



FINAL ASSESSMENT

COURSE	:	MOBILE APPLICATION DEVELOPMENT
COURSE CODE	:	BCI3283
COURSE COORDINATOR:		TS. DR. NABILAH FILZAH MOHD RADZUAN
DATE	:	23 DEC 2024 – 13 JAN 2025
DURATION	:	4 WEEKS
SESSION/SEMESTER	:	SESSION 2024/2025 SEMESTER I

INSTRUCTIONS TO STUDENTS:

1. The final assessment is a group effort consisting of 3 students.
2. Each group needs to propose their final assessment title based on the case study given.
3. The final assessment submission and project presentation is in Week 14 (13 Jan 2025)
Please refer to your section lecturer for the presentation schedule.
4. Please refer to assessment guidelines (Criteria 1-3) for details of marking criteria.
5. Lecturers have the authority not to consider any submission without a presentation and **ZERO** mark will be given.
6. The question should be answered in English using Android Studio or Flutter only.

This assessment paper consists of **EIGHT (8)** printed pages including the front page.

SUBMISSION REQUIREMENTS:

1. Softcopy of Report.
2. The full Android code (Source code) and .apk file.
3. A poster in pdf format.
4. Demonstration Video.

SUBMISSION INSTRUCTION:

1. Upload the report and the zip file on KALAM, save the file using the Group ID (eg: Group 1.docx or Group 1.pdf or Group 1.zip).
2. The full Android code (Source code) and .apk file.
3. A poster in .pdf format.
4. Demonstration Video on the mobile application should be uploaded to Kalam. The duration of the demo video is 4-6 minutes.
5. All group members must participate during the presentation sessions. The distribution mark is shown in Table 1.

Table 1: Marks distributed

NO.	DISTRIBUTION MARKS	CO1	CO2	CO3	TOTAL FINAL MARKS
1	INDIVIDUAL	56 (22.4%)	34 (13.6%)		90 (36%)
2	GROUP			10 (4%)	10 (4%)
					100 (40%)

QUESTION [100 MARKS]**Case study:**

The MalaysiaSafe app demonstrates the potential of mobile technology in addressing the unique disaster management needs of Malaysia. By providing timely, accurate, and culturally appropriate information, the app has proven to be a valuable tool in enhancing disaster preparedness and response across the nation.

- Background: Malaysia's vulnerability to various natural disasters, including floods, landslides, and haze
- Need: Comprehensive disaster alert and management system for Malaysian residents
- Solution: Development of MalaysiaSafe, a mobile application for multi-hazard alerts and information

The MalaysiaSafe app has demonstrated significant positive impacts since its launch. The application achieved a remarkable milestone with over 500,000 downloads in just the first three months, indicating its wide acceptance and perceived value among Malaysian residents. User satisfaction has been exceptionally high, with in-app surveys revealing a 92% satisfaction rate, highlighting the app's effectiveness in meeting user needs and expectations. The app's practical value was powerfully demonstrated during the 2024 east coast floods, where it played a crucial role in assisting the evacuation of more than 10,000 people, potentially saving numerous lives. Furthermore, the app's innovative approach and effectiveness have garnered international recognition, with the Asian Disaster Preparedness Center acknowledging it as a model app for the region, setting a new standard for disaster management applications in Southeast Asia.

Project Overview

- Client: Malaysian National Disaster Management Agency (NADMA)
- Objective: Develop a user-friendly mobile app to provide real-time alerts and safety information for various natural disasters in Malaysia

Challenges

- Addressing multiple types of disasters (floods, landslides, haze, tsunamis)
- Ensuring app functionality in rural areas with limited connectivity
- Considering cultural sensitivities in alert messaging and evacuation procedures

Key Features

- Multi-hazard alerts (floods, landslides, haze, tsunamis) based on user location
- Interactive maps showing disaster-prone areas and evacuation routes
- Offline mode with pre-downloaded information for areas with poor connectivity
- Integration with local emergency services
- Community reporting feature for real-time ground updates

Each group need to develop a mobile application for disaster management needs of Malaysia. There are **THREE (3)** criteria that each group needs to fulfill as below. You also may refer to the provided Rubric as in Appendices for more detailed marking criteria.

CRITERIA 1: PREPARE A REPORT [Individual Mark]

[CO1: Analyze the limitations and challenges in mobile applications.]

- a. Determine the case study with a detailed **introduction** consisting of limitations or challenges, and the **aim** of the project.

Proposed solution:

Briefly write the detailed introduction to the project.

[2 marks]

State at least one challenge, one scope area and one limitation of the project.

[6 marks]

Explain the aims of the project

[2 marks]

- b. Describe the details of the **problem** involved in the case study including requirements, user specifications, and system business.

Proposed solution:

Explain the requirements of mobile application development.

[2 marks]

State who is the mobile application user and the mobile app specification.

[4 marks]

Explain the system business component, and its classification or any problem to the project.

[4 marks]

- c. Determine **THREE (3) objectives** for the development of your application.

[6 marks]

- d. Analyze and provide all necessary charts to explain your application design, i.e., **methodology** and **storyboard**.

Proposed solution:

Clear explanation of functions with sensor and database connection

[6 marks]

Clear flow of the storyboard with detailed explanations.

[15 marks]

- e. Report structure:

1. Report Format:

- i. Font: Times New Roman (12)
- ii. Alignment: Justified
- iii. Spacing: 1.5 line spacing
- iv. Reference: APA Style format
- v. Margin: Top (25mm) Bottom (25mm) Left (30mm) Right (20mm)
- vi. Page Number: Bottom Right

[2 marks]

2. Content of report

- i. Cover Page (see Appendix A)
- ii. Introduction
- iii. Problem Statement
- iv. Objectives
- v. Scope
- vi. Methodology & Storyboard
- vii. Selected sensor description and justification (**individual**)
- viii. Apps screenshots with complete description (**UI screenshots**)
- ix. Conclusion

[7 marks]

CRITERIA 2: DEVELOP THE MOBILE APPLICATION [Individual Mark]

[CO2: Construct a mobile application using a selected software development environment.]

f. Develop a mobile application that cover all the subject materials below:

i. **Recycle View** or the **Grid view**.

[4 marks]

ii. **ONE (1) Implicit** and **ONE (1) explicit** intent.

[4 marks]

iii. **Database** implementation (must have the basics of input, edit, delete, and display).

[8 marks]

iv. Mobile sensors (apply **minimum TWO (2) /group**). The group must highlight the purpose of the sensors.

Selected sensor description and justification.

[8 marks]

v. Propose **different functions** that integrate mobile sensors and database; therefore, each member should develop/build at least **TWO (2) fully functional** activities. (A 3-member group should do at least **SIX (6) activities**).

[6 marks]

vi. Free from syntax/semantic error.

[4 marks]

CRITERIA 3: [Group Mark]

[CO3: *Demonstrate ability to recognize and respect group member's attitude, act and belief*]

- g. Describe in detail the problems and obstacles that your team face during the project design phase and how you overcome them. Fill in the Logbook (Rubric B) and Peer-review Form (Rubric C) for these elements:
- i. Creating a Logbook (Meeting Record)
 - ii. Contribution: Offer helpful ideas or suggestions that contribute to problem solving and contribute to writing the project report and presentation.
 - iii. Time Management: Complete assigned work.
 - iv. Group effectiveness: Monitor the team's progress and work to make the team more effective
 - v. Leadership: Able to resolve team "conflict" through open discussion and compromise, and comfortable and confident when exercising leadership duties within the group.

[5 marks]

- h. Design a visually engaging poster for the project. Emphasizing elements of entrepreneurship such as compelling visuals, concise communication, and an actionable message. The guidelines for the content of the poster:
- i. **Title:** A bold, attention-grabbing title that conveys the essence of entrepreneurship and the message of your poster
 - ii. **Visuals:** Incorporate images or graphics that represent entrepreneurship.
 - iii. **Logo:** If applicable, include the logo of your organization or any relevant entrepreneurship-related logos to establish branding and credibility.
 - iv. **Color Scheme:** Choose a color scheme that aligns with the theme of entrepreneurship.
 - v. **Layout:** Ensure the layout is well-organized and easy to follow.

[5 marks]

END OF QUESTION PAPER