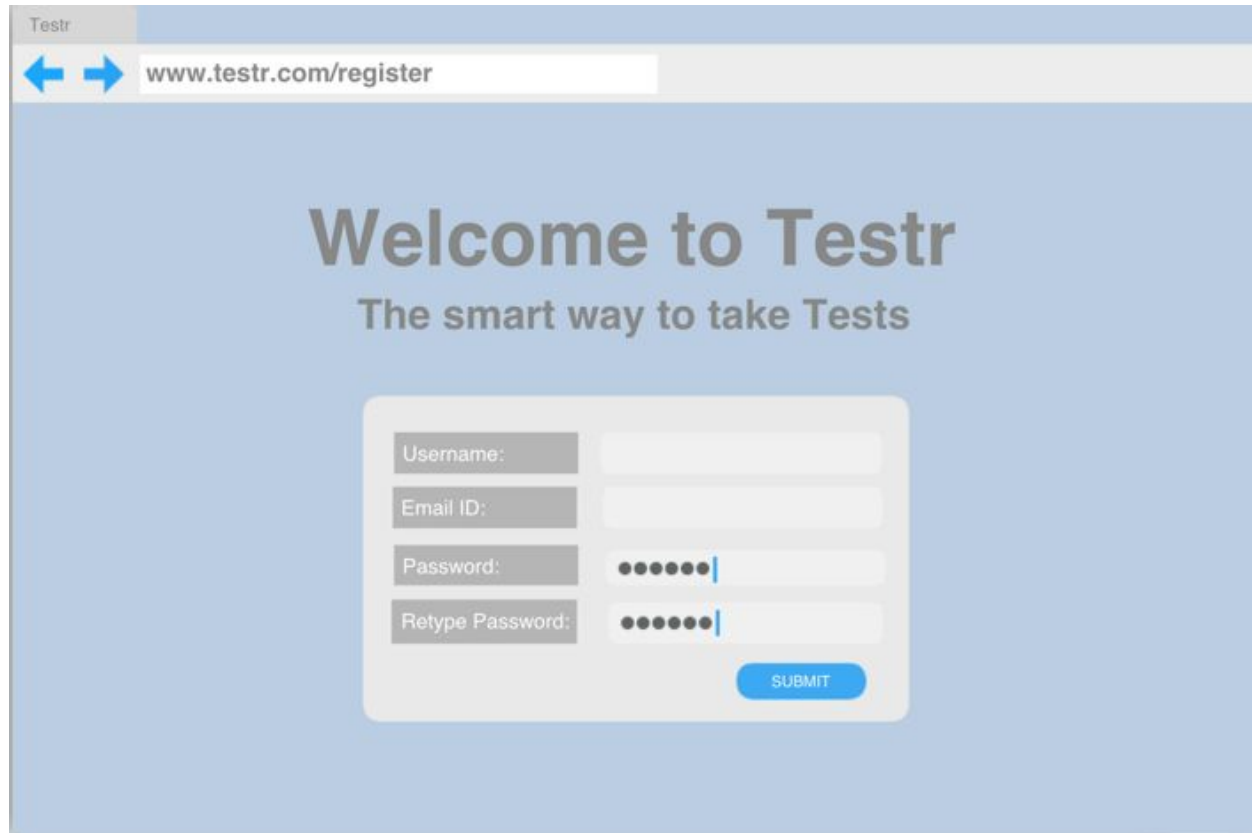
### Classes:

- **User** class to store the information regarding the user.
  - UserName ( Unique )
  - Password ( Stored in Encrypted Form )
  - Role ( Administrator / Instructor / Student )
  - Profile Photo
  - Display Name
- **Test** class to store the information regarding the test
  - TestName ( Unique )
  - TestID ( Unique - ObjectID generated by MongoDB )
  - Questions ( Array of Questions )
  - StartTime ( Date and Time in GMT )
  - DurationOfTest ( In minutes )
  - ExpiryDate ( Date and Time in GMT before which the test must be taken )
  - Category ( The category the test belongs to )
  - Course ( The course, the test is part of )
- **Course** class to store the information regarding the course
  - CourseName ( Unique - Contains Year and Season appended to the CourseName )
  - CourseID ( Unique - ObjectID generated by MongoDB )
  - Students ( UserID of students who are enrolled in the class )
  - Instructor ( Instructor who manages this course )
  - Grader ( Student selected by the Instructor )
  - Tests ( Array of associated test )
- **Question** class to store the information regarding the question
  - QuestionID ( Unique - ObjectID generated by MongoDB )
  - Category ( Which particular area it covers )
  - Question ( The text part of the question )
  - MaxMarks ( The maximum amount of marks that can be assigned for the question - Number )
  - AnswerType ( The kind of option chosen for the answer )
    - SC (Single Choice)
    - MC (Multiple Choice )
    - BO (Boolean)
    - TT (Text)
    - CE (Code)



- ReferenceAnswer ( The correct answer for the question )
- **Answer** class to store the answers of the users.
  - AnswerID ( Unique - ObjectID generated by MongoDB - To be based on QuestionID , UserID and TestID )
  - AnswerType ( The kind of option chosen for the answer )
    - SC (Single Choice)
    - MC (Multiple Choice )
    - BO (Boolean)
    - TT (Text)
    - CE (Code)
  - Answer ( Based on AnswerType )
  - MarksAwarded ( Number <= MaxMarks ( <QUESTION\_ID> ) )

## UI - Mockups



The image is a UI mockup of a web browser window. The browser's title bar shows 'Testr'. The address bar contains 'www.testr.com/register'. The main content area has a light blue background. Centered on the page is the text 'Welcome to Testr' in a large, bold, dark grey font, followed by 'The smart way to take Tests' in a smaller, regular, dark grey font. Below this text is a registration form with a light grey background and rounded corners. The form contains four input fields: 'Username:', 'Email ID:', 'Password:', and 'Retype Password:'. The 'Password:' and 'Retype Password:' fields are masked with black dots. A blue 'SUBMIT' button is located at the bottom right of the form.

Testr

www.testr.com/register

# Welcome to Testr

The smart way to take Tests

Username:

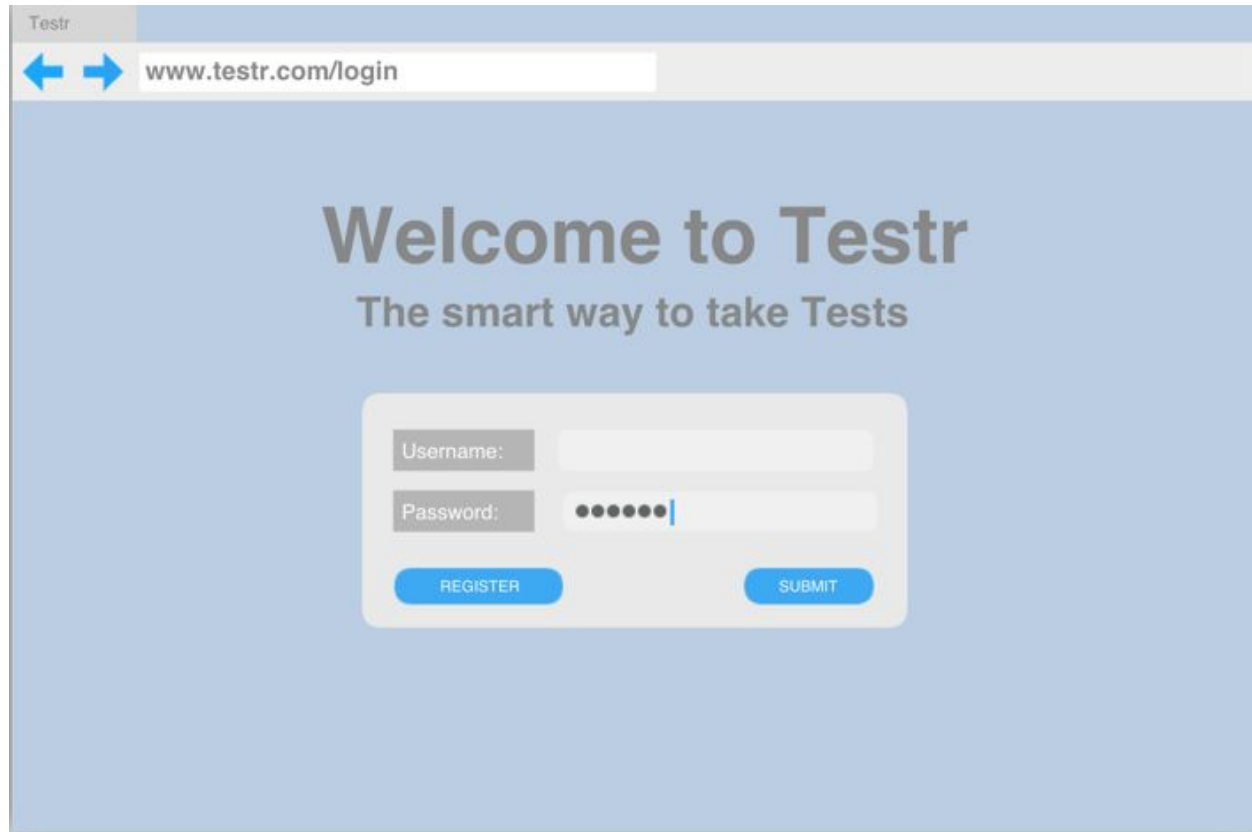
Email ID:

Password:

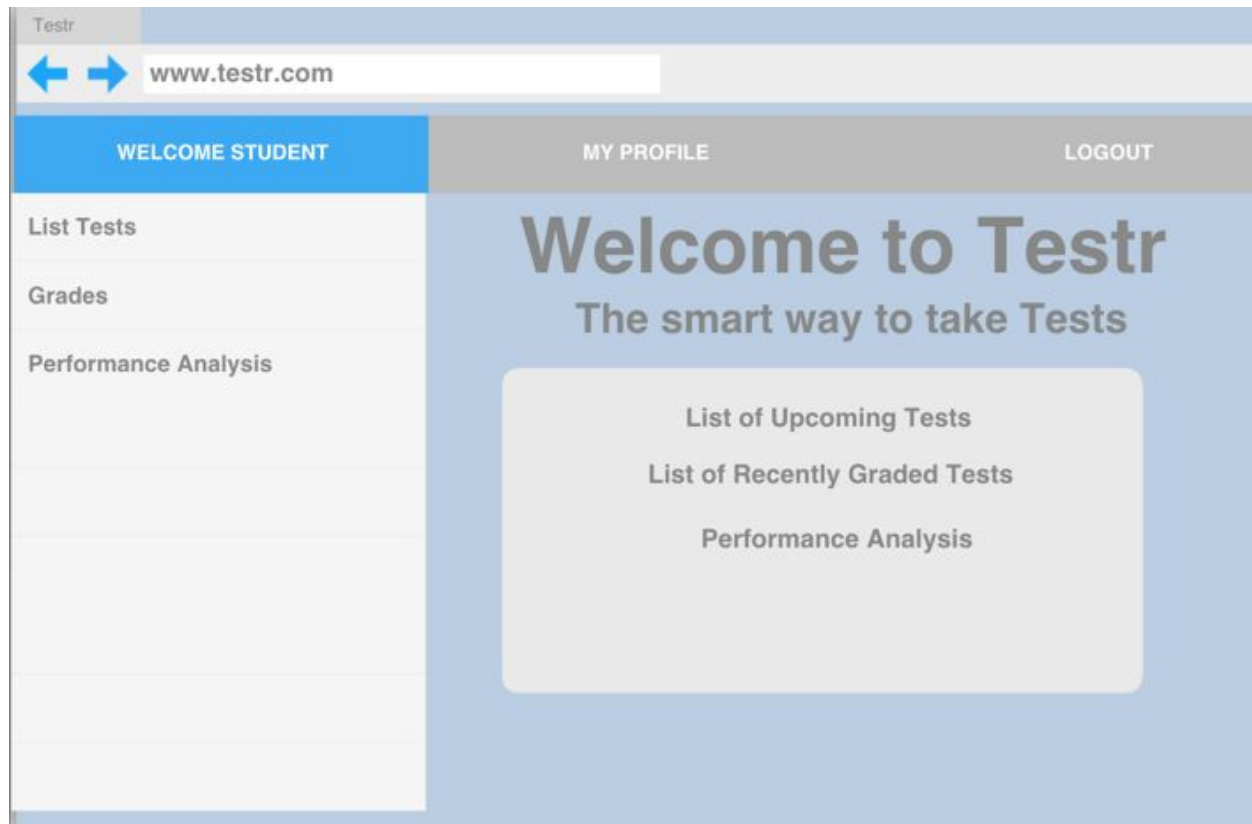
Retype Password:

SUBMIT

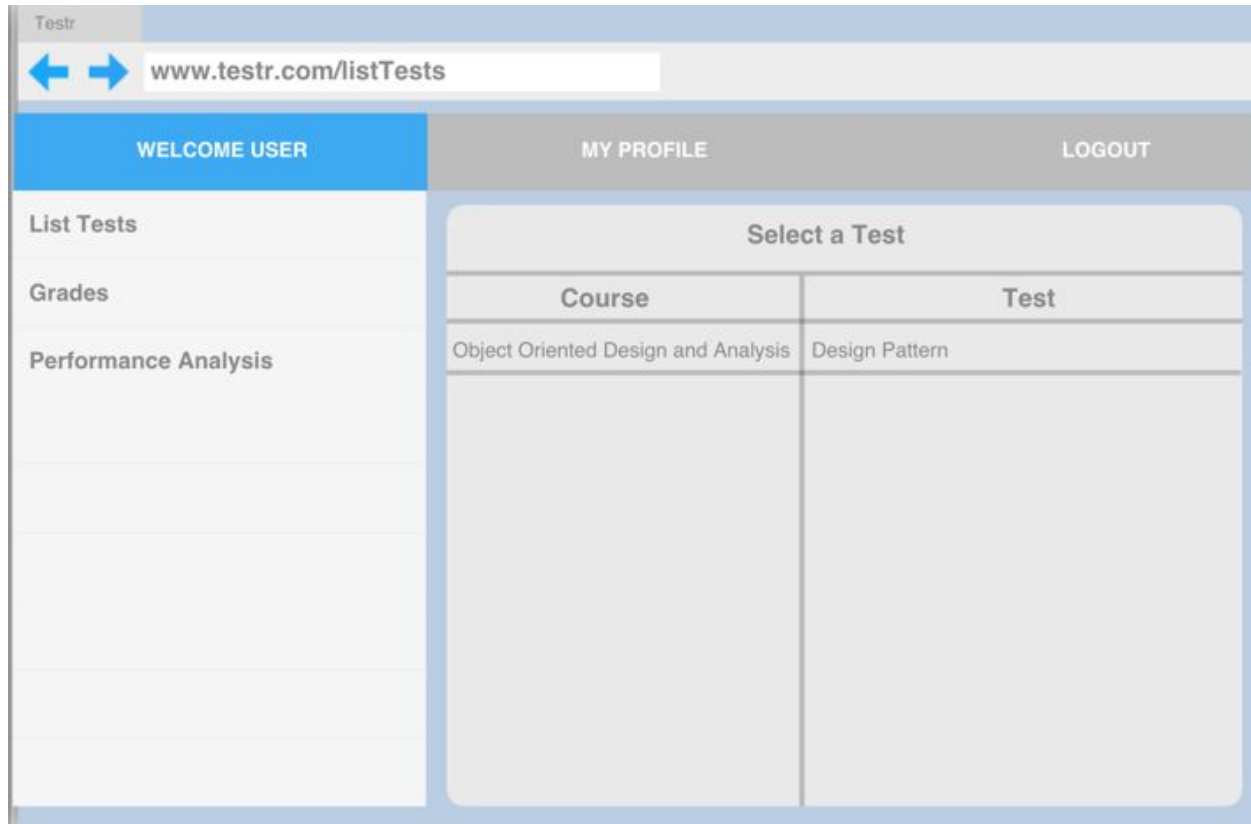
REGISTER



LOGIN



LOGGED IN PAGE FOR STUDENTS



DISPLAY TESTS FOR STUDENTS

Testr

[←](#) [→](#)

WELCOME USER

MY PROFILE

LOGOUT

List Tests

Grades

Performance Analysis

What does OOAD Stand for ?

☒ Object Oriented Analysis and Design

☐ Object Oriented Application and Design

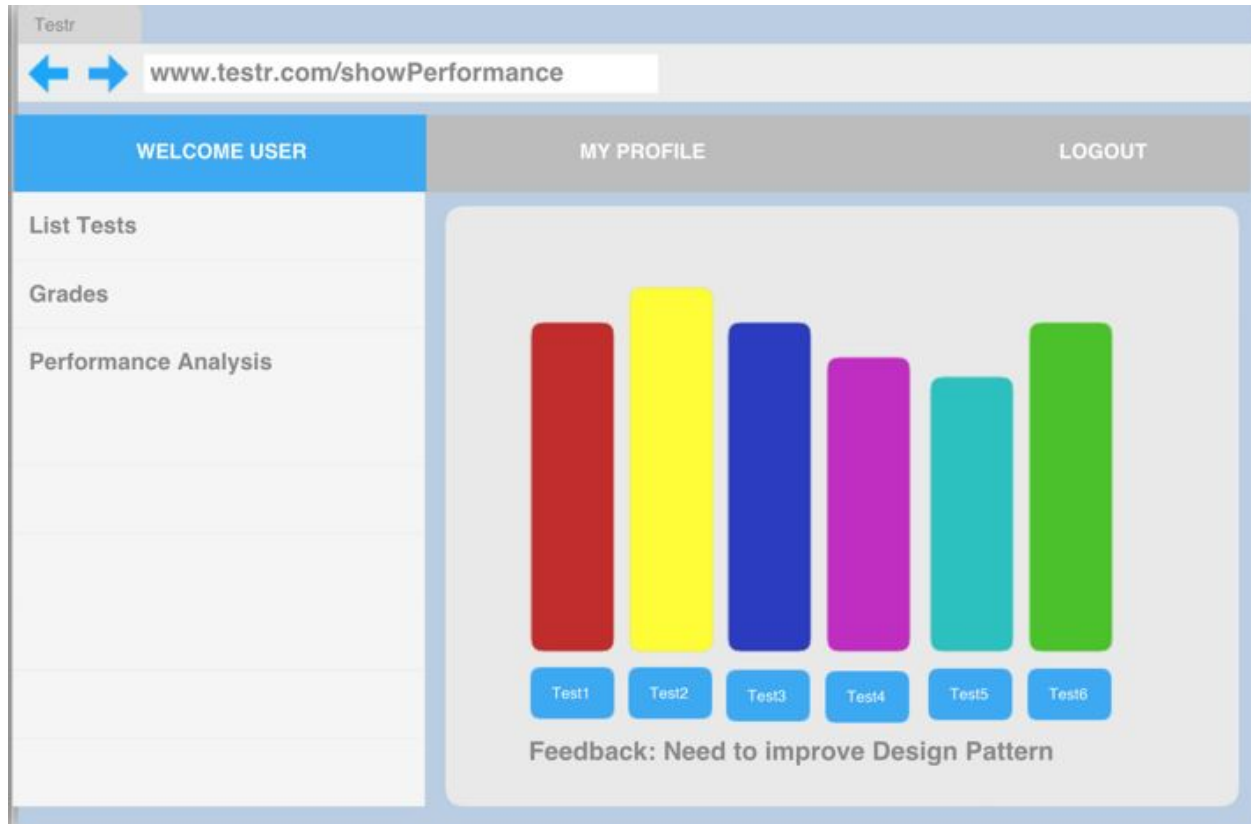
☐ Object Oriented Analysis and Documents

☐ Oracle Oriented Analysis and Design

TEST TAKING FOR STUDENTS

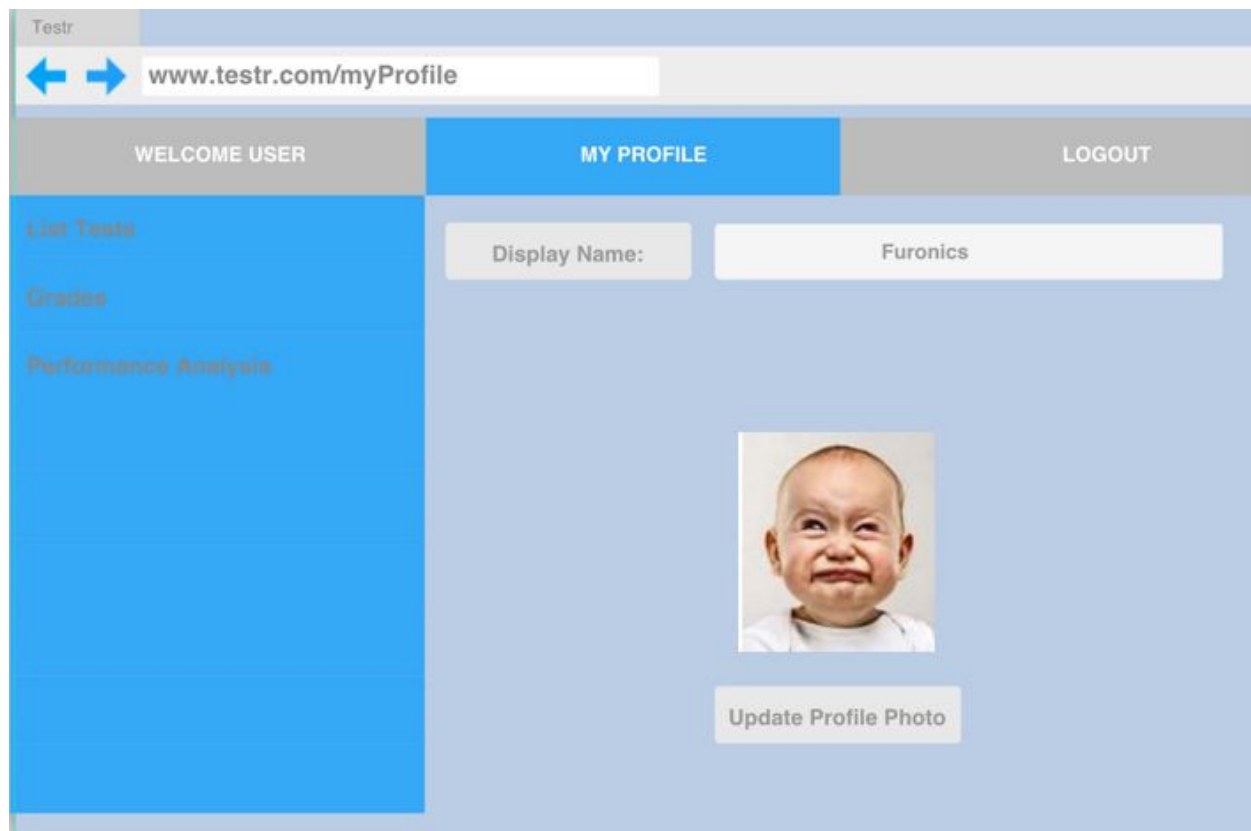
[illegible]

## LIST GRADES FOR STUDENTS



PERFORMANCE ANALYSIS FOR STUDENTS





PROFILE UPDATE PAGE

Tab

← →

www.testr.com/create

Welcome Instructor

My Profile

Logout

List Tests

Grade Book

Performance Analysis

Create

Grade Tests

Enter Number of Questions

1

What does OOAD Stand for?

Object Oriented Analysis and Design

Object Oriented Application and Design

Object Oriented Analysis and Documents

Oracle Oriented Analysis and Design

+

Add More Options

Correct answer

A

Question Type

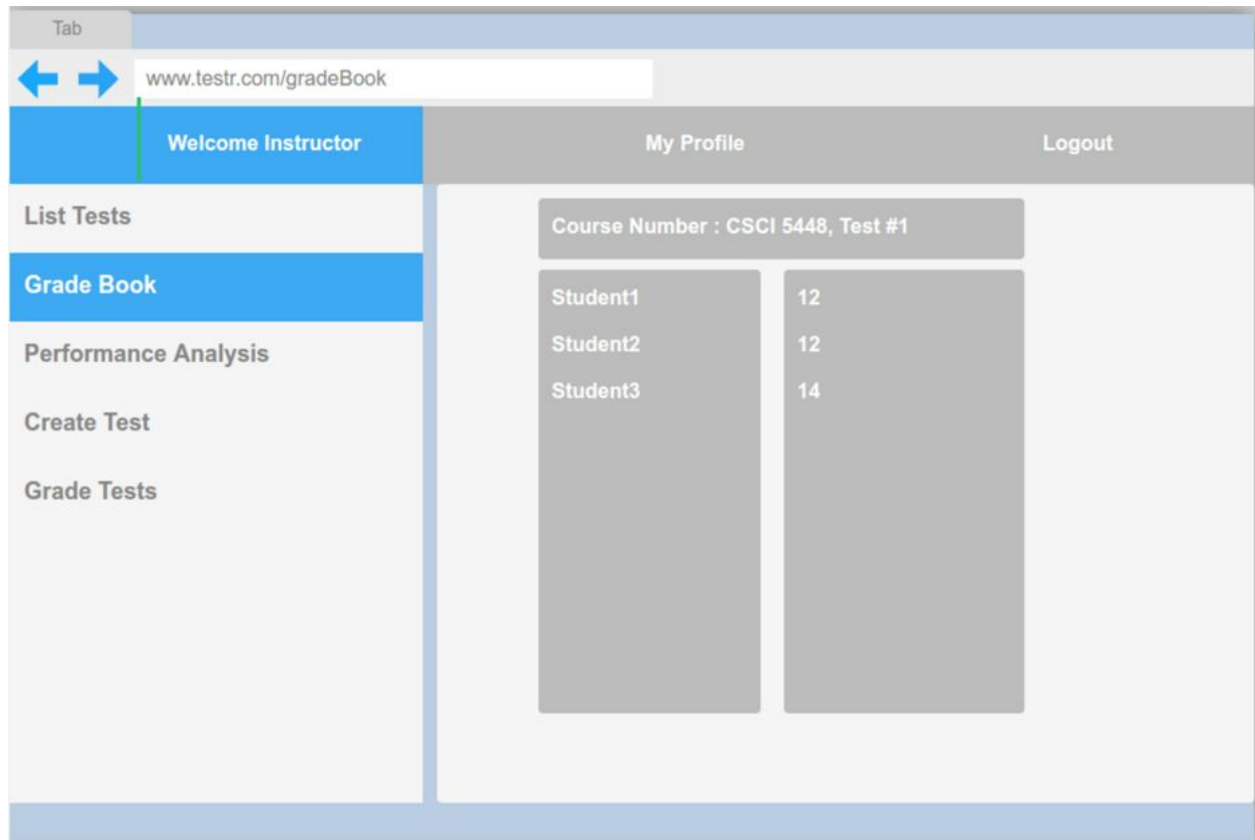
True/False

Multiple Choice

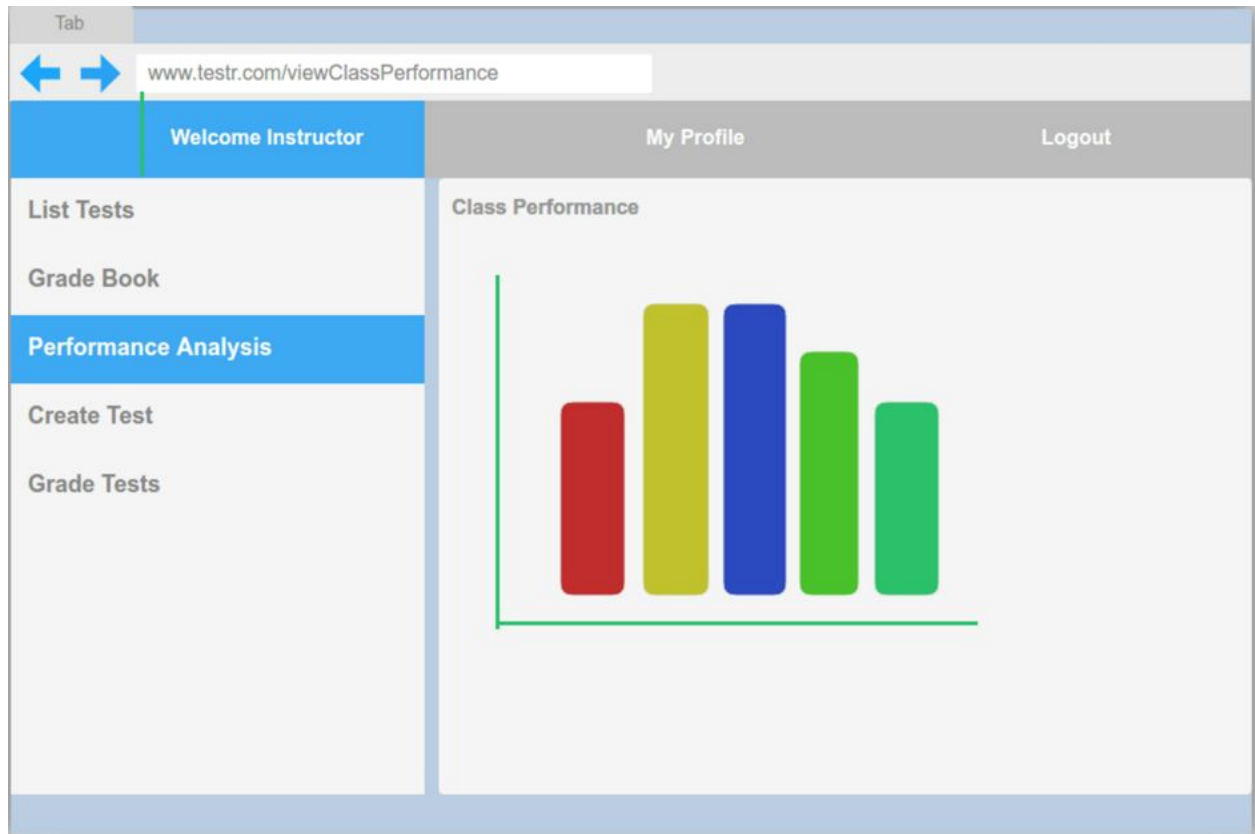
Multi-answer

Text based

CREATE QUESTIONS FOR GRADER/INSTRUCTOR



GRADE BOOK FOR GRADER/INSTRUCTOR



VIEW CLASS PERFORMANCE FOR GRADER / INSTRUCTOR

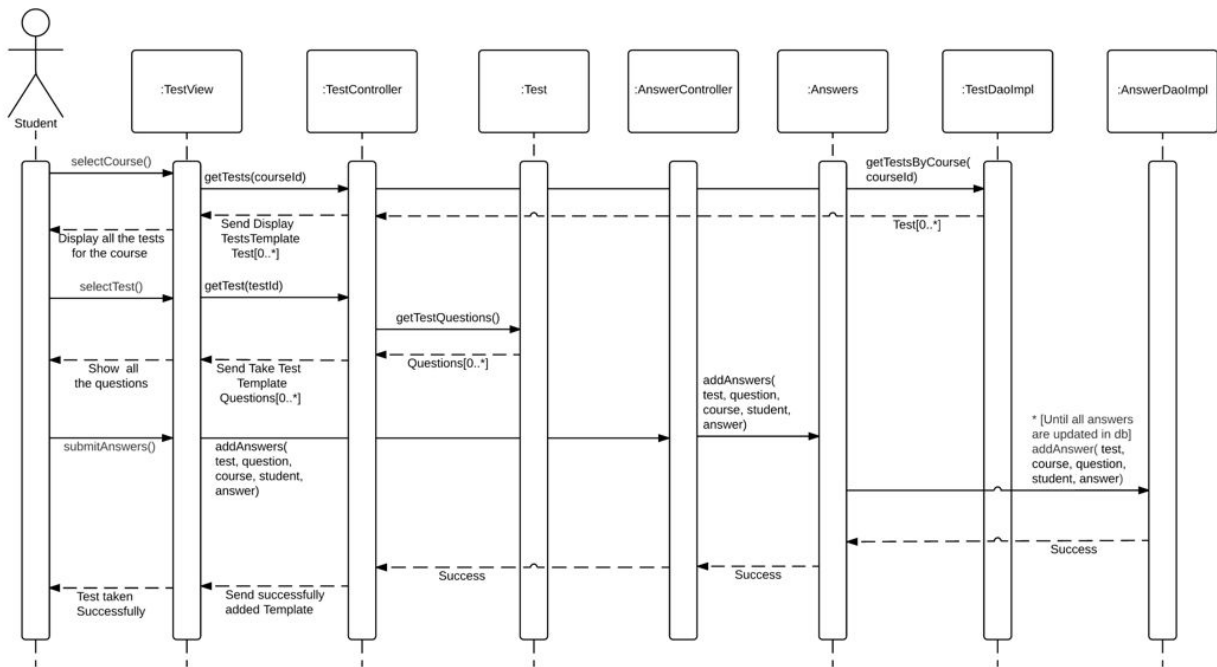
## User Interactions:

### Sequence Diagrams:

#### Take Test

<https://www.lucidchart.com/invitations/accept/57a2ec24-ca79-43cc-b819-ae4543ab7d76>

#### **Take Test**

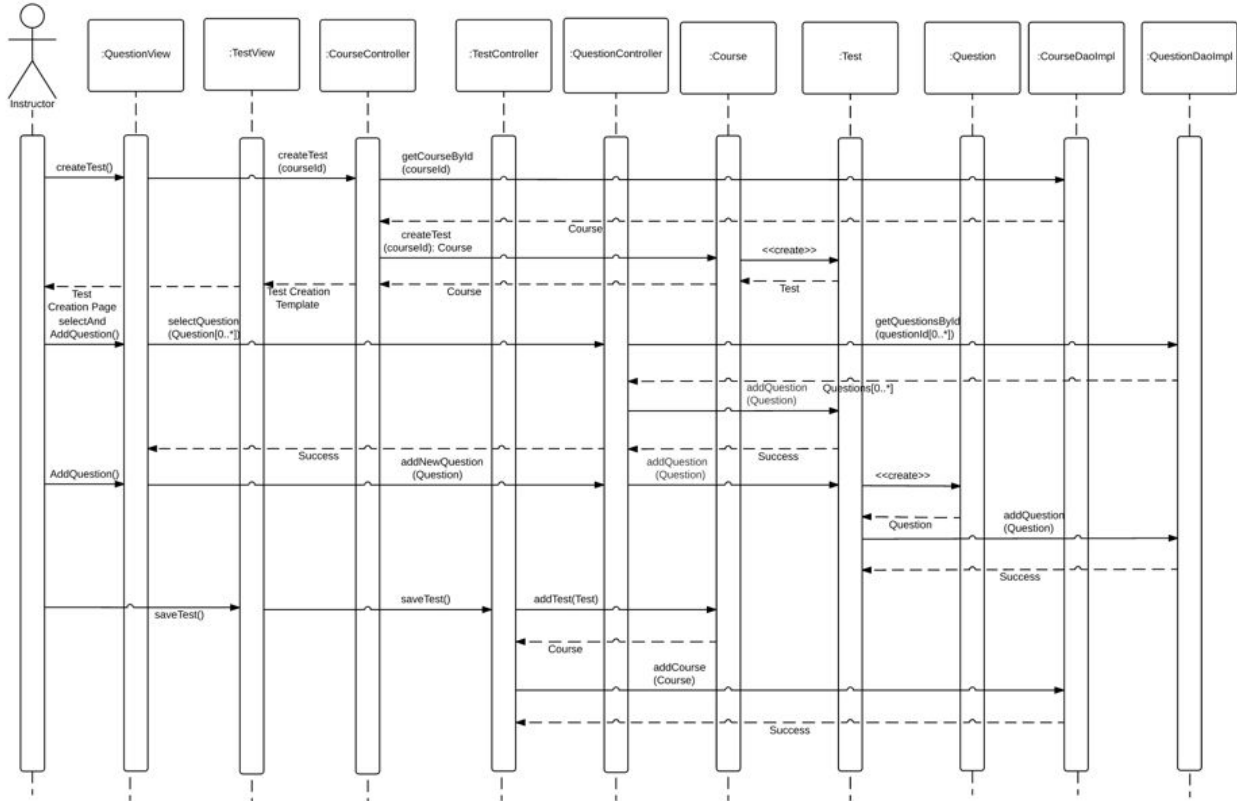


Requirement ID	Use Case ID	Short Description	Created by
US-008	UC-03	Students should be able to take tests in the allotted time slots and submit it for grading.	Mahesh Ravindranathan

## Create Test

<https://www.lucidchart.com/invitations/accept/9fdd6b7e-1c13-40c1-a8a7-f797a950d6a6>

### Create Test

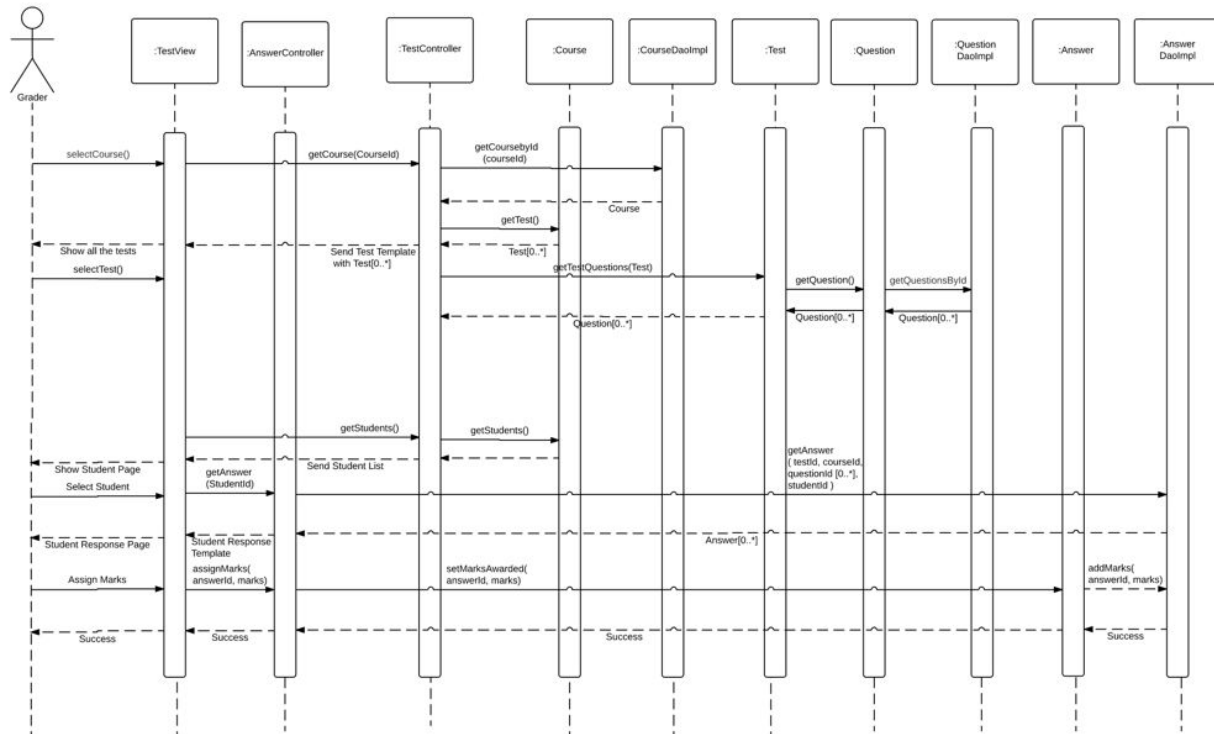


Requirement ID	Use Case ID	Short Description	Created by
US-003	UC-12	Instructors should be able to create test	Nikhil Mahendra

## Grade Test

<https://www.lucidchart.com/invitations/accept/5a883dfe-f84f-4459-a138-e15e56edd0ad>

### Grade Test



Requirement ID	Use Case ID	Short Description	Created by
US-004	UC-04	Allow Instructors/Grader to grade test	Karthik Kannan

# Class Diagram

<https://www.lucidchart.com/invitations/accept/353d94b3-164e-4e8e-9765-44bfa66dcfd9>

