CS 319 Object Oriented Software Engineering
Term Project
Iteration 1 - Project Analysis Report
Group 1J - ReviewTool

Group Members:

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1 Introduction

ReviewTool is a desktop application where students and instructors can communicate, have their artifacts reviewed and peer review their group members. The purpose of the application is the provide a platform where students can upload their assignments provided by the instructors and get reviews from them.

2 Functional Requirements

Depending on the login information, the application will switch into one of three states: Instructor, Student or TA.

2.1 Booting-up the Application

The application boots to the login screen. The user can either input their credentials to login or press the sign-up button to switch to the sign-up screen.

2.2.1 The Login Screen

The user has to input their e-mail/student ID and their password. Pressing the login button will have the application switch to one of the three dashboards, student, TA or instructor dashboard, assuming the credentials were valid. Pressing the sign-up button will have the application switch to the sign-up screen.

2.2.2 The Sign-up Screen

The user has to enter their:

- Name-Surname
- E-Mail
- Student/Instructor ID
- Password
- Course Code

to send a sign-up request. Using the login button the user can return to the login screen.

2.3 Instructor Feature Requirements

Using the dashboard available to them, the instructor can:

- View/manage existing groups
- View general progress of the groups
- Manage assignments of the groups

2.3.1 Managing Groups

Initially, the groups screen will contain no groups. The instructor has to create a group and add participants to the group. The instructor also has the ability to remove participants. The list of groups will be shown to the instructor in a compact view, clicking on a particular group will display the information of the group and the ability to manage the group. The information to be shown is:

- Information of each participant
- View the artifacts uploaded by the group
- Review and edit the artifacts
- View the peer reviews submitted by students

2.3.2 Progress of the Groups

The instructor can see the progress of each group in a compact view in the progress screen.

2.3.3 Managing Assignments

The instructor can add or remove assignments for each group to fulfill. The assignments added here will show up in the dashboards of students. The instructor can enter a title and description for the assignment, and the assignment may require a file upload from the groups. The instructor can also add a due date for the assignment.

2.4 Student Feature Requirements

Using the dashboard available to them, a student can:

- View the details of his own group
- View/manage the group's assignments

It is important that the student can only see the information of their own group and not any other group.

2.4.1 Viewing his/her Group

The student will be able to view the information of his group-mates from this screen. The student is able to upload/download files from this screen. The student also submits his peer reviews from this screen, but the button will be blocked until the instructor allows peer reviews to be submitted.

2.4.2 Viewing the Group's Assignments

The student can view the assignments posted by the instructor in a compact view. A general information about the assignment such as title and due date will be shown. The student will be able to upload a file for each assignment from this screen. The upload button will be disabled after the due date passes. There will be no measures to limit uploading for individual students, the groups are expected to coordinate their uploads to the system.

2.5 Teaching Assistant Feature Requirements

Using the dashboard available to them, a TA can:

- View the groups he/she is assigned to
- View general progress of the groups
- View the assignments posted by the instructors

2.5.1 Viewing the Assigned Groups and General Progress

The TA has the same abilities as an instructor's described in 2.3.1 and 2.3.2. The major difference is that a TA cannot edit group compositions.

2.5.2 Viewing Assignments

The TA can view the assignments posted and view which groups have completed which assignment in this screen.

3 Non-Functional Requirements

3.1 User Interface and Human Factors

The application will be a desktop application and will be used by every participant in the course. No training will be necessary for the participants as the application will be straightforward.

3.2 Hardware Considerations

The application will be lightweight and should be able to run on any device that can run the Java Virtual Machine.

3.3 Error Handling and Extreme Conditions

All the inputs entered by the user will be text based and file uploads. The application should be able to handle edge conditions based on these inputs. File uploads can be restricted to specific file types to reduce errors.

3.4 System Interfacing

Only inputs the application will take are keyboard and mouse inputs.

3.5 System Reliability

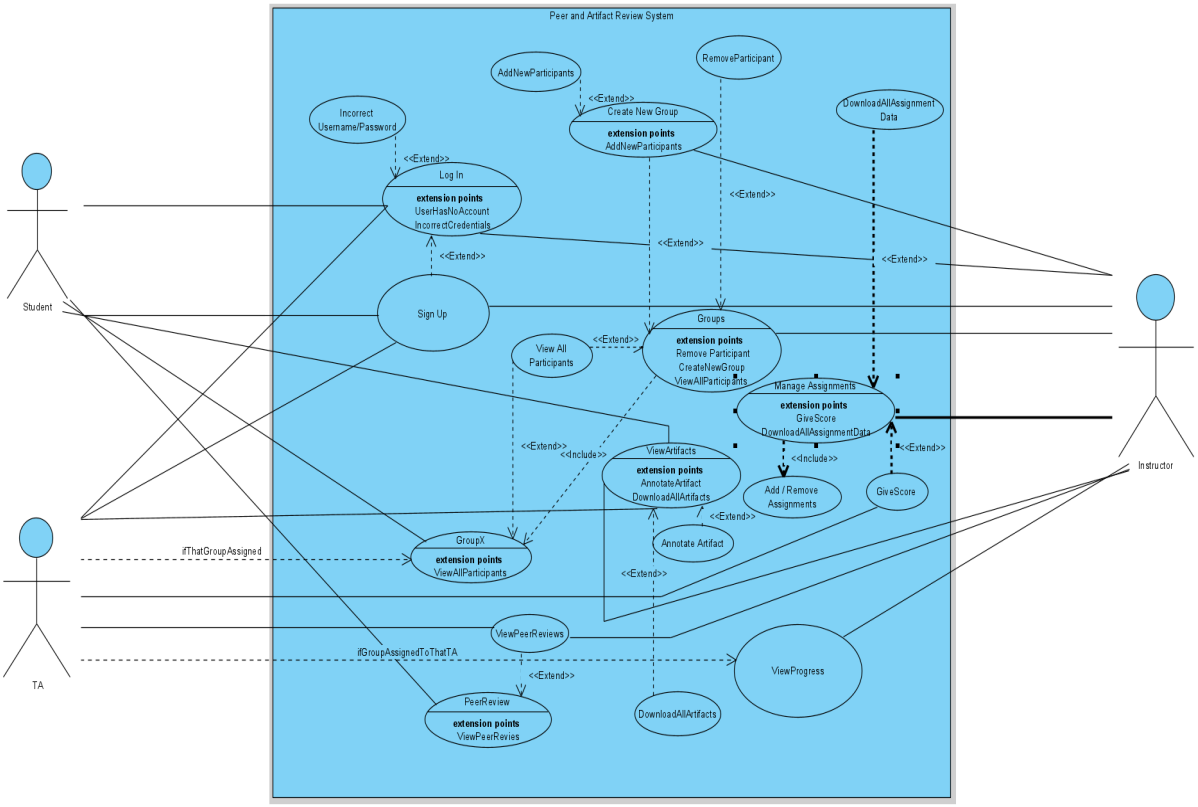
The general data used by the application will be uploaded to an online database. This will prevent major outages as these services have minimal downtime.

3.6 Security

The system will not share information with unauthorized users. For example, a student will not be able to see the information of other groups.

4. System Models

4.1 Use-Case Diagram



Use Case#1

1.Name: Log In

2.Participating Actor: Student, TA, Instructor

Entry Condition:

Users has account in the system.

4.Exit Condition:

Successful Login

5. Flow of Events:
    1. User enters username and password then click login
    2. The system checks credentials.
    3. Prompts Login Successful or Incorrect Credentials.
6. Special Requirements

Credential data stored in a database.

Use Case#2

1.Name: SignUp

2.Participating Actor: Student, TA, Instructor

3. Entry Condition: User clicks sign up button.

4.Exit Condition: User successfully created.

5. Flow of Events:
   User puts his/her information in the required field.
   Clicks sign up button.
6. Special Requirements
   No matching user.

Use Case#3

1.Name: PeerReview
2.Participating Actor: Student
3. Entry Condition: The assignment is done.
4.Exit Condition: Student gave rating.
5. Flow of Events: Student clicks how many star want to give to his/her peer. Then submit that information.
6. Special Requirements: Peer review system opens after due date.

Use Case#4

1.Name: Incorrect Credentials
2.Participating Actor: Student, TA, Instructor
3.Entry Condition: This case triggered when the username or password information is wrong.
4.Exit Condition: User clicks back button.
5.Flow of Events: System shows message about the incorrect username/password.

Use Case#5

1.Name: Create New Group
2.Participating Actor: Instructor
3.Entry Condition: The group does not exists.
4.Exit Condition: Group successfully created.
5.Flow of Events: Instructor fills the group name and add participants then click create new group button.
6.Special Requirements: Group can be created with no participants.

Use Case#6

1.Name: ViewPeerReviews
2.Participating Actor: TA, Instructor
3.Entry Condition: There is a peer reviewed by a student in that group.
4.Exit Condition: Review data fetched successfully.
5.Flow of Events: Instructor or TA click on the specific group, then click PeerReviews button.

Use Case#7

1.Name: AddNewParticipants
2.Participating Actor: Instructor
3. Entry Condition: Instructor clicks add new participants button for specific group
4. Exit Condition: User clicks add new participants button after selecting participants to add or clicks back button.
5. Flow of Events: First user goes to specified group page. Then, instructors selects students who has no groups from the list, then clicks add new participants button.
6. Special Requirements: Instructor cannot add participant to more than one group.

Use Case#8

1.Name: Manage Assignments

2.Participating Actor: Instructor

3. Entry Condition: Instructor has an active session.
4. Exit Condition: Clicking back button or selecting another menu item from left top down bar menu.
5. Flow of Events: Instructor can see all the assignments and can add or remove assignments. Instructor can download all the data for the individual assignment. Instructor can give score to particular assignment. Instructor can edit active assignment.
6. Special Requirements
   Instructor cannot add the existing assignment.

Use Case#9

1.Name: Give Score

2.Participating Actor: Instructor, TA

3.Entry Condition: Instructor or TA privileges.

4.Exit Condition: Clicking back button or selecting another menu item from left top down bar menu.

5.Flow of Events: Instructor can see all the assignments but TA's can see only assigned groups assignments. TA's can give score to assignments by selecting the stars and by clicking the submit button.

6.Special Requirements

Users cannot give more than 5 star review.

Use Case#10

1.Name: Annotate Artifact

2.Participating Actor: Instructor, TA

3.Entry Condition: Instructor or TA privileges and needed to submitted artifact.

4.Exit Condition: Clicking back button or selecting another menu item from left top down bar menu.

5.Flow of Events: Instructor or TA's should go to the view artifacts in the group page then they can select an artifact which already been uploaded by a user. Then click annotate button.

6.Special Requirements

Users cannot give annotation to the document which is not supported by an annotation plugin.

Use Case#11

1.Name: Remove Participant

2.Participating Actor: Instructor

3.Entry Condition: Instructor privileges and group exists.

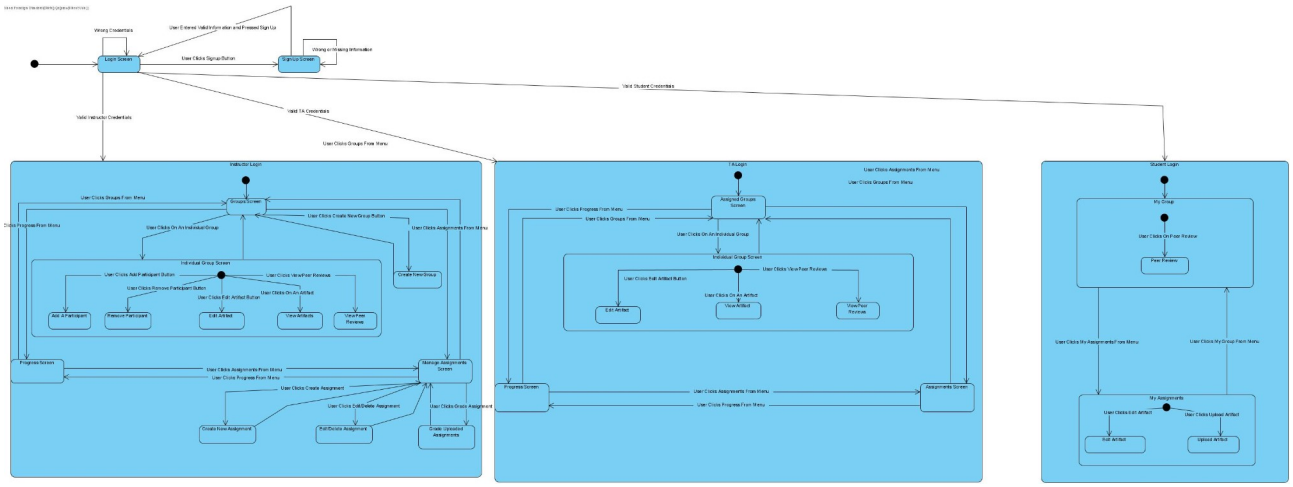
4.Exit Condition: Clicking back button or selecting another menu item from left top down bar menu or participant successfully removed from the group.

5.Flow of Events: Instructor can see all groups. From the groups menu they can click to that group to see detailed information about that group. From the detailed group view, participants have red X button on their right. This button enables Instructor to remove that participant from that group.

6.Special Requirements

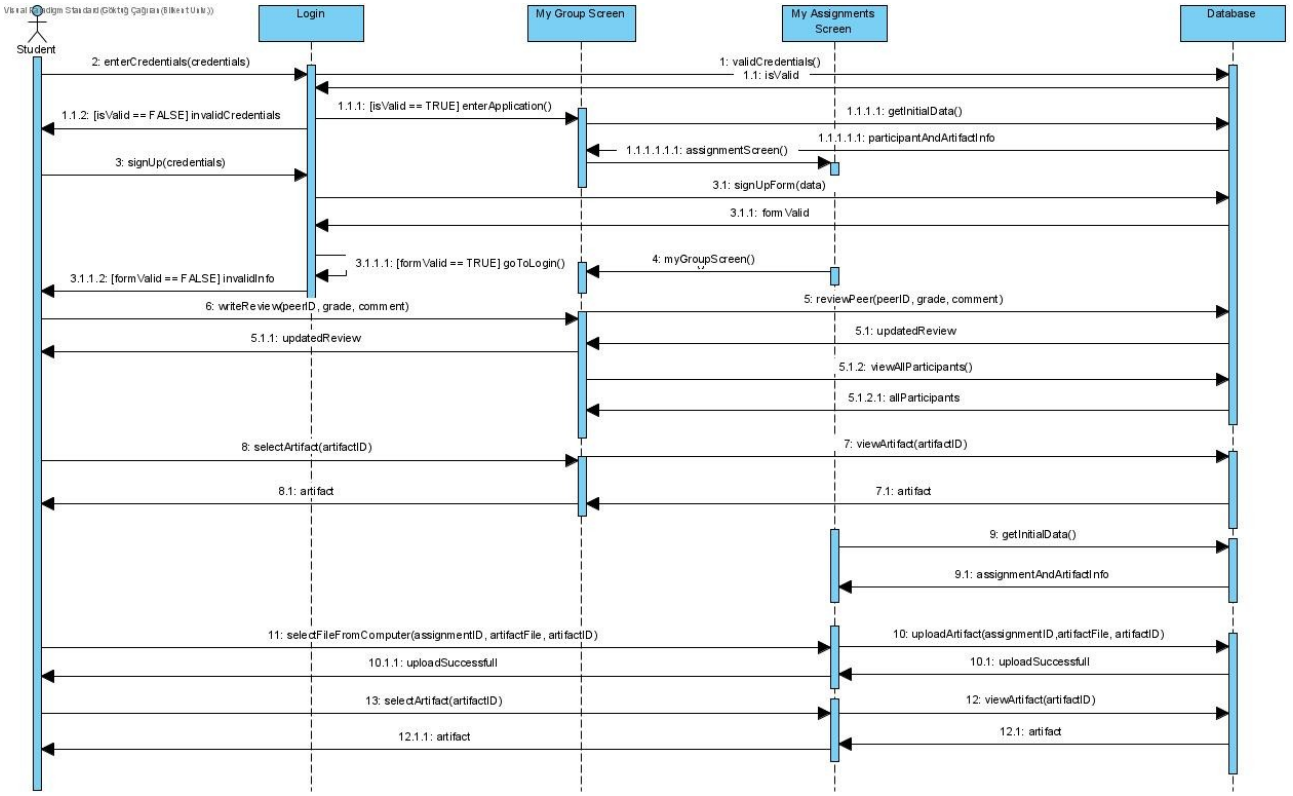
Instructor cannot remove non-existing participant.

4.2 State Diagram

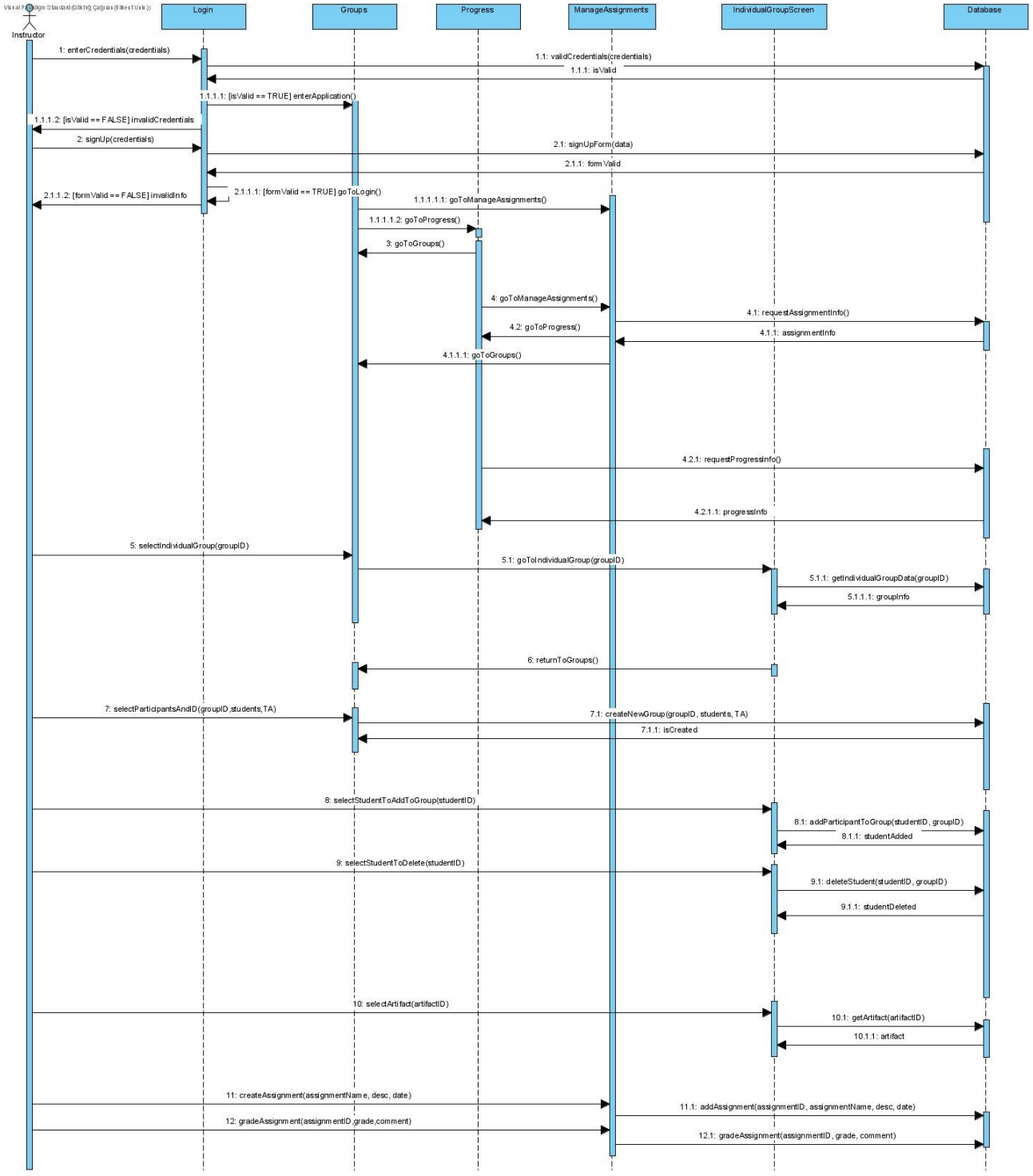


4.3 Sequence Diagrams

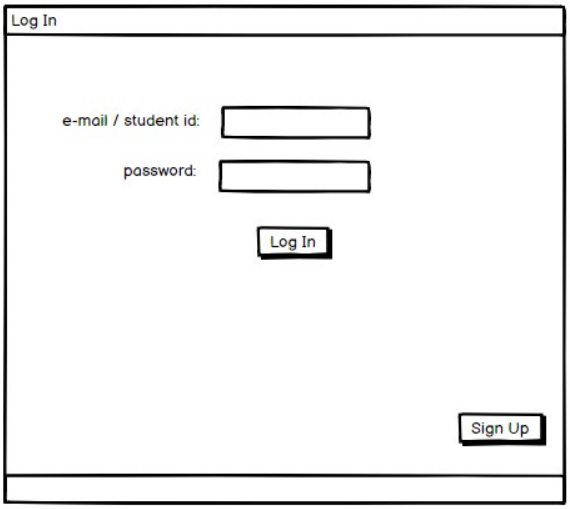
4.3.1 Student Sequence Diagram

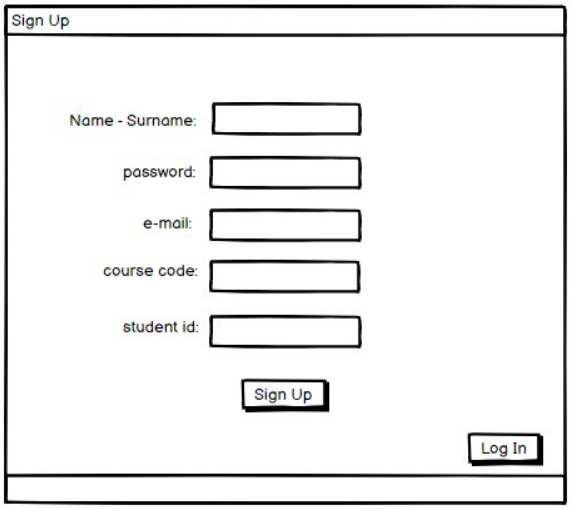


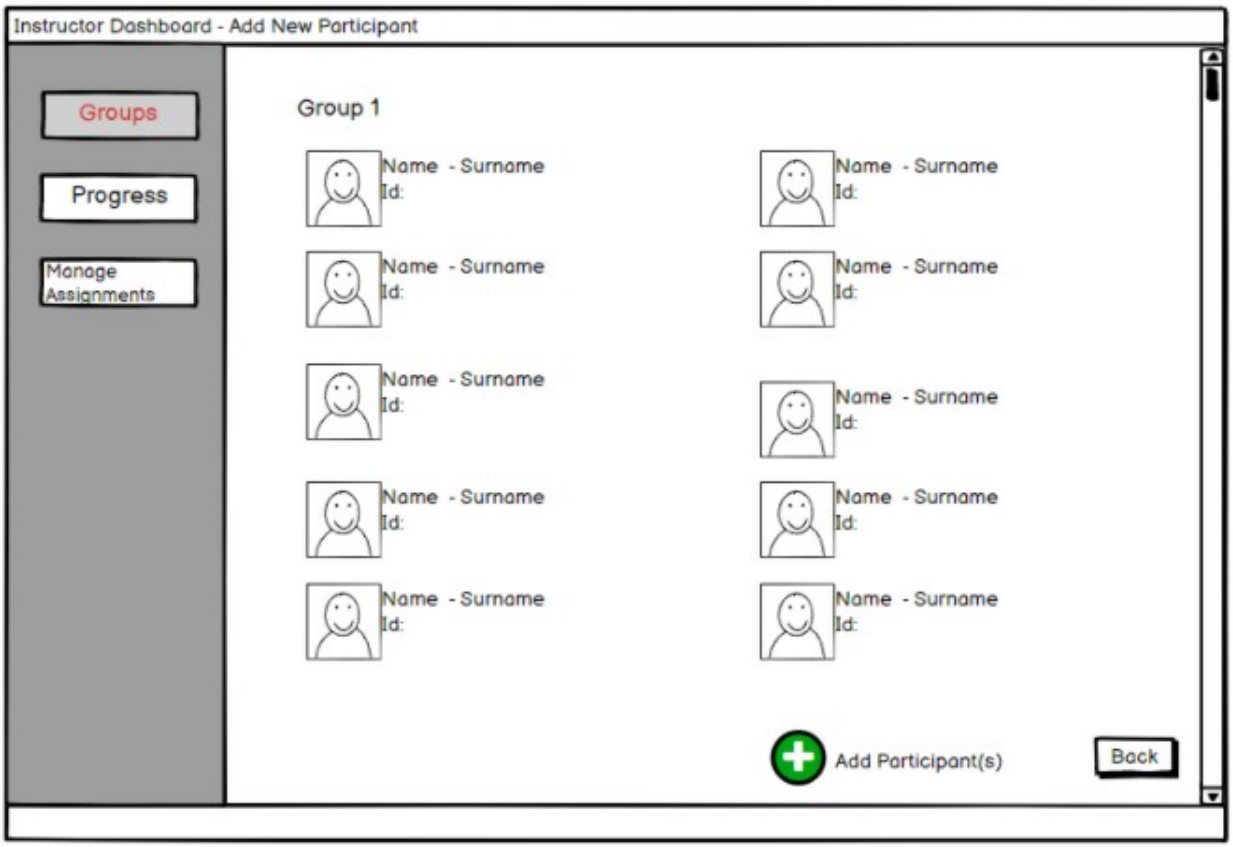
4.3.2 Instructor Sequence Diagram

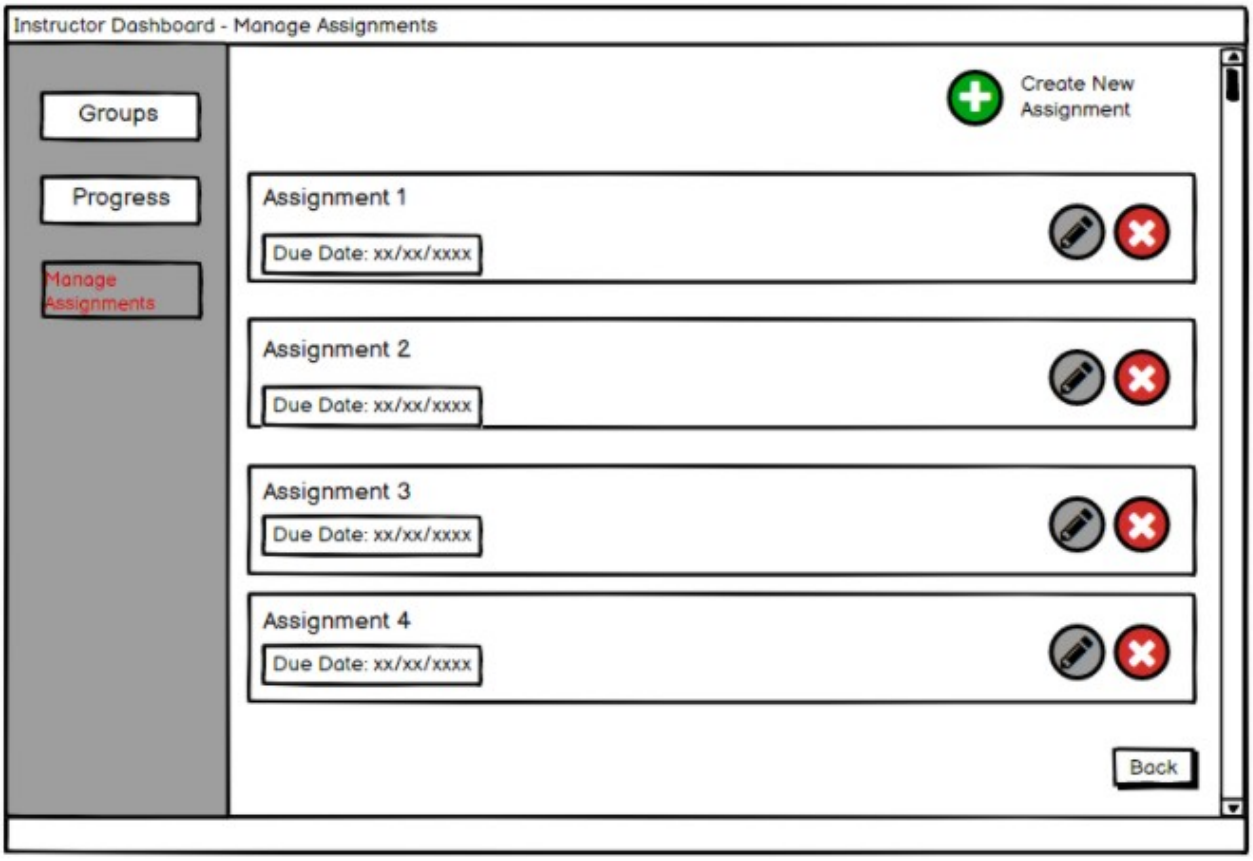


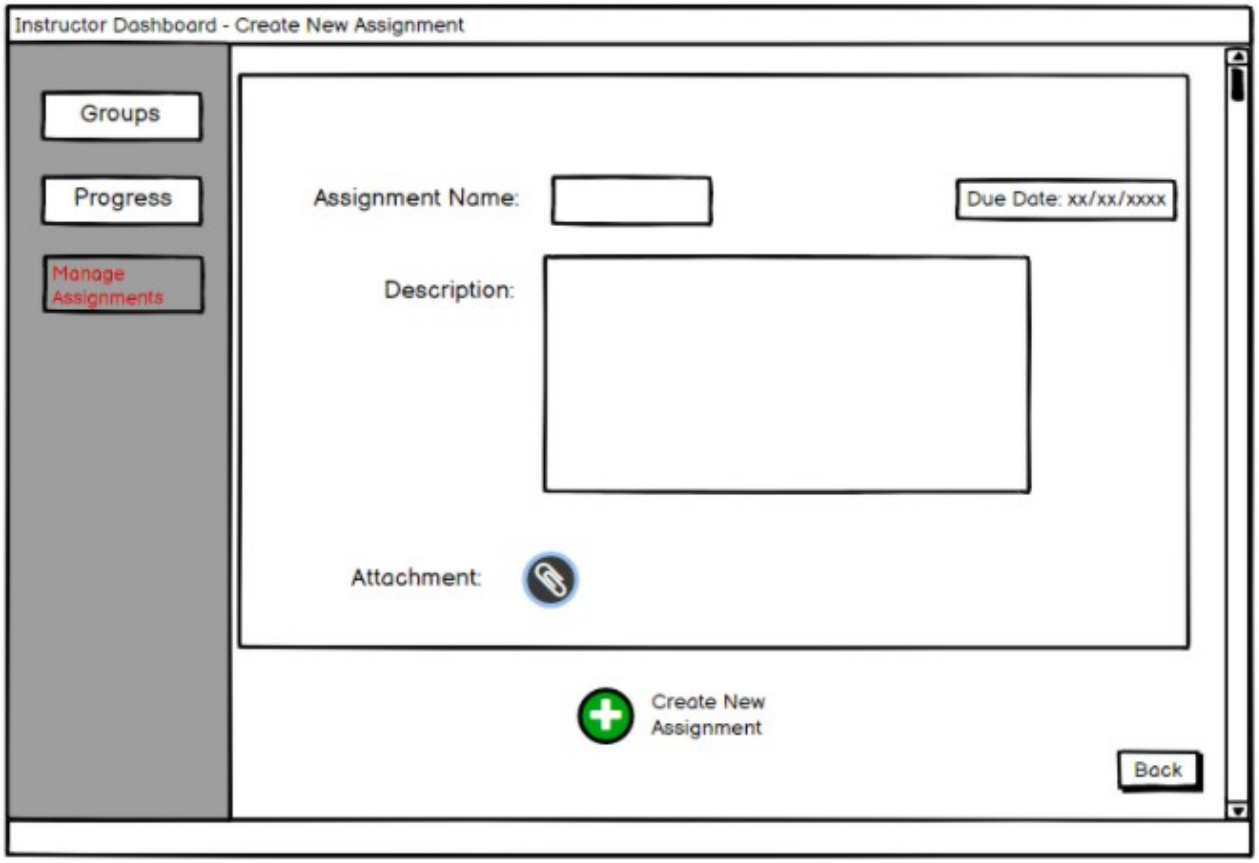
5. User Interface Mock-Ups

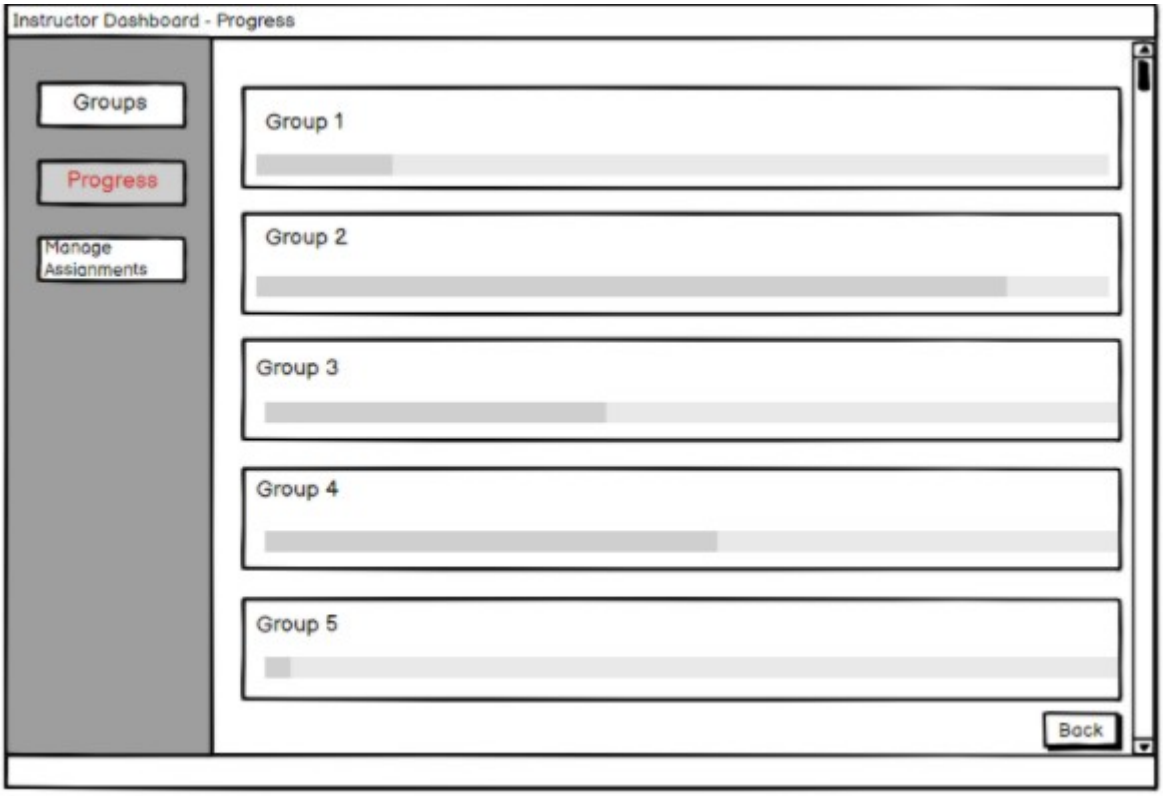


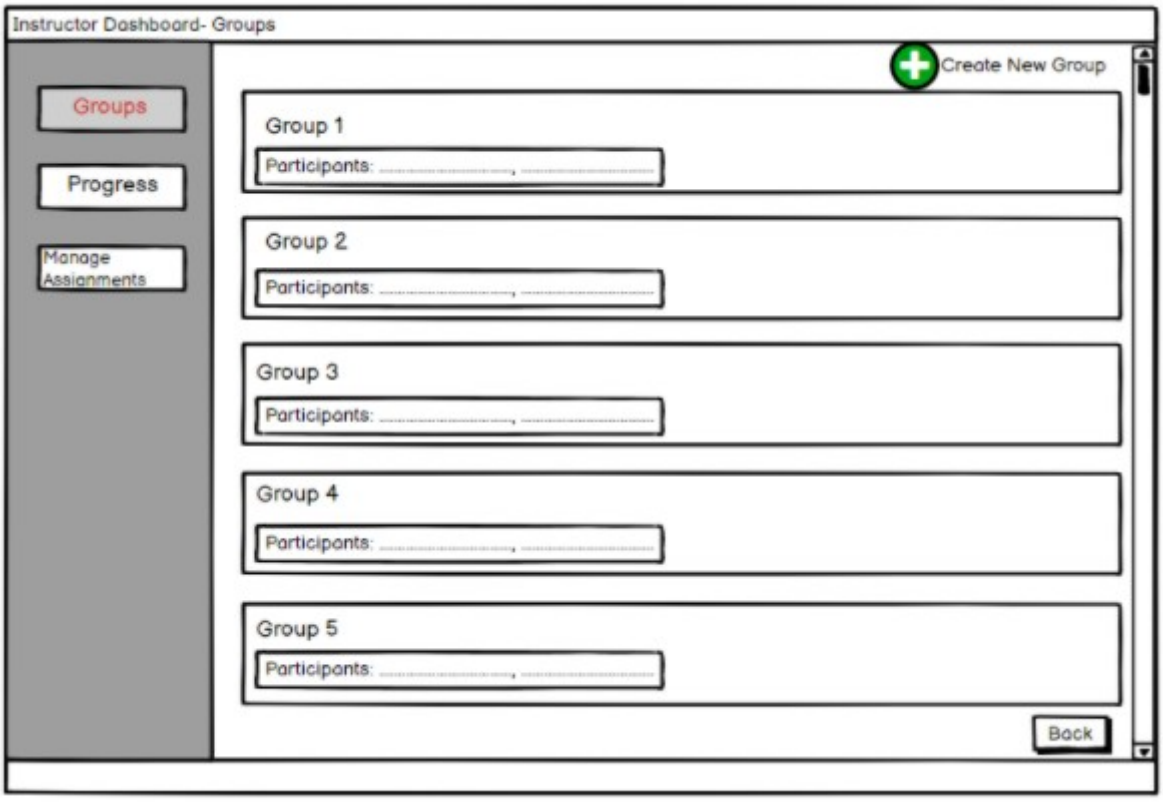


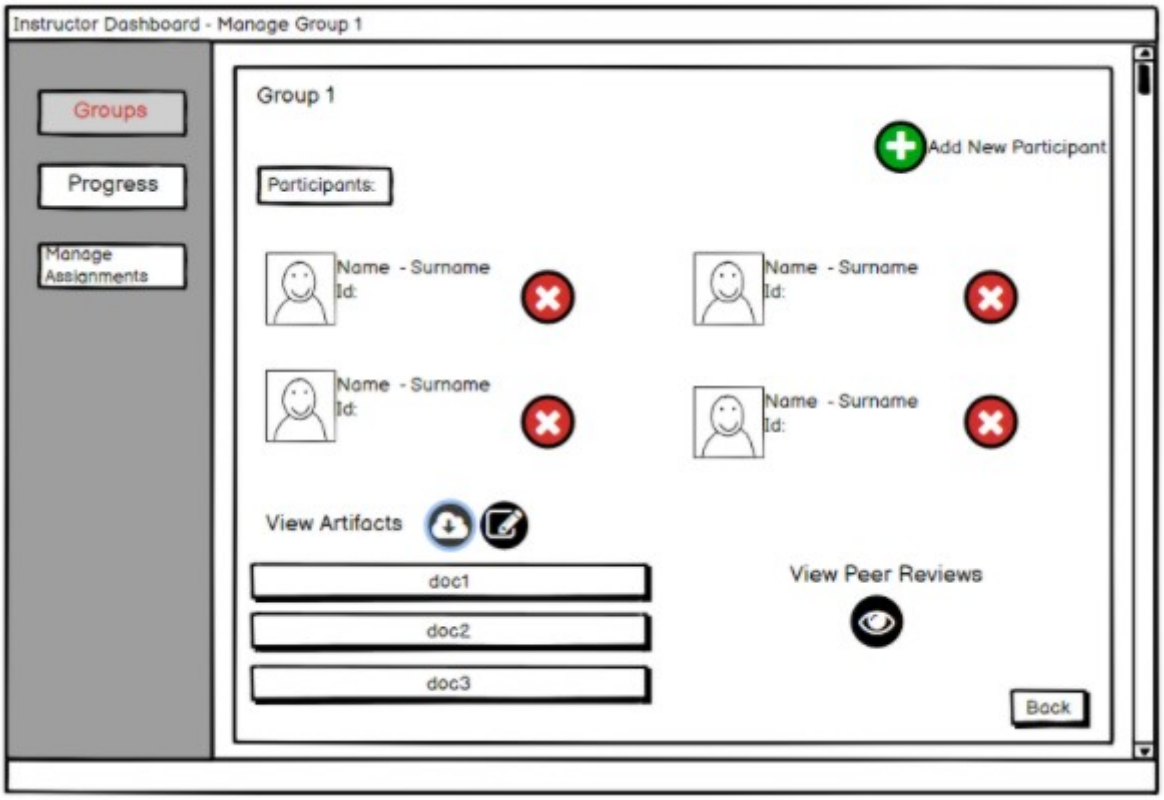


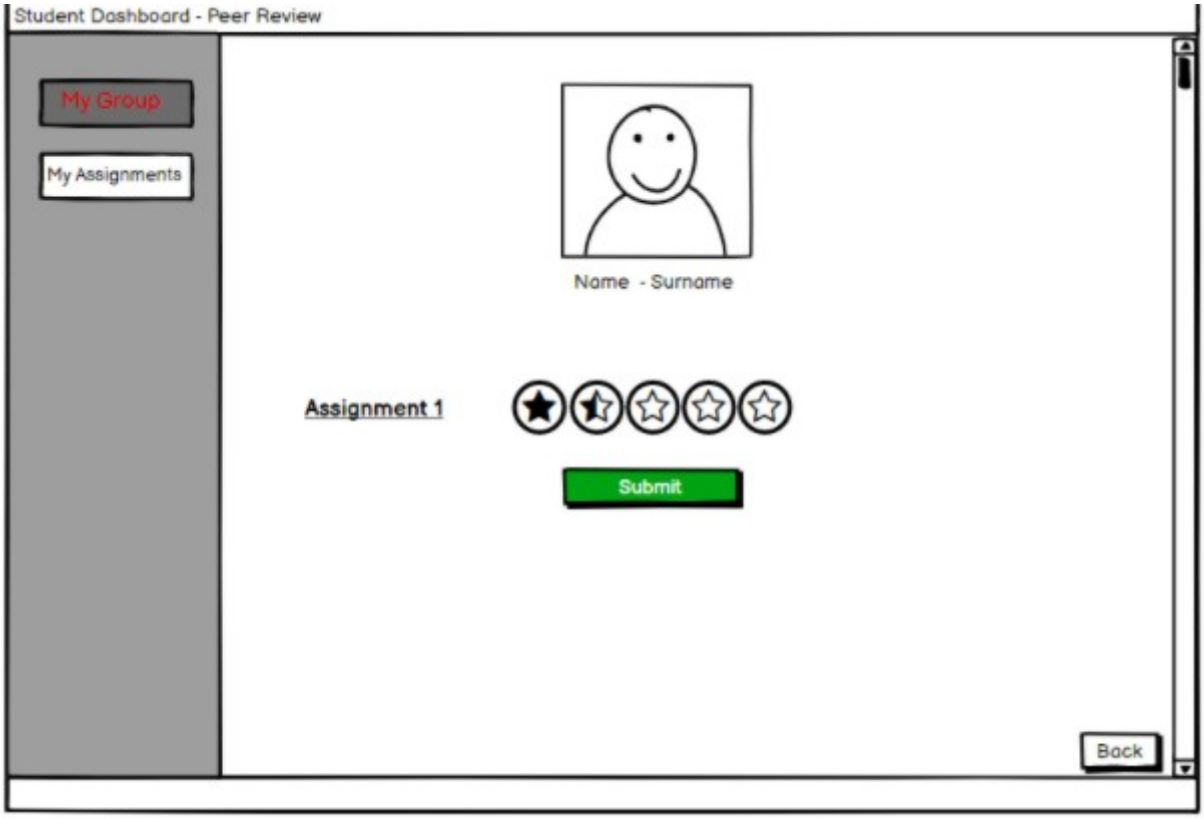

Instructor Dashboard - Manage Assignments
Groups
Progress
Manage Assignments
Create New Assignment
Assignment 1
Due Date: xx/xx/xxxx
Assignment 2
Due Date: xx/xx/xxxx
Assignment 3
Due Date: xx/xx/xxxx
Assignment 4
Due Date: xx/xx/xxxx
Back

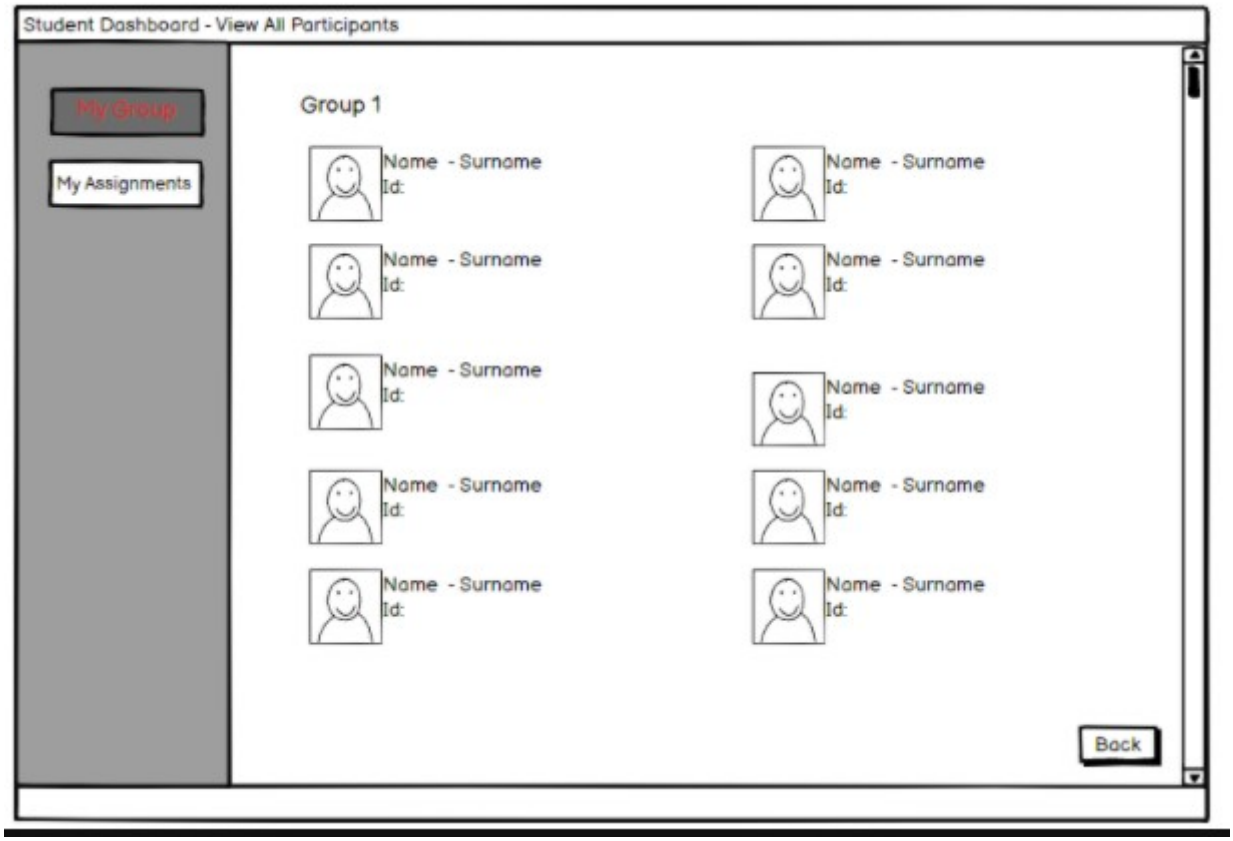

Instructor Dashboard - Create New Assignment
Groups
Progress
Manage Assignments
Assignment Name:
Due Date: xx/xx/xxxx
Description:
Attachment:
Create New Assignment
Back

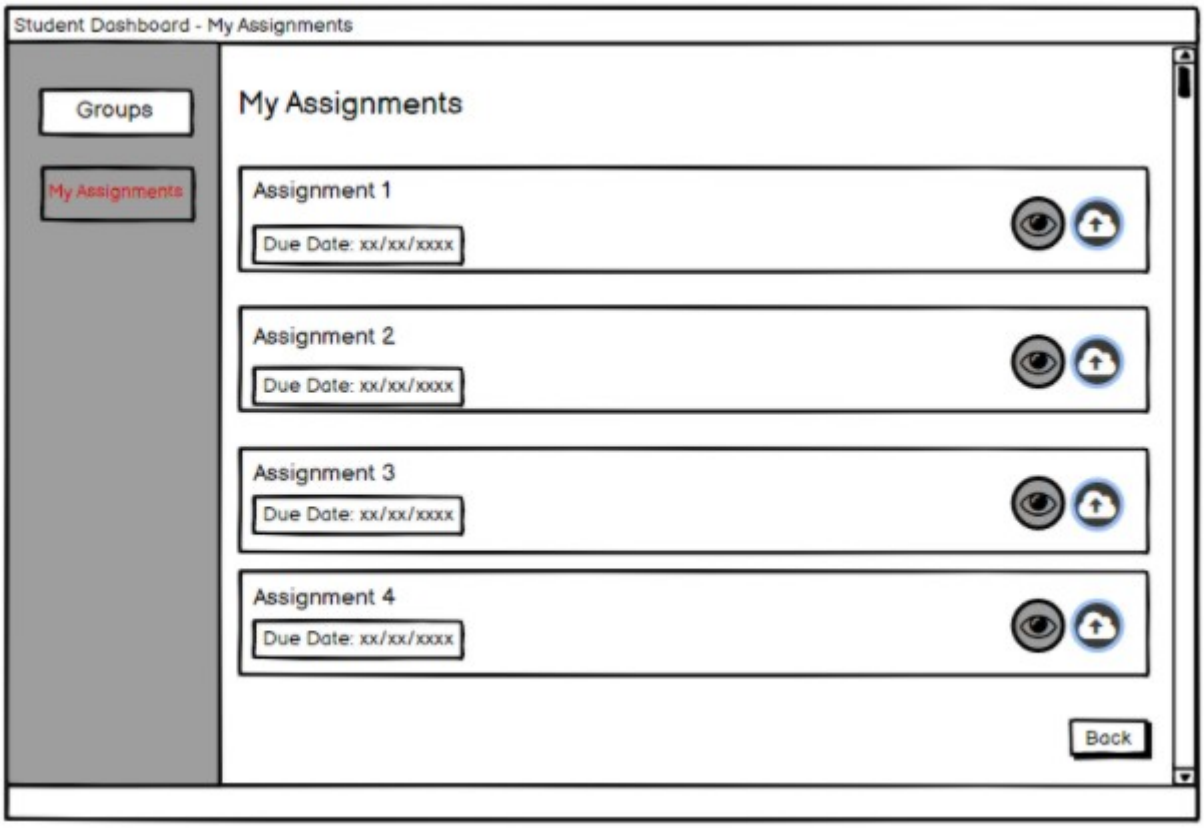

Instructor Dashboard - Progress
Groups
Progress
Manage Assignments
Group 1
Group 2
Group 3
Group 4
Group 5
Back

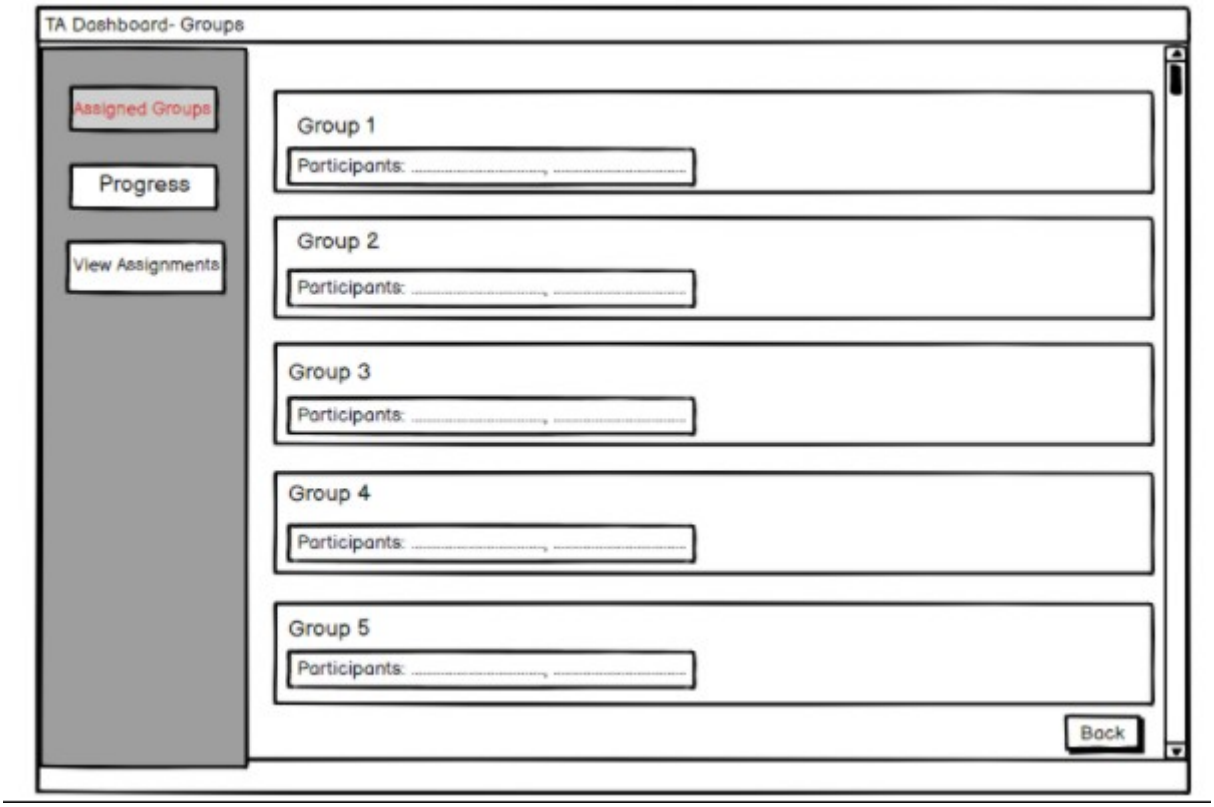

Instructor Dashboard- Groups
Groups
Progress
Manage Assignments
Create New Group
Group 1
Participants:
Group 2
Participants:
Group 3
Participants:
Group 4
Participants:
Group 5
Participants:
Back

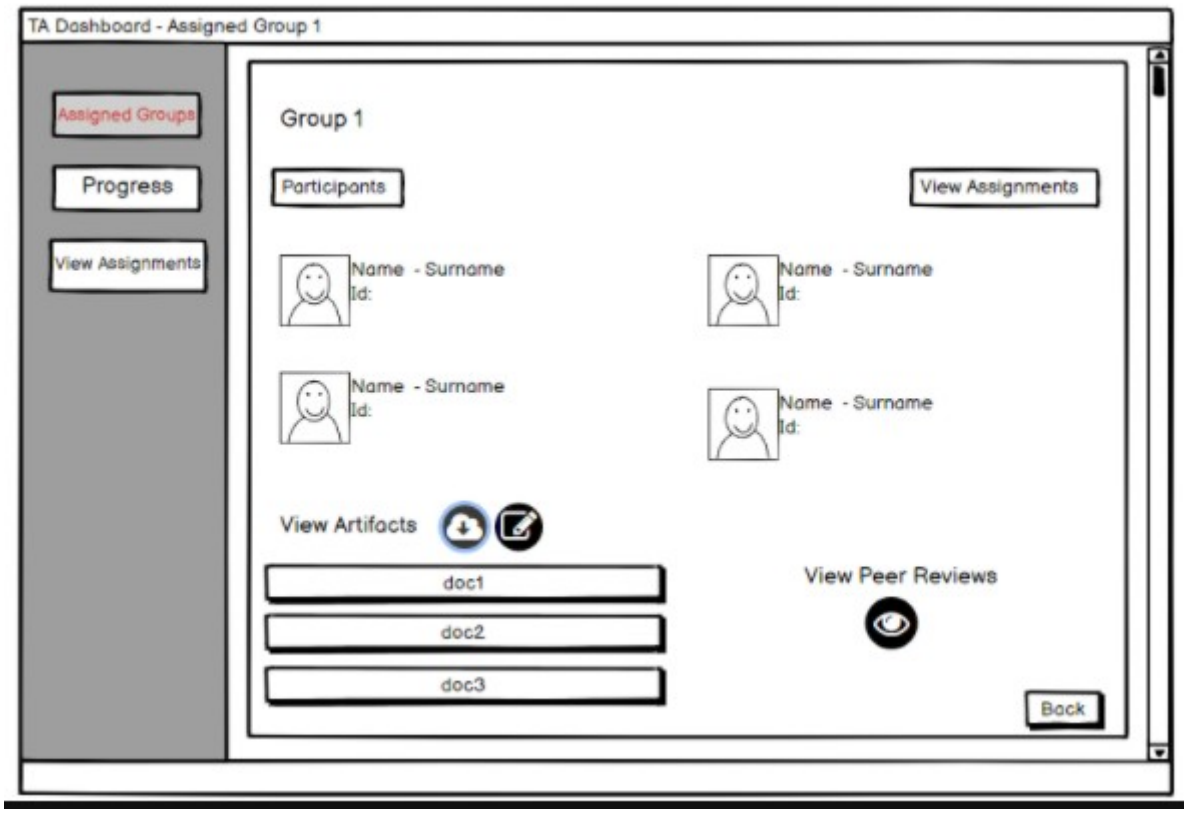

Instructor Dashboard - Manage Group 1
Groups
Progress
Manage Assignments
Group 1
Add New Participant
Participants:
Name - Surname
Id:
Name - Surname
Id:
Name - Surname
Id:
Name - Surname
Id:
View Artifacts
doc1
doc2
doc3
View Peer Reviews
Back

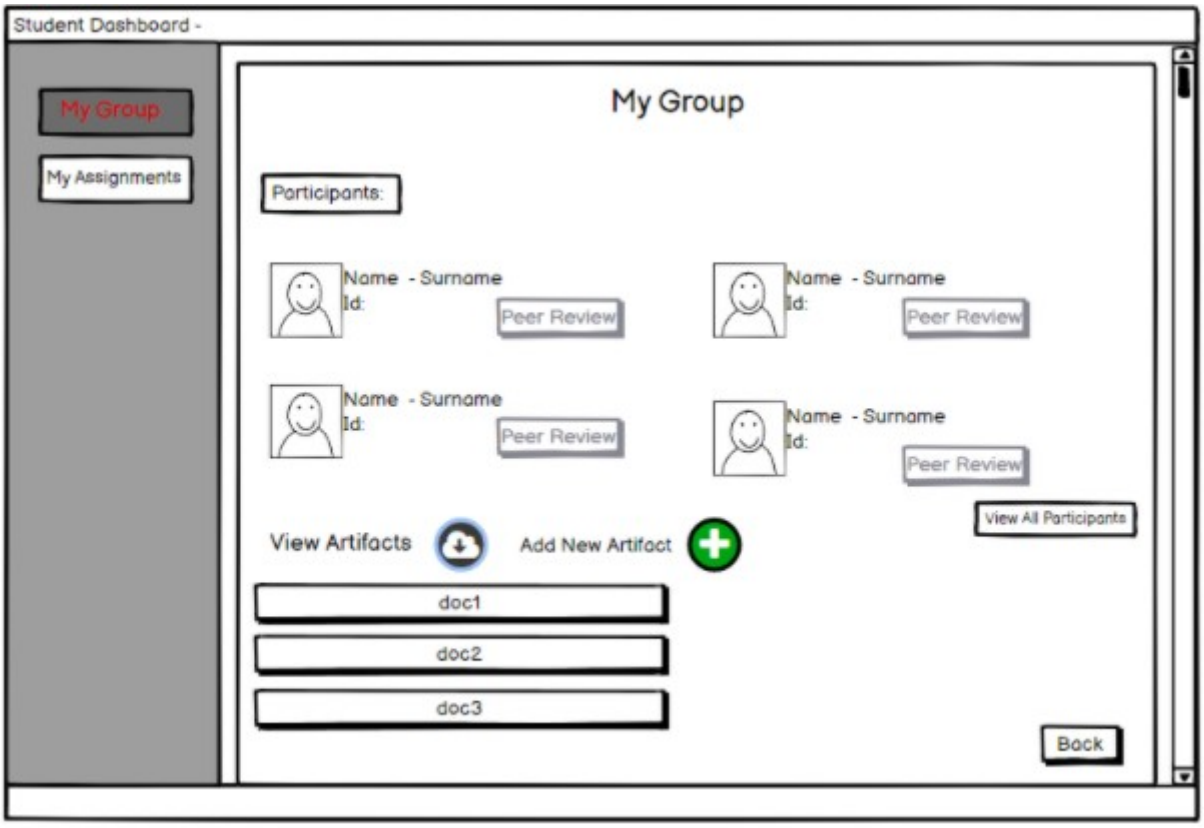

Student Dashboard - Peer Review
My Group
My Assignments
Name - Surname
Assignment 1
Submit
Back

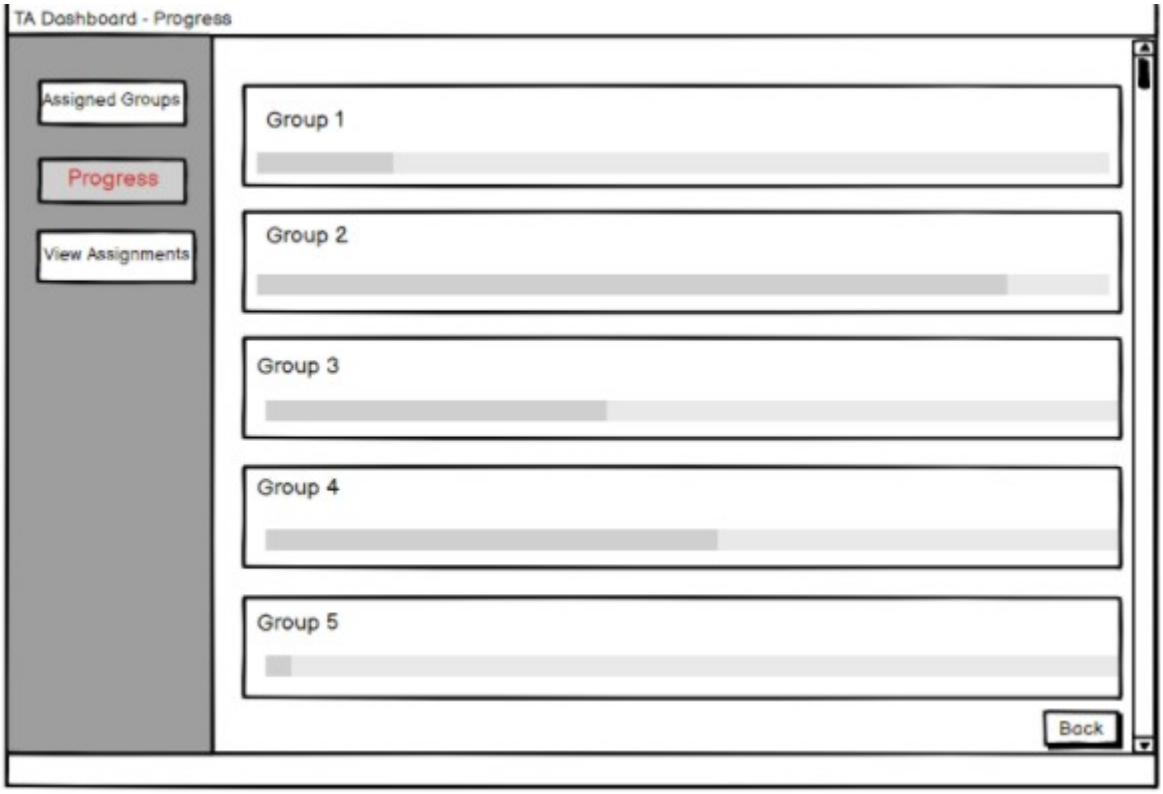

Student Dashboard - View All Participants
My Group
My Assignments
Group 1
Name - Surname
Id:
Back


Student Dashboard - My Assignments
Groups
My Assignments
My Assignments
Assignment 1
Due Date: xx/xx/xxxx
Assignment 2
Due Date: xx/xx/xxxx
Assignment 3
Due Date: xx/xx/xxxx
Assignment 4
Due Date: xx/xx/xxxx
Back


TA Dashboard- Groups
Assigned Groups
Progress
View Assignments
Group 1
Participants: ....., ...
Group 2
Participants: ....., ...
Group 3
Participants: ....., ...
Group 4
Participants: ....., ...
Group 5
Participants: ....., ...
Back


TA Dashboard - Assigned Group 1
Assigned Groups
Progress
View Assignments
Group 1
Participants
View Assignments
Name - Surname
Id:
Name - Surname
Id:
Name - Surname
Id:
Name - Surname
Id:
View Artifacts
doc1
doc2
doc3
View Peer Reviews
Back


Student Dashboard -
My Group
My Assignments
My Group
Participants:
Name - Surname
Id:
Peer Review
Name - Surname
Id:
Peer Review
Name - Surname
Id:
Peer Review
Name - Surname
Id:
Peer Review
View All Participants
View Artifacts
Add New Artifact
doc1
doc2
doc3
Back


TA Dashboard - Progress
Assigned Groups
Progress
View Assignments
Group 1
Group 2
Group 3
Group 4
Group 5
Back

6 References

[1] Object-Oriented Software Engineering, Using UML Patterns, and Java, 2nd Edition, by Bernd Bruegge and Allen H. Dutiot, Prentice-Hall, 2004, ISBN: 0-13-047110-0.