

Software Engineering

Online Examination Portal

Cognitive Walkthrough

Anirudh Sharma 150101006

Aman Agarwal 150101005

Rakesh Abthoula 150101004

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Preparatory Phase

a. Prototype

For prototype refer OnlineExaminationProto.pdf

b. Tasks

1. Student Login
2. Student registration
3. Student enrol Course
4. Student Discussion Panel Question
5. Student Discussion Panel view Answer
6. Faculty Login
7. Faculty Registration
8. Faculty Create course
9. Faculty Create examination
10. Faculty Discussion Panel view Question
11. Faculty Discussion Panel Answer Question
12. User (Student) giving examination.
13. User (Student) checking result.

1. Student Login:

Task will consist of user as student trying to login into the system.

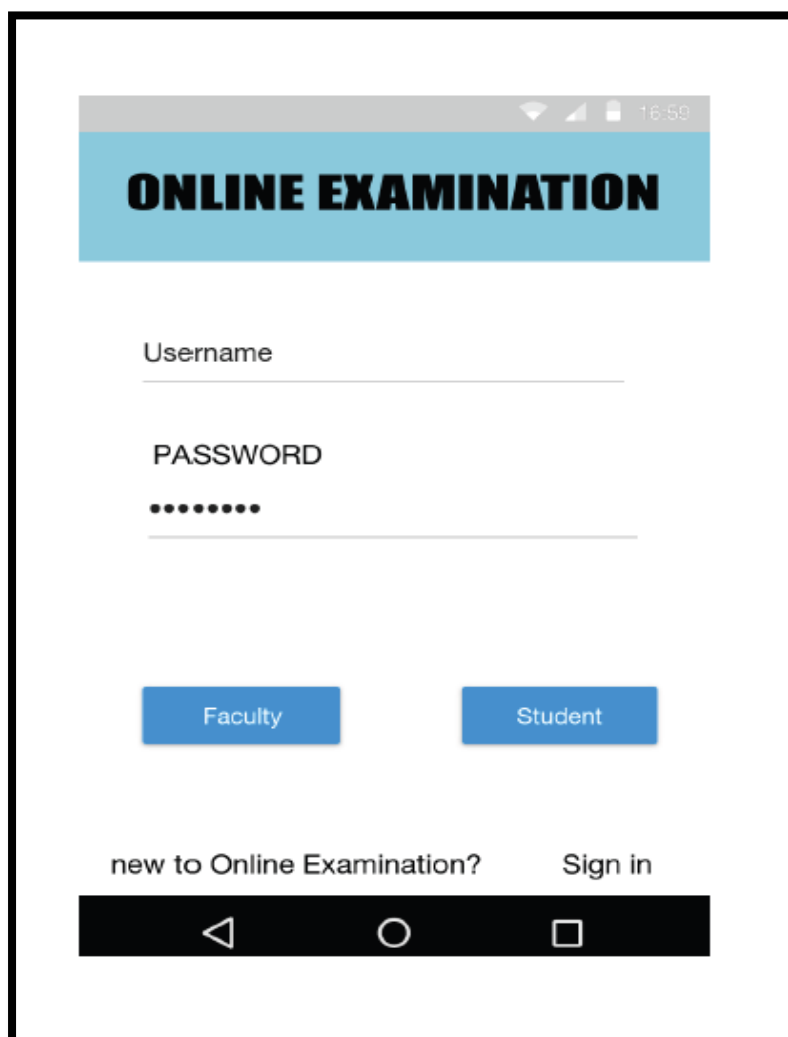
Goal: Login to the app

Subgoal1: enter Username

Subgoal2: enter Password

Subgoal3: Select student option

Subgoal4: enter login



The screenshot displays a mobile application interface for an online examination. At the top, a status bar shows the time as 16:59. Below this, a blue header bar contains the text "ONLINE EXAMINATION" in bold black letters. The main content area is white and features two input fields: "Username" and "PASSWORD". The password field is masked with seven dots. Below the input fields, there are two blue buttons labeled "Faculty" and "Student". At the bottom, there is a link "new to Online Examination?" and a "Sign in" button. The entire interface is framed by a black border, and a black navigation bar at the very bottom contains three white icons: a back arrow, a circle, and a square.

2. Student registration:

Task will consist of user as student trying to register in the app

Goal: Register the student

Subgoal1: Enter sign in Portal

Subgoal2: Enter Username

Subgoal3: Enter Password

Subgoal4: Enter Institute Name

Subgoal5: Select Student Option

Subgoal6: enrol in a course

Subgoal7: enter and re-enter password

Subgoal8: enter Register

Register Now

Name

Email-ID

Institute Name

Student ☐

Faculty ☐

← Next

Register Now

Course Selector

Software Engineering ▼

Password

.....

Re-enter Password

.....

← REGISTER

3. Student Enroll Course

Task will help student to enrol into new courses

Goal: Enrol into new course

Subgoal1: Enter Username

Subgoal2: Enter Password

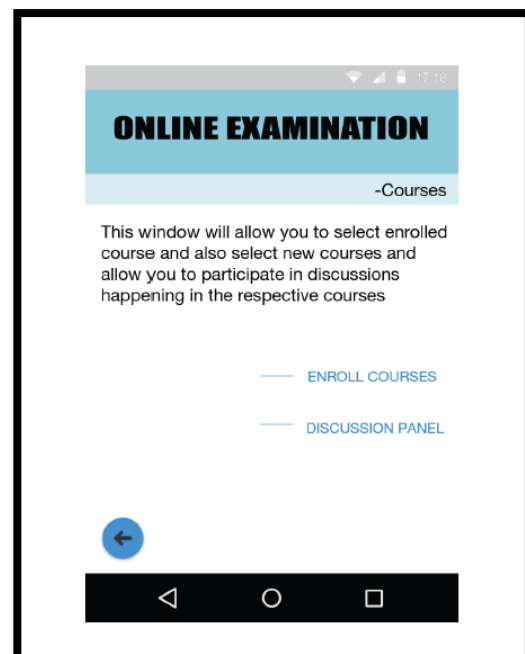
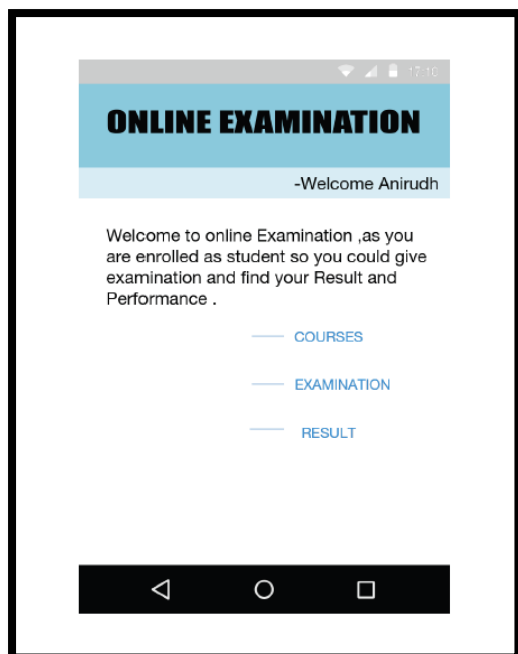
Subgoal3: check the student box

Subgoal4: Click on Login button

Subgoal5: click on courses button

Subgoal6: Click on Enroll Courses

Subgoal7: click on the course



4. Student Discussion Panel Question

In this task user would be able to ask question in discussion panel

Goal: Ask question in Discussion Panel

Subgoal1: Enter Username

Subgoal2: Enter Password

Subgoal3: check the student box

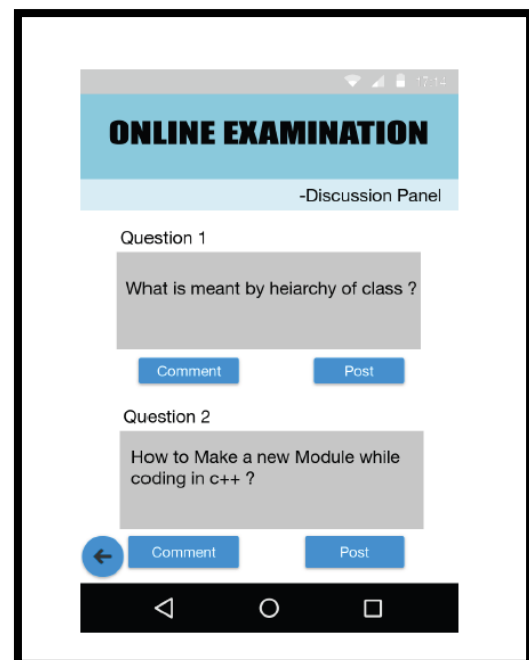
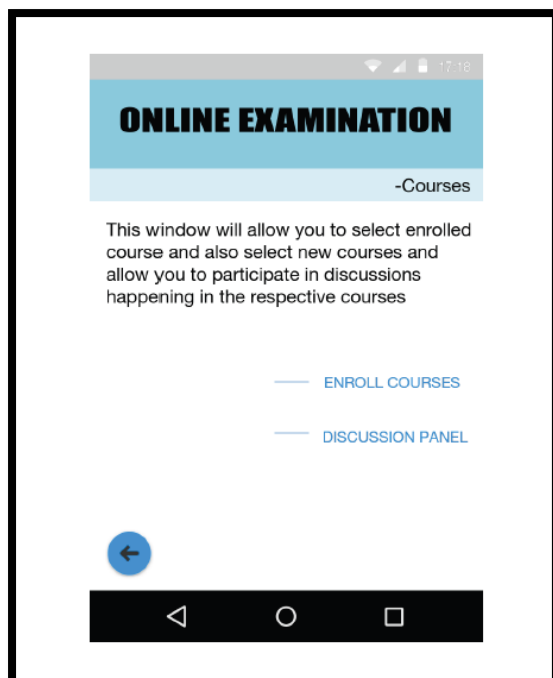
Subgoal4: Click on Login button

Subgoal5: click On Discussion Panel

Subgoal6: click Add icon

Subgoal7: enter the question

Subgoal8: click on final button



5. Student Discussion Panel view Answer

In this task user should be able to read answer for the answered questions in Discussion panel

Goal: View Answers in the Discussion Panel

Subgoal1: Enter Username

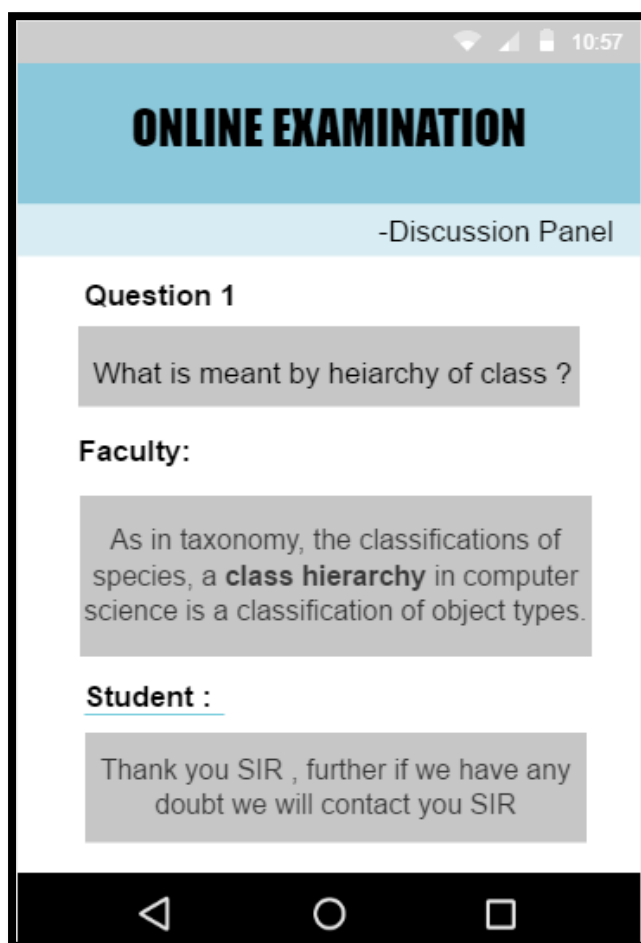
Subgoal2: Enter Password

Subgoal3: check the student box

Subgoal4: Click on Login button

Subgoal5: click On Discussion Panel

Subgoal6: Click in the Comment of the question



6. Faculty Login

User would be able to enter as faculty

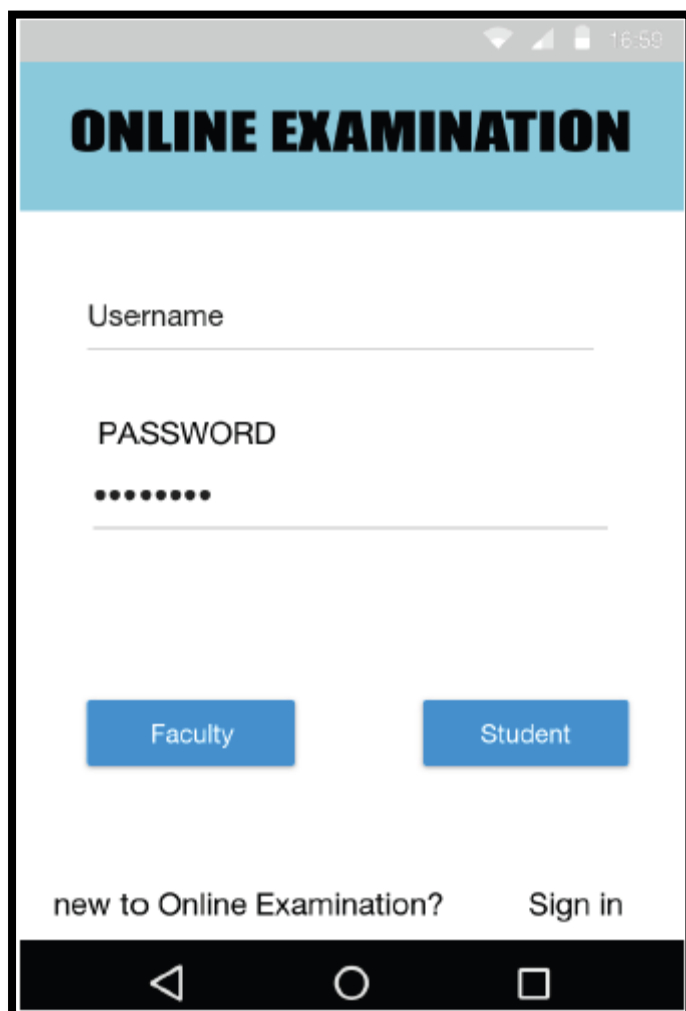
Goal: Login as faculty

Subgoal1: Enter Username

Subgoal2: Enter Password

Subgoal3: check the Faculty box

Subgoal4: Click on Login button.



The screenshot shows a mobile application interface for an "ONLINE EXAMINATION". At the top, there is a light blue header with the title "ONLINE EXAMINATION" in bold black text. Below the header, the login form consists of two input fields: "Username" and "PASSWORD". The "PASSWORD" field is masked with eight dots. Below the input fields, there are two blue buttons: "Faculty" and "Student". At the bottom of the form, there is a link "new to Online Examination?" and a "Sign in" button. The entire form is enclosed in a black border, and the bottom of the screen shows the standard Android navigation bar with back, home, and recent apps icons.

7. Faculty Registration

User will be able to register as faculty

Goal: Register the faculty

Subgoal1: Enter sign in Portal

Subgoal2: Enter Username

Subgoal3: Enter Password

Subgoal4: Enter Institute Name

Subgoal5: Select Faculty Option

Subgoal6: create course

Subgoal7: enter and re-enter password

Subgoal8: enter Register.

Register Now

Name

Email-ID

Institute Name

Student ☐

Faculty ☒

← Next

Register Now

Course Selector

Software Engineering ▼

Password

.....

Re-enter Password

.....

← REGISTER

8. Faculty Create course

User will be able to create new course as a faculty

Goal: faculty course creation

Subgoal1: Enter Username

Subgoal2: Enter Password

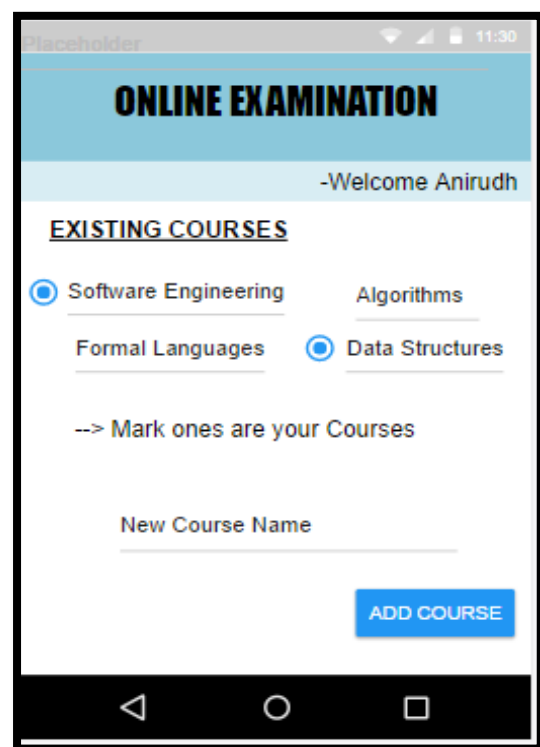
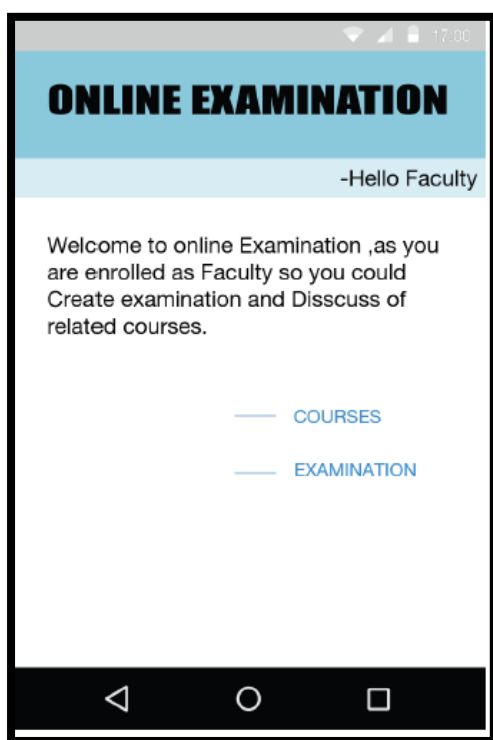
Subgoal3: check the student box

Subgoal4: Click on Login button

Subgoal5: click on courses button

Subgoal6 : Click on Enroll Courses

Subgoal7: click on the course.



9. Faculty Create examination

Goal: Faculty creates examination

Subgoal1: Enter Username

Subgoal2: Enter Password

Subgoal3: check the faculty box

Subgoal4: Click on Login button Subgoal5: click on new examination

Subgoal6: create questions, options and solution

Subgoal8: Finalize the examination

ONLINE EXAMINATION

-FACULTY QUESTION

Label Text
ENTER QUESTION

Label Text
ENTER OPTION 1

Label Text
ENTER OPTION 2

Label Text
ENTER OPTION 3

Label Text
ENTER OPTION 4

Label Text
ENTER CORRECT CHOICE

←

10. Faculty Discussion Panel view Question

Goal: faculty views question in discussion panel

Subgoal1: Enter Username

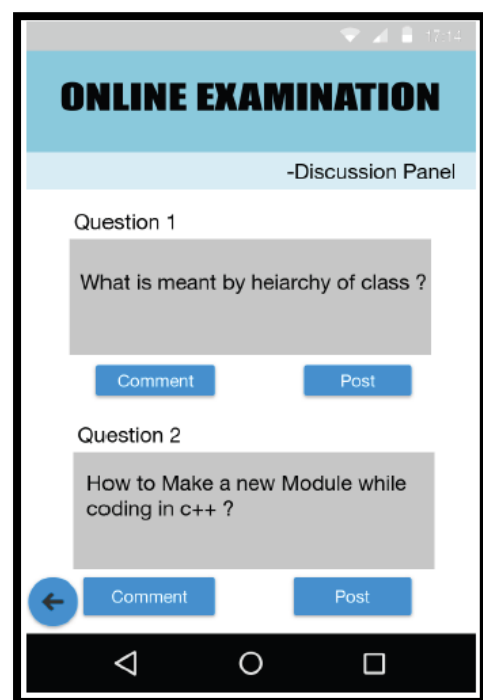
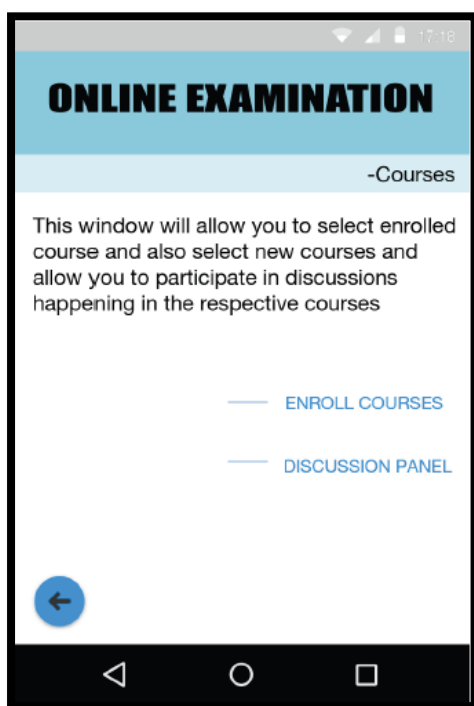
Subgoal2: Enter Password

Subgoal3: check the faculty box

Subgoal4: Click on Login button

Subgoal5: click On Discussion Panel

Subgoal6: Click on the question.



11. Faculty Discussion Panel Answer Question

Goal: faculty gives answer in discussion panel

Subgoal1: Enter Username

Subgoal2: Enter Password

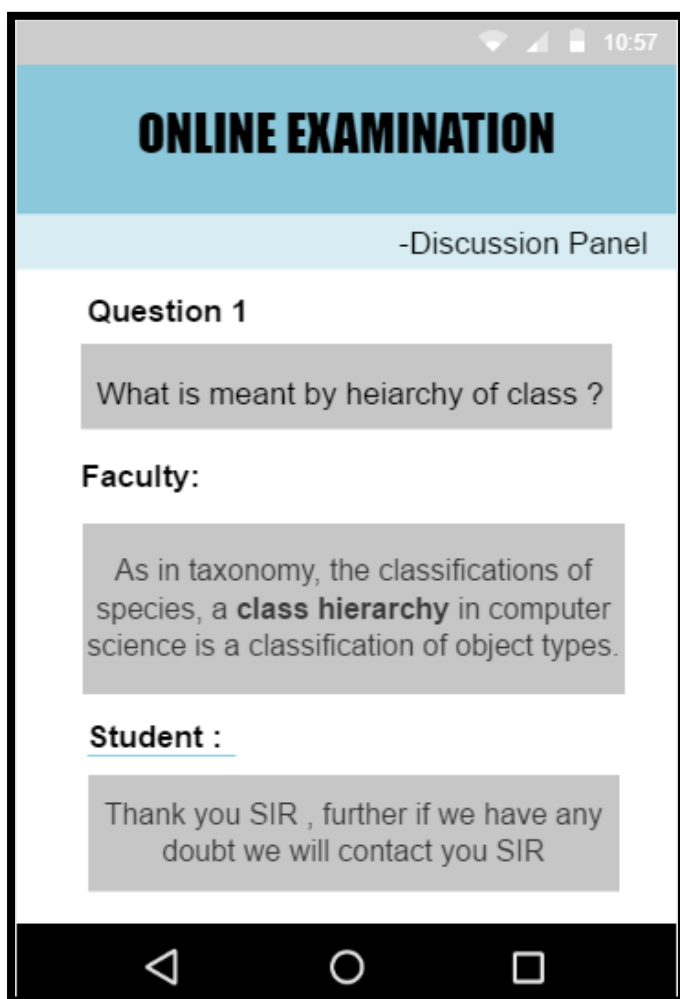
Subgoal3: check the faculty box

Subgoal4: Click on Login button

Subgoal5: click On Discussion Panel

Subgoal6: Click on the question

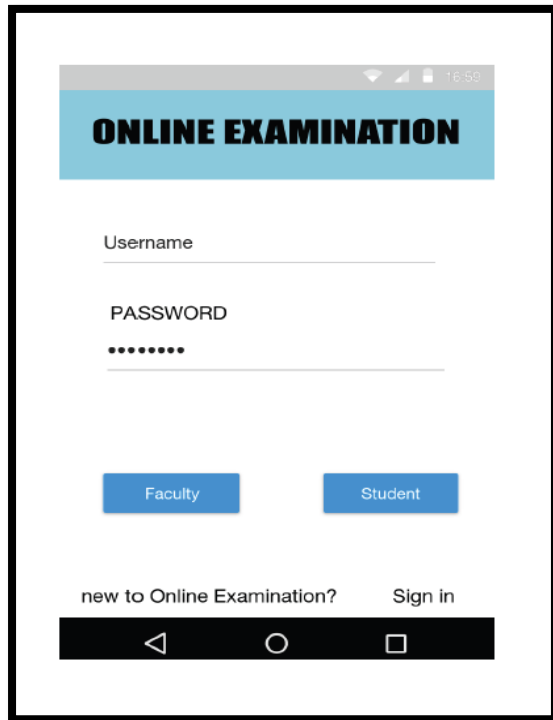
Subgoal7: answer the question.



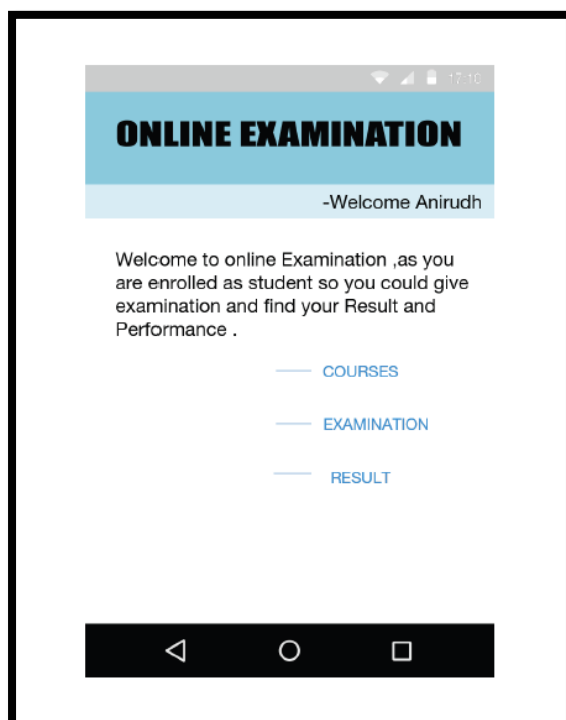
12. Student giving Examination

Goal: Student uses the app to give examination.

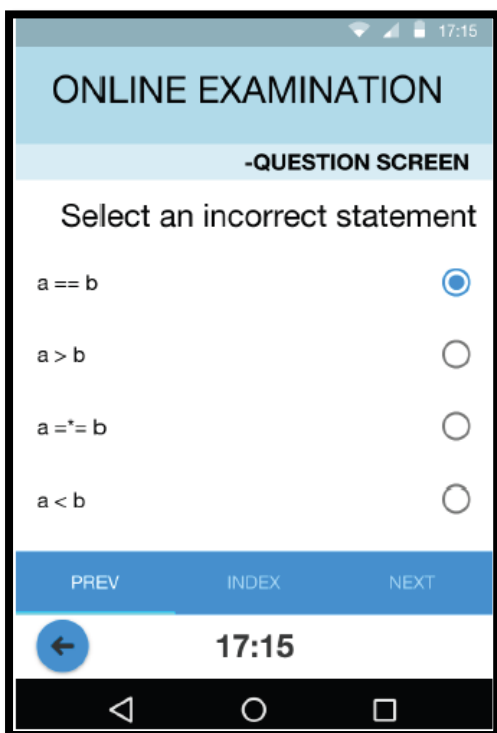
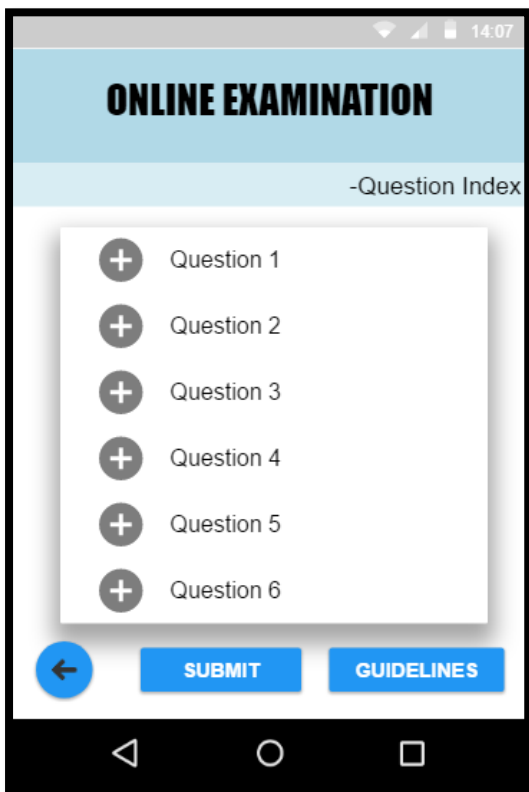
Subgoal1: Login to the app.



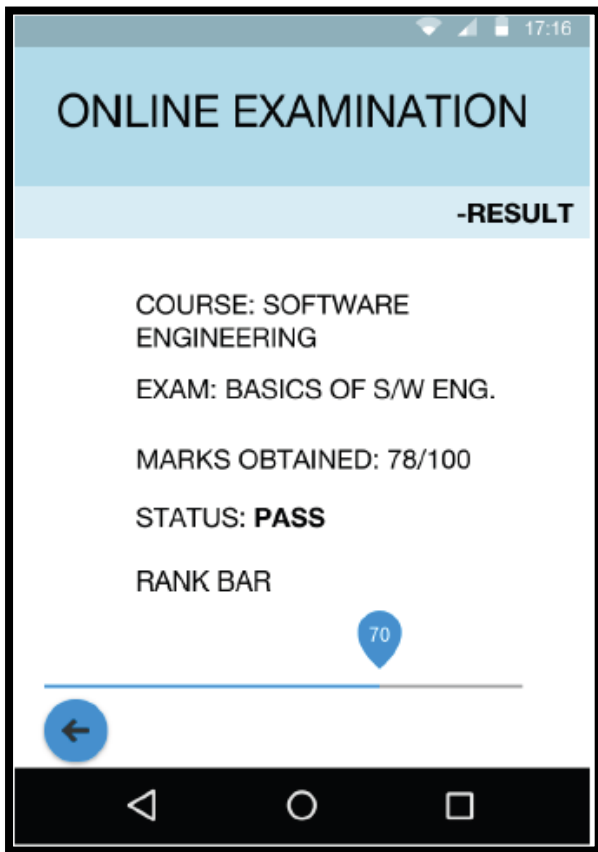
Subgoal2: Student selects exam.



Subgoal3: Student gives exam.



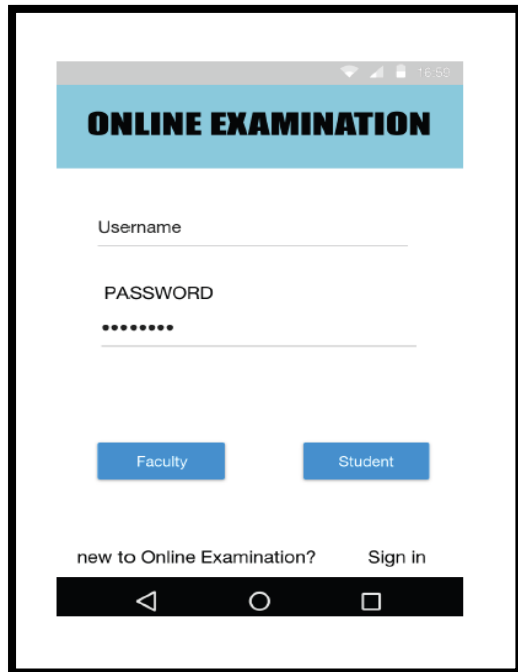
Subgoal4: student finalize the Exam and get result



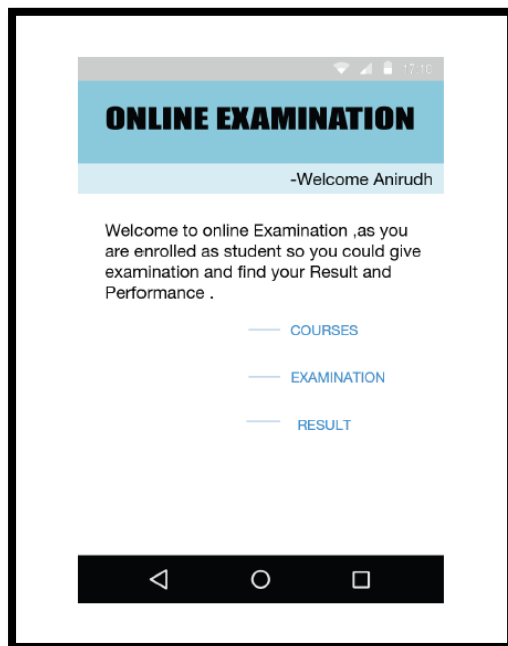
13. Student checking result

Goal: Student uses the app to check his/her result.

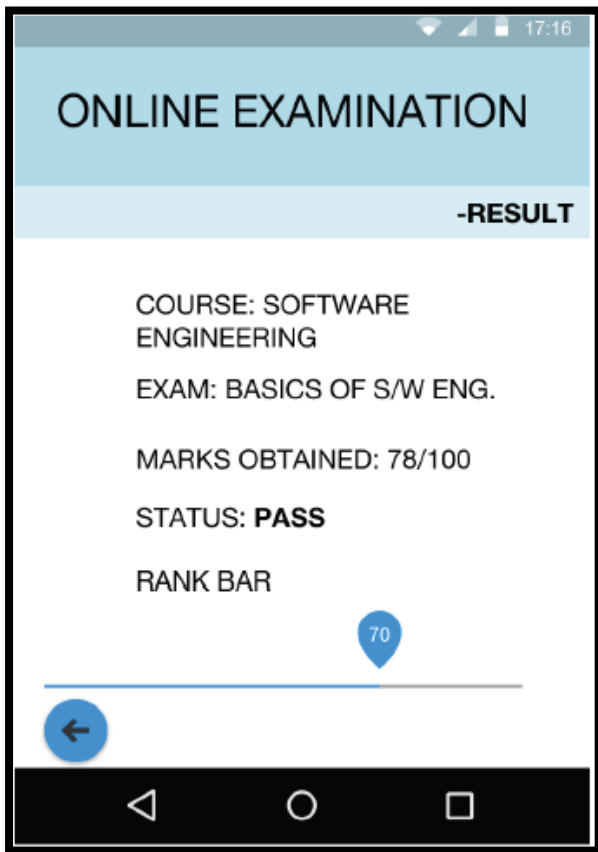
Subgoal1: Login to the app.



Subgoal2: Student selects result.



Subgoal3: Student checks result.



c. Users

Students

- School going students
- College going students
- Self-studying students.

Faculty

- Faculty who are currently teaching in college.
- Faculty who are currently teaching in schools.
- Faculty who are teaching in coaching centres etc.

Knowledge of users about using app.

Intermediate knowledge

- School going students
- Faculty who are teaching in coaching centres etc.

Expertise knowledge

- College going students
- Faculty who are currently teaching in college.
- Faculty who are currently teaching in schools.

Evaluation team

Sr no.	Name	Age	Gender	Category	Expertise level
1.	Prakash Verma	28	Male	Student (self-studying)	Expert
2.	Kumar Rahul	16	Male	Student (School)	Intermediate.
3.	Yash Khatri	16	Male	Student (College)	Expert

EVALUATION PHASE

Task: Student giving examination.

(Prakash Verma)

Description of Steps (Actions)	Did the user try to achieve the end goal or did he give up At the start itself?	Did the user confidently know that the choices being made by him/ her is the right one? Y/N	Did the user understand the feedback after every action?	Did the user complete the Task with satisfaction? Yes/Partly/No	Comments/ Alternate suggestions/ discussion points.
Enter username (Sub goal 1)	Yes	Yes	Yes	Yes	
Enter password (Sub goal 1)	yes	Yes	No	No	Doesn't have unmask option so it was not confidential to understand password
Click on Student (Sub goal 1)	yes	No	yes	Yes	Usually app have login option but here there is student written which is confusing
Select the examination option (Sub goal 2)	yes	yes	yes	yes	
Select the question from question index (Sub goal 3)	Yes	No	Yes	Yes	

Choose the answer (Sub goal 3)	Yes	Yes	Yes	Yes	
Click on save option (Sub goal 3)	Yes	Yes	No	No	There is no pop-up sort of thing which would tell that the answer is saved
Submit the exam (Sub goal 3)	Yes	Yes	Yes	Yes	

Task: Student giving examination.

(Kumar Rahul)

Description of Steps (Actions)	Did the user try to achieve the end goal or did he give up At the start itself?	Did the user confidently know that the choices being made by him/ her is the right one? Y/N	Did the user understand the feedback after every action?	Did the user complete the Task with satisfaction? Yes/Partly/No	Comments/ Alternate suggestions/ discussion points.
Enter username (Sub goal 1)	Yes	Yes	Yes	Partly	Username and password field should be automatically cleared whilst entering data.
Enter password (Sub goal 1)	Yes	Yes	Yes	Partly	Username and password field should be automatically cleared whilst entering data.
Click on student (Sub goal 1)	Yes	Yes	Yes	Yes	
Select the Exam option (Sub goal 2)	Yes	Yes	Yes	Yes	
Select the question from question index (Sub goal 3)	Yes	Yes	Yes	Partly	

Choose the answer (Sub goal 3)	Yes	Yes	Yes	Yes	
Click on save option (Sub goal 3)	Yes	Yes	Yes	Yes	
Submit the exam (Sub goal 3)	Yes	Yes	Yes	Partly	Submit option should be after every question.

Task: Student giving examination.

(Yash Khatri)

Description of Steps (Actions)	Did the user try to achieve the end goal or did he give up At the start itself?	Did the user confidently know that the choices being made by him/ her is the right one? Y/N	Did the user understand the feedback after every action?	Did the user complete the Task with satisfaction? Yes/Partly/No	Comments/ Alternate suggestions/ discussion points.
Enter username (Sub goal 1)	Yes	Partly	Partly	Yes	It was unclear whether to write name after username written or delete written username first.
Enter password (Sub goal 1)	Yes	No	No	No	There should be an unmasked option.
Select student Option (Sub goal 1)	Yes	Partly	Yes	Yes	It is written student on login option. It should be written student login.
Select the examination option (Sub goal 2)	Yes	Yes	Yes	Yes	
Select the question from question index (Sub goal 3)	Yes	Partly	Yes	Partly	Question index should also be indicating visited and unvisited questions.

Choose the answer (Sub goal 3)	Yes	Yes	Yes	Yes	
Click on save option (Sub goal 3)	Yes	Partly	Yes	Yes	Save Confirmation should be there
Submit the exam (Sub goal 3)	Yes	Yes	Yes	Yes	

Task: Student checking result.

(Prakash Verma)

Description of Steps (Actions)	Did the user try to achieve the end goal or did he give up At the start itself?	Did the user confidently know that the choices being made by him/ her is the right one? Y/N	Did the user understand the feedback after every action?	Did the user complete the Task with satisfaction? Yes/Partly/No	Comments/ Alternate suggestions/ discussion points.
Enter username (Sub goal 1)	Yes	Yes	Yes	Yes	
Enter password (Sub goal 1)	Yes	Yes	No	No	Again , there is no unmasking of the password
Select student Option (Sub goal 1)	Yes	No	Yes	Yes	Why the login button has student written on it. login should be there.
Select the result option (Sub goal 2)	Yes	Yes	Yes	Yes	
View result (Sub goal 3)	Yes	Yes	Yes	Yes	

Task: Student checking result.

(Kumar Rahul)

Description of Steps (Actions)	Did the user try to achieve the end goal or did he give up At the start itself?	Did the user confidently know that the choices being made by him/ her is the right one? Y/N	Did the user understand the feedback after every action?	Did the user complete the Task with satisfaction? Yes/Partly/No	Comments/ Alternate suggestions/ discussion points.
Enter username (Sub goal 1)	Yes	Yes	Yes	Partly	Username and password field should be automatically cleared whilst entering data.
Enter password (Sub goal 1)	Yes	Yes	Yes	Partly	Username and password field should be automatically cleared whilst entering data.
Select student Option (Sub goal 1)	Yes	Yes	Yes	Yes	
Select the result option (Sub goal 2)	Yes	Partly	Yes	Partly	The user may get confuse whether to choose exam or result, as he wants to view result of an exam.
View result (Sub goal 3)	Yes	Yes	Yes	Yes	

Task: Student checking result.

(Yash Khatri)

Description of Steps (Actions)	Did the user try to achieve the end goal or did he give up At the start itself?	Did the user confidently know that the choices being made by him/ her is the right one? Y/N	Did the user understand the feedback after every action?	Did the user complete the Task with satisfaction? Yes/Partly/No	Comments/ Alternate suggestions/ discussion points.
Enter username (Sub goal 1)	Yes	Partly	Partly	Yes	It was unclear whether to write name after username written or delete written username first
Enter password (Sub goal 1)	Yes	No	No	No	There should be an unmasked option.
Select student Option (Sub goal 1)	Yes	Partly	Yes	Yes	It is written student on login option. It should be written student login.
Select the result option (Sub goal 2)	Yes	Partly	Yes	Yes	It is a bit confusing. It should be written view result.
View result (Sub goal 3)	Yes	Yes	Yes	Yes	

Observations

Analysis and inferences

Task: Student giving examination.

Evaluator's rating sheet

Action in Sequence	System mismatch question	Potential Problem & Design solution	% Mismatch to ideal situation (qualitative estimation)
Enter username	Is it clear to user that system has taken Username	Yes	20%
	Are the system responses visible and clear	Partly. On clicking username field "username" is still written. Erase it.	
	Is the end of System Action clear	Yes	
Enter password	Is it clear to user that system has taken Password	Partly, there is no unmask option. Include unmask option.	50%
	Are the system responses visible and clear	No.	
	Is the end of System Action clear	Partly	
Select student Option	Is it clear to user that system has taken input	Yes	10%
	Can user resume control for next action	Yes	
	Are the system responses visible and clear	Partly. Student is written on the button. Write login also	
	Is the end of System Action clear	Yes	
Select the examination option	Is it clear to user that system has taken input	Yes	

	Can user resume control for next action	Yes	
	Are the system responses visible and clear	Yes	
	Is the end of System Action clear	Yes	
Select the question from question index	Is it clear to user that system has taken input	Yes	20%
	Can user resume control for next action	Yes	
	Are the system responses visible and clear	Partly. Include marker for visited and unvisited questions.	
	Is the end of System Action clear	Yes	
Choose the answer	Is it clear to user that system has taken input	Yes	
	Are the system responses visible and clear	Yes	
	Is the end of System Action clear	Yes	
Click on save option	Is it clear to user that system has taken input	Partly. There is no confirmation by app that answer is saved. Add confirmation	20%
	Are the system responses visible and clear	Yes	
	Is the end of System Action clear	Yes	
Submit the exam	Is it clear to user that system has taken input	Yes	
	Can user resume control for next action	Yes	
	Are the system responses visible and clear	Yes	
	Is the end of System Action clear	Yes	

Task: Student checks result.

Evaluator's rating sheet.

Action in Sequence	System mismatch question	Potential Problem & Design solution	% Mismatch to ideal situation (qualitative estimation)
Enter username	Is it clear to user that system has taken Username	Yes	20%
	Are the system responses visible and clear	Partly. On clicking username field "username" is still written. Erase it.	
	Is the end of System Action clear	Yes	
Enter password	Is it clear to user that system has taken Password	Partly, there is no unmask option. Include unmask option.	50%
	Are the system responses visible and clear	No.	
	Is the end of System Action clear	Partly	
Select student Option	Is it clear to user that system has taken input	Yes	10%
	Can user resume control for next action	Yes	
	Are the system responses visible and clear	Partly. Student is written on the button. Write login also	
	Is the end of System Action clear	Yes	
Select the result option	Is it clear to user that system has taken input	Partly. It is confusing to some users whether to select result or exam.	20%
	Can user resume control for next action	Yes	

	Are the system responses visible and clear	Yes	
	Is the end of System Action clear	Yes	
View result.	Is it clear to user that system has taken input	Yes	
	Can user resume control for next action	Yes	
	Are the system responses visible and clear	Yes	
	Is the end of System Action clear	Yes	

Recommendation to the interface team

Team member 1:

Prakash Verma

- Erase the written “Username” and “Password” in the username and password fields respectively when the user clicks it to enter his/her username.
- Include unmask option in the password field.
- Write “Student Login” or “Faculty Login” instead of “Student” or “Faculty” respectively in the Login page.
- In the question index, there should be marking of visited and unvisited questions.
- Add a conformation pop-up that the answer is saved.
- In the result option when student log’s in write “View Result” instead of result.

Team member 2:

Kumar Rahul

- Erase the written “Username” and “Password” in the username and password fields respectively when the user clicks it to enter his/her username.
- In the result option when student log’s in write “View Result” instead of result.
- Submit exam option should be there after every exam.

Team member 3:

Yash Khatri

- Erase the written “Username” and “Password” in the username and password fields respectively when the user clicks it to enter his/her username.
- Include unmask option in the password field.
- Write “Student Login” or “Faculty Login” instead of “Student” or “Faculty” respectively in the Login page.
- In the result option when student log’s in write “View Result” instead of result.