	FACULTY OF ENGINEERING
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TECHNOLOGY & INFORMATION SYSTEM
(SECP1513)

PROJECT LOW FIDELITY PROTOTYPE: PART 2

Submitted To:

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First and foremost, we would like to express our gratitude to Allah SWT as He gives us a chance to finish this assignment and manage to give the best on this assignment till the end. We also would like to thank our beloved TIS lecturer, Dr Azurah binti A Samah for the valuable guidance and advice. We also would like to express our gratitude to Dr Azurah for giving us guidance in this assignment despite her hectic schedule. We appreciate it a lot.

Besides, we would like to express our gratitude to our family members, classmates and friends who give their support for us directly or indirectly in this assignment until it is fully complete.

Finally, an honorable mention goes to all the team members in the group for their commitment and hard work in completing this assignment. Without the great teamwork among us, we would face many difficulties while doing this assignment. Thankfully with the great teamwork in the group, the process in completing this assignment went smoothly. As the saying goes, many hands make light work.

Once again, a million thanks to everyone who contributes in this assignment directly and indirectly. With the support from everyone, we finally completed this assignment.

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1.0 Introduction

In recent years, drug abuse continues to become a pressing issue to Malaysian society, with almost half of the prison population of Malaysia, numbering around 30000, are being detained for various drug-related offenses. The Malaysian government, acknowledging the issue of drug abuse and relapse as a public health issue, has enrolled a number of programs aimed at curtailing drug distribution and improving programs related to drug-treatment. However, it is clear that a major part in solving the problems in drug abuse involves vastly improving drug awareness and accessibility to drug education among groups deemed most at risk, mainly old adolescents and young adults. (Chie, Q. T., Tam, C. L., Bonn, G., Wong, C-P., Dang, H. M., & Khairudin, R. (2015). Drug abuse, relapse, and prevention education in Malaysia: Perspective of university students through a mixed methods approach. Frontiers in Psychiatry, 6, 1 - 13.) It is further shown that this problem can also be alleviated by introducing drug-education at ages 11-12, where it is believed by students to be the most effective period to induce drug awareness. In this report, attempts at solving this issue are made by examining the problem in a more detailed manner, followed by a comprehensive presentation of the proposed solution, which involves the dissemination of important details such as the design, business flow, and the mock-ups of the solution.

2.2 Problem Statement

Formally, a pharmaceutical drug, also known as a medication or medicine, is a chemical substance used to treat or cure any condition; nevertheless, it must be taken at the appropriate amounts and under the supervision of a doctor, otherwise it can become an illicit drug in our bodies. Previous research has found that approximately 11.5 million adults misused prescription pain medicines at least once in the previous year. The most common reason for their most recent usage of pain medicines was to alleviate physical pain. (Rachel N. Lipari, Ph.D., Matthew Williams, Ph.D., and Struther L. Van Horn, M.A., 2017). However, many studies have not always properly considered the risks of overdosing, which can result in addiction, memory loss, psychiatric illnesses, and death. Drug use appears to be frequent among youngsters aged 13–15 years old in Malaysia, according to figures based on admission to rehabilitation from 2008 to 2012. Statistics from the National Anti-Drug Agency Malaysia suggest that 33.9 percent of drug addicts are PMR or comparable leavers and 37.1 percent are SPM leavers and equivalent. As a result, one mobile application on anything related to drugs has been produced in order to raise awareness within this generation, particularly among young people. This is because Malaysians spend an average of 8 hours and 5 minutes per day on the internet, with a daily time spent on social media of 2 hours and 58 minutes (We Are Social, 2019). In conclusion, the purpose of this study is to reduce the number of drug addicts and raise public awareness in order to ensure Malaysia's future success.

2.0 Solution

A mobile application with numerous capabilities that can raise drug awareness in society has been developed. Before we can access the application's UI, we must first register an account. This application is divided into numerous sections, and it also serves an educational purpose by asking users a series of questions concerning drugs. This application will also be updated on a regular basis with new medications or medical-related courses.

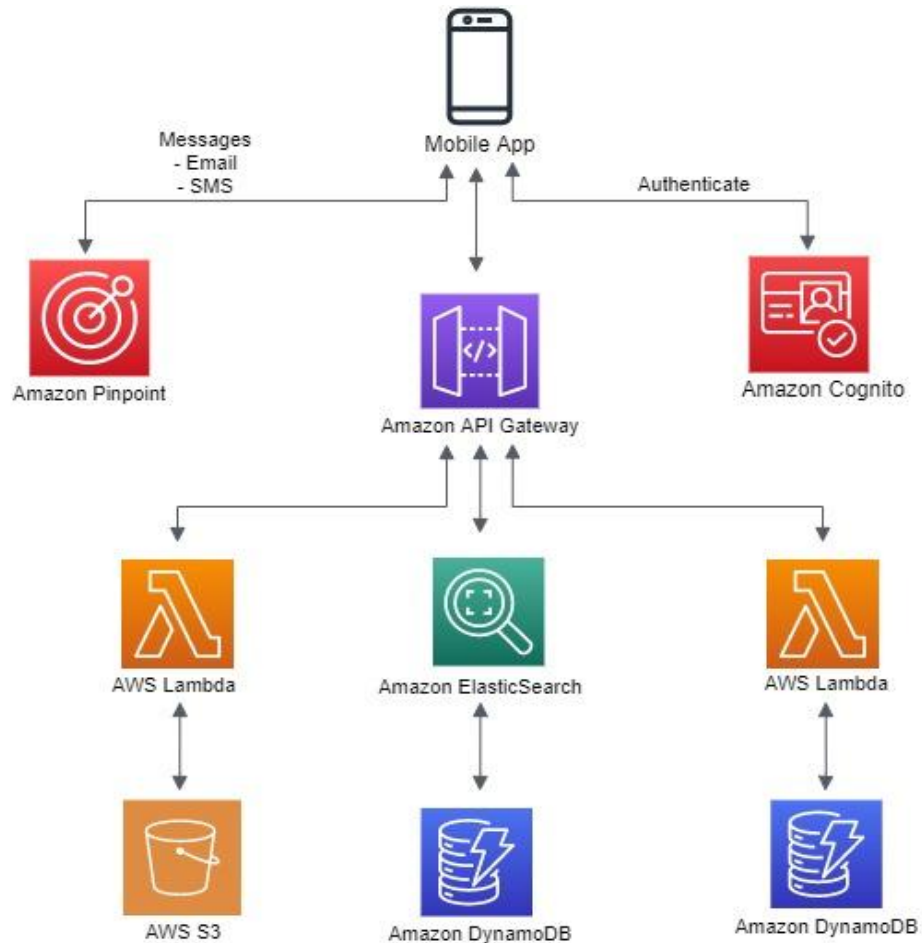## 3.0 Aws Architecture Design and Showcase

Figure 1 : AWS Architecture Design

First, the mobile apps need users to sign in or sign up to their account. So we use Amazon Cognito because it enables secure authentication, authorization and user management. It also provides third-party authentication services such as (Facebook, Twitter). Next, The Amazon Pinpoint used to push notification or messages to users. Amazon API Gateway will open up a variety of presentation tier possibilities. Besides, AWS Lambda will run or resize the code based on what the user wants to do. Amazon Elasticsearch is a distributed search and analytics engine that is used for log analytics and security intelligence. Amazon DynamoDB used as a database. It will export and store the data in the application. AWS S3 used to store files and can be a backup for databases.
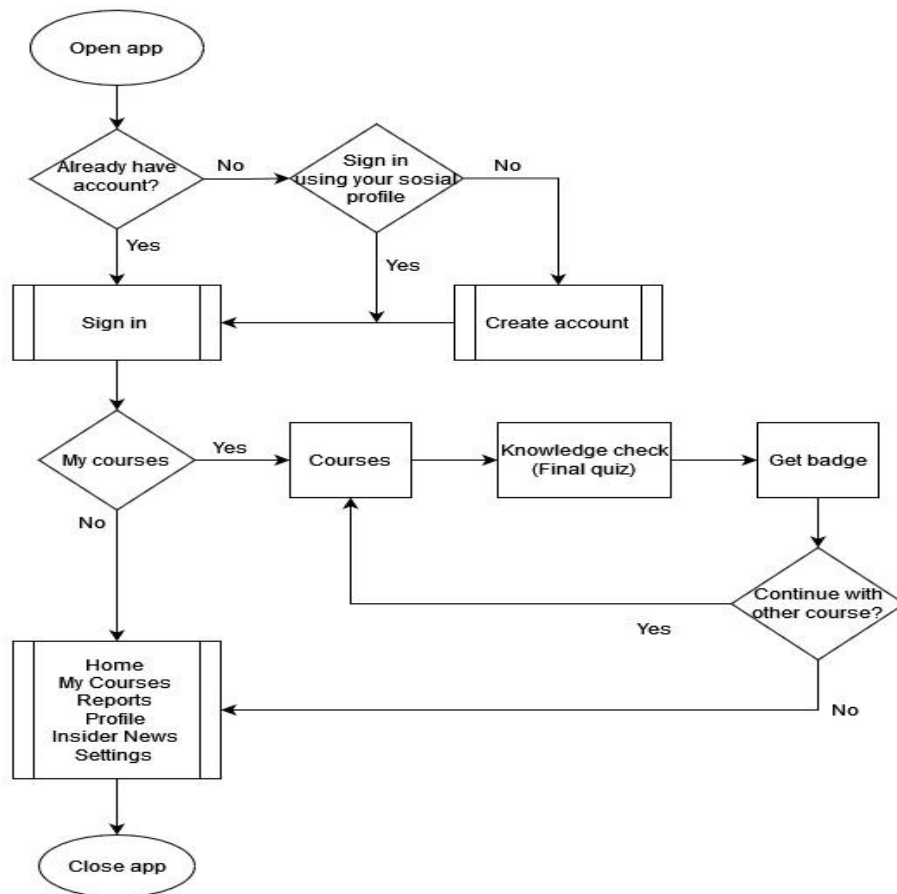
4.0 Business Flow

Figure 2 : Business Flow Diagram

The flow begins when the user launches the Drug Facts 101 application. Users with an existing account can sign in directly at the sign in page. Users who are signing in for the first time can use their social media profile or create an account before signing in to the application. When users open the app and navigate to "My Courses," they can select the drug education and related course from a list of options. At the end of the course, users must take the knowledge check, which is a final quiz designed to assess how much knowledge and understanding they have gained from the course. They will receive a completion badge once they pass the quiz. If they wish to continue with other courses, they can return to the courses and select the course of interest. If they do not wish to continue, users can return to the dashboard and access the app's other functions, which include "Home", "Reports", "Profile", "Insider News", and "Settings".

5.0 Low-Fidelity MockUps
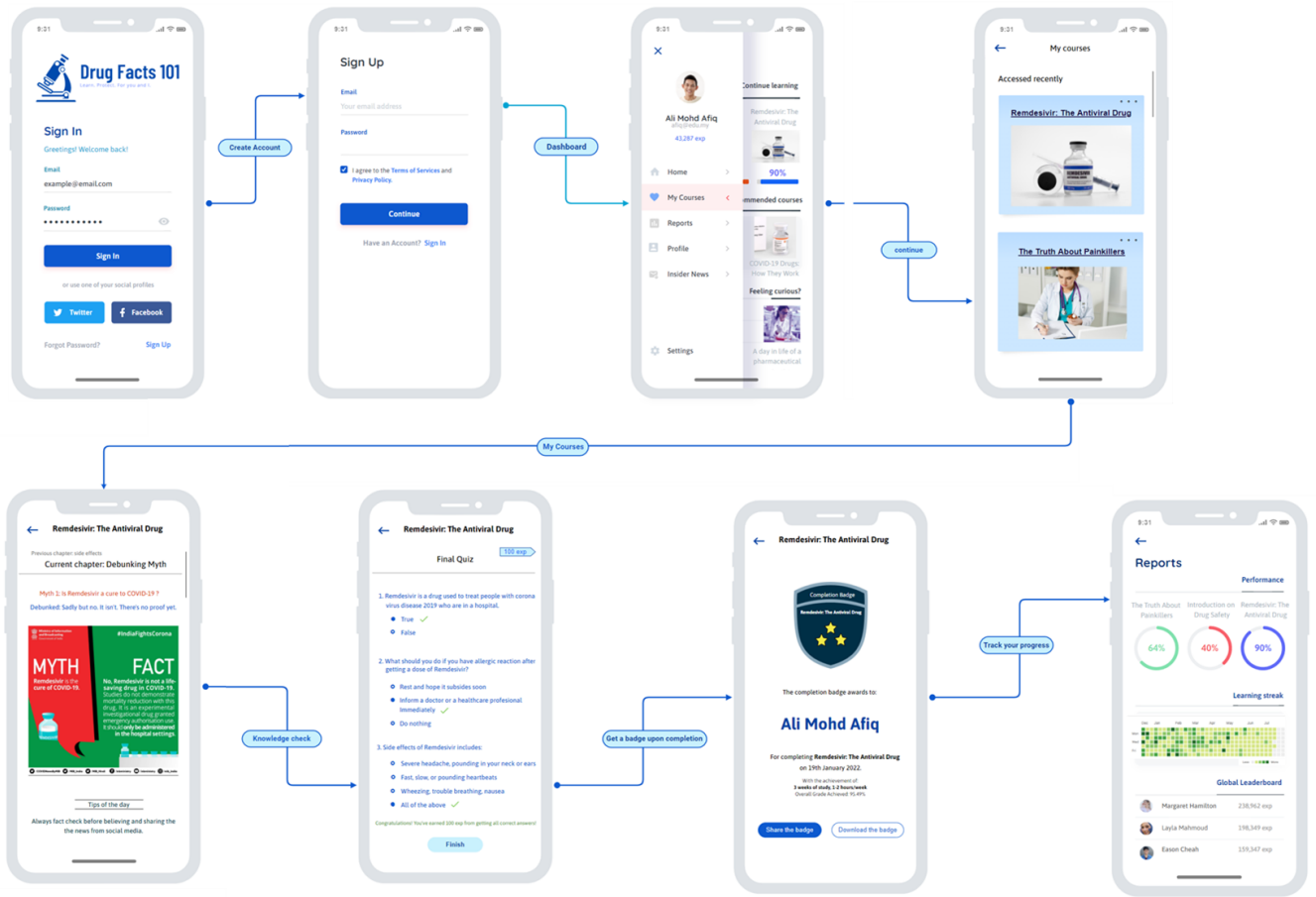
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Appendix A. Special Notice

In Project Part 1, our topic majorly revolves around web application integrated with machine learning in drug discovery. However, during the feedback and discussion session with Dr Azurah, we finally noticed that it would not be a suitable direction to continue as the focus will be too wide and therefore adding more complexity. So after some discussion and research, we decided to shift our direction to mobile application for drug education. Lastly we would to thank Dr. Azurah for the kind feedback on the project 1. Without Dr's guidance, we wouldn't know where and what to improve.

Reflections

Nur Aisyah Fatihah A21EC0107

After completing my research, I discovered that many people throughout the world are dealing with the same issue that I was: they are unaware of the dangers of taking excessive medicine prescriptions, which can lead to addiction. After completing this task, I brainstormed to develop a good problem statement and edited the video presentations. I was able to acquire self-confidence as a result of this because I never expressed my creativity and critical thinking skills when working in groups because everyone would always actively participate and contribute to fantastic ideas.The issues that must be addressed in order for this project to be successful are the increasing number of drug addicts, the majority of whom are from adolescent backgrounds, and one of the solutions we propose is to implement an application to raise awareness because society now spends most of its time on their phones, and this application will help them better understand the risks related to drugs, as drugs are an enemy in society. After completing this project, my goal is to understand and master any application interface and to utilize additional AWS services.Lastly,we split each task and everyone gave a good commitment and was punctual to finish their task. Everyone plays their own roles and this time no one is free riders. I am beyond thankful because I have them as my group members and everything went smooth sailing. All in all, I am proud of myself and my teammates because we managed to finish such a huge task.

Loke Rui Kee A20ET0329

The most memorable thing I believe I get from this project is that I've learned how to make a mobile app wireframe using online software and resources. I have done a wireframe twice before for hackathons, but my skills are lacking back then. So my motivation to complete this project this time would be improving my skills and further familiarize with the software so that each time I make a wireframe or low-fidelity mock-ups, I can be faster and faster to finish the required tasks with the same amount of quality.

One of the biggest challenge is our lack of knowledge in the biotech and drug education field. Have to admit, we still need more reading and exposure to the real-world application and on-site experience to clearly understand what the industry needs. At least for now, we get to improve and gain insights from researching on the internet and reading journals and research papers online.

Another challenge would be inexperience on building project. This is their first time doing a project for majority of our group members and therefore surely need to spend some time to get used to the softwares and high collaborations. To solve that, we take that factor into consideration as well when allocating time for sub-deadlines for each tasks so everyone will not be overburden and stressed out. I'm really grateful that all my teammates are really responsive and didn't hesitate to voice out what challenges are they facing, as every individual has different field of expertise in their own way and weaknesses of their own. By encouraging and enabling the help-each-other culture, it maximizes the team's strength and resource and minimizes the weakness.

My direction after this project would be hopefully I'm able to proceed to app development with Flutter using the wireframing skills I got from this project. As for future improvement, I'm more of a doer in learning so I will do more projects and continue to challenge myself through hackathons, getting feedback from users, lecturers and seniors. Lastly, I couldn't be proud enough to see the growth of everyone in the team and thank you for all the time and efforts. Cheers for the next great semester ahead.

Sofia Anak Henry A21EC0133

From this project , I've learned about drug discovery by using machine learning by doing much research about the topic. Then, I got to know about how to sketch the architecture design by associating with aws that have been learned from class. The motivation that I have learned from the task was to learn something new and find ways to solve the problems by having some discussion with groupmates. At first, we wanted to do the drug discovery by machine learning but then after some discussion , we changed it into a mobile application for drug education. To

make this project successful, we always discussed and divided our tasks equally. Our leader always gives some reminder to prevent us from forgetting to include important content to the report and task. After completing this project, I hope that we can make a real application about drug education to prevent drug cases among teens because we know that drugs are harmful. I hope we are able to provide awareness to society since preteens. Besides, I need to improve my thinking skills because I realize that I have bad thinking skills. I need to do a lot of research to think and it takes a lot of time. Last but not least, I would like to give my highest appreciation to my group mates that always give ideas, support to each other.

Aina Najwa Binti Mohd Rozi A21EC0010

After completing this task, I gained more knowledge and learned how to create a flow diagram for a mobile application. To finish this project, I gained a lot of motivation from my group members because they are so dedicated to making this project a success. The issues implemented here are the increasing number of drug addicts, which is concerning to think that it could happen in our family. So, in order to make the project a success, an app is implemented to raise drug awareness among preteens and teens, as well as to educate them about drugs and other related issues. After completing this project, I hope to have a better understanding of how to create a great application and to be more enthusiastic about it. Finally, I'd like to thank my group members because this task would not have been completed without their efforts and cooperation. I am thankful because everyone on the team helps each other by sharing their energy and understanding.

Muhammad Azamuddin Nasution Bin Raduan A21EC0069

As I was completing the assignment, I have managed to obtain a good overview of the problems of drug abuse that is facing the Malaysian society through delving deep into the issue and the initiatives that is being done by both the government sector and non-government organizations. I noticed although rehabilitation and reintegration towards society remains useful in helping drug abusers, a major initiative needs to be done to prevent the vast majority of Malaysians, who are not drug addicts, from commiting drug abuse, which is through introducing of a comprehensive drug education program that is easily accessible through different walks of life. This is very

important as drug abuse often starts by those who were insufficiently aware of its consequences. Besides that, I have also expose myself of the myriad of cloud services offered by Amazon, and their interesting features that makes them suitable for our solution. In completing this assignment, I've also managed to recognize my strengths and weakness, in terms of my collaboration skills and work ethic and identify ways of solving them in the long term. I thank everyone of my group members for providing the support that they can, to the best of their ability, and also Dr. Azurah for willing the listen and understand my struggles, and provide the support I need. Without all of them, I wouldn't be able to complete this assignment.