INDUSTRIAL TRAINING REPORT

AT

PETRONAS ICT SDN BHD

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UNIVERSITI TEKNOLOGI MARA
INDUSTRIAL TRAINING REPORT

AT

PETRONAS ICT SDN BHD

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Report submitted in partial fulfillment of the requirement for Bachelor of Computer Science (Hons.)

Faculty of Computer and Mathematical Sciences

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SUPERVISOR'S APPROVAL

INDUSTRIAL TRAINING REPORT

By

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This industrial training report was prepared under the direction of industrial training supervisor, Nur Azmina Binti Mohamad Zamani. It was submitted to the Faculty of Computer and Mathematical Sciences and was accepted in partial fulfilment of the requirements for the degree of Bachelor of Computer Science (Hons).

Approved by:

………………………………
Nur Azmina Binti Mohamad Zamani
Industrial Training Supervisor

July 5, 2019

ACKNOWLEDGEMENT

In the name of God, the most Gracious, the most Merciful

Alhamdulillah and praises to Allah SWT because of His Almighty and His Utmost Blessings, I was able to finish successfully my industrial training report within the time duration given. First and foremost, I want to thanks to my supervisor, Encik Azlan Ismail and Santha Barbara Rimong that give me opportunities to involve in the project and for the knowledge, guides during my industrial training period.

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Thank you, may Allah SWT bless all of you.

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INTRODUCTION

1.1 Introduction

Industrial training is an activity that provide work experience for the students during the program of study that is relevant to professional development prior to graduation. It is the main program that to be done by the student before they finish their study at Institutes of Higher Education (IPT). Industrial training helps the student in exposing the real world life work environment based on the field of their study at the institute that took during the years of study. Furthermore, it helps them in every aspect of the technology development, reporting documentation, teamwork, communication, build a network, procedures and professional perspective. As conclusion, Industrial Training polishes the soft skills and professionalism of the students that helps them to be ready to face the working life after.

1.2 Objective

The main objective of Industrial Training is to show students the real life working nature and sharpen up their skills and give them deeper knowledge of what they have studied. These are several objectives of the Industrial Training: -

1. To fulfill the requirement of Universiti Teknologi MARA (UiTM).
2. To enhance working skills and soft skills in the practical situations.
3. To improve responsibility, attitude and exercising good work habits.
4. To experience real work environment and gain knowledge in writing report in technical work/projects.

1.3 Scope

The agreement between the university and the organization are needed to state the related task was given to the students. The scope is needed to give this opportunity to the students to implement the knowledge and skills also exposure them in work practice in programmed taken.

1.4 Importance

1. Exposed students in real working life and teaches them to be an independent problem solver during facing any circumstance in job life.
2. Polishing the practical skills in doing works and soft skills such as communication skills and teamwork skill of the students.
3. Making them as a graduate from UiTM that ready with mental and physical to be part of variety of industries and future career.

1.5 Conclusion

In conclusion, the objective and scope of this industrial training must be accomplished by the end of semester. Industrial training is very important to the student as it helps the student to experience on how the real life working environment looks like. Moreover, it is the time to improve the student their working skills and also soft skills that can give benefit for them in the future life.

CHAPTER 2

ORGANIZATIONAL BACKGROUND

2.1 Introduction

Petronas ICT Sdn. Bhd. Is a wholly owned subsidiary of Petroliam Nasional Berhad (PETRONAS), Malaysia's fully integrated petroleum company. Petronas ICT are the digital technology enabler that supports PETRONAS to be a leading oil & gas multinational of choice.

Basically, Business Function Infrastructure are the one of the division from Petronas ICT that delivering ICT solutions and services in an integrated manner and fit-for-purpose for PETRONAS business activities. The services cover Project Management, consultancy as well as implementation.

2.2 Petronas ICT Sdn Bhd Philosophy

Petronas ICT Sdn Bhd is managed by a group of highly dedicated, motivated, and innovative team of individuals who has many years of project management about oil and gas experience. They continuously develop innovative and creative projects that give solution to the PETRONAS for evolving the new trend of technology of oil and gas industry market. Thus, the slogan that known for the PETRONAS is "To be a Leading Oil and Gas Multinational of Choice".

2.3 Petronas ICT Sdn Bhd Logo

A logo is the symbol commonly used by an organization to promote instant public recognition. The logo of PETRONAS shows the professionalism that this company practiced in their working environment. Figure 2.1 shows the logo of PETRONAS.

Figure 2.1: Logo of PETRONAS

2.4 Petronas ICT Sdn Bhd Location

Petronas ICT Sdn Bhd is located at Level 21, Exxon Mobil Tower, Jalan Kia Peng, Kuala Lumpur City Centre, 50450 Kuala Lumpur, Malaysia. Figure 2.2 shows the image of the Petronas ICT Sdn Bhd inside ExxonMobil building.

Figure 2.2: ExxonMobil Building

2.5 Petronas ICT Sdn Bhd Website

Figure 2.3 shows the Petronas ICT official website and people can just go to the link http://www.petronasict.com to gain more information about Petronas ICT.

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Figure 2.3: Official Website of PETRONAS ICT

2.6 Petronas ICT Sdn Bhd Organizational Chart

There are around 1001-2000 employees working under Petronas ICT Sdn Bhd. Figure 2.4 shows the organizational chart of Petronas ICT Sdn Bhd.
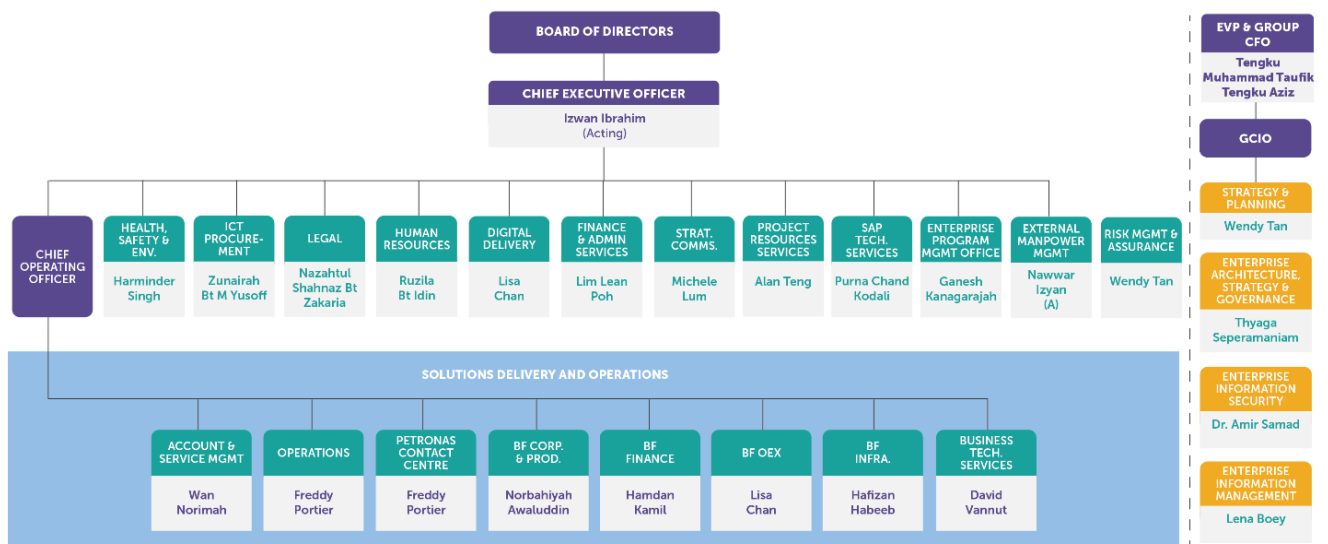

Figure 2.4: PETRONAS ICT Sdn Bhd Organizational Chart

2.7 Business Function Infrastructure Team

PETRONAS ICT Business Function Infrastructure aims to deliver world class ICT Infrastructure and become the Technology enabler for PETRONAS Group of companies, in line with existing work practices and technical standards.

In organization, team members or supervisor are the person who are responsible for lead the trainee to understanding the overview of the process involved among the business. In Petronas ICT, staff are use best practices for guide trainee who are first time experiences in work field. To build the relationships among trainee and staff, HR Department create session where all the internship student need to attend. Usually the session is about self-motivate, working challenges or tips on how to become a great fresh graduate. In conclusion, BF-Infrastructure team members are very supportive, humble, and responsible. Without the teams, trainee may have lost and not clearly understand the flow of the business itself.

Business Function - Infrastructure aspirations:
1. Optimize ICT Infrastructure Lifecycle and Cost.
2. Provide Reliable ICT Infrastructure with Business Continuity in mind.
3. Improve Internal Processes and build internal Capabilities to accelerate ICT solution delivery.
4. Strengthen Stakeholder Management by delivering high quality services and effective ICT Project Management.

CHAPTER 3

PRIMARY TASK (SYSTEM)

3.1 Introduction

Tasks given during industrial training are differs from the tasks given during years of study. Task in term of industrial training means a piece of work that is assigned to a person or a group of people that needs to be solved within the time given. It is more practical and train students to independently solve real world problems. During the industrial training, there are several tasks have been assigned to the student. The primary task given is to develop a system that can manage document easily also known as Document Management System.

3.2 PETRONAS myDocuments (Document Management System)

Document Management System (DMS), is the platform use of a computer framework and software to store, manage and track electronic documents of paper based information captured through the use of a document scanner. myDocuments was developed to help the company conform with document management requirements. myDocuments is designed to be easy to use anywhere at any time, reliable and also have some features that provide analysis information for the administration of the system. Besides, also can define document management as the software that controls and organizes documents throughout an organization. It corporates document and content capture, workflow, and information retrieval systems.

myDocuments has two levels of user which is the regular user and administration user. myDocuments System enables admin to manage all user and all document that store in the system. Besides, admin also can add the user that want to use the system and also add the document. This system has the dashboard which the user of the system can view the analysis information or statistic of the myDocuments system. The primary uses of this system are to track, store and control documents.

3.3 Problem Statement

The Business Function Infrastructure department is the department which are project management that provide services to other PETRONAS Group of Companies which is handle with the stakeholder and also optimize ICT Infrastructure lifecycle and cost. So there's have many tools and platform they used in the department to manage all the project that had to be execute. myDocuments system is basically improve the existing system that they used which is known as their Team Site SharePoint system.

Furthermore, the interface of Team Site SharePoint system is not attractive and it is very important for the system to have nice and attractive looks because it will gain the interest of user to use the system and manage the document easily. There are many minor functions such as dashboard that display meaningful information of the system need to be added up to make the system more useful.

Besides, this department work with outside vendors, contractors, consultants, and other groups, requiring each party to share documents with each other. Typically, this is done via email attachments, or a cloud-sharing site, like Dropbox and Google Drive (usually not authorized). These methods are inefficient and may create confusion around accurate versions of the document to be shared. In addition, any time a document leaves a company's server, there are always security concerns to contend with.

By not having a system like myDocuments System, the department will be face some difficulties to organize and store the important document. This can cause a trouble to update it and keep a lot amount of documents at one time because it will consume space to store and cost to print it out.

3.4 Objectives

The objectives of myDocuments System are to produce a Document Management System (DMS) that can successfully preserve the document to users and gives authority to admin to keep track of the document that have been upload or store by users. The following are other objectives of myDocuments system objectives: -

1. To manage and update the important document added or stored efficiently.

2. To monitor the statistics of the document added and most active user.

3.5 Scope

This system only opens for Business Function Infrastructure department because this department will handle and manage the important or corporate document in the company.

3.6 Methodology

Methodology is a system of methods used in a particular area of study or activity. For myDocuments System, Rapid Application Development (RAD) model has been used. PETRONAS ICT Sdn Bhd basically used Delivery Excellence Model or in short is DEX as their main platform which is provides a common framework to enable the project teams to deliver reliable, quality solutions on schedule. Besides, this task is using RAD model which are to approach fast development turnaround, and working in a fast-paced environment like software development. For RAD model, it covered from requirement planning, design, implementation and until final development stabilization. All of these phases working step by step to execute. Below is the explanation for every phase.

3.6.1   Requirement Planning

Planning phase is the first phase of RAD Model that is gathering all the information and observing the problem that have been analyzed to initiate the design of the system that are going to develop.

3.6.2   Design

Design phase is the next stage of the RAD Model after identifying the requirement needed to be execute. Firstly, Entity Relationship Diagram (ERD) has been design to retrieve a clear view on how the flow of database system. There are 5 main tables in this myDocuments System which are department, document, user, category and level. It is related with each other so that it will be easy to retrieve and send data during the execution of the system. Each table will have their own relationship with other table so that they are

connected. If the relationship wrongly assigned, it will cause problem to operate the system. Figure 3.1 shows the Entity Relationship Diagram.
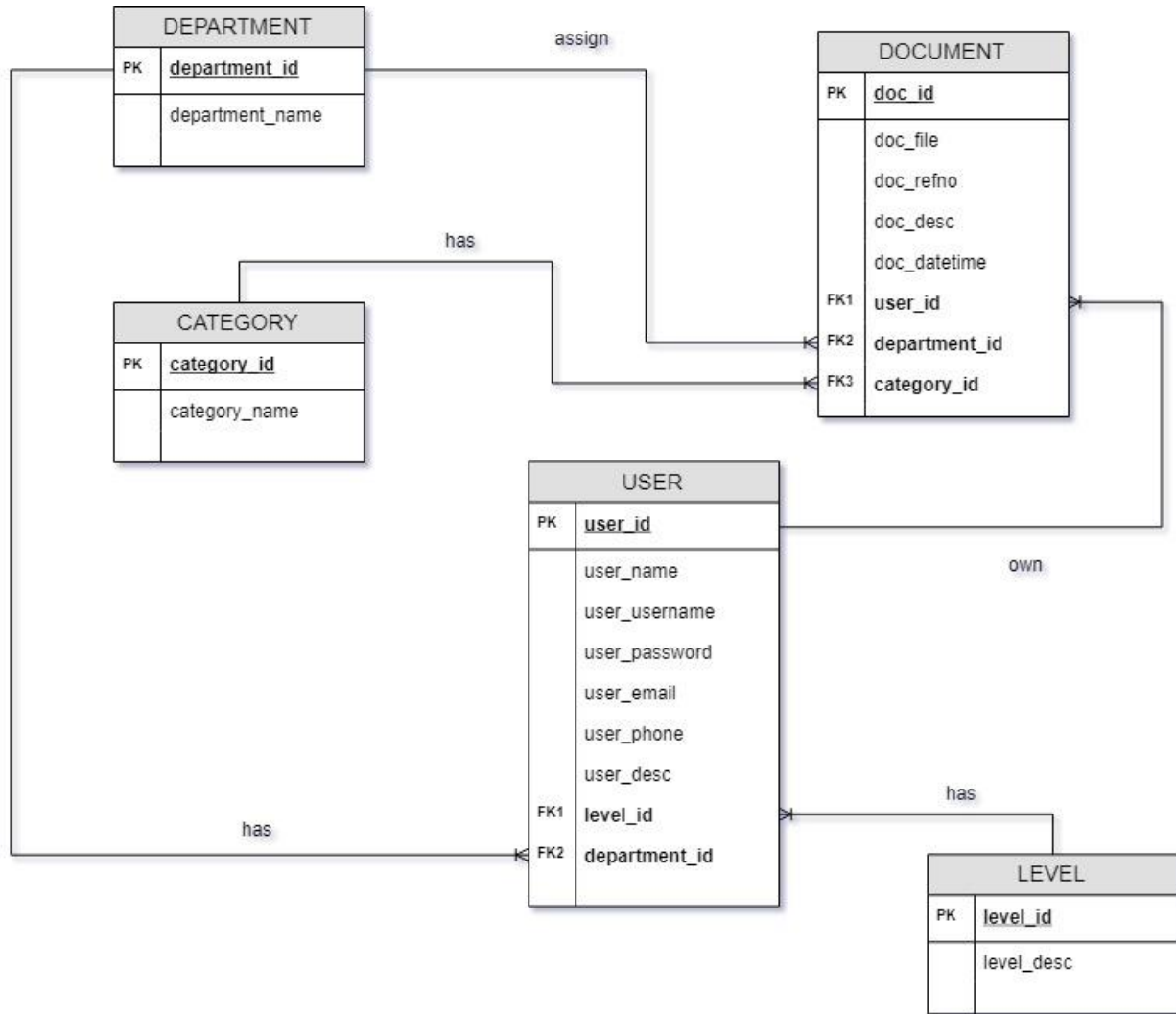

Figure 3.1: Entity Relationship Diagram (ERD) myDocuments System

3.6.3 Rapid Implementation

Implementation phase is the development phase where the system is starting to develop and coded. This system mostly uses HTML, CSS and Bootstrap to design the user interface of the system while PHP language is uses for add a functionality of the system. MySQL database are used as to store the data of the users and documents added into the system. The software tools that use to build and a platform to code this system is Notepad++ and

XAMPP Server. During this phase, a lot of features and function are being explored. For example, a function to upload and download a document using PHP language. The Figure 3.2 and 3.3 shown the code segment for the uploading and downloading a document part.

```php
if(isset($_POST['submit']))
    {

        $doc_refno = $_POST['doc_refno'];
        $category_id = $_POST['category_id'];
        $user_ida = $_POST['user_ida'];
        $department_id = $_POST['department_id'];
        $doc_desc = $_POST['doc_desc'];

        date_default_timezone_set("Asia/Kuala_Lumpur");
        $t=time();
        $doc_datetime=date("Y-m-d h:i:s",$t);

        $doc_file = rand(1000,100000)."-
".$_FILES['doc_file']['name'];
        $doc_file_loc = $_FILES['doc_file']['tmp_name'];
        $folder="uploaded_files/";


        if(move_uploaded_file($doc_file_loc, $folder.$doc_file))
        {
            $query = "INSERT INTO document VALUES ('', '$doc_file',
'$doc_refno','$doc_desc', '$doc_datetime', '$user_ida',
'$department_id', '$category_id')";
            mysqli_query($con,$query);
            ?><script LANGUAGE='JavaScript'>
            window.alert('The file has successfully been added');
            window.location.href='./addNewDocument.php';
            </script><?php
        }
        else
        {
            ?><script LANGUAGE='JavaScript'>
                window.alert('The file fail to upload');
                window.location.href='./addNewDocument.php';
                </script><?php

        }

    }
```

Figure 3.2: Code segment to upload a document

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```php
<?php

    session_start();

    //connectivity
    require('../Connection/connect.php');


    if(isset($_GET['download'])) {

    $fileName = basename($_GET['download']);
    $filePath = 'uploaded_files/'.$fileName;
    if(!empty($fileName) && file_exists($filePath)){

        header("Cache-Control: public");
        header("Content-Description: File Transfer");
        header("Content-Disposition: attachment;
filename=$fileName");
        header("Content-Type: application/zip");
        header("Content-Transfer-Encoding: binary");

        // Read the file
        readfile($filePath);
        exit;
    }
    else{
        echo 'The file does not exist.';
    }


    }


?>
```

Figure 3.6.3: Code segment to download a document

3.6.4   Development Stabilization

After implemented the system, the last part of the system development is development stabilization which is the system will be ready to be used and need to maintain and stabilize if there is any of circumstance to improve and support the functionality of the system.

3.7 System User

1. Regular user

- The employee or staff that a regular user on this myDocuments System that only have access to add or store their new important document and manage their document only which are different with admin side.

2. Admin user

- The employee who has been assigned to be a focal to be a master of the myDocuments System that can manage all the users and documents that uses the system and also can add new user if there is any of the staff to use the system.

3.8 Interfaces

1. Login Page

- Figure 3.4 shows login menu of PETRONAS myDocuments Document Management System (DMS). User need to enter user email and password in order to enter the system and have access through it depends on the level of user.
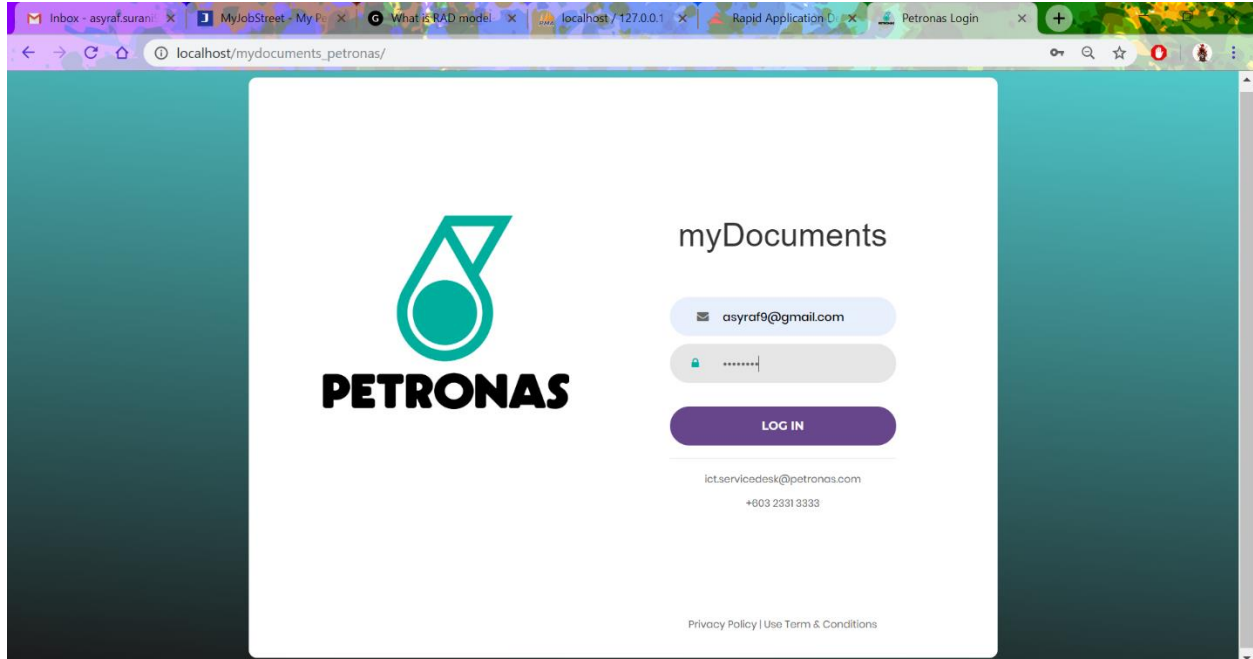
Figure 3.4: Login Page

2. Dashboard of myDocuments System

- The main function of dashboard is to display summary throughout the system. The summaries will be based on pie chart and label unit. This is best method to analyzed and visualized records that retrieve from the database system. User will immediately see the most active user that upload more documents, total documents uploaded into the system, total of department and analyze the statistics on document category that uploaded in the myDocuments System. Figure 3.5 and Figure 3.6 shows the dashboard for myDocuments System.
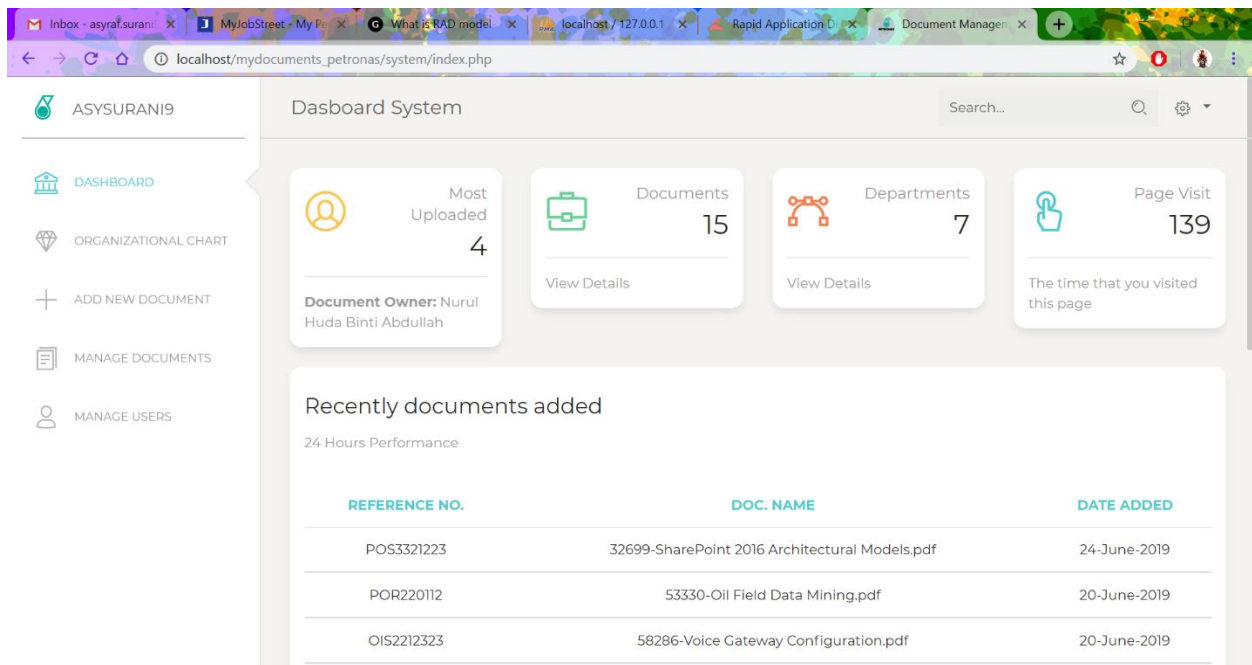
Figure 3.5: Dashboard 1
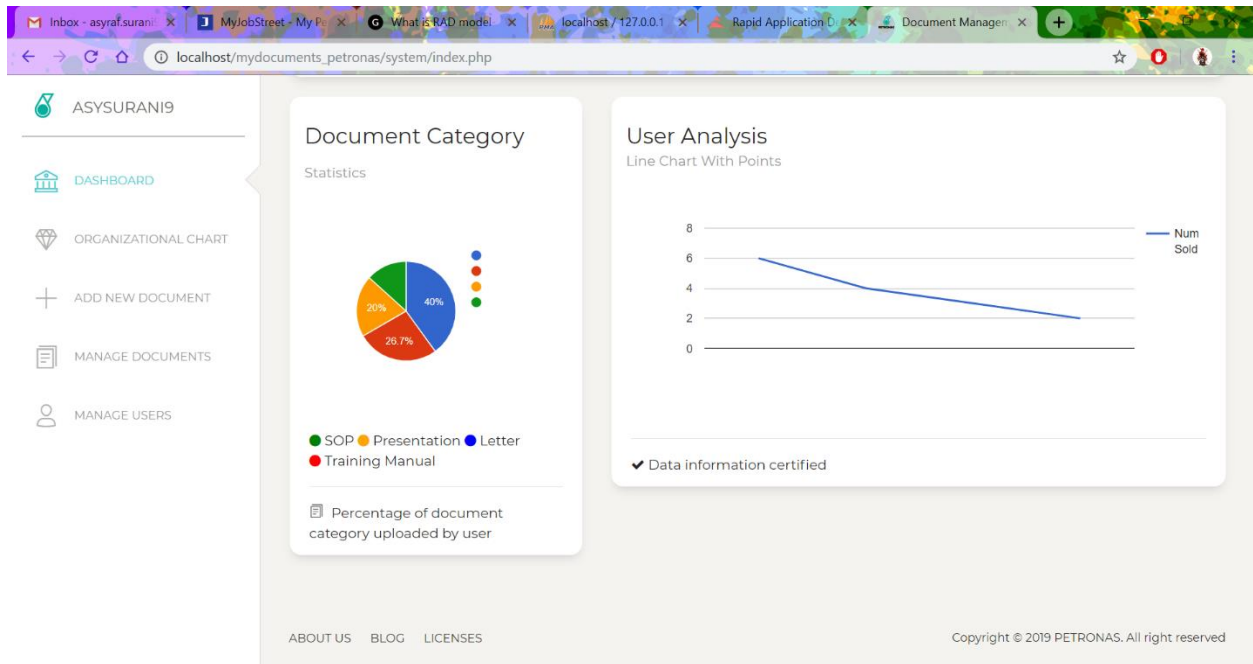
Figure 3.6: Dashboard 2

3. Add New Document Page

- This page is to add new document where user can add or upload an important document into the system. Figure 3.7 shows the page to add new document.

Figure 3.7: Add New Document Form

4. Manage Documents Page

- This page will allow the user to manage their documents that uploaded into the system. The function of this page is the user can view the details of the document added, edit, download and delete the document. Figure 3.8 shows the list of the documents for myDocuments System.
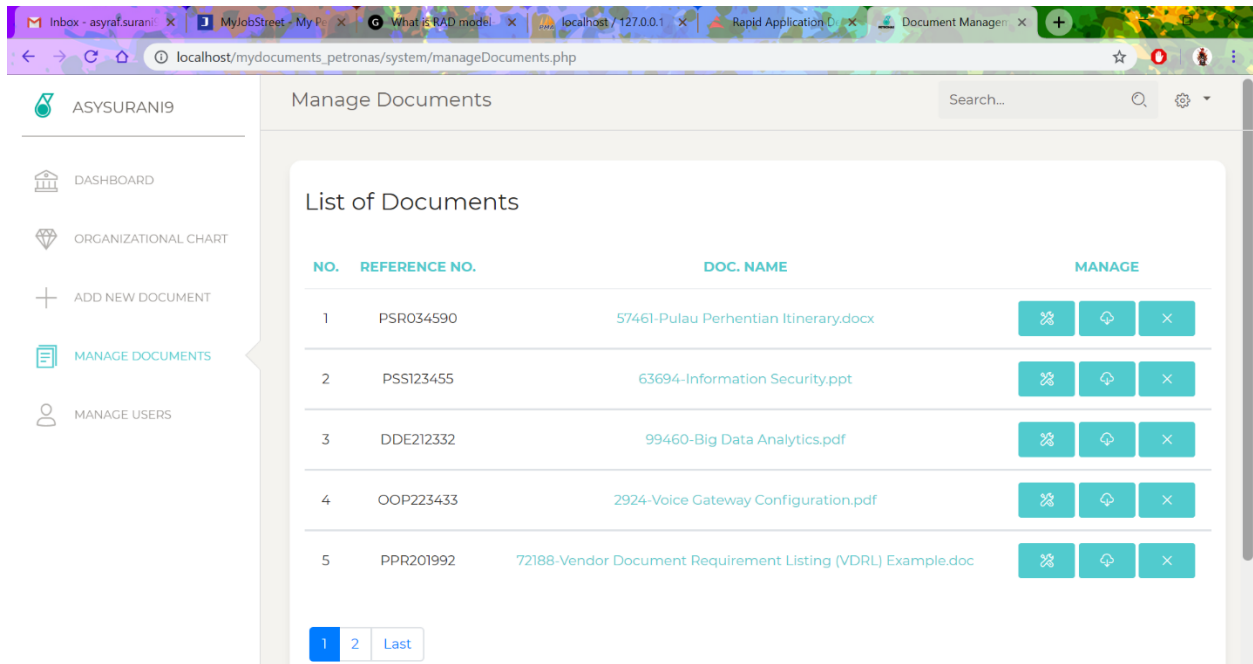
Figure 3.8: Manage Documents Page

5. Add New User Page

- This page is to add new user where admin user that have been assign only can add information of other user and grant them access to the system. The user is basically the staff of PETRONAS which are manage the important documents in the department. This is to prevent any unauthorized user to change any data for their own advantage. Figure 3.9 shows the page to add new user.

Figure 3.9: Add New User Form

6. Manage User Page of myDocuments System

    • This page is authorized used for admin only to manage all the users that have been registered with the myDocuments System. The function of this page is the admin can view the details of the user and also delete the user account if the user not use the system anymore. Figure 3.10 shows the list of users for myDocuments System.
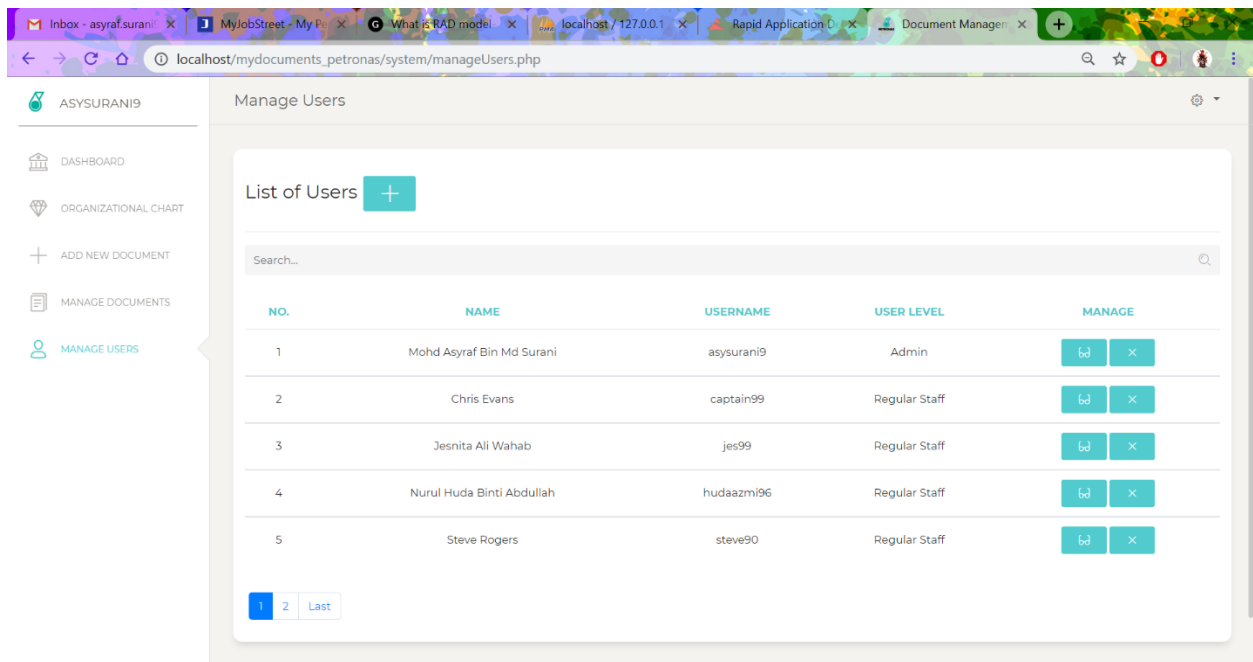
Figure 3.10: Manage Users Page

3.9 Conclusion

During developing and enhancing myDocuments Document Management System (DMS), I struggled a lot in mastering the skills of PHP language, HTML and also MySQL Queries as during my studies I have not involve much in programming. After a few months there, I finally believe developing a website system is my core and deep thinking is my specialty. Developing myDocuments System does teach me on the soft skills and not to forget the practical skills.

CHAPTER 4

PRELIMINARY TASK

4.1 Introduction

During five months of my internship period, student has been exposed into several tasks, primary task (Document Management System) and preliminary tasks. Preliminary task can be defined as sub task that is an additional work given by the employer to student to enhance their skill and also exposing student into additional knowledge that can be used for future working life. This chapter will explain several preliminary tasks assigned for student throughout this five months' internship.

4.2 Tasks and Assignments

Preliminary tasks or other tasks given to student during the internship are Vendor Document Requirement List Document Control, Checklist Drawing Document and MyFax Project. These tasks are a part of industrial training that gives more knowledge to student in terms of computer science skills.

4.2.1 Vendor Document Requirement List (VDRL)

Vendor Document Requirement List (VDRL) can be define as a methodology that has been developed in 1980's in the Process Industry in order to expedite the process of managing the approval of technical documents. Besides, it is a process of each document must go through to attain the status or stage of being fit for the objective of construction manufacture or supply.

At PETRONAS ICT Sdn Bhd, I assist Mr. Syafirudin to do VDRL by comment out and remark on the drawing document which are commented from next level of staff that checked the document first before it approves. This drawing document is the infrastructure drawing for PETRONAS's project infrastructure at Sabah. Figure 4.1 shows the VDRL document tracker.
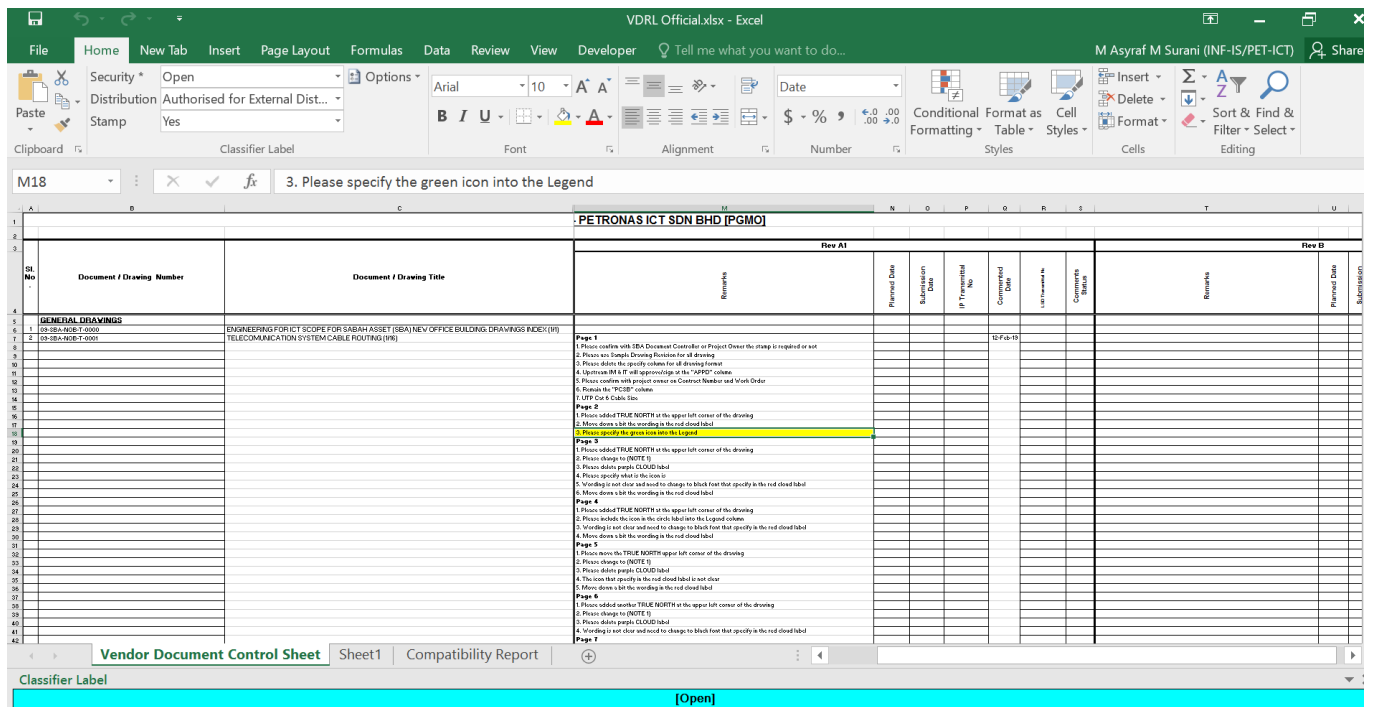
Figure 4.1: VDRL Document Tracker

4.2.2 Checklist Drawing Document

Checklist Drawing Document is a subtask that I have been assigned by Mr. Syafirudin which is to organize and checking the drawing document of RAPID Pengerang project. Every drawing that store in the folder are not organize well. This checklist will help Mr. Syafirudin to track all their drawing document whether need to update or track the document by refer their drawing number and title. Figure 4.2 show the snap of the checklist drawing document.

Figure 4.2: Checklist Drawing Document Tracker

4.2.3 MyFax Project

Fax Machines are the traditional way of technology device that the user want to transmit or send a secured document to other focal that responsible to receive the document. PETRONAS has been using the Fax Machines for business communication till to date at various OPUs to send and receive printed documents electronically over telephone network.

MyFax project primary objective is to easier the user of PETRONAS which are the staff to send and receive fax document via Outlook email. This mechanism will reduce the cost of using analog telephone line network that PETRONAS had to pay which is cost avoidance on technology refresh to manage the traditional fax machine and the CISCO VG224 analogue converter need for decommission. This MyFax System are fully managed by a cloud base solution that does not require investment on hardware, software or license. Besides, there are overall objective of this project as following below:

1. To perform fax inventory at PETRONAS Tower 1, Tower 2 and Menara ExxonMobil in order to have actual fax number/ users/department to be migrated to MyFax solution.

2. To get the service provider for subscribing services for MyFax solution (cloud-based solution).

3. To migrate the current traditional faxing to MyFax-on-cloud solution at PETRONAS Tower 1, Tower 2 and Menara ExxonMobil. Any traditional faxing if required to remain is documented and maintain.

4. To decommission the CISCO Analog Gateway after MyFax solution migration completion.

5. To perform change management such as user training, administration training, migration announcement and MyFax Go-Live announcement.

6. To have billing and support structure for MyFax Solution.

7. To handover the MyFax solution to operation team for operational support and contract subscription renewal.

In this project, I have been assign by Santha Barbara which is the project manager for this project to assist on the technical part until the project meet the deadline for Go-Live. First and foremost, I assist one of the team member to meet the user or PETRONAS's staff at various OPU every level at Twin Tower to ask if they use any fax machine services and also brief about MyFax system to them. If they want to use MyFax system, their fax number will be migrate while if they do not use the fax machine, project team members will terminate their fax number.

Furthermore, the other task that I have been assigned is to give a user or staff a training and demonstrate of using the MyFax system. Need to give an explanation by details if the user didn't understand during the session. Lastly, the task that I have been part in this project is decommission CISCO Analog Gateway. Mr. Hailmay is the one of operation team member that to guide me to do decommission the CISCO Analog Gateway at PETRONAS Twin Tower after the MyFax solution migration completion. The CISCO Analog Gateway are attach at server room at every level of Twin Tower which is take time to complete this task. After do decommission, checklist on a level that have been decommission are recorded and it easier to track which level the CISCO Analog Gateway are not and already decommission.

CHAPTER 5

CONCLUSION

5.1 Introduction

Industrial training gives more advantage for the students to get the practical learning part besides of learning the theory part in the class. Practical learning is important to the students to raise their confident level when doing task given either in group or individually. Moreover, it helps them to explore real life working experience that related to their field of study. For the system objective, all of the requirement have been achieved their goals. For the future, this system may have to be improved to be equivalent with the rise of new technology.

5.2 Contribution of Industrial Training

With the accomplishment of primary and preliminary task, the contribution shows that the Industrial Training:

1. For myDocuments System:
   - Reduce paper use in the department.
   - Easier for the user to store and manage the documents with the interactive website.
2. For MyFax Project
   - Training and give demonstration to the PETRONAS's staff on how to use MyFax System.
   - Do a decommission Cisco's Voice Gateway VG224 at every level of PETRONAS Twin Tower.
   - Assist the project to go-live due to the deadline.

5.3 Recommendation and Future Enhancement

There a few recommendations for PETRONAS ICT Sdn Bhd to:

1. Give an opportunity and training for the internship trainee or student for being exposed to work at the infrastructure site or offshore to gain more real life work experience.
2. Expand the knowledge of student with several of job scope in IT field that are related to the company.

5.4 Conclusion

The conclusion of this industrial training in PETRONAS ICT Sdn Bhd is that student will obtain many experience and able to apply what they had learn in university. This training is for 20 weeks, from 18 February 2019 until 5 July 2019 and I totally agreed that this practical training will surely enhance the quality of UiTM graduates in many factors. There are too many things that I have done and learn in order to complete the tasks given. At the same, I able to feel the working environment and do works same as permanent staff. I am allowed to work in a team and individual as these can be done according to the situation. Based on all the help and guide given by supervisor, I am able to complete and finish myDocuments System for the organization.

Lastly, I want to take this opportunity to thank all staffs for giving their time and guide me to complete the task in the company. All of the experience is priceless and will bring benefit for me in the future.

REFERENCES

PETRONAS ICT Sdn Bhd Website. Retrieved from *http://www.petronasict.com,*
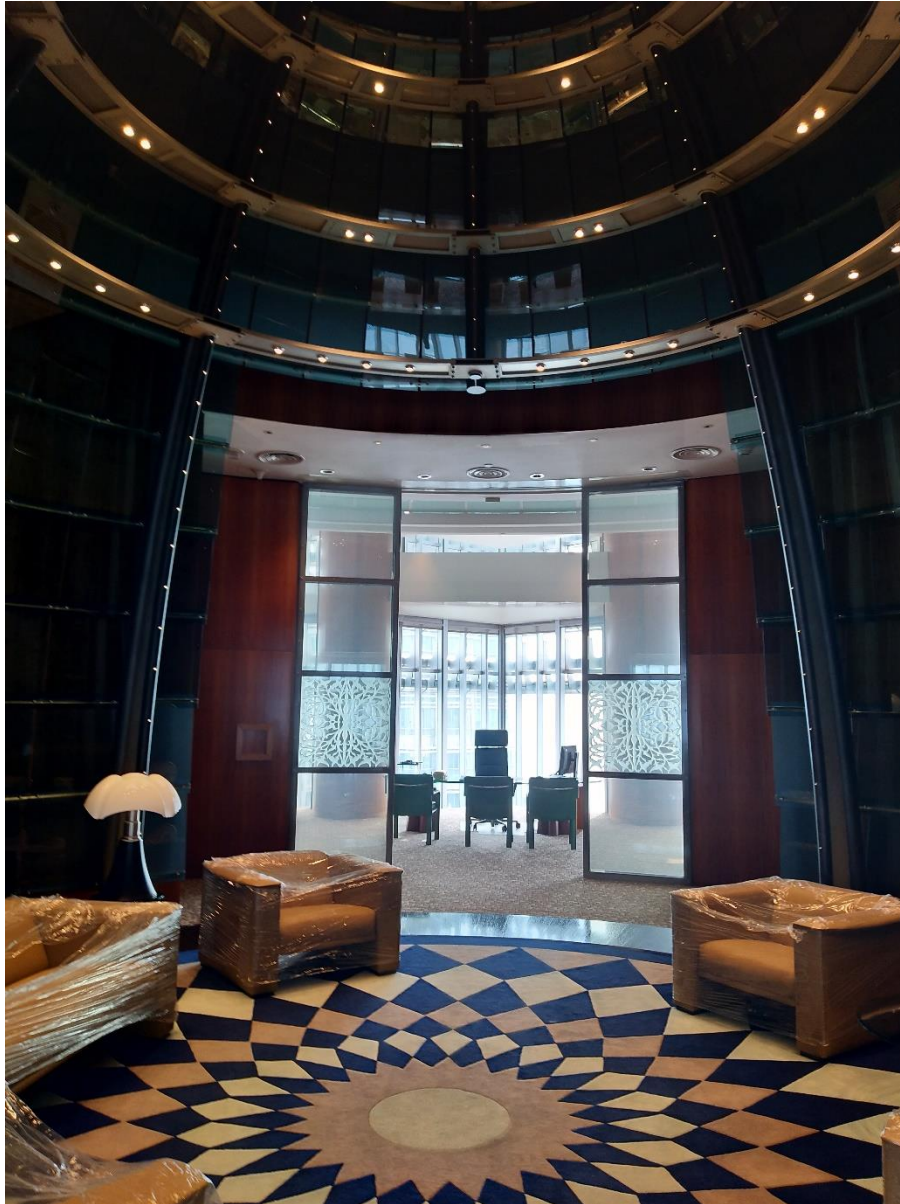*https://mypetronas.com*

APPENDICES

Do decommission CISCO Voice Gateway

Checking serial number of CISCO Voice Gateway

Tun Dr. Mahathir's Office Level 86 at Tower 1, Twin Tower

Meeting room at Tun Dr. Mahathir's Office Level 86