CS385FZ Mobile Application Development

Final Project

2025-2026 S1

Maynooth International Engineering College

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1. Overview

- In this project, you will design and build a mobile application of your choice using React Native with Expo.
- Your application must include both a frontend (client-side interface) and a backend (server-side logic and data storage).
- You are free to select any app idea—such as a social app, fitness tracker, e-commerce demo, note-taking app, habit tracker, or any concept you find meaningful.

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Core Technical Requirements

- **Framework**:
  - Frontend must be built using React Native with Expo.
  - Backend may be built using Node.js/Express, Firebase, or any other approved backend technology.
- **User Authentication**:
  - The app must include user registration and login functionality.
  - Authentication should be securely implemented (e.g., JWT tokens, Firebase Auth, etc.).

Core Technical Requirements

- **Frontend Features**:
  - At least 4 functional screens (e.g., Login, Home, Profile, Detail page).
  - Clear, user-friendly UI and navigation (e.g., using Expo Router or React Navigation).
  - Ability to fetch data from the backend and display it on the app.
  - At least one form (other than login/register) that sends data to the backend.
- **Backend Features**:
  - Must store user data and app-related data (e.g., posts, items, notes, tasks).
  - Must provide at least 3 API endpoints (e.g., POST /login, GET /items, POST /createItem).
  - Should validate inputs and handle errors appropriately.

Core Technical Requirements

- **Data Persistence**:
  - Backend must use either a database (SQL or NoSQL) or a cloud storage service.
- **Source Code Management**:
  - All code must be pushed to a GitHub repository.
  - Commit history should show meaningful progress—not one giant commit at the end.

Documentation Requirements

- **README.md** that includes:
  - Project description
  - Tech stack (frontend + backend)
  - Installation & running instructions
  - Screenshots of the app
- A short video demo (1–3 minutes)

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Report Structure

Abstract

- A brief overview of the project, including the app's purpose, key features, technologies used, and main results.

Introduction

- Background and motivation
- Problem statement
- Target users
- Project goals and scope

Report Structure

Requirements Analysis

- Functional requirements (what the app should do)
- Non-functional requirements (performance, security, usability, etc.)
- User stories or use cases

System Design

- Overall system architecture
- App structure (e.g., screens, navigation flow)
- UI/UX design (wireframes, prototypes)
- Database design (ER diagrams, data structure)

Report Structure

Implementation

- Development environment and tools
- Key technologies / frameworks used
- Core functionalities and how they were implemented
- Important code components (summaries, not full code)

Testing

- Testing strategy (unit testing, integration testing, UI testing, etc.)
- Test cases and scenarios
- Results and bug fixes

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Report Structure

Evaluation

- Performance evaluation
- UX evaluation / user feedback
- Comparison between expected requirements and actual outcomes

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Submit to Moodle for Grading

Project Code (include a README.md and the video demo)

- Submit your project code:
  - CS385_final_project _teamX_MU-student-number.zip

Report

- Submit a PDF report that clearly presents what you have done.
  - CS385_final_project_teamX _MU-student-number.pdf

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Penalties for late submission

- Late submission of assessed course work or examination materials without valid reason will incur a reduction of the original grade by 5% (5 marks) per day.
- Submitted the wrong file. A resubmission will be accepted, but points will be deducted according to the late-submission policy.

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Grading Rubric (Total: 100 points)

Functionality (50 points)

- Build a multi-page mobile app using Expo (10 pts)
- User registration & login works correctly (10 pts)
- Frontend communicates with backend correctly (10 pts)
- Data saved and retrieved from database (10 pts)
- Core features work as intended (10 pts)

Grading Rubric (Total: 100 points)

Technical Implementation (20 points)

- Clean and organized React Native code (5 pts)
- Backend is well-structured with clear APIs (5 pts)
- Proper use of authentication & validation (10 pts)

UI/UX Design (10 points)

- Clear navigation and layout (5 pts)
- Visually coherent design / good user experience (5 pts)

Grading Rubric (Total: 100 points)

Documentation & GitHub Usage (10 points)

- Complete README with instructions and screenshots (5 pts)
- Meaningful commit history & clear repository structure (5 pts)

Creativity & Completeness (10 points)

- Interesting or original app idea (5 pts)
- Polish, extra features, and completeness (5 pts)