CSCB07 – Software Design

Project

Logistics

- This is a group project that is worth 20% of the course grade.

- The due date is Dec 5, 2022.

- The grouping information will be communicated to you before the tutorial session of week 11. We will try to accommodate as many preferences as possible.

- Attending the tutorial sessions of weeks 11, 12, and 13 (Nov 14th – Dec 2nd) as a group is mandatory and will be counted towards your participation grade.

- The contribution of each student will be evaluated separately. That is, students belonging to the same group might end up getting different grades.

- Please use Piazza for any general questions related to the project.

Project Description

You are required to develop an Android application that would help students plan their courses. Its core functionality is the generation of a timeline of courses which displays each course in the earliest session the student may take, according to restrictions on prerequisites and session offerings. Two types of users are to be considered: *admin* and *student*. Admins specify course offerings and prerequisites, whereas students generate timelines by providing the list of courses they want to take and those they have already taken. The courses are assumed to be offered within 4-month sessions: Winter, Summer, and Fall (e.g., Winter 2023, Summer 2023, Fall 2023, Winter 2024, etc.).

Course timeline example:

Assume a student has taken CSCA08, CSCA48, and CSCA67, and wants to take CSCC24 and CSCC63. Table 2 shows the expected course timeline based on the prerequisites and course offering information provided in Table 1.

Course	Session Offerings	Prerequisites
CSCC24	Winter, Summer	CSCB07, CSCB09
CSCB07	Fall, Summer	CSCA48
CSCB09	Winter, Summer	CSCA48
CSCA48	Winter, Summer	CSCA08
CSCA08	Fall, Winter	None
CSCC63	Fall, Winter	CSCB63, CSCB36
CSCB63	Winter, Summer	CSCB36
CSCB36	Fall, Summer	CSCA48, CSCA67
CSCA67	Fall, Winter	None

Table 1. Course Offerings and Prerequisites

Session	Course
Fall 2022	CSCB07, CSCB36
Winter 2023	CSCB09, CSCB63
Summer 2023	CSCC24
Fall 2023	CSCC63

Table 2. Expected Course Timeline

Requirements

1. Develop the application based on the user stories listed in the following section

2. Use Scrum for the application development process

    a. Choose a Scrum Master

    b. Conduct "Standup" meetings and document them

    c. Use Jira to keep track of the user stories and make sure your TA is added to the project. You can refer to this tutorial for more information.

    d. You should have 2-3 sprints.

3. Keep track of the changes made to the code using some version control system and make sure the TA has access to your project as well.

4. Test the application according to the instructions that will be posted on Nov 21st.

User Stories

1. As a student, I want to sign up and login to my account so that I can securely access my data.

2. As a student, I want to view the list of courses I have taken and add to this list so that I can keep track of all the courses I have taken.

3. As a student, I want to generate a course timeline by providing courses I want to take so that I can plan my education accordingly.

4. As an admin, I want to login to my account so that I can securely manage course information.

5. As an admin, I want to add a course and define its name, course code, offering sessions, and prerequisites so that a student's timeline could be generated correctly.

6. As an admin, I want to view the list of all courses and edit or delete any course in the list so that I can keep the course information up to date.

Submission

The Scrum Master should submit the following deliverables by sending an email to the instructor and CC'ing the TA and all of the group members. Finalizing these deliverables, however, is the responsibility of the group as a whole.

1. The application code

2. A document including the following information:

   a. The main tasks done by each member of the group

   b. A summary of each of the Scrum meetings

Grading Scheme

- *Individual grade = Group grade * individual contribution*

- Group grade:

   a. Implementing the main functionalities (40 points)

   b. User interface design and ease of use (20 points)

   c. Version control (10 points)

   d. Scrum (15 points)

   e. Testing (15 points)

- *Individual contribution* is a percentage that represents the relative contribution of each group member. It will be computed based on the following:

a. Project document

b. Version control activity

c. Involvement in the Scrum process

d. Participation during the meetings with the TA