

2023-2024 Spring

BLM3520 Introduction to Mobile Programming

Semester Project v.0

Course Instructor: Assoc. Prof. M. Amaç GÜVENSAN

Course Assistants: Research Assistant Mustafa Mert KARA & Research Assistant M. Enes ÖZELBAŞ

Project: Course Assistant Application

Related Topics: Database, Firebase, Firebase Authentication, Activity, Intent, Broadcast Receiver, Dialogbox, RecyclerView, CardView, SharedPreferences, Pop-Up Messages

Content:

A. Mandatory Modules:

1. Registration and Login Module:

First page of the application letting users register/login.

- Registration page (Name*, Surname*, Student ID*, E-mail*, Password*)
- Authentication email upon registration (@std.yildiz.edu.tr)
- Login Page (E-mail, Password)
- Change password

2. Account Module:

A page showing account information of instructors and students.

- Account level (Admin, Instructor, Student) (Permission details are given in respective modules)
- Add/Delete/Update personal account information
- Adding profile picture via Gallery App and Camera (camera authorization)
- Ongoing educational information (Undergraduate/Master's/PhD & semester)*
- Contact information (Email address*, Phone number* (should be kept optionally private))
- Social media accounts (Instagram, Twitter)
- Forwarding (to Whatsapp, E-mail, phone number)

3. Course Module:

A page that lists the attending/complete courses.

- List the courses in date descending order using CardView (Attending/Complete, number of students, course code/name)
- Filtering the courses by year and completion status (Attending/Complete)
- Displaying course details on course selection (course code/name, course content and number of students attending)
- Instructors can:

- i. Add/Delete/Update course and course information
- ii. Manual/Auto-assign student(s) to courses (given a CSV file with headers Student_ID,Email)
- iii. Appoint additional course instructors

4. Reporting Module:

A page letting users report content like comments or posts.

- a. View a list of reports sent by the student using RecyclerView (in date descending order)
- b. Use Intents to compose an email and send it to the Course Instructor/Admin
- c. Writing and sending a new report:
 - i. Select the scope of the report (App related misconduct, Course related misconduct/misbehavior/cheating)*
 - ii. Select the name of the course*
 - iii. Select the recipient (Course Instructor/Admin)*
 - iv. Subject and body of the report*
 - v. Validation checks of mandatory (*) sections before sending

B. Elective Modules:

Please select one module from each of the three groups listed below. (You will be selecting a total of three elective modules):

Module Group I:

1. Student Study Groups Module

A module for allowing students to communicate with other students related to courses they are registered in.

- a. Student study groups must be automatically created for every course. The students registered in these courses also automatically join the study group. Teachers are not registered and cannot register to student groups. When study groups are created, a default post named “General Discussion” is automatically created.
- b. Study groups consist of posts like forums. Students can create posts and comment under them for communicating between each other. In the comment section students can answer other students’ comments.
- c. Students can subscribe to posts they created or commented on to receive notification about new comments posted.

2. Classroom Module

A module that allows communication between teachers/Instructors/Assistants and students.

- a. A classroom is automatically created for every course. Teachers and students who are in these courses are automatically registered to these groups.
- b. Teachers can create announcements. These announcements are visible to everyone registered to the classroom.
- c. Students and teachers can comment under announcements.
- d. Teachers can select alert option to create notifications for students when they create announcements or post comments.

Module Group II:

1. Question/Answer Module

A module for teachers to ask multiple choice questions to the students.

- a. Teachers can create and send questions through this module.
- b. Students can receive and answer questions.
- c. The order of the questions and the options are randomized for each student.
- d. Questions can be selected from a pool of questions. Example: a pool that contains 10 questions and a quiz can be created using 5 of them.
- e. The results of the exam should be reported to the teacher. The results should show how many students selected each option.
- f. Students should also be able to see their results.
- g. Student location must be verified by geolocation services that they are currently in the vicinity of the teacher.

2. Poll/Questionnaire Module

A module for teachers to run a poll with students.

- a. Teachers can create and send polls to students.
- b. Students can take the polls sent by teachers.
- c. Teachers and students can review poll results and analytics (pie chart, bar chart).
Teachers can also save these analytics to their devices as image files.
- d. Poll results should be anonymous to Teachers and Students.
- e. Poll results should be saved as .csv file and only readable by the poll creator

Module Group III:

1. Attendance Module

A module for taking attendance automatically

- a. This module would look at the Geolocation information to determine if the student is in the classroom.
- b. Attendance taking would be initiated by the teacher.
- c. After the student attendance is collected the teacher would be able to see the results and export these results to an excel or .csv file.

2. Scheduling Module

A module to help students and teachers to create a calendar schedule

- a. Students and teachers both be able to use this module
- b. Module will create weekly and monthly schedules
- c. These schedules will include course information such as, course date and lab/practice dates and hours.
- d. User will also be able to add custom events to their calendar
- e. Users are able to invite/share events with other users if they agreed to share calendar features.
- f. Users are also able to create alerts for their events and these would notify all users sharing the same event. Only the creator of the event would be able to set alerts.