



FACULTY OF COMPUTER AND MATHEMATICAL SCIENCES

Details to be completed by Students :

Course Code	ISP250 – INFORMATION SYSTEMS DEVELOPMENT	Lecturer	SHARIFAH NURUL HIKMAH BINTI SYED YASIN
Project Title	MyPenawar - Online Clinic Management System		
Group	T5CS1104D	Due Date	27/4/2022

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- This assignment is all my own work and I have acknowledged any use of the published or unpublished works of other people.
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MyPenawar - Online Clinic Management System Project or Software Development Plan (SDP)

SEMESTER OCTOBER 2021 – FEBRUARY 2022

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Revision History

Date	Version	Description	Author
10/04/2022	1.0	Introduction	AYU NAJWA & NUR IWANINA
10/04/2022	1.1	Project Overview	NURUL SYAFIQAH & MUHAMMAD AKMAL
10/04/2022	1.2	Project Organization	ADAM TAUFIQ
17/04/2022	1.3	Management Process	ADAM TAUFIQ
22/04/2022	1.4	Redo Introduction <ul style="list-style-type: none"> - scope - organization chart - objectives 	AYU NAJWA
23/04/2022	1.5	Redo Project Overview <ul style="list-style-type: none"> - Assumptions - Project technical approach 	MUHAMMAD AKMAL
23/04/2022	1.6	Redo Project Organization <ul style="list-style-type: none"> - Rules and Responsibility 	ADAM TAUFIQ
24/04/2022	1.7	Redo Management Process <ul style="list-style-type: none"> - Project Plan - Staffing Plan - Budget 	NURULSYAFIQAH & NUR IWANINA
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Project or Software Development Plan

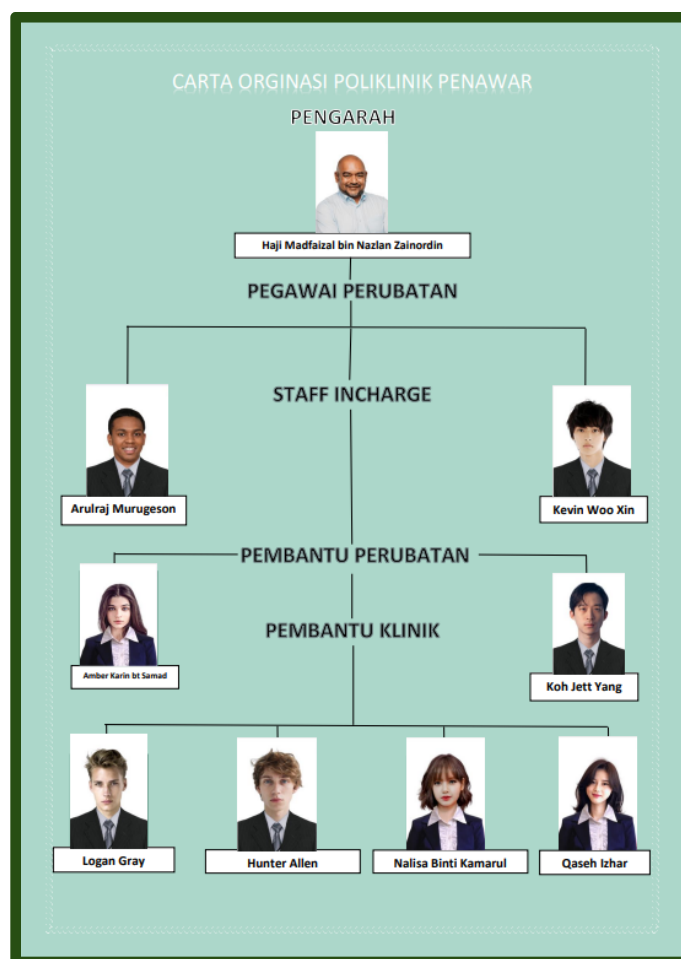
1. Introduction

1.1 Project Background

We have been hired by Poliklinik Penawar Semenyih Kumpulan Perubatan Penawar Sdn. Bhd. to develop a sophisticated clinic system. Led by passionate directors and supported by a capable, committed, and skilled workforce. The Poliklinik Penawar strategically placed, owned by the company Kumpulan Perubatan Penawar Sdn. Bhd is located at No 28G, Jalan Semenyih Sentral 4, Taman Semenyih Sentral, 43500 Semenyih, Selangor, Malaysia, and was discovered by Dr. Rushmini Maris Ismail. This polyclinic mission is to be a one-stop specialists' center and personalized patient care with an advanced-computerized clinic system. MyPenawar vision is "Serving a better hospice" through being a customer-focused institution.

The polyclinic provided services such as regular medical check-ups, as well as mental health services. Contribute to the care of patients suffering from behavioural issues — especially those from low socio-economic backgrounds. Furthermore, advocate for women's reproductive health such as menstrual hygiene and pediatric care. Lastly, nutritional and dietary plans.

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A clinical department director is in charge of each day administration of specialized tasks such as recruiting new employees, and drafting department budgets. Senior physicians who control all aspects of clinical outcomes are known as Medical Officers — responsible for supervising daily operations, analyzing any issues that may arise, managing budgets, and identifying areas for improvement in inpatient care. The staff in charge assures and manages a current and planned personnel roster who's on duty throughout the day and night-time. Medical Assistants are in clinical operations. Including updating medical files, preparing patients and rooms for examination, aiding physicians with exams, and performing minor diagnostic procedures and sterilization equipment. Clinic Assistants are responsible for performing front-desk duties, and keeping track of patient data for evaluation for health insurance purposes. Taking patients through the various facilities and procedures available at the clinic. Furthermore, Clinic Assistants will accept scheduled patient appointments.

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1.2 Problem Statement

MyPenawar Online Clinic Management System is needed to enhance the clinic operation. In the current clinic operation, the clinic manages the registration and monitoring of the treatment data of patients by hand in which the receptionist must manually fill out a form in order to register new patients and keep the data in a paper file. In addition, the receptionist usually spends an unnecessary amount of time handling patients' booking slots, registering or tracking patients, and data redundancy will most likely occur, which can lead to data inconsistency.

Not only that, the current system does not provide a booking system for new patients. Patients must walk into the clinic for consultation. This makes the clinic unable to estimate the number of patients present on a given day. In addition to that, if there are a lot of patients who walk in at the same time, the queue line will be long, and the patients must wait for a long time waiting for their turn. Furthermore, long waiting queues make patients upset and reduce clinic productivity. Therefore, our team members came up with an idea to change the current clinic management system which has a few flaws to a new online clinic management system that will improve the clinic's day-to-day operation.

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1.3 Project Objectives

By June 2022, our Web Designer, Programmers, and other production team members will have spent 150 hours, six hours per week, launching the MyPenawar Online Clinic Management System with six pages and one form that meets the precise specifications, and has been rigorously tested against the criteria of this project.

Our team wants to improve the current clinic management system by replacing the traditional walk-in and queue system, and manual file system with an online system that allows end-users to securely and conveniently book appointments, and clinic employees to check patients' medical details online using a laptop, tablet, smartphone, computer, or other web-connected devices by the end of our design phase, which is scheduled for June 2022.

Objective statements:

1. To manage registration data and treatment data.
2. To provide a platform for employees to conduct patient registration.
3. To create a database to store patients' data for data management to avoid data inconsistency.
4. To create a platform where the patient can book an appointment online.

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1.4 Scope

The clinic management system will be used by the patients and clinic employees of MyPenawar. The project will start from April until the end of June — consists of creating a system that allows the system to check the availability of time and days for approval of patient appointments. Patients need clinic employees' approval for appointments and consultation sessions. The system allows the end-user to register their identification, and schedule an appointment. Alert notification pops-up will appear on patients' screens if the appointment scheduled is unsuccessful. The consultation records and treatment reports can be generated after the patients' visit.

Moreover, the clinic employees are the only authorized persons to make changes to the system, update patients' medical histories, and review calculations of revenue and monthly sales. Lastly, our clinic management system can reduce the time for employees to access a patient's medical details by entering the patient's identity card number in the online system.

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2. Project Overview

2.1 Assumptions and Constraints

Our assumptions toward this project is that we hope that the project is well done because, with our experts' help, everything could be done precisely right on time as promised. Furthermore, we wish that the clinic will give their full support and commitment to this project to enhance the productivity in the development of the system. Lastly, we also expect that the computer that the clinic has will fully support the software that will be used to run the new system.

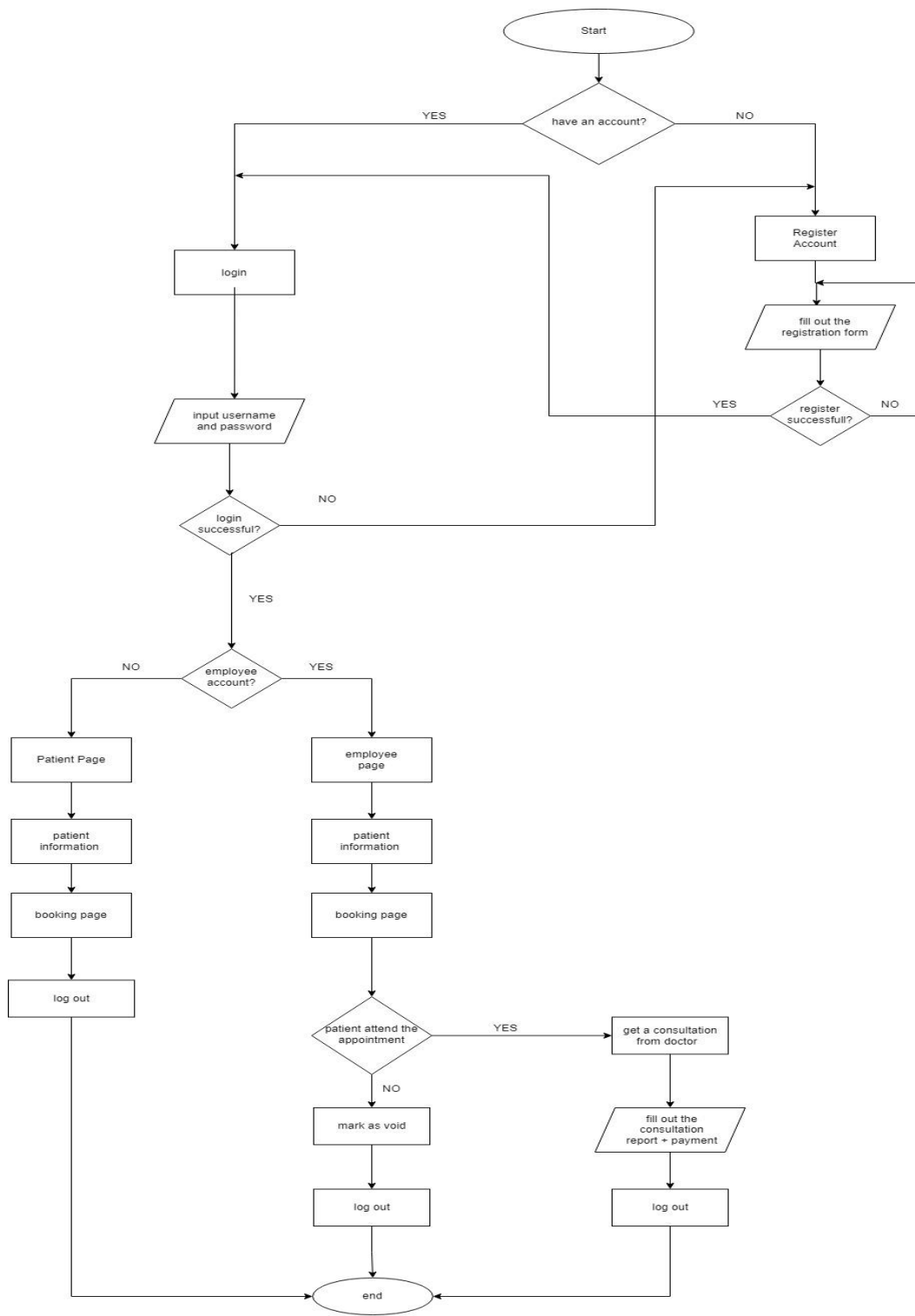
There are three constraints in this project. Firstly, booking services are only eligible for registered users in the system. This means — that only users that the system already has all of their details recorded in the database can book an appointment for a consultation. So, every new user needs to register first so that the system can record all of their details. After that, they can book an appointment as a registered user without any problem. Next, any kind of medicine is not provided in the service. Our system only provides service for a consultation so all patients that need medicine have to get it on their own at the pharmacy based on the prescribed memo given. Lastly, not all medical services are provided. There are only several services required so our service cannot fulfill all of the possible services needed by the users.

2.2 Project Deliverables

Phase	Deliverables	Due Date
Systems Planning	Software Development Plan (SDP)	24/04/2022
Systems Analysis	Software Requirement Specification (SRS)	15/05/2022
Systems Design	Software Design Descriptions (SDD)	05/06/2022
System Implementation	Final Report & Proposed System (Website)	03/07/2022
System Support and Security	User Manual	03/07/2022

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2.3 Project Technical Approach



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3. Project Organization

3.1 Organizational Structure

Roles	Person-In-Charge
Project Manager	Muhammad Akmal bin Ahmad Suhaimi
Database Designer	Nur Iwanina binti Adnan
Programmer 1	Adam Taufiq bin Shahrul Affendi
Programmer 2	Ayu Najwa binti Khairul Azwan
System Designer	Nurul Syafiqah binti Roshisham

3.2 External Interfaces

External Group	Contact
-none-	-none-

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3.3 Roles and Responsibilities

Roles	Responsibilities
Project Manager 	<ul style="list-style-type: none"> - In charge of addressing and debugging system errors if the system is down. - Handling editing source code. - Assist the first programmer in providing coding for the web.
Programmer 1 	<ul style="list-style-type: none"> - He is in charge of project management, planning, and monitoring. - He will also be in charge of the company's funds and profits throughout the projects.
Programmer 2 	<ul style="list-style-type: none"> - Responsible for planning and designing the system. - Provide sufficient detailed data and information about the system.
Database Designer 	<ul style="list-style-type: none"> - In charge of coding and system debugging - writing computer instructions and managing databases. - Test code regularly to ensure it provides the desired results and debug where necessary.
System Designer 	<ul style="list-style-type: none"> - Understand the organisation's data to carry out the company's database design projects successfully. - Build database schemas and create databases for the company's various tasks. - Assist application development teams in connecting to the databases easily.

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4. Management Process

4.1 Project Plan

4.1.1 Project Schedule

no	task	Apr-21				May-21				Jun-21				Jul-21			
		W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4
1	SYSTEM PLANNING																
	1. Online Meeting																
	2. Discussion with client																
	3. Sort out the tasks																
2	ANALYSIS SYSTEM																
	1. Determine data that will be collected																
3	SOFTWARE DEVELOPMENT PLAN																
	1. Introduction																
	2. Proposed Project Overview																
	3. Project Organization																
	4. Management Process																
4	SOFTWARE REQUIREMENT SPECIFICATION																
	1. Overall Description																
	2. External Interface Requirements																
	3. Functional Requirements																
5	SOFTWARE DESIGN DESCRIPTION																
	1. Introduction																
	2. System Overview																
	3. Database design																
	4. Functional Requirements																
6	SOFTWARE IMPLEMENTATION																
	1. Complete System Modules																
	2. System Overview																
	3. Database design																
7	SOFTWARE TESTING AND DEBUGGING																
	1. Perform System testing																
	2. Fix the error (if there is any)																
8	SOFTWARE TEST DOCUMENTATION																
	1. Introduction																
	2. Features to be tested																
9	USER MANUAL																
	1. Administrator																
	2. Client (Consumer)																
10	FINAL REPORT																
	1. Introduction																
	2. Project Organization																
	3. Database and System Design																
	4. Conclusion and Recommendation																
11	PRESENTATION																

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4.1.2 **Project Resourcing**

4.1.2.1 Staffing Plan

Phase	Person Involved	Skill Required
Systems Planning	Project Manager	- Skilled in leadership, communication skills, and project management approaches to ensure every team member is conducting their task.
	Database Designer	- Skilled in memory management, file organization, error handling, and log maintenance for databases.
	Programmer 1,2	- Skilled in planning hardware and software system upgrades and changes in configuration.
Systems Analysis	Database Designer	- Skilled in data modeling, database design, and have an understanding of implementation language and environment.
	System Designer	- Skilled in making analyze and designing the systems information that is involved in the operation of organizations.
	Project Manager	- Skilled in solving problems by designing new solutions to meet the needs of the systems requirements.
Systems Implementation	Programmer 1,2	- Skilled in system coding using notepad++ software for over 5 years and have experience implementing a system.
	Programmer 2	- Skilled in performing system-tuning to meet required levels of service and debugging systems.
System Support and Security	Programmer 1	- Skilled in securing programs against cybersecurity threats and writing codes to prevent security breaches and data leaks.

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4.1.3 Budget

a) Project Implementation Costs

Phase	Activity	Total Cost (RM)
Systems Planning	Business Case Development	RM 3 000.00
	Project Analysis	RM 2 200.00
Systems Analysis	Requirements Gathering	RM 3 000.00
Systems Design	Detailing system specification	RM 2 275.00
System Implementation	Testing, debugging and fine-tuning	RM 3 130.00
convenient and comfortable. System Support and Security	Maintenance and enhancement	RM 5 795.00
TOTAL:		RM 19 400.00

b) Related Costs

Cost Category	Details	Total Cost (RM)
Software Costs	Software used: XAMPP, Notepad++	RM 3 680.00
Database Costs	Database used: MySql, Heidi	RM 2 899.00
Maintenance Costs	Payment per maintenance (x? months)	RM 5 000.00
Staff Salary (3 months)	Project Manager	RM 4 100.00
	Database Designer	RM 3 500.00
	System Designer	RM 3 200.00
	Programmer 1	RM 3 750.00
	Programmer 2	RM 3 750.00
TOTAL:		RM 29 879.00

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5. Conclusion

To conclude, our System Development Plan (SDP) for Online Clinic Management System can be used for MyPenawar Polyclinic to ease the everyday operations and management of the clinics. The clinic's employees and patients are the intended users of this system. The system development team comprises a project manager, a database designer, two programmers, and a system designer. The existing system of this clinic is done manually by hand, requiring the clinic employees to spend an unnecessary amount of time managing patient data and booking data which results in data redundancy. To eliminate data inconsistency, we develop a database to store patients' data for data management and provide a platform where patients may make appointments online to avoid long lines at the clinic.

The scope of this system includes patient registrations, consultation, booking, and reports of medical history, monthly sales and revenue. This system has numerous limitations. For starters, only eligible clinic staff - can access the system. Our project does not include medicinal prescriptions, so any type of medicine would be unavailable. Assumptions of this project are that it will be well-done, the clinic will give their full support and commitment to this project, and the computer that the clinic has will fully support the software that will be used to run the new system. This system's development and maintenance budget is RM 49,279.00, with a project implementation cost of RM 19,400.00. In addition, the total cost of developing this system is RM 29,879.00. This project will take three months to complete. The development process of this system begins in April and runs until the end of June.

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