IT8108: Project Design Document & Prototype

Semester:	Semester A, 2025-2026
Tutors:	Ghassan AlShajjar (Course Coordinator), Haetham AlHaddad
Learning Outcomes Covered:	**LO1 -** Design a user-centric user interface that follows UI and UX best practice. **LO2** - Implement complex programs (or Apps) for a mobile platform to a given business requirement **LO3 -** Implement best practice, industry standards, professional ethics, diagram designing, programming and documentation conventions during the programming process.
Weighting:	• Project Design Document **– 20%** • Project Prototype – **20%**
Deadlines:	• Project Design Document – **21st Oct 2025, 11:55 PM** • Project Prototype – **13th Nov 2025, 11:55 PM**
Notes:	Extensions: • Requests for extensions should be made 48 hours prior to the deadline and sent to the Course Coordinator. Extensions will only be approved for valid reasons. Extensions are for the whole group. You are only permitted a maximum of one extension per course per semester. Late submissions: • All late submissions (less than 3 days) will be capped at 60%. All late submissions (more than 3 days) will receive 0 grade.

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Project Overview

Thisproject gives youthe opportunity to apply the skills learnt in the course by **planning**, **designing**, and **developing a real-world mobile application**. In this assessment, you will be engaging in a real software development process that begins with understanding user needs, leading to the creation and demonstration of a functional, well-designed mobile application.

The focus is on delivering a meaningful user experience through thoughtful design, clear functionality, and an organized interface. Each project is based on a real client brief, allowing you to address authentic design challenges while developing collaboration and communication skills within your team.

Following the early stages of the software development life cycle, the project emphasizes user research, feature planning, mockup creation, prototyping, development, and finally a live project demonstration. **Your team will be assessed on how effectively you communicate your ideas, justify your design decisions, and translate user needs into an interactive app experience**.

Development for this project will target the **iOS platform**, and all applications are expected to be built using **Xcode 15/16** with compatibility for **iOS 17.0 or later**.

Assessment Description

Thisis a **group project**with both collaborative and individual components. Each group should consist of **5-6 members**. You will be asked to propose your own team members; however, **final approval will be given by the tutor** to ensure balance and fairness across all groups.

When approaching the project, you should follow the **software life cycle**, starting with a user-centered design process. This includes researching the problem, planning features, and creating both low- and high-fidelity prototypes. Your design *may evolve over time*; each group must maintain clear documentation of all design decisions which will be tracked at each stage of the project.

All members of the team must have a strong understanding of the entire application. This means **close collaboration** is essential, as each student should be able to present and explain any part of the app during the final demonstration.

The Project Design stage is divided into **two main phases**:

1. **Design Document (20%):** Includes background research, feature list, and low-fidelity mockups.
2. **Prototype (20%):** High-fidelity interactive design of the app using Adobe XD or Figma.

Design Document (20%) – Learning outcomes assessed: LO1, LO3

This phase focuses on planning and designing your application based on the selected client brief. You will submit a single **PDF document** as a group; however, **some components are assessed individually** based on the rubric.

The document must include the following sections:

a. Background Research (Group Assessment) – 5%

This section should introduce and explain the problem your application aims to solve, based on the selected brief. It must include:

- A clear explanation of the real world or context, including who is affected and why the issue matters.
- A clear description of the app's purpose, goals, and intended impact as a solution to the problem
- Supporting research or references (e.g., online research, trends, or statistics).
- Group interview summary with your tutor to validate and refine your understanding, focused on collecting information from your tutor (within class time) – Include questions asked and summary of responses.

This section sets the foundation for your design choices and should demonstrate your understanding of the user needs and problem domain.

b. Features List (Group Assessment) – 5%

List and describe the features of your application in detail. Each feature must be written with the following guidelines:

- **Name of Feature**
- **Main Task**: What is the feature trying to accomplish from the user's perspective?
- **User**: Who is the intended user for this feature (e.g., regular user, admin, employee, manager)?
- **Sub-Tasks/Steps**: Describe a brief flow or individual steps required to complete the feature.
- **Developer** – The team member responsible for designing and implementing the feature.
- **Tester** – Another team member responsible for testing the feature.

Use a **clear, structured table or bullet-point format** to ensure all features are well-defined. Every student is assigned and must be responsible for at least **two features as a developer**, and **two features as a tester**. Ensure the workload is fairly distributed between features.

c. Mockups (Individual Assessment) – 10%

Each student must create **low-fidelity mockups** for the **two assigned features**. These mockups should:

- Clearly show/reflect the structure and flow of each feature.
- Include multiple screens if the feature requires them.
- Contain **written descriptions** for each screen explaining its purpose and layout.
- Identify and label **all UI elements** (e.g., buttons, inputs, labels) and explain their function.

You may use **any software or method** for creating mockups, including paper sketches (scanned), **Balsamiq**, **Figma**, **Adobe XD**, **Draw.io**, or **Canva**. Ensure your mockups are well-designed and professional in presentation.

Each student's mockups must be placed in a separate, clearly labeled section of the design document (with name and student ID).

Project Prototype (20%) – Learning outcomes assessed: LO1, LO2, LO3

Your team must develop a **high-fidelity interactive prototype** that accurately represents the final design of your application. This prototype should bring your mockups to life with full user flows and realistic screen transitions. You are expected to use either **Figma** or **Adobe XD** for this assessment, other tools may be permitted with approval given by the tutor.

The prototype should include:

- All **main features** of the app are designed and linked (based on your feature list).
- **Interactive links** between screens to simulate taps, button presses, and navigation.
- A **clearly structured prototype** that reflects real-world app behavior and layout.
- **Visual consistency** in terms of color themes, fonts, and UI elements.

  Screen organization is consistent in the prototype, all frames/screens must be clearly named by developer (e.g., Login_Ahmed_2022XXXXX).

You are required to submit the **interactive prototype file** using Adobe XD (.xd) or Figma file (.fig) alongside the shared link (It is encouraged that your prototype is tested thoroughly by team members and real users to gather feedback which ensures that it is up to standard).

Your design should follow key **UI/UX principles** to ensure clarity, usability, and aesthetic appeal. A strong prototype demonstrates not only good visual layout but also realistic interaction behavior and awareness of user needs. Consider both **how things look** and **how users will interact** with the application. These standards provide a foundation for designing a professional and user-friendly prototype that reflects current expectations for mobile applications.

Visual Design Principles

- **Balance** – Use symmetry or asymmetry effectively achieve visual stability.
- **Contrast** – Ensure that UI elements stand out appropriately and are distinguishable through color, size, and shape.
- **Alignment** – Maintain consistent vertical and horizontal alignment for UI elements to support readability and structure.
- **Simplicity** – Avoid clutter, prioritize clarity and ease of use.
- **Proximity** – Group related UI elements to indicate logical relationships.
- **Repetition** – Maintain consistency in layout, icons, and styles across each screen.
- **White Space** – Use spacing to improve focus, reduce overload, and organize content.

Interaction & UX Design Practices

- **Clear Navigation** – Users should easily understand how to navigate between screens.
- **Interactive Elements** – Buttons, links, and input fields must function as expected.
- **Error & Feedback States** – User feedback, success, and error screens or messages should be included in the prototype.
- **Mobile Optimization** – Ensure interactive areas are suitable for mobile use.
- **Consistency** – Apply the same styles and behaviors across all screens and features.

Project Brief Selection

Each group must choose **one** of the following project briefs as the foundation for their app design. These briefs are designed to reflect **real-world problems** aligned with the Sustainable Development Goals (SDGs), and they offer a balance of design complexity, user roles, and potential technical challenges.

To ensure a diverse set of projects within each class section, a **maximum of two groups per section** may select the same brief. Briefs will be assigned on a **first-come, first-served basis**, but **all selections must be approved by the tutor** before work can begin. Approval ensures fair distribution, feasibility, and alignment with assessment criteria.

Once approved, your group will base all project deliverables, including the design document, mockups, and prototypes on the selected brief. Choose wisely based on your team's interests, skill sets, and ideas for innovation.

Important Note:

The client briefs provided are not exhaustive. They are designed to give you a starting point, but **not all features, flows, or requirements are fully specified**. You are expected to conduct **additional research**, explore real-world references, and demonstrate **innovation** in your design. The **interview component** of the project is an opportunity to further clarify needs, identify missing details, and refine your ideas based on feedback.

Project Identity Requirements

Before beginning your design work, each group must establish:

- A **unique app name** that is memorable and reflects your solution.
- A **basic logo/icon concept** (can be refined in later phases).
- **Consistent use of this identity** across all project materials:
  - Include the app name on all document covers and headers
  - Use the logo/icon in your mockups and prototype screens
  - Maintain the same visual identity throughout all three assessment phases

Project Brief 2: Campus Repair & Maintenance Request System

Facilities across university campuses often face delayed repair requests due to lack of visibility, slow communication, or poor issue tracking. This application aims to streamline how students and staff report technical problems, and how the maintenance team manages and resolves them.

User Roles

- **Student/Staff**: Submits repair or maintenance requests (e.g., broken AC, electrical issues, network).
- **Technician/Maintenance Staff:** Views assigned tickets and update their progress.
- **Admin**: Assigns tasks, monitors performance metrics, and resolves escalations.

Main Features

- Repair request submission with image, location, category, and urgency/priority level.
- Request modification (update or cancel request before assignment).
- Request tracking with status updates of requests (e.g., New, Assigned, In Progress, Done).
- Maintenance schedule overview for technicians (assigned tasks and schedule).
- Admin dashboard with analytics (e.g., total requests, resolution time, performance metrics).
- Technicians can view completed jobs, total assigned requests, and resolution times.
- User notifications (e.g., status change, new assigned tasks, ticket approved).
- Download administrative statistics as a PDF or print them directly.
- The chatbot resolves issues at the initial stage—before a request is submitted.
- AI automatically assigns tasks by analyzing the data.
- Rate workers and requesters (ban requesters if their requests are invalid).
- After a request is completed, a scheduler is initiated where the AI determines the optimal time for the next maintenance

Additional Considerations/Challenges

- Handling logic for prioritizing tickets based on location or severity.
- Feedback system for requesters to rate the service after resolution.
- Escalation mechanism for unresolved or delayed issues.
- Filtering and sorting tools for technicians and admins.

Related SDGs

- **SDG 9:** Industry, Innovation and Infrastructure
- **SDG 11:** Sustainable Cities and Communities