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SULTAN IDRIS  
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SULTAN IDRIS EDUCATION UNIVERSITY

**DISC-TIME : NOT LATER BUT NOW :  
(DEVELOPMENT OF INTERACTIVE MOBILE APPLICATIONS IN  
EDUCATION GUIDELINE FOR DISCIPLINE TIME MANAGEMENT)**



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D20191087013**

**FAKULTI SENI, KOMPUTERAN & INDUSTRI KREATIF  
UNIVERSITI PENDIDIKAN SULTAN IDRIS**

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LAPORAN PROJEK TAHUN AKHIR DIKEMUKAKAN BAGI MEMENUHI  
SYARAT UNTUK MEMPEROLEH IJAZAH SARJANA MUDA  
(ISM KEJURUTERAAN PERISIAN (PERISIAN PENDIDIKAN)  
DENGAN KEPUJIAN

FAKULTI SENI, KOMPUTERAN & INDUSTRI KREATIF  
UNIVERSITI PENDIDIKAN SULTAN IDRIS

2023





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	(Development Of Interactive Mobile Apps in Education Guideline For Discipline Time Management)

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26 FEBRUARI 2022

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Tandatangan Penyelia

(Dr. Nor Asiah binti Mohamad @Razak)



## ACKNOWLEDMENT

Bismillahirrahmanirrahim,

In the name of Allah, the Most Gracious and Merciful Alhamdulillah, I am grateful to Almighty Allah for providing me with the strength, knowledge, ability, and opportunity to pursue and complete this study successfully.

First and foremost, I am thankful to my Coordinator of Final Year Project 1, Puan Asma Hanee binti Ariffin, for keeping me on track and for the constant encouragement in the class. Secondly, I am especially grateful to my supervisor, Dr. Nor Asiah binti Mohamad @Razak for her interest in my work and invaluable advice. Words cannot express how grateful I am to her for providing timely feedback on my work at her workspaces. I have greatly benefited from her knowledge and insight.

I would like to express my heartfelt gratitude to my family members and friends, particularly my mom and dad, for their unending support, encouragement, love, and patience. My heartfelt gratitude goes to all my seniors in the Software Engineering course for the guidance and support throughout this doctoral journey. I would like to thank my colleagues and peers for their ongoing support and encouragement throughout my doctoral studies.

Last but not least, I'd like to thank my research participants for sharing their experiences, as well as the University Pendidikan Sultan Idris student at the research site for facilitating data collection.

Finally, I must express my gratitude to my family and friends for their unwavering support and appreciation throughout this arduous academic year.

**DISC-TIME : NOT LATER BUT NOW :  
(DEVELOPMENT OF INTERACTIVE MOBILE APPLICATIONS IN EDUCATION  
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**ABSTRACT**

Making effective use of time entails maximising functions such as task start-up, task focus, and task balancing. From creating work plans, it can be one step solution for student especially who procrastinate do not feel less anxious after creating their work plans. The main focus of this research is on the concept of “discipline” management and how timeline or schedule management able to influence student daily activities or task. In the view of disciplines, Time management skills able to influence student’s academic performance. This is because, both variables are strongly positively interrelated. When the student able to manage their time effectively, their educational achievements will improve significantly. The purpose of this study was aims to implement and apply self-discipline methods for students, especially by using the suitable method for themselves while studying. This mobile application was develop with the combination of disciplinary and self-time management for the user. This application allows the users to browse the provided study technique in the applications with detail on how to apply that techniques to the user’s time management. This applications also allow the users to create their daily task and keep notes in order to management schedule properly. It is critical to provide education and guidance in orderto promote effective study habits and enhance their study skills. In order to achieve the mentioned goal, the researcher has conducted a literature review about this research and use the suitable methodology model for the project development. The researcher has used a software development method called Evolutionary Prototyping approach during the development process. It investigates theeffectiveness of study by utilizing time management and appropriate study techniques. It aimed to provide an understanding of the efficacy of evolutionary prototyping in assisting the researcher to address frequently changing requirements and iterative work while remaining on schedule.

**DISC-TIME : NOT LATER BUT NOW :  
(PERKEMBANGAN APLIKASI MUDAH ALIH INTERAKTIF DALAM PANDUAN  
PENDIDIKAN BAGI PENDISIPLINAN PENGURUSAN MASA)**

**ABSTRAK**

Penggunaan masa yang berkesan memerlukan fungsi yang maksimum untuk permulaan tugas, fokus tugas dan pengimbangan tugas. Daripada membuat rancangan kerja, ia boleh menjadi satu langkah penyelesaian untuk pelajar terutamanya yang berlengah-lengah tidak berasa kurang risau selepas membuat rancangan kerja mereka. Fokus utama kajian ini adalah kepada konsep pengurusan “disiplin” dan bagaimana pengurusan garis masa atau jadual mampu mempengaruhi aktiviti atau tugas harian pelajar. Dari segi disiplin, kemahiran pengurusan masa mampu mempengaruhi prestasi akademik pelajar. Ini kerana, kedua-dua pembolehubah saling berkaitan secara positif. Apabila pelajar dapat menguruskan masa mereka dengan berkesan, pencapaian pendidikan mereka akan meningkat dengan ketara. Tujuan kajian ini dijalankan adalah bertujuan untuk melaksanakan dan mengaplikasikan kaedah disiplin diri kepada pelajar khususnya dengan menggunakan kaedah yang sesuai untuk diri mereka semasa belajar. Aplikasi mudah alih ini dibangunkan dengan gabungan pengurusan disiplin dan masa sendiri untuk pengguna. Aplikasi ini membolehkan pengguna menyemak imbas teknik kajian yang disediakan dalam aplikasi dengan terperinci tentang cara mengaplikasikan teknik tersebut kepada pengurusan masa pengguna. Aplikasi ini juga membolehkan pengguna membuat tugas harian mereka dan menyimpan nota untuk pengurusan jadual dengan betul. Adalah penting untuk menyediakan pendidikan dan bimbingan untuk menggalakkan tabiat belajar yang berkesan dan meningkatkan kemahiran belajar mereka. Bagi mencapai matlamat yang dinyatakan, pengkaji telah menjalankan kajian literatur tentang penyelidikan ini dan menggunakan model metodologi yang sesuai untuk pembangunan projek. Pengkaji telah menggunakan kaedah pembangunan perisian yang dipanggil pendekatan Prototaip Evolusi semasa proses pembangunan. Ia menyiasat keberkesanan kajian dengan menggunakan pengurusan masa dan teknik kajian yang sesuai. Ia bertujuan untuk memberikan pemahaman tentang keberkesanan prototaip evolusi dalam membantu penyelidik menangani keperluan yang kerap berubah dan kerja berulang sambil kekal mengikut jadual.

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## CHAPTER 1

### INTRODUCTION

#### 1.1 Introduction

Every student has the right to a high-quality education that will prepare them for a prosperous future. They must have the necessary skills and academic preparation to succeed in a career or at university. Unfortunately, despite the fact that all states developed and implemented standards as required by the Elementary and Secondary Education Act (ESEA), students have been shown in many cases to lack the knowledge and skills necessary for success after high school (college). Furthermore, the outbreak of the new coronavirus pandemic presented the most significant challenge to the global education system in the last century at the end of 2019. During the COVID-19 pandemic, e-learning has emerged as a viable option for reforming the entire traditional education system.

Over 1.6 billion people involved in the education system in over 190 countries and across all continents have been impacted by school closures, with the entire process expected to be completed by May 2020. Due to the circumstances, both teachers and students must adapt to the new learning development and manage their time effectively. In light of this, a research of study timeline approach have been done to utilizing a mobile application function to monitor and assist educators and learners in having a better schedule during their day at home.

Time management is crucial in improving learners' performance and accomplishments. The key to making progress in life is to deal with this asset that everyone has equally and to prioritise planning through proper time management. From that, the researcher has develop one mobile application namely Disc-Time : Not Later but Now to help student especially in order to discipline themselves at the same time to adapt with schedule management during online and mixed learning.

This is one of the processes of self-regulation, goal setting, and interest application that will have an impact on the development of skills and motivation that can be used to cultivate life-longeducators and learners. For students in particular, time management has an impact on more than just their performance and achievements, as it also has an impact on their mental capabilities and has the potential to increase their stress level. They must manage it in order to live a healthy life, complete assignments, and achieve their personal goals.



*Figure 1.1 : The Logo of Disc-Time mobile Application*

## 1.2 Background Research

Discipline is the ability to maintain control over oneself or others in difficult situations. It also refers to instruction that makes people more ready to obey or more able to manage themselves, frequently in the form of rules and consequences if they are broken, or the behaviour created by this training the ability to govern oneself or other people, especially in tough conditions. It all comes down to discipline management when it comes to learning to effectively lead yourself and others. Some people may manage their lives without a schedule or timeframe, but studies show that people with self-discipline are happier.

According to Idris (2018), the main goal of discipline is to improve efficiency as much as possible by preventing the waste of time and energy. Discipline tries to overcome mistakes and negligence caused by lack of attention, disability, and delay. Discipline is required not only to focus on setting goals but also to achieve those goals and perform better. Time management and utilisation based on needs are required. From that, the researchers have developed an alternative method to help users discipline themselves in their daily activities and study management. This mobile application will be one of the user's motivators in doing their daily activities with the proper guidelines. Motivation is a fluid process; different things can motivate different people. In addition, a person will be encouraged to work because of an easy-to-track task, able to enhance their disciplinary skills, and this will then generate good results for their time management in a productive way.

This research will be carried out as a mobile application that helps all learners to be more disciplined in order to manage their activities to reach their full potential. This research allows users to plan their task or activity effectively to be followed to enhance their productivity in a day. Furthermore, this application have been provided with three study techniques to ensure that only vital information is collected when users compose their daily notes which are Pomodoro techniques, Feynman Techniques, and The Cornell Techniques.

### 1.3 Problem Statement

Students must have good study skills in order to be successful. Study skills are a set of abilities that assist students in becoming more effective learners. By utilizing a variety of skills and a productive learning method, this study strategy mainly to assists students for becoming more effective and makes studying easier. In this sense, it is a method of learning and a key to academic success in all fields. The researcher found that most of the student having problem to discipline on their study timeline and some of them do not know how to start or manage their study time correctly. According to Ahmad, Batool and Choudhry (2019), majority of students do not have good command on time management. They have insufficient time management skills and this issue has adversely influenced their social and academic life.

There are few options for interactive tools for developing the most effective study methods nowadays, but mostly it is only focus on one study technique rather than providing guidelines for students to choose their own study methods. From that point, student will only just focus on doing their tasks without trying to develop their study skills wisely. For example, the application of Pomodoro technique resulted in a slight improvement on the respondents procrastination behavior. This technique reduced the academic motivation of respondents (Dizon R, Ermitanio H, Estevez D et al, 2021). However, Dizon et al the researcher found that some of application has no significant effect on respondents' procrastination behaviour or academic motivation. In addition, there are some educators who only highlight one learning technique to students without helping the students themselves identify the learning method that is more suitable for them. In line with this findy, a study of Adhina(2020),

“An alternative method of online learning using the Feynman Technique which students can teach a topic to friends or themselves until they understand the topic. By using the Feynman technique, students are required to be able to understand the context of the lesson. Its makes the students to be active and increase achievement also can save on internet expenses because it can reduce the use of learning video meetings” (page 59).

In this era, students nowadays learn based on what their teachers or lecturers teach them in school. Some of them only study for quizzes, tests, or exams and memorize without understanding the concept. Furthermore, they require more time to comprehend the material. From that, the researcher found that, if they unable to communicate other, they need to dive into the root cause of the problem to find the solution. So, if the student are unable to study effectively and are bored dueto a lack of interactivity, they will having problems on deciding the most suitable study technique that they might use to get excellent study management. According to Salman(2020), the effectiveness of the technique was also impacted by contextual factors such as assessment deadlines and unconducive study environments. Overall, it seems important that students allow enough time to get used to the technique, and that they reflect on and modify how they use the technique to suit their context under appropriate guidance.

## 1.4 Research Objective

The main intention to meet the goals as follow:

- I. To identify the method to assists users for disciplining themselves in time management to monitor their progress in a proper schedule.
- II. To develop a Disc-Time : Not Later Mobile Application for discipline time management.
- III. To evaluate the effectivity and usability of the Disc-Time : Not Later Mobile Application.

## 1.5 Research Question

During the study, the researchers aimed to answer the research questions established at the beginning of the project. The research question is detailed as below:

**RQ1:** What is the method to assists users for disciplining themselves in time management to monitor their progress in a proper schedule?

1. How do users identify the suitable study techniques for them to develop effective study skills?
2. What kind of methods and tools do students use for schedule management?
  - a) For the user's study management?
  - b) For the user's personal life management?
3. What features do the users want to see in the Disc-Time mobile application for discipline time management?
4. What is an appropriate mobile app design for managing discipline timelines for students?

**RQ2:** How to develop a Disc-Time : Not Later Mobile Application for discipline time management?

1. How can we design a mobile app for managing discipline timelines for students?

**RQ3:** How to evaluate the effectivity and usability of the Disc-Time : Not Later Mobile Application.

1. Does this application have any impact on students?
  - a) For the user study management ?
  - b) For the user personal life management ?



## 1.6 Scope

Generally, “Disc-Time : Not Later” Mobile Applications is a global education network that helps all learners to be more discipline in order to manage their activities to reach their full potential. This study focuses on three main aspects which are function, content and target user. All these aspects are thought to be important in understanding how a good study technique can be influenced by someone's performance in their learning development. This study attempts to provide three main functions that contain different types of study methods which is The Feynman Technique, Pomodoro Technique and Cornell Technique that can help users to improve their study skill generously. The application will be include with the study technique guideline to apply the study method correctly and also provided with set reminder to enhance the disciplinary in user timeline.

In addition, this applications also will be provide with a editing notes for user to create their personal reminder for the daily activities and task. The Disc-Time users need to register an account before they able to save the task and notes that have been used in the applications. From that, the user can choose the provided language in the system according to their convenience. The target users for this mobile application have been evaluated to one user only which is learner. This research has been specifically to the student user because the researcher realized that student really need an application that would be work for student life in order to develop their discipline in time management skills. Instead of becoming counter-productive and wasting more time on daily activities, students can improve their life management skills and keep track of time more effectively.

## 1.7 Significant of Project

This project will enhance the significance of study to learners, which is Learners are able to discipline themselves to have a guideline schedule to make sure that they have prepared for their daily day by having a well-structured schedule and reducing too much time devoted to one activity in a day. Despite wanting to be more and better disciplined in time management, the researcher found that it works when we try to force ourselves into a schedule to be more disciplined in life. A person will become accustomed to following the rules of the schedule provided if they follow it consistently in managing their activities and learning. As a result, they unconsciously instill good discipline values in them. According to Baothman (2018), Without the development of effective habits such as motivation, metacognition, and self-regulation, students are likely to perform poorly and find it difficult to improve future performance.

In addition, learners are also able to follow the techniques correctly, which means they are producing the desired results after some time has passed. From that, they will learn whether the changes that they have made are really beneficial or not. From that, the researcher found that by using this mobile application, users can evaluate and identify learning methods that suit them in order to produce more effective learning methods. Each learning technique produces a different understanding of the world. There are three learning techniques revealed in this application, namely the Pomodoro technique, the Feynman technique, and the Cornell technique.

According to the study of Adhina (2020), with the Feynman Technique, students can be more active in the learning process and become less passive because they do not only listen to the teacher explain through video meetings. In line with this finding, a study from Usman (2020) proposes that although the Pomodoro technique is successful in time management on undergraduate students' motivation, students still need time to adjust to the technique to optimize its benefits. Everyone learns differently, and there is no one right way for everyone or for every paper they study. However, the study techniques assume that they are actively engaged in the process by considering information from various perspectives rather than just the way it was presented in lectures.

## **1.8 Operational Definition**

### **1.8.1 Mobile application**

Mobile application is a software application designed to run on mobile devices such as smartphones and tablet computers. It is appearing because of the convergence of media, information technology, the Internet, and advanced technologies (Phongtraychack, A., & Dolgaya, D., 2018).

### **1.8.2 Discipline**

Discipline is a way in which we align our body, mind, and our soul to follow a proper order. A person who is disciplined performs everything in the right manner and is able to achieve great

heights in life both personally and professionally. Discipline is the only way that can bring stability in a person's life (Khatun Assistant Professor, D., & Naseem Siddiqui, D., 2018).

### **1.8.3 Time management**

Time management provides every individual an opportunity to decide how to make use of this important source; it allows people to make the most of the least and it enhances one's knowledge about how to spend the time in a constructive manner (Radhika Kapur, 2018).

### **1.8.4 Pomodoro techniques**

Pomodoro technique can help users be more focused on complex activities. It aims to know as well the procrastination behaviour and academic motivation of the respondents and be able to address the sudden change from face-to-face learning modality into mixed online learning wherein the students develop procrastination behaviour while doing online activities (Dizon, R. J. et al., 2021).

### **1.8.5 Feynman Techniques**

The Feynman Technique is viewed as a promising learning strategy that adheres to the principles of heutagogy. This study is a student-centered and self-determined learning strategy that emphasises ideas of processing and critical thinking. Moreover, with particular attention to heutagogy, the Feynman Technique enables a learner to independently discover a concept and choose his own best way to arrive at the desired outcome (Reyes, E.P et al., 2021).

### **1.8.6 Cornell techniques**

The Cornell system is a useful note-taking format because it allows them to keep track of ideas. It also serves as an effective tool for test and exam preparation. The Cornell system is an effective note-taking strategy because the cue and summary columns provide quick access to lecture material. It is also useful for practising tests and exams. According to Alzu'bi M (2019), the Cornell Method helps improve the writing composition skills of Jordanian EFL learners and solves their problems in writing composition.

## 1.9 Conclusion

To conclude, this method is able to prepare the user to be a critical thinker and well-prepared for their academic achievement and also for the assignments and tests. The first step of developing this mobile application is gathering all the requirements needed by the user. It may be necessary to explore and experiment with the user with different ways of learning and working with materials to see what works best for them. Indeed, users may discover that they employ different learning strategies for different papers in order to process academic information and understand and remember it. From that, the mobile application can be designed and developed. Then, it can be tested by the user to determine the quality and effectiveness of the functionality of this app to discipline themselves according to their customized schedule.