



Faculty of Computer Science and Information Technology

**FINANCIAL LITERACY MOBILE APPLICATION FOR UNIMAS  
UNDERGRADUATE STUDENTS**

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Bachelor of Computer Science with Honours (Software Engineering)

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**FINANCIAL LITERACY MOBILE APPLICATION FOR UNIMAS  
UNDERGRADUATE STUDENTS**

**LIEW ZHAO TING**

This project is submitted in partial fulfillment of the  
requirements for the degree of  
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## **ABSTRACT**

The lack of financial literacy among university students might lead to financial difficulties such as debts. The need to improve individual thoughts on their financial literacy to have better financial management so they can implement good financial management in the future. Hence, the project intends to develop a financial literacy mobile application for UNIMAS undergraduate students to teach financial literacy. By utilizing the use of mobile application, the mobile application can teach financial literacy especially UNIMAS undergraduate students. By analyzing the literature review, three existing mobile applications were used to teach financial literacy. The mobile application provides expense tracker features as a tool to understand their financial by tracking their spendings and making wise financial decisions. In addition, usability testing will be carried out after the proposed mobile application is implemented to evaluate the usability of the mobile application by collecting feedback from user. Functional testing will be used to ensure the developed mobile application will be tested and ready for deployment. The methodology used in the proposed project is Rapid Application Development (RAD). This proposed project in Final Year Project 1 aims to design and develop to teach financial literacy and to evaluate the usability of the proposed mobile application to UNIMAS undergraduate students. Final Year Project 2 outlined the implementation and testing phase of the proposed mobile application based on the requirement analysis and system design that was defined. Furthermore, when the proposed mobile application had been deployed, functional testing such as unit testing, as well as usability testing were carried out to collect feedback from actual users. Finally, one of the proposed mobile application's limitations is that the system does not support platforms apart from Android, no multilingual support and auto-scanning feature. The future work is to overcome the limitations in order to enhance the mobile application by implementing cross-platform frameworks, adding multilingual support and auto-scanning receipt feature in the future.

## **ABSTRAK**

Kekurangan literasi kewangan dalam kalangan pelajar universiti mungkin membawa kepada masalah kewangan seperti hutang. Keperluan untuk menambah baik pemikiran individu mengenai literasi kewangan mereka untuk mempunyai pengurusan kewangan yang lebih baik supaya mereka dapat melaksanakan pengurusan kewangan yang baik pada masa hadapan mereka. Oleh itu, projek ini berhasrat untuk membina aplikasi mudah alih literasi kewangan kepada pelajar sarjana muda UNIMAS untuk mengajar literasi kewangan. Aplikasi mudah alih mengajar literasi kewangan, terutamanya kepada pelajar sarjana muda UNIMAS. Ia menggunakan penjejak perbelanjaan untuk memahami dan membuat keputusan kewangan yang bijak. Selain itu, ujian kebolegunaan akan dijalankan selepas cadangan aplikasi mudah alih dilaksanakan untuk menilai kebolegunaan aplikasi mudah alih dengan mengumpul maklum balas daripada pengguna. Selain itu, ujian kebolegunaan dan kefungsi akan dijalankan selepas cadangan aplikasi mudah alih dilaksanakan. Ujian tersebut akan menilai kebolegunaan dan memastikan aplikasi mudah alih siap digunakan. Projek ini menggunakan kaedah Rapid Application Development (RAD). Projek yang dicadangkan dalam Projek Tahun Akhir 1 bertujuan untuk mereka bentuk dan membinakan untuk mengajar literasi kewangan dan menilai kebolegunaan aplikasi mudah alih yang dicadangkan kepada pelajar sarjana muda UNIMAS. Projek Tahun Akhir 2 melaksanakan dan menguji aplikasi mudah alih berdasarkan analisis keperluan dan reka bentuk sistem. Ujian berfungsi dan kebolegunaan telah dijalankan untuk mendapatkan maklum balas pengguna. Akhirnya, salah satu had aplikasi mudah alih yang dicadangkan ialah sistem tidak menyokong platform selain Android, tiada sokongan pelbagai bahasa, dan ciri pemindahan automatik. Kerja masa depan adalah mengatasi had tersebut dengan mengimplementasikan rangka kerja pelantar silang, sokongan pelbagai bahasa, dan ciri pemindahan resit automatik.

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## **CHAPTER 1 : INTRODUCTION**

### **1.1 Project title**

Financial Literacy Mobile Application for UNIMAS Undergraduate Students.

### **1.2 Introduction**

Financial literacy refers to the ability to understand and to use their financial skills in an effective way such as budgeting and investing. The need to improve individual thoughts on their financial literacy to have better financial management so they can implement good financial management in the future. The habit of financial management by educating from young age could affect their lives and security in long-term duration (Mueangpud et al., 2019). Financial decision had to figure out all by themselves when they learn and practice financial decisions in their university life (Sabri et al, 2008). University students had their first time experienced on their financial freedom without the supervision from their guardian (Ariffin et al, 2017).

By using mobile application as a digital tool, it can improve their financial decisions and raise awareness on how to manage their finances in a responsible way. The demand on developing a mobile application to improve financial management for the youth is needed as they carry with their mobile phone most of the time (Mueangpud et al., 2019). Therefore, financial literacy mobile application can be used as a tool to teach financial literacy especially for university students.

### **1.3 Problem statement**

Nowadays, the lack of financial literacy among university students might lead to financial difficulties such as debts. According to the study of Malaysian Insolvency Department, a total of 64,632 Malaysian were declared bankrupt in the past five years (Berisha & Meszaros,

2018). According to a study in Malaysia on analysing the financial literacy among university students by using behavioural approach, the study has shown that university students are lack of financial knowledge, and it is important to cater effective ways to improve awareness on financial knowledge, financial skills, and financial behaviour among university students (Yahaya et al., 2019). Hence, there is a need to teach undergraduate students on financial literacy among undergraduate students in UNIMAS by using mobile application.

#### **1.4 Objectives**

The project objectives are:

- i. To design and develop a mobile application to teach financial literacy to UNIMAS undergraduate students.
- ii. To evaluate the usability of the mobile application to teach financial literacy to UNIMAS undergraduate students.

#### **1.5 Methodology**

The methodology to be carried out on this project is Rapid Application Development (RAD). RAD is a development model that focuses to rapid prototyping and speedy feedback. The project can be broken down into smaller parts and it is easier to keep track of the project's progress. In addition, RAD takes a shorter time to complete and able to produce a quality project compared to waterfall modal. The following figure shows the main phases in Rapid Application Development.



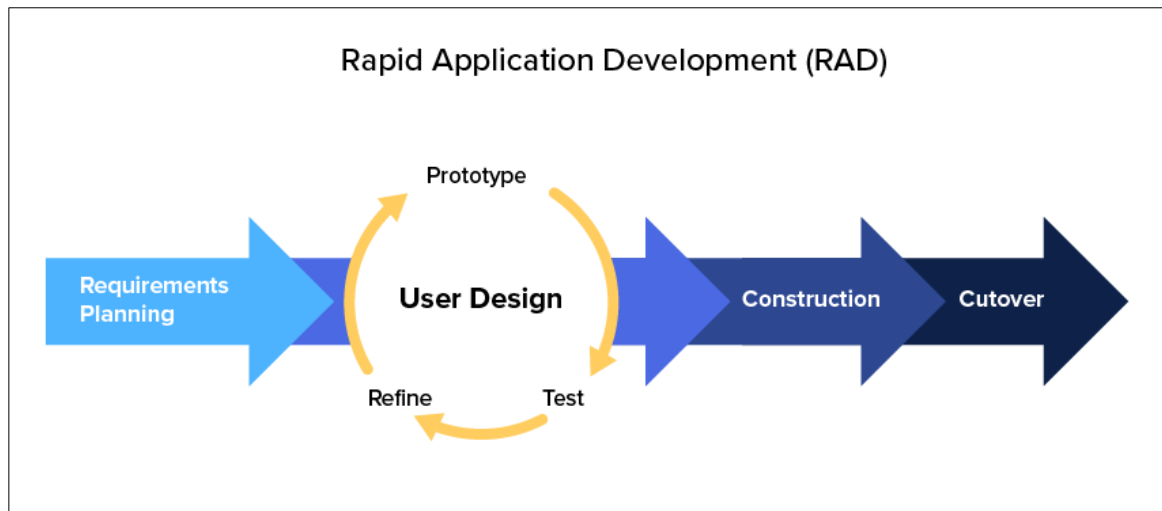


Figure 1.1: RAD methodology development phases ("Rapid Application Development (RAD) Model: An Ultimate Guide For App Developers in 2022," 2022)

### 1.5.1 Requirements Planning

In this phase, system requirement will be collecting by reviewing existing mobile applications and questionnaires. By reviewing existing mobile application, the specifications can be tested out to collect information. By doing questionnaires with UNIMAS undergraduate students, it will provide a better understanding on creating a better process. Hence, it will have a better project outcome.

### 1.5.2 User Design

During this phase, the development will be taking place. Prototypes will be shown to user to collect feedback and comments. By collecting feedback from user, the mobile application can be improved until the project requirement are met. Throughout prototyping, the feasibility can be evaluated through this phase so the mobile application can have better structure for future updates.

### **1.5.3 Construction**

In this phase, it is an important stage of development where all user requirements are met, and user feedbacks are crucial.

### **1.5.4 Cutover**

The final phase is the implementation phase will be deployment where the mobile application will be in live environment. Documentation such as user manual to guide the users on how to use the mobile application.

## **1.6 Scope**

The target users of this mobile application will be the UNIMAS undergraduate students. There will be login system to the system's account to be accessed.

The limitations are the project Android-based development so only android users are allowed to access to this mobile application.

## **1.7 Significance of project**

The digital delivery of financial literacy is important, and individuals are making use of the digital tools (OECD, 2021). The mobile application is developed to act as a digital tool to evaluate the usability of the mobile application to teach financial literacy as to improve the awareness on importance of financial literacy among UNIMAS undergraduate students.

## **1.8 Expected outcome**

At the end of this project, this android mobile application will be developed to teach financial literacy. The mobile application features allow user to track expenses and view reports on expenses. The feature in the mobile application allows user to track their spendings, analyse expenses and making wise decisions generally. This mobile application provides features that

allows users to learn to how to manage their finances wisely by analysing their expenses. Hence, the mobile application encourages the users to make better financial decisions. Hence, this mobile application will be design and develop to teach financial literacy and to evaluate the usability of the mobile application to teach financial literacy to UNIMAS undergraduate students.

### **1.9 Project schedule**

The project schedule is divided into two parts which is Final Year Project 1 and Final Year Project 2. This project started from 10 October 2022. Based on Figure 1.2, it shows the project schedule for Final Year Project 1. The important submission dates of the Gantt chart are the deadline set by the Faculty of Computer Science and Information Technology. Figure 1.3 shows the Final Year Project 2 Gantt chart which is the estimated time frame according to RAD methodology phases.

Chapter 1 is the introduction of this project. This chapter consists of introduction, problem statement, the objectives, methodology, scope, significance of project, expected outcome, and project schedule. The introduction describes the background of financial literacy and the description of this project. The problem statement explains on the lack of financial literacy among university student and thus provides the reason this mobile application to be developed. The methodology to be used for this project will be using Rapid Application Development (RAD) and the scope describes the limitation which is the boundaries of the proposed mobile application to be developed. The project schedule describes the timeline including important submission dates and the preparation durations. Lastly, the expected outcomes describe the outcome of the project including planned features.

Chapter 2 is the literature review of the existing mobile applications. This chapter discuss on the review on existing mobile application that is similar to the project and the weaknesses and strength of the existing features will be analysed.

Chapter 3 is the requirement analysis and design which is the methodology used for development for the overall project. The methodology will be using Rapid Application Development (RAD) to develop for this project. This chapter will consist of data flow diagram (DFD), flowchart and user interfaces to create the prototype of the project.

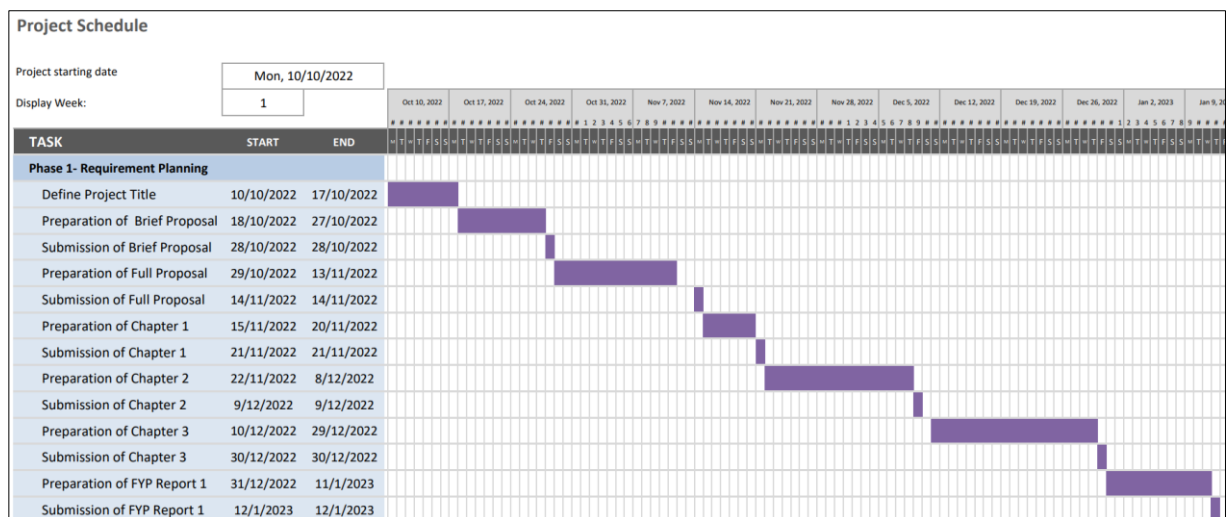


Figure 1.2: Project Schedule for FYPI1

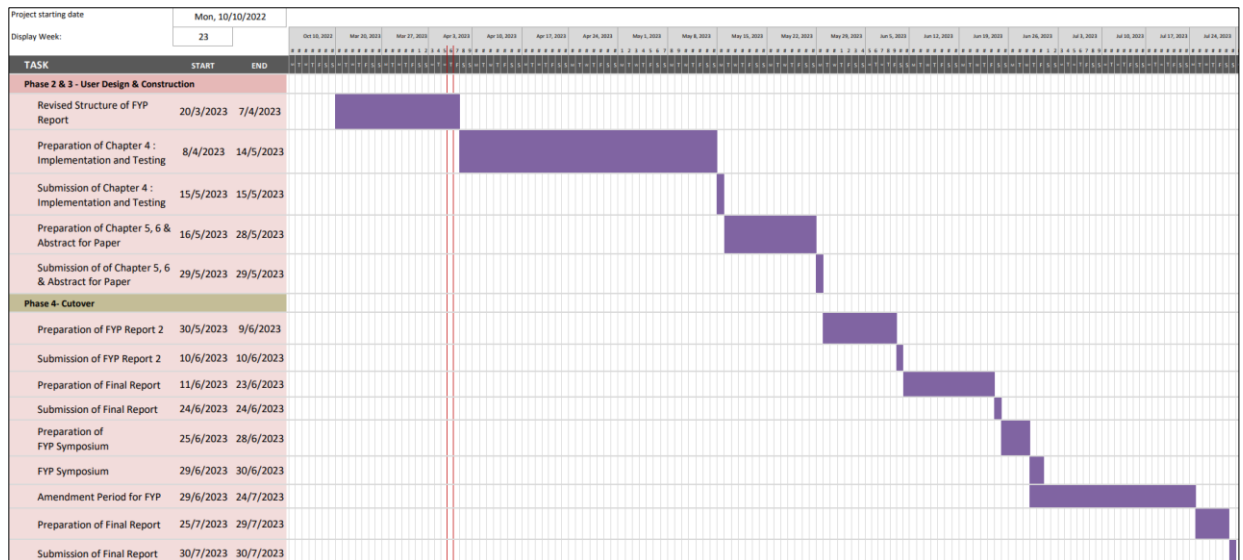


Figure 1.3: Project Schedule for FYP2

## 1.10 Summary

Based on this chapter, the proposed project to design and develop and to evaluate the usability of the mobile application to teach financial literacy to UNIMAS undergraduate students. This chapter describes the introduction, problem statement, the objectives, methodology, scope, significance of project, expected outcome, and project schedule. The introduction describes the background of financial literacy and the description of this project. The problem statement explains on the lack of financial literacy among university student and thus provides the reason this mobile application to be developed. The methodology to be used for this project will be using Rapid Application Development (RAD) and the scope describes the limitation which is the boundaries of the proposed mobile application to be developed. The project schedule describes project outline, the timeline including important submission dates and the preparation durations. Lastly, the expected outcomes describe the outcome of the project including planned features.

## **CHAPTER 2 : LITERATURE REVIEW**

### **2.1 Introduction**

In this chapter, the existing mobile application will be reviewed on their strengths, weaknesses, and the features. A comparison on the technical features is analysed between the existing mobile applications. By comparing the features of the mobile applications, some of the features maybe adapted into the proposed project with the existing strengths and weaknesses.

### **2.2 Current scenario analysis**

A survey found that the financial literacy among college and university students are low in Malaysia, and by encouraging students on savings, it will play a crucial part in financial literacy (Yew et al., 2017). Universities should emphasize on educating financial knowledge for students to prepare them before entering into working culture (Yew et al., 2017). In addition, a study had demonstrated the importance of including financial management course in the university curriculum so that the students are made aware of the significance of good financial (Yahaya et al., 2019). Hence, a financial literacy mobile application that provides tools on financial management are able to teach university students on financial literacy.

One of the general types of knowledge on financial literacy are planning and budgeting. There are few methods on managing expenses which are paper forms, spreadsheets, and software (Blog, 2022). Paper forms manages expenses manually and on a budget. A significant amount of paperwork that needs to be requested and approved is the drawback which occasionally might be difficult to file, find, or track, or get lost in transit. Spreadsheets is a manual way to track and manage expenses. The spreadsheets frequently have paper receipts attached to it. It is a tasking method, however if data is not managed properly, it can occasionally become disorganized. Lastly, using software to manage expense reports is creative

and effective It lessens workload and allows for seamless completion of all expense management processes, including request, verification, approval, and data analysis (Blog, 2022). One of the technological advancements that is currently thought to represent a new paradigm in education is mobile technology. Therefore, by utilizing software like mobile application on managing finances are a good way to teach financial literacy among undergraduates in UNIMAS.

### **2.3 Reviews on similar existing mobile application**

Further information about each similar mobile application to the proposed project will be discussed in this chapter. As for the analysis, three existing mobile application that are close to my project had been selected to be reviewed. Three of the existing mobile application will be compared which are World of Money, Money Manager and Expenses and Finance Records. All three systems are financial literacy mobile application that teaches financial literacy, and these applications can be downloaded in Android Play Store.

#### **2.3.1 World of Money**

World of Money is one of the financial literacy mobile applications that provides financial contents for all ages category accordingly. This mobile application offers videos lessons that covers on the majority financial topics such as budgeting, taxes and paying for college. One of the strengths are the videos are bite-sized size that last around 2 to 4 minutes for better user engagement. Another feature is that it provides flashcards for user to learn more about information on finance according to their age category and topics. This is also convenient for the user to learn if they are unable to watch video at that the moment and it takes shorter learning time than video. Therefore, there are not many features in the application.

The weaknesses are the mobile application requires internet connection to be able to access the mobile application itself and the loading time for the videos might take depending on internet connection. In addition, another weakness is there are no hands-on tools or features like expenses tracker that helps user on learning to manage their finance.

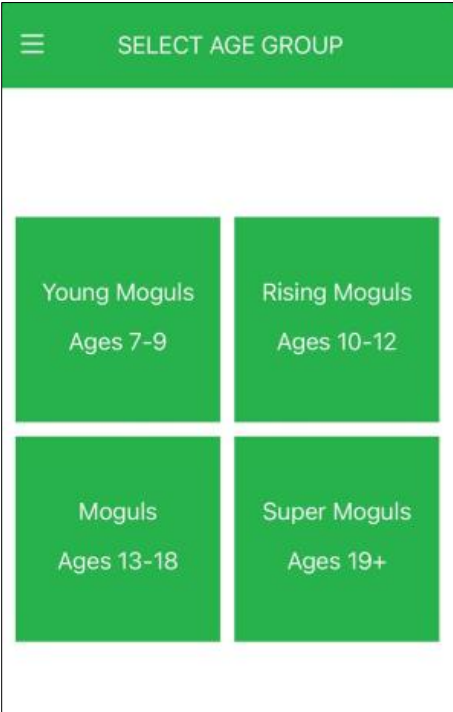


Figure 2.1: Categories based on age groups for financial literacy videos page