



UTM
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SECP1513
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LOW-FIDELITY PROTOTYPE
PART 2

SECTION 11

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TABLE OF CONTENT

TABLE OF CONTENT	2
1.0 INTRODUCTION	3
2.0 CONTENT ON REPORT	4
2.1 Selection of 4th IR Technology	4
2.2 Potential Client	5
2.3 Problem Identification	5
2.4 Solution	6
3.0 AWS ARCHITECTURE DESIGN	7
3.1 Business Process Flow Design	7
3.2 Low Fidelity Mock-up	8
4.0 CONCLUSION	9
5.0 REFLECTION	10
5.1 Team working	12
6.0 REFERENCE	13

1.0 INTRODUCTION

SmartLab was formed on January 3, 1996 by a group of engineers. The company provides state of the art technology in all of its product lines to its clients, which vary from tiny medium businesses to huge corporations. Nowadays, SMARTLAB SDN BHD has grown to become a leading provider of cutting-edge internet-based hardware and software products and solutions for businesses. As smartlab grew in popularity across the world over the last few years, the company grew in size, as did the number of employees. Thus, to save the data of a large number of employees manually is laborious. Booking a meeting room is one of the problems faced by the Smartlab company as it requires us to keep track of all the employees' data and information simultaneously.

Therefore, SmartLab needs an application to solve the problem. Our prototype is designed to build a meeting room booking application. The purpose of this app is to book a conference room efficiently as it helps in arranging staffs' data. This is because their previous manual booking method often has overlapping booking. The invented application could assist Smartlab's staff in booking their meeting room and avoid mistakes that could happen by doing tasks manually. Another advantage of this meeting room booking application include the ability for Smartlab's employees to reserve a conference room from anywhere and monitor the room without having to enter it. With the help of this booking application, SMARTLAB SDN BHD can offer their services and help people to grow their business effectively.

2.0 CONTENT ON REPORT

2.1 Selection of 4th IR Technology

Big data analytics is the collection and comprehensive evaluation of data from many different sources production equipment and systems as well as enterprise and customer-management systems will become standard to support real-time decision making.

With a lot of staff's data to be saved, SMARTLAB SDN BHD does need a system which has a lot of storage that can be easily accessed. By using big data analytics, it will help them manage the staffs' data more efficiently and effectively, as an example, while booking a meeting room which requires them to save the details of the bookings. External sources such as demographic data are included in big data analytics. Demographic data can be used to help analyze the data of the input of the application such as number of employees, number of meeting rooms, number of meeting rooms being booked for a month, etc. Big data can also be advantageous in supply chain analytics. Supply chain analytics utilizes big data and quantitative methods to enhance decision-making processes across the supply chain.

Our application uses high-end data analytics systems that are able to compute and give feedback in a split second. We make sure that our application helps our client to have a better system of booking a meeting room that is user-friendly to the staff. The data analytics systems are used to extract important information such as customer preferences and also provide huge advantages for example, it can prevent fraudulent activities and perfect decision making. Those advantages help businesses to get more insights from their customers with preferable options so that they can be satisfied.

2.2 Potential Client

The client's name is Mr. Dzulkafli Bin Abdul Jalil, the CEO from SmartLab Sdn. Bhd. This company is experienced in microelectronics and software engineering, SMARTLAB SDN BHD, is now a prime provider of a revolutionary internet based hardware and software products and solutions for the enterprise. The client provides us input to make an app for booking a meeting room. This application enables faster booking with just a simple tap whereas the staff just need to log in with their staff ID and choose the meeting room that fulfill their requirements while also being able to set their date and time for the meeting.

2.3 Problem Identification

Currently, we have discovered a few problems that occurred with the original method of booking a meeting room. Their previous method was manual and had problems with overlapping booking, so they needed a more efficient means of scheduling a conference place, one that was speedier and could be done online from home rather than having to meet in person to book. Aside from that, we identified that by booking a meeting room manually, it is time consuming to go through a lot of process and needed to wait for our own turn to book a meeting room. We also identified another problem, that is the working hours are specific, which caused some inconvenience towards the employees that wanted to make a booking on last minute's order. This would become a waste of time, considering all the other tasks people could have done whilst waiting for their turn. Lastly, another problem is that we could not get a specific picture of the room and how many people could fit approximately, which in order to do that we would have to go and inspect the meeting room personally which is a wastage of energy.

2.4 Solution

To counter the problems we had stated above, we have thought up a few countermeasures by using our application. To address the issue of overlapping conference room bookings, we included a calendar in our app that allows staff to see which days of the month the meeting room is booked, as well as preventive measures in the event that staff did not pay attention to the available day for booking, we made it so that staff could only book days that are available. Additionally, by using an application instead, the data processing of staff's booking could be made simultaneously, in which it saves some time instead of having to manually book and wait for their turn.

Aside from that, our application is more efficient because it can provide a lot more benefits, such as not limiting us to only booking meeting rooms on specific days and during specific working hours. As we knew, the receptionist had a fixed time schedule which obstructed other staff to book on weekends instead, which could give the staff disadvantages such as not being able to book the meeting room during the desired time. Our software proved to be flexible, allowing us to access the booking app at any time and from any location.

The last problem encountered is that to book manually, it would include pictures of the conference room which require the client to go over personally which could waste their time. Our app not only gives photographs of the meeting room for the client to book, but it also allows the employees to virtually examine the design and area of the meeting room rather than personally going over to inspect the meeting rooms.

3.0 AWS ARCHITECTURE DESIGN

3.1 Business Process Flow Design

The cloud architecture that we will be using is Infrastructure as a Service (IaaS). This eliminated the need for organizations to purchase servers, networks, or storage devices by providing the necessary infrastructure. This allows the company to manage their own software and application and they only need to pay for the capacity that they need at any given time. The cloud that we are planning to do is a private cloud, since this app is created only for SmartLab company and their staff. The components in the architecture consist of management software, server and storage of the cloud which will link to cloud infrastructure through the Internet. Security is also a part of our cloud architecture which keeps our app on being a private app that only consists of the staff in the company of SmartLab which they need to enter by using their Staff ID and password. Our system gets through to the end users through the router to provide a wider range of networks so that our app can be used on different devices. Our architecture also will have a backup server to properly keep our data such as the booking of the meeting room, staff information and other datas. This can prevent data loss in case of any technical issues happening.

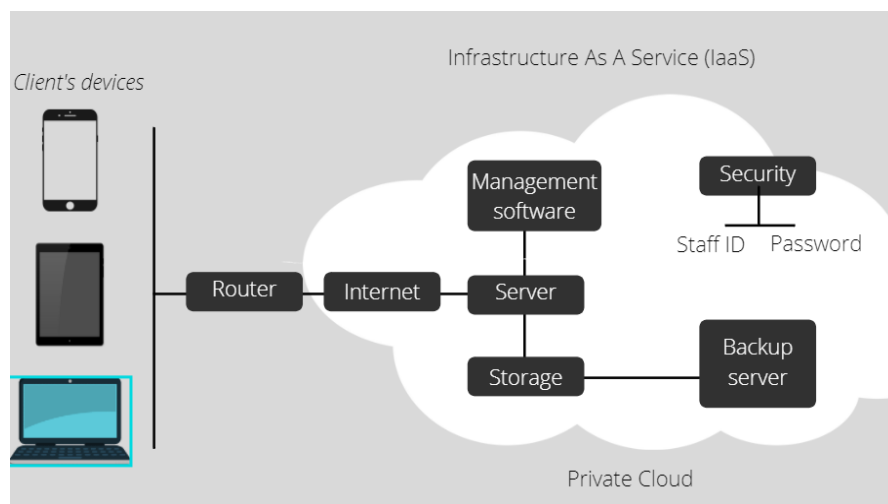
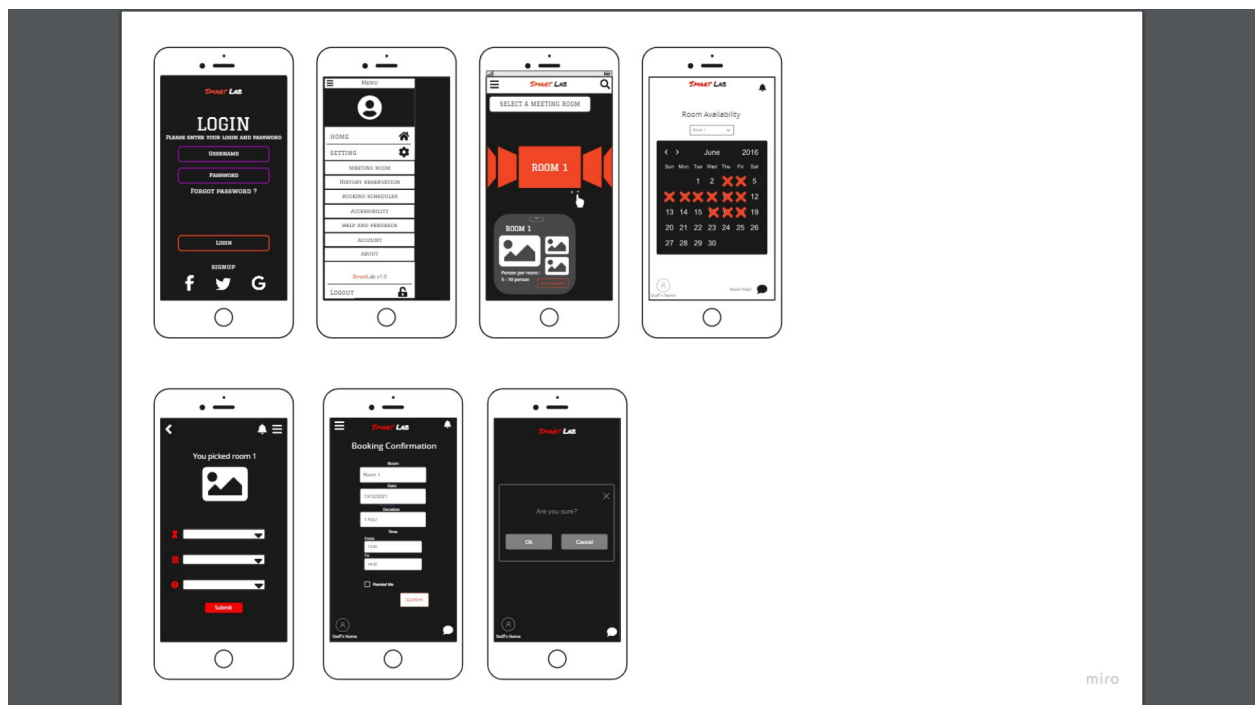


Diagram 1

3.2 Low Fidelity Mock-up

To solve the problems faced by company SmartLab, we approach by making an application in which as we know, technology nowadays is helpful in order to track data stored and make it so that we could save time instead. Here we provide a link to our low fidelity prototype to show some few functions of what this app is about and how it is going to look like.

<https://pr.to/1DYMVB/>



4.0 CONCLUSION

To summarize our project, we were able to assist workers in saving and managing their time more effectively, in which our application is developed to assist in the booking of a conference room so that the process of booking runs quickly and efficiently. We were also able to provide Smartlab staff with our top facilities by using our application where it is designed to make booking a meeting room more convenient.

Although we have tried our best to make a flawless application to keep our client satisfied, there are a few limitations that cannot be avoided by making mobile apps. Firstly, mobile applications do not substitute a website which might be a big disadvantage since different urls are needed. Next, we can't prevent bugs from happening, so updates and maintenance are needed frequently to keep the application running smoothly. Other than that, the application also needs the internet to use it since we need to sync the data with every user of the application.

Our software is unique in that it can be used from home and works on both weekdays and weekends, making it ideal for last-minute planning or planning ahead of time. Aside from that, this application is restricted to Smartlab's employees, which emphasises its distinctiveness even more. To further substantiate our claim, our application included the best booking meeting room for simpler inspection and supervision of the meeting room's design. Another unique feature of our programme is the security, which can be accessible via the employees' bioinformatic information, such as their fingerprint instead of just using their ID which could be accessed by anyone else. This meeting room booking application is important as it provides small businesses places to organize their meetings. Through an organized meeting, their staff can discuss their business. It also gives chances for the businesses to grow. On top of that, the application shows SMARTLAB SDN. BHD is well advanced by using an effective and efficient way to book a conference room.

5.0 REFLECTION

Nurfazliana Suraya Binti Baharuddin

What I have learned from this project is that teamworks is an essentiality in group work, whereas by having good teamwork with the group members, the tasks done are better since we have collaboration within a group which makes solving problems a lot easier. My motivation in completing this project is that by having good teammates, I became more motivated to finish the project and I could discuss the problems I faced amongst the group members. After completing this project, I aspire to overcome all of my shortcomings and what I'm falling behind, in order to make sure that I could finish other possible projects without any problems in the near future. I think that in order for me to improve my potential in the industry, I would have to improve on my problem solving skills, to get more than one solution instead whilst solving certain problems.

Farah Izzah Binti Mohd Aisha Nuddin

I have learned a lot from this course and project about the importance and development of technologies. From doing this project, I get the experience of solving a problem provided by our client with my fellow teammates. Everyone did a very good job in playing their role to help in making this project successful and that reason alone already makes me feel very motivated in giving my best for this project. Even when we came to a dead end and had no idea on what to do, we did not give up and always worked our brain to progress through the project. I have a few of my shortcomings and I think I need to improve my potential in the industry by enhancing my thinking skills and problem solving. To do so, I need to do a lot of research or study and also to break stuff down instead of seeing it in a big picture so that it can be processed easier and faster.

Nor Alya Binti Mohamad Nor

For this Low Fidelity Prototype project, our client, Mr. Dzulkafli Bin Abdul Jalil, asked my team and I to make an application for booking a meeting room. I learned many things throughout completing this project. First and foremost I learn to use websites like Miro and Proto.io. It is such an exciting experience since it was my first time using it. My teammates' determination is my motivation to complete this project. It is quite challenging for me to finish this project because I cannot understand the instructions well. But, with the help and guidance from my teammates and also my lecturer, I was able to complete my part well. After completing this

project, I want to train myself to use convenient websites related to technology other than Miro and Proto.io. To improve my potential in the industry, I need to improve my communication skills along with my problem solving skills. This is because both of these skills are very important for me to get hired in any company in the future.

Khalisah Najah Binti Nawawi

From this project, I learnt about how technology has made people work more efficiently and easier. We were asked to make an application where the staff can easily book a meeting room without hassle to ask others, they just need to book it through the app. They can save up a bit of their time with this application and it is also easier for them to get reminded. I also learnt how to use some software for low fidelity mockups such as Proto.io, Miro and Marvel. I'm also very grateful for having creative and tolerable teammates throughout the making of this project. Lastly, I think all the teamwork skills and being able to solve a given problem is a great improvement necessary for me to improve my potential in the industry.

Muhamad Haikal Bin Mat Arman

This course and project have taught me a lot about the importance and growth of technology. This project offers the chance to work with my teammates to resolve an issue presented by our client. Everyone did an excellent job in their respective roles in assisting in the success of this project, and for that reason alone, I am very eager to deliver this project my all. Even when we reached a dead end and had no idea what to do, we keep on going and continued to work our brain power to complete the project. I have a few faults, and I believe I can improve my potential in the industry by improving my decision making skill. In order to accomplish that I need to practise and do a lot self reflect and study to understand

5.1 Team working

Based on the tasks given to accomplish the client's needs, we distributed the works to the group members, in order to ensure good pace while completing this report. All in all, our report consisted of introduction, content on report, AWS architecture design and also conclusion, accompanied by the video and presentation, in which all members contributed to it.

Name	Tasks
FARAH IZZAH BINTI MOHD AISHA NUDDIN	-Potential Client -Prototype -AWS architecture
KHALISAH NAJAH BINTI NAWAWI	-Selection of 4th IR Technology -Prototype
MUHAMAD HAIKAL BIN MAT ARMAN	-Selection of 4th IR Technology
NOR ALYA BINTI MOHAMAD NOR	-Introduction -Video
NURFAZLIANA SURAYA BINTI BAHARUDDIN	-Problem and solution -Conclusion

6.0 REFERENCE

1. Miteva, A. (2021, June 18). *Top 9 Disadvantages of Mobile Apps - and What to do Instead*. Mobile Apps Made Easy | Beezer.Com. Retrieved December 18, 2021, from <https://www.beezer.com/disadvantages-of-mobile-apps/>
2. Chai, W., Labbe, M., & Stedman, C. (2021, December 14). *big data analytics*. SearchBusinessAnalytics. Retrieved December 16, 2021, from <https://searchbusinessanalytics.techtarget.com/definition/big-data-analytics>
3. SmartLab SDN. BHD. (2018). *Welcome To SmartLab SDN BHD*. Welcome To SmartLab SDN BHD. Retrieved December 18, 2021, from <https://smartlab.com/web/m/>
4. P. (2018, May 29). *The Advantages and Disadvantages of Online Booking Systems*. Peek Pro. Retrieved December 16, 2021, from <https://www.peak.com/pro/online-bookings/the-advantages-and-disadvantages-of-online-booking-systems>
5. VMware, Inc. (2021). *What Is Cloud Architecture?* VMware. Retrieved December 18, 2021, from <https://www.vmware.com/topics/glossary/content/cloud-architecture.html>
6. Ismail, K. (2018, June 26). *IaaS vs PaaS vs SaaS Cloud Computing Architectures Compared*. CMSWiRe. Retrieved December 18, 2021, from <https://www.cmswire.com/information-management/iaas-vs-paas-vs-saas-cloud-computing-architectures-compared/>