UNIVERSITI TEKNOLOGI MARA

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SCHOOL OF INFORMATION SCIENCE, COLLEGE OF COMPUTING,

INFORMATICS AND MATHEMATICS

BACHELOR OF INFORMATION SCIENCE (HONS) SYSTEM MANAGEMENT

INFORMATION SYSTEM PROJECT MANAGEMENT

(IMS565)

GROUP ASSIGNMENT:

TAX LICENSE AND MONITORING SYSTEM FOR GEOGRAPHIC INFORMATION SYSTEM (GIS)

(CDIM2624A)

PREPARED BY:

NAME	STUDENT ID
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PREPARED FOR:

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SUBMISSION DATE:

8th JULY 2024

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KAMPUS PUNCAK PERDANA

8th JULY 2024

ACKNOWLEDGEMENT

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Apart from that, we would like to say thank you to those who also helped us in completing this assignment, which are our fellow friends and coursemates, because we were able to finish this assignment at the right time given by our beloved lecturer.

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Thank you.

LIST OF FIGURES

LIST OF TABLES

TABLE OF CONTENTS

PREAMBLE

Team Descriptions

Figure 1: Company's logo

ZenithIT is a company that was established in early 2021. It is located at Jalan Tingkat 2, 8-12, Bangunan Sultan Salahuddin Abdul Aziz Shah, 40706 Shah Alam, Selangor. Over the years, our company is currently expanding until this year which we have handled more than 20 staffs in the company from departments of software developer, system analyst, programmer, system engineer and system developer. ZenithIT's responsibilities functions include urban planning, infrastructure development, monitoring system, networking, tax license and maintenance, ensuring orderly and sustainable growth. It oversees the provision and maintenance of public amenities such as parks, recreational facilities, and community centers.

ZenithIT also regulates business activities through licensing and enforcement of regulations to ensure compliance with city laws. Traffic management and public transportation services within the city fall under its preview, aiming to improve mobility and reduce congestion. Additionally, ZenithIT plays a role in community development by organizing events and programs to enhance the quality of life for residents. Its comprehensive urban management efforts aim to create a livable, efficient, modern and vibrant city. Notably, ZenithIT has managed variant of IT projects that involved huge amount of cost and good profits came from governments and private organizations. ZenithIT has teamed up with UiTM, Petronas, and Menteri Besar Selangor (MBI) to promote a conducive ecosystem for businesses in Selangor.

Team Vision

To lead by example in promoting sustainable practices and social responsibility, leveraging our technological expertise to create positive impacts on our communities and the environment.

Team Mission

ZenithIT promote sustainable practices and corporate responsibility, reducing the company's environmental impact and contributing positively to the community and society at large.

Team Objectives

- To enrich the cultural and recreational life of Shah Alam by preserving heritage sites, promoting cultural activities, and providing diverse recreational facilities for the well-being of residents and visitors alike.
- To enhance community engagement by providing efficient, transparent, and accessible municipal services that meet the needs of all residents, fostering a sense of community and inclusiveness.
- To implement innovative infrastructure projects and embrace modern technologies to improve urban living, traffic management, public transportation, and overall city functionality.

MBSA's Organizational Chart

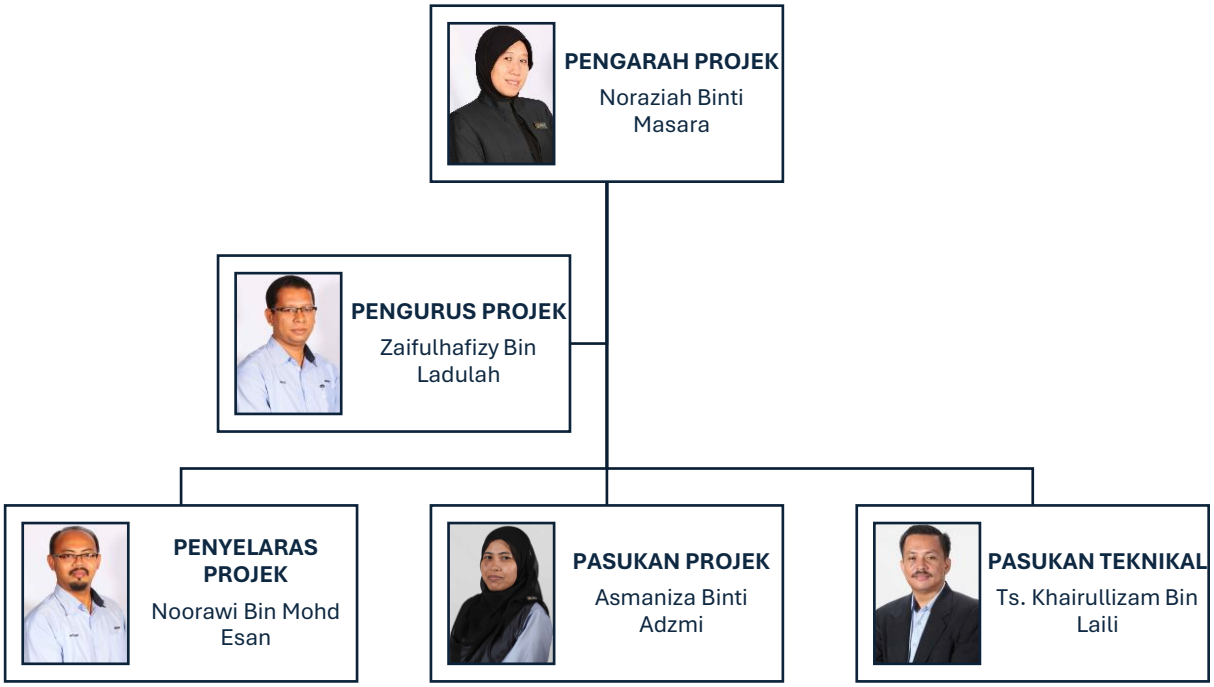


Figure 2: MBSA's Organizational Chart

Company's Organizational Chart

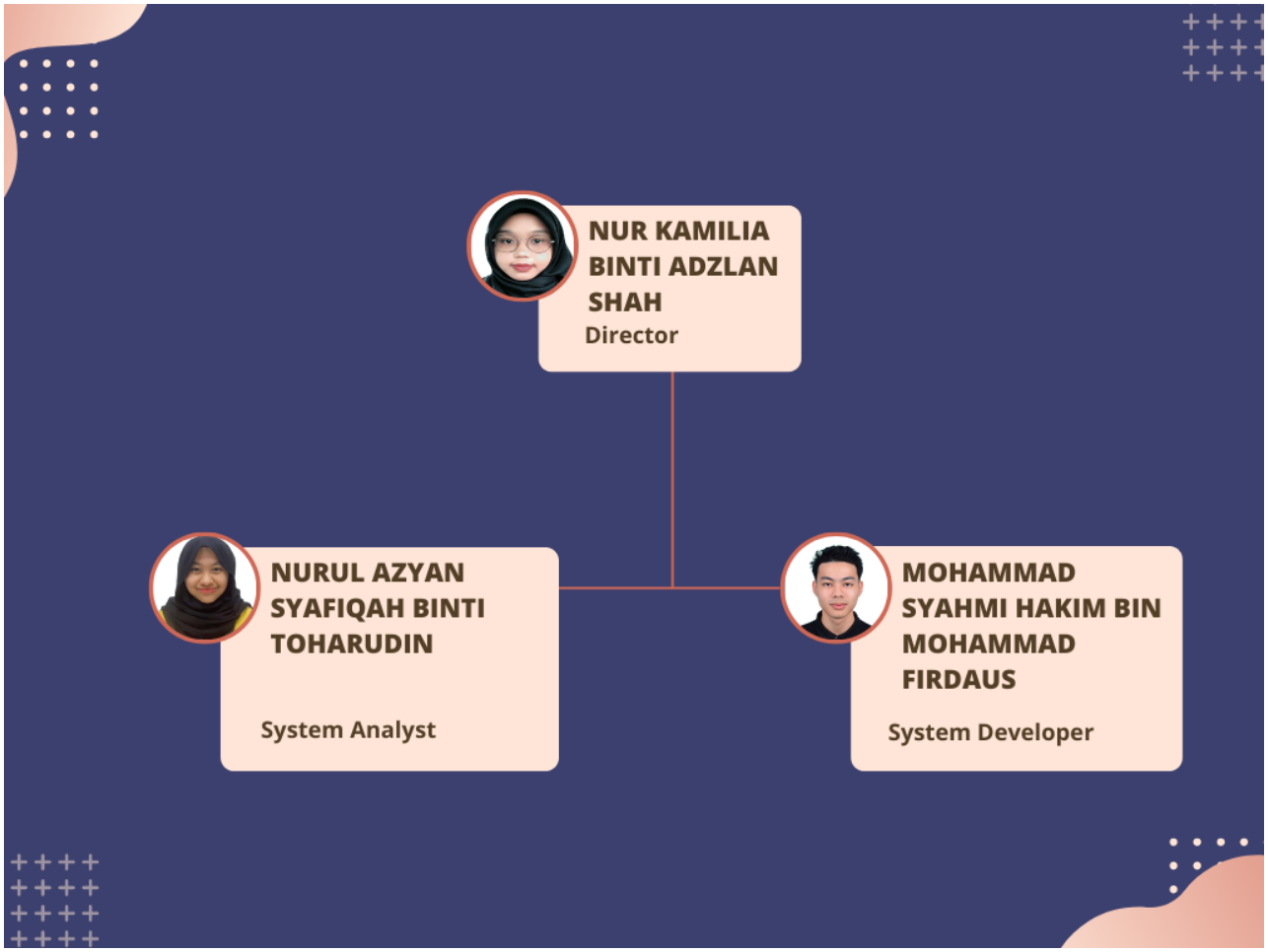


Figure 3: Company's Organizational Chart

Team Profile

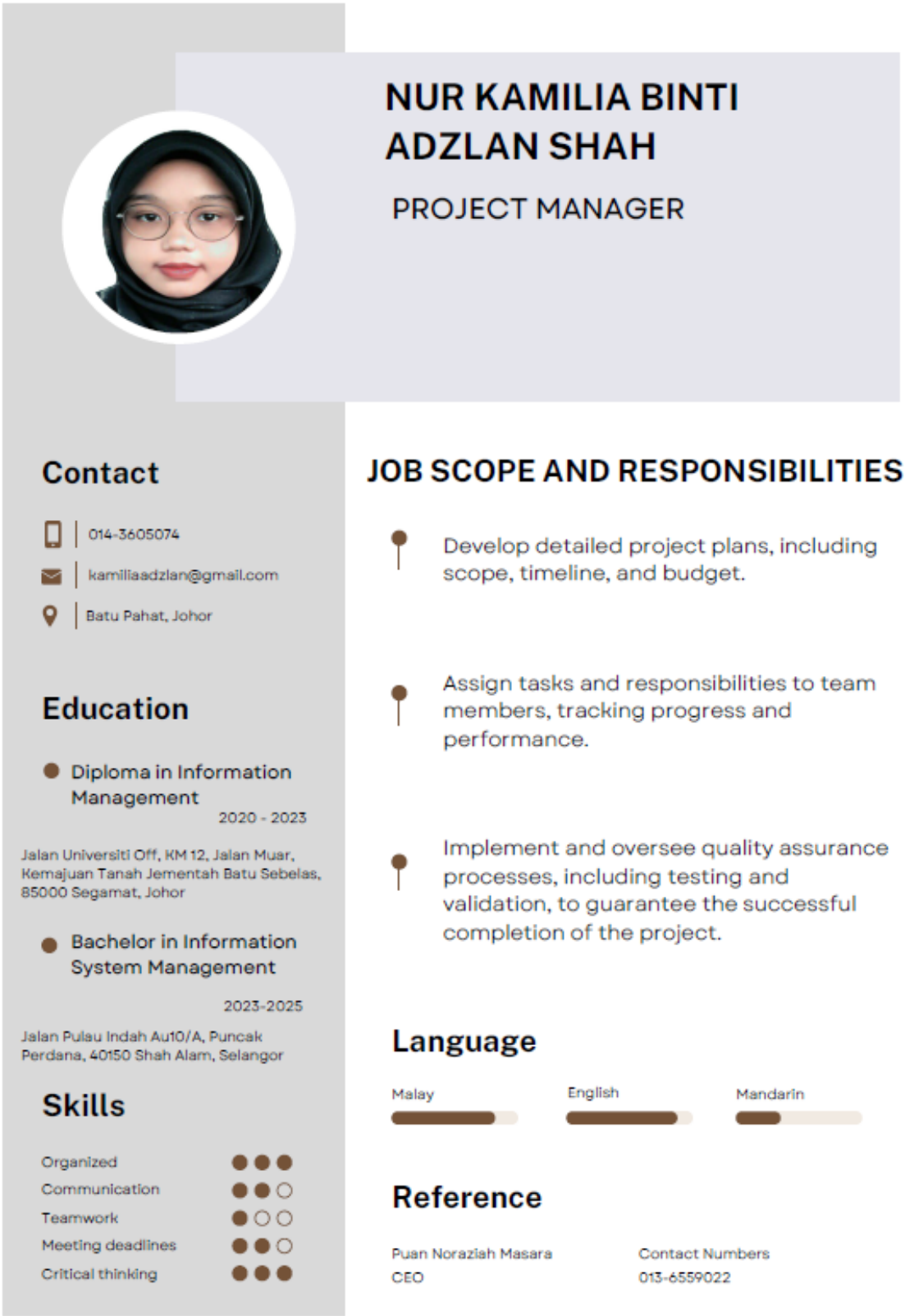


Figure 4: Project Manager Profile

NURUL AZYAN SYAFIQAH BINTI TOHARUDIN

SYSTEM ANALYST

Contact

011-23115955

nurulazyan45@gmail.com

Seremban, Ampangan, Negeri Sembilan

Education

- **Diploma in Information Management**

2020 - 2023

Universiti Teknologi MARA, UiTM Cawangan Negeri Sembilan Kampus, Jalan, Kampung Pilin, 71300 Rembau, Negeri Sembilan

- **Bachelor in Information System Management**

2023-2025

Jalan Pulau Indah Au10/A, Puncak Perdana, 40150 Shah Alam, Selangor

Skills

Organized	●●●
Communication	●●○
Teamwork	●○○
Meeting deadlines	●●○
Critical thinking	●●●

JOB SCOPE AND RESPONSIBILITIES

- collecting and analyzing the requirements from stakeholders, conducting interviews, surveys, and meetings to gather information and document the requirements
- creating detailed specifications, data models, process flows, and diagrams to guide the development team in building the system.
- creating test plans, conducting tests, and working with quality assurance teams to identify and fix defects before deployment.

Language

Malay	English	Japanese

Reference

Puan Noraziah Masara	Contact Numbers
CEO	013-6559022

Figure 5: System Analyst Profile

MOHAMMAD SYAHMI HAKIM BIN MOHAMMAD FIRDAUS

SYSTEM DEVELOPER

Contact

013-2047972

syahmihakim@gmail.com

Taman Kemensah, Ampang, Selangor

Education

- **Diploma in Information Management**
  2020 - 2023

UITM Kelantan, Kampung Belukar, 18500 Bandar Machang, Kelantan

- **Bachelor in Information System Management**
  2023-2025

Jalan Pulau Indah Au10/A, Puncak Perdana, 40150 Shah Alam, Selangor

Skills

Organized	●●●
Communication	●●○
Teamwork	●○○
Meeting deadlines	●●○
Critical thinking	●●●

JOB SCOPE AND RESPONSIBILITIES

- writing clean, efficient, and maintainable code, and ensuring that the software is scalable and robust.
- Maintaining existing systems, which includes debugging, troubleshooting, and fixing any issues that arise.
- create and maintain comprehensive documentation for the systems they develop including technical specifications, user manuals, and operational procedures.

Language

Malay	English	Arabic

Reference

Puan Noraziah Masara	Contact Numbers
CEO	013-6559022

Figure 6: System Developer Profile

1.0 INITIATING PHASE (CHAPTER 2 – CHAPTER 4)

1.1 Introduction

Project management is a systematic approach to planning and guiding project processes from start to finish. It involves various phases, each crucial for the successful completion of a project. Among these, the initiating phase stands out as the first and foremost step. This phase involves recognizing the need for a new project and setting it into motion. Selecting the right project is vital, as it requires evaluating the potential benefits it will bring to the organization. Sometimes, it is more advantageous to prioritize a smaller, high-impact project over a larger, less significant one. Strategic planning is integral to this decision-making process, as it helps outline the organization's vision, mission, goals, objectives, and tactics.

In project management, the initiating phase is all about identifying and starting a new project. When an organization is picking a project, it's crucial to look at the benefits it will bring. Sometimes, choosing a smaller, more impactful project over a larger but less important one can be the better option. Strategic planning plays a key role in deciding which projects to go for. This plan outlines the vision, mission, goals, objectives, and tactics of the organization. During this phase, it's important to understand the project's purpose and the value it will bring to the business. This information is needed to get support from key stakeholders.

1.2 Project Integration Management

Project Integration Management is very important in project management because it brings together all the different parts of a project. This includes tasks, people involved, resources, costs, and other project elements. It's also about sorting out conflicts between different parts of the project, making tough decisions when there are conflicting requests, and figuring out the best use of resources.

For example, if a project starts falling behind schedule, a decision needs to be made about whether to go over budget or finish the project later than planned. This shows why Project Integration Management is so crucial since managing a project can be very complicated and full of challenges. Project managers need to handle key aspects like the schedule, cost, scope, quality, resources, risks, changes, and involvement of stakeholders.

There are approximately six processes within Project Integration Management:

• Developing the project charter

• Developing the project management plan

• Directing and handling project work

• Monitoring and managing project work

• Performing integrated change control

• Closing the project (or project phase)

1.3 Pre-Initiating Phase

1.3.1 Business Case

Business Case of Geographic Information System (GIS) for Majlis Bandaraya Shah Alam (MBSA)

17th May 2024

Project Name: Tax license and Monitoring system for Geographic Information System (GIS)
1.0 Introduction/ Background A Geographic Information System (GIS) is a digital management system tool designed to capture, retrieve, analyse, editing, integrating and store geographic data. (GIS) is a technological tool utilized for capturing, storing, managing, analyzing, and displaying geospatial data within a coordinated system. It is also a TNB's assets, including power plants, transmission networks, distribution networks, fiber optic cables, and customer meters, are mapped onto a digital platform where you can monitor and track in the system.
2.0 Business Objective While our main objective is focused on company development and profit, the goals of this project are specifically aimed to delivers timely and efficient information for locating, isolating, and restoring faults, which results in a shorter response time to outages and quicker restoration. Additionally, GIS enables customers to better manage their energy usage and receive notifications about planned outages and restorations in the future. Also, it is to provide up-to-dates information and accurate infrastructure details, giving engineers in the field better visibility of TNB's assets. This enhances operations effectively and efficiently from the field to the office. It can easily track who has not paid the tax license and can be monitored easily.
3.0 Current Situation and Problem/Opportunity Statement The current situation faces by Geographic Information System (GIS) is the problem is only an adult is required to be at home to allow access to view your meter only. But in view of the past situation relating to coronavirus (COVID-19), they take opportunities to reassure you that we're taking all necessary measures to help ensure the safety of customers, our employees, and the people they may meet as part of their work activities.(GIS) assure you

all authorised contractors will follow the guidelines by the Ministry of Health Malaysia such as avoiding close contact with customer. Simultaneously, this project has created numerous opportunities for our company's growth and development. Firstly, it has enabled our employees to obtain new skills. Next, it has allowed us to build new connections through the involvement of professional developers and team members. This teamed up has opened doors for networking such as TNB. Additionally, the project has enhanced our understanding of data collection from customer premises and the management of large-scale projects, significantly broadening our knowledge base and skill set.

4.0 Critical Assumption and Constraints

There are multiple challenges impeding the success of this project. One key constraint is the system keep loading and lagging for customer to fill the information. Even with the development of a basic yet efficient system, the client expressed dissatisfaction with certain lacking features or requirements in the system. Consequently, originally projected for completion between January 2023 and June 2024, the project faced delays and was postponed until April 2023.

5.0 Analysis of Options and Recommendation

1. Inhouse - Geographic Information System (GIS) create the system on their own.
2. Outsource - Geographic Information System (GIS) using the help from outsider expertise.
3. Do nothing - Geographic Information System (GIS) using the existing system.

Based on discussion with the stakeholder, we agree no 1 is the best choices.

6.0 Preliminary Project Requirements

The main features of the project management of collecting data system include the following:

1. Property/License Account Number
2. Property Owner Details
3. Business Owner Details
4. License Applying For
5. iSEKAT Data
6. License Details
7. License Status

7.0 Budget Estimate and Financial Analysis

This project requires a solid budget of RM2,249,500.00, primarily due to our collaboration with the Tenaga Nasional Berhad (TNB). Our client, Majlis Bandaraya Shah Alam (MBSA) focus to guarantee the development of a strong and high-quality system that will cater to the needs of all Malaysians. Recognizing the significance of serving the entire population, it is

significant to invest in a strong system expansion to support the widespread usage of this system in Malaysia.
8.0 Schedule Estimate Our current estimation forecasts the completion of this project from May 2023 to June 2024, keeping a one-year timeframe. Nevertheless, there is a flexibility in the schedule, acknowledging that unforeseen circumstances may potentially affect the planned timeline.
9.0 Potential Risks Concerns about the important requirements and materials needed for project execution might not be sufficiently addressed. This happens because the system is not fully fulfill the requirements which is not progressing smoothly and steadily.
10.0 Exhibits **Exhibit A: Financial Analysis**

Table 1: Business Case of GIS

1.3.2 Financial Analysis

Financial Analysis of Tax License And Monitoring System For Geographic Information System (GIS)

Created by: Nurul Azyan Syafiqah Binti Toharudin **Date: 23 February 2023**

Note: Change the inputs, such as discount rate, number of years, costs, and benefits. Be sure to double-check the formulas based on the inputs. The discount factor is not rounded.

Discount rate	8%					
Assume the project is completed in Year 0			Year			
	0	**1**	**2**	**3**	**Total**	
Costs	4,000,000	300,000	300,000	300,000		
Discount factor	1.00	0.93	0.86	0.79		
Discounted costs	**4,000,000**	**277,778**	**257,202**	**238,150**	**4,773,12**	
Benefits	0	3,500,000	4,000,000	4,500,000		
Discount factor	1.00	0.93	0.86	0.79		
Discounted benefits	**0**	**3,240,74**	**3,429,35**	**3,572,24**	**10,242,3**	
Discounted benefits - costs	(4,000,000)	2,962,96	3,172,15	3,334,09	**5,469,21** ←	**NPV**
Cumulative benefits - costs	(4,000,000)	(1,037,03	2,135,11	5,469,21		
ROI →	**115%**					
	Payback in Year X					
Assumptions						
Costs						
PM (13hours, RM 70/hour)	RM91,000					
Staff (1900hours, RM85/hour*20 staffs	RM 1500					
Outsource Software and Services	RM 650,000					
Total project costs (all apply in year 0)	RM 742,500					
Benefits						
Consultants (RM200/hour)	RM250,000					
Hour Saved (2000 hours)	RM40,000					
Hour profit	RM500					
Benefits from saving time	RM2,000,000					
Benefits from 1% increase in profits	RM500,000					
Total annual projected benefits	RM2,790,500					

Figure 7: Financial Analysis

1.3.3 Payback Chart

Payback Period Chart Weighted Scoring Model of of Tax License And Monitoring System For Geographic Information System (GIS)
Created by: Nurul Azyan Syafiqah Binti Toharudin Date: 23 February 2023
Note: Enter the discounted costs and benefits for your project below.
Add and delete rows as needed.

Year	Costs	Benefits	Cum Costs	Cum Benefits
0	4,000,000	0	4,000,000	0
1	300,000	3,500,000	4,300,000	3,500,000
2	350,000	4,000,000	4,650,000	7,500,000
3	300,000	4,000,000	4,950,000	11,500,000

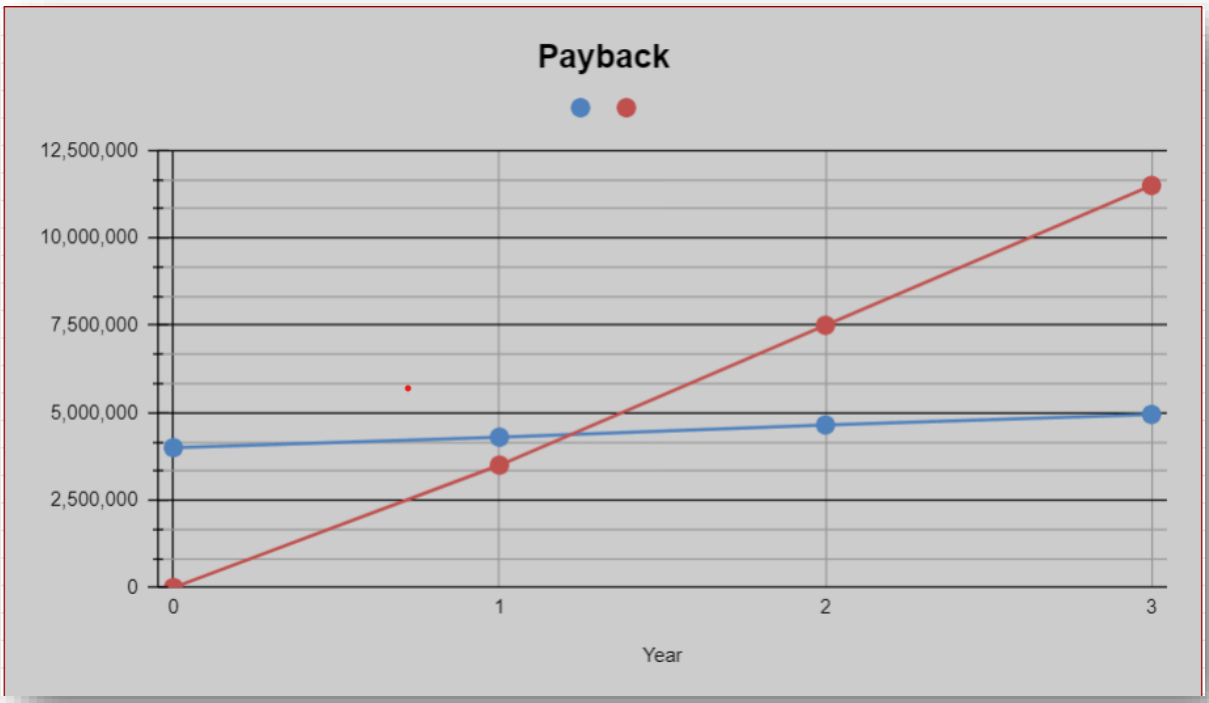


Figure 8: Payback Chart

1.3.4 Weighted Scoring Model

Weighted Scoring Model of Tax License And Monitoring System For Geographic Information System (GIS)

Created by: Nurul Azyan Syafiqah Binti Toharudin **Date: 1 May 2023**

Note: Enter your criteria, weights, and scores in the template below.

Insert or clear rows and columns as needed. Double check formulas and results.

Criteria	Weight	Project 1	Project 2	Project 3	Project 4
Can be improvised in one year or less	20%	90	85	40	70
Have strong Internal/External sponsor	10%	85	80	50	25
Have Strong customer support	15%	80	25	30	30
Have low risk in meeting scope, time and cost goals	10%	30	25	15	50
Uses advanced level of technology	10%	15	20	50	90
Have Strong expertise team and good skills	20%	50	70	50	70
Give positive NPV	15%	85	20	50	50
Weighted Project Scores	**100%**	**65.75**	**50.25**	**41.5**	**56.5**

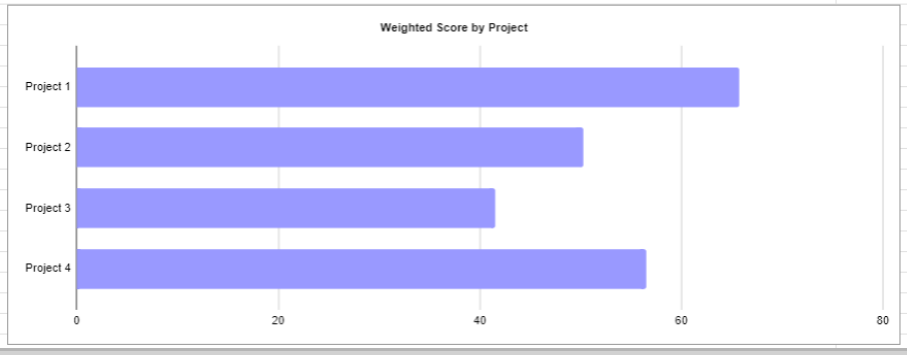


Figure 9: Weight Scoring Model

1.3.5 Stakeholder Register

NAME	POSITION	INTERNAL/ EXTERNAL	PROJECT ROLE	CONTACT INFORMATION
Puan Noraziah Binti Masara	C.E.O of ZenithIT	Internal	Project Champion	noraziah.mas@gmail.com
Nur Kamilia Binti Adzlan Shah	Project Management Office Director	Internal	Project Manager	kamie_adzlan@gmail.com
Nurul Azyan Syafiqah Binti Toharudin	System Engineer	Internal	System Analyst	nurulazyan45@gmail.com
Mohammad Syahmi Hakim Bin Mohammad Firdaus	Software Engineer	Internal	System Developer	msyhmii@gmail.com
Julaica Felicia Jusbian	Sales and Marketing	Internal	Business Analyst	julaica_js27@gmail.com
Anis Munirah Binti Hazman	Senior Developer	Internal	Developers – System Engineer 1	munirahazman44@gmail.com
Aliff Ikram Bin Faizol	Senior Developer	Internal	Developers – System Engineer 2	ikram_faizol@gmail.com
Ahmad Nabil Bin Shamsul	QA Tester	Internal	QA – Test Engineer 1	nabil_ahmad78@gmail.com
Muhammad Azrin Haziq Bin Kamal	QC Tester	Internal	QA – Test Engineer 2	mhaziq_kamal@gmail.com
Ravin Chandra Kasinathan	Digital Designer	Internal	Developer – UI/UX 1	ravin_kas@gmail.com
Iskandar Bin Ismail	Digital Designer	Internal	Developer – UI/UX 2	isizkandar77@gmail.com
Farah Syuhada Hazim	Senior Data Engineer	Internal	Developers – Data Engineer 1	Farasyuhada99@gmail.com

Ryan Lee	Senior Data Engineer	Internal	Developers – Data Engineer 2	ryan_lee33@gmail.com
Muhammad Nizam Bin Azri	IT Architecture	External	Solution Architect 1	mnizam.azri@gmail.com

Table 2: Stakeholder Register

1.3.6 Stakeholder Management Strategy

NAME	LEVEL OF INTEREST	LEVEL OF INFLUENCE	POTENTIAL MANAGEMENT STRATEGIES
Nurul Azyan Syafiqah Binti Toharudin	Low	High	Azyan has low interest in this project. Although she has low level of interest, but she got high influence, she can communicate very well and has the ability to find the solution for problem
Mohammad Syahmi Hakim Bin Mohammad Firdaus	High	Low	Syahmi has the high level of interest different from Azyan. He also enjoys doing his work as but has low influence on people.
Julaica Felicia Jusbian	High	High	Julaica is someone that has power in well-speaking with customers and she has a strong connection with other organizations, she can present and convince our clients very well.
Anis Munirah Binti Hazman	Low	Low	Anis is not actively enough in conducting and participating in this

			project, but she can serve great result.
Aliff Ikram Bin Faizol	High	Low	Aliff is quite different from Anis even though they are in the same role in this project, he has high interest in this project and always participating in the meeting.
Ahmad Nabil Bin Shamsul	High	High	Nabil has a good mindset and always trust the process. He also willing to learn new knowledge everyday.
Muhammad Azrin Haziq Bin Kamal	High	High	Azrin is in the same level as Nabil in this project, he has high interest in this project but he more expert in doing his job.
NAME	LEVEL OF INTEREST	LEVEL OF INFLUENCE	POTENTIAL MANAGEMENT STRATEGIES
Ravin Chandra Kasinathan	High	Low	Ravin is good in editing and has a creative design skills. Even though he has low influence in this project, but I can see his efforts in finding information about UI/UX.
Iskandar Bin Ismail	High	High	Iskandar is good in editing and has a good design skill. He is like an asset in our company as he has high interest and influence in this project

			as he always give a perfect tasks.
Farah Syuhada Hazim	High	Low	Farah has the ability in handling good data and always making sure everything is under control. Eventhough she is an introvert but she always try her best to involve and willing to learn new knowledge.
Ryan Lee	High	High	Ryan has the same ability as Farah which is good in handling data and always making the task looks easy and produce best result.
Muhammad Nizam Bin Azri	Low	High	Nizam does not really invest with this project but kept trying his best. He may be a little slow and actively participated in this project can help him learn new things.

Table 3: Stakeholder Management Strategy

1.3.7 Kick-off Meeting

Kick-Off Meeting

2nd August 2023

Project Name: Tax license and Monitoring System for Geographic Information System (GIS)

Meeting Objective: Get the project off to an effective start by introducing main stakeholders, reviewing project objectives, and discussing future plans.

Agenda:

- Letter of Agreement and Acceptance
- Performance bond
- Insurances
- Employee social security scheme (PERKESO)
- Project implementation schedule
- Payment schedule
- Project team organization chart

Action Item	Assigned To	Due Date
Prepare project timeline	Nur Kamilia Binti Adzlan Shah – Project Manager	6th September 2023
Preparation cost breakdown	Nurul Azyan Syafiqah – System Analysts	6th September 2023
Preparation for software	Mohammad Syahmi Hakim – System Developer	6th September 2023

Date and time of next meeting: 6th September 2023, Wednesday at 10:00 in the morning.

Table 4: Kick-off meeting

1.3.8 Project Charter

Project Charter

6th September 2022

Project Title: Tax license and Monitoring System for Geographic Information System (GIS)
Project Start Date: 1 July 2023 **Projected Finish Date:** 1 June 2024
Budget Information: This project needs an essential budget of RM9,000,000.
Project Manager: Name: Nur Kamilia Binti Adzlan Shah Phone: 014-360 5076 E-mail: kamie_adzlan@gmail.com
Project Objectives: Our main objective is focused on company development and profit, the goals of this project are specifically aimed to accommodate our clients, Geographic Information System (GIS) in an efficient information management. The system will automatically keep the data related to customers and track payments of the residents who did noy pay yet.
Success Criteria: The system must meet the requirements and go through large testing and complete by the deadline given.
Approach: • By creating a correct cost breakdown structure, scope statement, and Gantt chart within next month. These tools will show tasks that must be completed. • Upgrades the system over the next three months to secure the project's infrastructure requirements are met the expectations. • Conduct weekly progress meetings including the main project team and the sponsor to track and discuss advancements in the project's growth.
Roles and Responsibilities

Name and Signature	***Role***	***Position***	***Contact Information***
Puan Noraziah Binti Masara	Project Champion	C.E.O of ZenithIT	noraziah.mas@gmail.com
Nur Kamilia Binti Adzlan Shah	Project Manager	Project Management Office Director	kamie.adzlan@gmail.com

Nurul Azyan Syafiqah Binti Toharudin	System Analyst	System Engineer	nurulazyan45@gmail.com
Mohammad Syahmi Hakim Bin Mohammad Firdaus	System Developer	Software Engineer	msyhmii@gmail.com
Julaica Felicia Jusbian	Business Analyst	Sales and Marketing	julaica_js27@gmail.com
Anis Munirah Binti Hazman	Developers – System Engineer 1	Senior Developer	munirahazman44@gmail.com
Aliff Ikram Bin Faizol	Developers – System Engineer 2	Senior Developer	ikram_faizol@gmail.com
Ahmad Nabil Bin Shamsul	QA – Test Engineer 1	QA Tester	nabil_ahmad78@gmail.com
Muhammad Azrin Haziq Bin Kamal	QA – Test Engineer 2	QC Tester	mhaziq_kamal@gmail.com
Ravin Chandra Kasinathan	Developer – UI/UX 1	Digital Designer	ravin_kas@gmail.com
Iskandar Bin Ismail	Developer – UI/UX 2	Digital Designer	isizkandar77@gmail.com
Farah Syuhada Hazim	Developers – Data Engineer 1	Senior Data Engineer	Farasyuhada99@gmail.com
Ryan Lee	Developers – Data Engineer 2	Senior Data Engineer	ryan_lee33@gmail.com
Muhammad Nizam Bin Azri	Solution Architect 1	IT Architecture	mnizam.azri@gmail.com
Comments: (Handwritten or typed comments from above stakeholders, if applicable)			

Table 5: Project Charter

1.3.9 Appendix

MINUTES MEETING OF PROJECT DEVELOPMENT

Date: 6th September 2023

Time: 10:00 a.m. – 1:00 p.m.

Platform: Bilik Mesyuarat Bahagian Teknologi Maklumat, Tingkat 1

Present:

1. Ms. Nur Kamilia Binti Adzlan Shah (Project Manager)
2. Ms. Nurul Azyan Syafiqah Binti Toharudin (Team Member – System Analyst)
3. Mr. Mohammad Syahmi Hakim Bin Mohammad Firdaus (Team Member – System Developer)
4. Mdm. Noraziah Binti Masara (MBSA Representative)
5. Mr. Noorawi Bin Mohd Esan (MBSA Representative)

Absence: All presented.

1. CALL TO ORDER/OPENING REMARKS

• The meeting commenced at 10:15 a.m.

• Nur Kamilia Binti Adzlan Shah, Project Manager welcomed all attendees and introduced the main purpose of the meeting.

2. APOLOGIES FOR ABSENCES

• No apologies for absences received during the meeting

3. SPECIAL BUSINESS

• This meeting was discussing about the project background, goals, objectives, time estimations and budget allocations

• Software, hardware, and tool used for the project

4. CLOSING REMARKS

• Nur Kamilia Binti Adzlan Shah, Project Manager thanked all attendees for their contributions.

5. NEXT MEETING

• Thursday, 4th January 2024, 9:30 a.m. at MBSA, Bilik Mesyuarat Bahagian Teknologi Maklumat, Tingkat 1

Table 6: Minutes of meeting

Figure 10: Project Charter

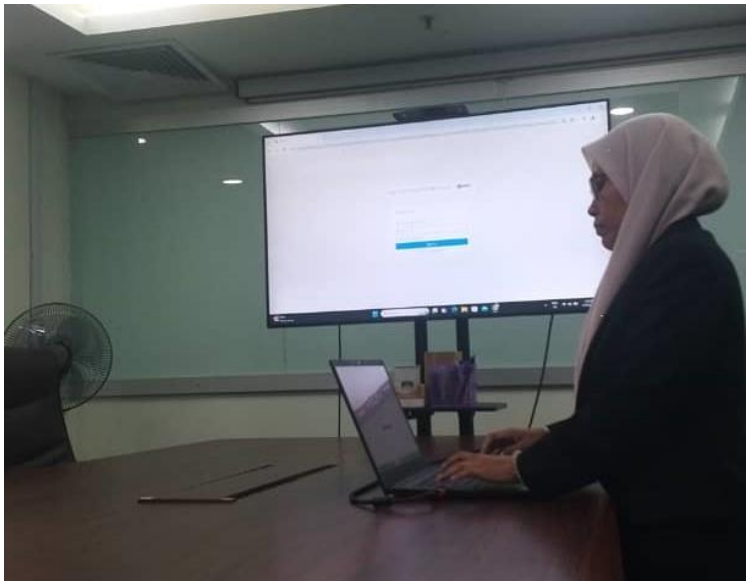


Figure 11: Project Charter

1.4 References

TNB Better. Brighter. (n.d.). TNB Better. Brighter. https://www.tnb.com.my/residential/gis

What is Project Integration Management? (n.d.). https://www.wrike.com/project-management-guide/faq/what-is-project-integration-management/

What Is Project Integration Management? [7 Step Process]. (2024, May 23). https://www.knowledgehut.com/blog/project-management/what-is-project-integration-management

2.0 PLANNING PHASE (CHAPTER 3 – CHAPTER 5)

2.1 Introduction

The planning phase is a critical stage in project management, particularly for developing a Geographical Information System for the Licensing and Enforcement Department (GIS-LED) of MBSA. It involves establishing a clear project direction by defining objectives, setting timelines, and allocating resources efficiently. This phase is essential for ensuring that all stakeholders have a shared understanding of the project's goals and scope. For GIS-LED, the planning phase would include identifying the specific requirements for monitoring license registrations and renewals for enterprise signboard, billboard, and bunting licenses in Shah Alam. This involves extensive consultations with relevant departments, like the Licensing and Enforcement Department and the Information and Communication Technology Department, to gather accurate requirements and expectations. Proper planning helps in anticipating challenges and risks, such as data integration issues or potential system incompatibilities, and developing strategies to mitigate these risks, thereby reducing uncertainties and enhancing project efficiency.

In the context of GIS-LED, the planning phase serves to streamline the development process by providing a structured approach to manage spatial data effectively. The system's primary function is to facilitate the capturing, storing, and managing of spatial data related to licenses, which is location-based. By meticulously planning the integration of spatial databases and the development of the GIS, the project ensures that the system will meet the department's needs for accurate and timely spatial data analysis. This phase also includes the identification and allocation of the necessary technological resources and expertise required for building the system. Effective planning leads to a robust GIS-LED that not only supports the department in managing license information more efficiently but also enhances the overall effectiveness of license enforcement and monitoring, ultimately providing substantial benefits to the department and the community in Shah Alam.

2.2 Project Integration Management + Project Scope Management

2.2.1 Introduction

Project Integration Management and Project Scope Management are crucial for the successful development of the GIS-LED system for the Licensing and Enforcement Department of MBSA. Project Integration Management ensures that all aspects of the project, such as data collection, system development, and stakeholder involvement, are well-coordinated and work together seamlessly. For GIS-LED, this means the system can efficiently handle and analyze spatial data related to license registrations and renewals, providing accurate and timely information to improve license monitoring and enforcement in Shah Alam.

Project Scope Management defines the project's boundaries and objectives, ensuring that the project stays focused and doesn't expand beyond its intended goals. For GIS-LED, this involves clearly specifying the required features for managing licenses, such as enterprise signboard, billboard, and bunting licenses. By keeping the project scope well-defined, resources are used efficiently, and the project remains on track to deliver a system that meets the specific needs of the Licensing and Enforcement Department, enhancing their ability to manage and enforce licenses effectively.

2.2.2 Team Contract Date

Project Name: Geographical Information System (GIS)

Project Team Members' Names and Sign-off:

Name	Date
Puan Noraziah Binti Masara	23rd June 2023
En. Noorawi Bin Mohd Esan	24th June 2023
Puan Asmaniza Binti Adzmi	24th June 2023
Nur Kamilia Binti Adzlan Shah	25th June 2023
Nurul Azyan Syafiqah Binti Toharudin	25th June 2023
Mohammad Syahmi Hakim Bin Mohammad Firdaus	26th June 2023

Code of Conduct:

As a project team, we will:

- Keep everyone on the team informed regularly about the project's progress.
- Ensure that all information we share is accurate and truthful.
- Make sure all team members work together and actively participate in the project.

Participation:

As a project team, we will:

- Attending meetings on time.
- Providing feedback and sharing thoughts with each team member.
- Ensuring that every member contributes to making informed decisions.

Communication: As a project team, we will: • Ensure that every team member has the chance to voice their ideas and concerns. • Encourage open communication among team members, especially when resolving challenges.
Problem Solving: As a project team, we will: • Address problems and issues collaboratively as a team. • Invite and encourage all members to participate in meetings.
Meeting Guidelines: As a project team, we will: • Holding weekly meetings, each scheduled for 30 minutes. • Keeping track of attendance and following up with any team members who are unable to attend.

Table 7: Team Contract Date

2.2.3 Scope Management Plan Date

Project Name: Geographical Information System (GIS)

I. Introduction

A Scope Management Plan is essential for guiding our GIS-LED project for MBSA's Licensing and Enforcement Department. It serves as a detailed blueprint that defines the project's boundaries and objectives, such as overseeing license registrations and renewals specifically in Shah Alam. This plan ensures clarity by outlining which tasks and features will be included in the project scope, thereby preventing scope creep and maintaining focus on delivering the desired outcomes. Moreover, it establishes procedures for gathering requirements from stakeholders, structuring tasks through a Work Breakdown Structure (WBS), and managing any changes to the project scope through a formal change control process. By adhering to this plan, we can effectively manage expectations, mitigate risks associated with scope changes, and ensure alignment with the department's goals. Ultimately, the Scope Management Plan plays a crucial role in guiding our efforts to develop a robust GIS solution that enhances the department's capabilities in license management and monitoring.

II. Preparing the Scope Statement:

a. Creating the Work Breakdown Structure (WBS):

The Work Damage Structure (WBS) is a special basis for project management, providing meaning and purpose through structured work fractions into manageable components. In this project, (2023) will use and create Work Breakdown Structure (WBS) to handle Delineate Tasks, Revenue, and Work Packages. This is also because WBS can help in the scope of the project, objectives, and responsibilities, fostering a clear understanding of the goals and goals of the digital signature project. It also assists in resource allocation, cost estimates, and scheduling, eventually contributing to efficient implementation of projects and successful delivery.

b. Verifying Completion of Project Deliverables:

Verifying completion of project deliverables involves a systematic process to ensure that each deliverable meets the predefined quality criteria and fulfills the

specified requirements. This typically includes a review or inspection to confirm that the deliverable aligns with the project scope and objectives, complies with quality standards, and satisfies stakeholder expectations. Verification may involve various methods such as peer review, quality assurance checks, and client acceptance to validate that the deliverable is fully achieved and ready for handover. Successful verification ensures that the project progresses in accordance with its plan and that deliverables are of the expected quality.

c. Managing Requests for Changes to Project Scope:

To manage requests for changes to the scope of the project such as digital signature is an important aspect of project management. There are several steps in how to handle a request. This is to establish a formal process for submitting change requests that involve the use of specific forms or templates. The next step is change request review which is to set up a change control board or a designated team responsible for reviewing change requests. The final step is implementing digital signatures which is incorporating digital signatures into the change request process to improve security and traceability. Users can use secure and reliable digital signature platforms or tools that comply with relevant regulations and standards.

2.2.4 Statement of Work

Project Title: Geographical Information System (GIS)

Date: May 17th, 2024

Prepared by: Mohammad Syahmi Hakim Bin Mohammad Firdaus

Location of Work:

The planning and implementation phase will take place at the Zenith IT Solutions office. This means making schedules, assigning tasks, and ensuring everything is ready for a successful start. We'll also monitor progress closely to ensure we stay on track. The office at Zenith IT Solutions will be our main base for all these activities, providing the space and resources we need.

Project Justification:

The project will help MBSA better track and manage licenses for signboards, billboards, and buntings in Shah Alam. It uses a map-based system to show where these items are located and spot any problems. This makes it easier to quickly collect and analyze data, helping MBSA make decisions and enforce rules on time. It also ensures that licenses follow local regulations, keeping the city looking nice and safe.

Product Characteristics and Requirements:

- **Geospatial Data Integration:** Ability to capture, store, manage, and display spatial data relevant to the location of licenses and violations.
- **Database Management**: Integration with a spatial database management system to handle large volumes of location-based data efficiently.
- **User Interface:** A user-friendly interface that allows easy access to spatial data and reports.
- **Security and Compliance:** Ensures data security and compliance with local data protection regulations.

Product User Acceptance Criteria:

A Geographical Information System (GIS) should reliably capture and show the location and status of licenses in Shah Alam, ensuring that the data is accurate and current for effective monitoring.

Summary of Project Deliverables

Product-related deliverables: research reports, design documents, software code, hardware, etc.

1. Hardware:
   - Mobile devices for field data collection and verification.
   - Servers for hosting GIS-LED and managing spatial databases.
2. Software:
   - GIS software licenses for spatial data management.
   - Custom GIS-LED software with a user-friendly interface for license tracking and management.
3. Labor maintenance:
   - Estimates for contractor labor and project team efforts.
   - Source Lines of Code (SLOC) estimation for the system.
4. Design:
   - Forms and reports for data input and analysis.
   - User interface and dialogue design to facilitate system interaction.
   - Comprehensive system and software design documentation.
5. Research Reports:
   - Reports on spatial data analysis and system requirements.
6. Prototype and Testing:
   - A prototype of GIS-LED for user feedback.
   - A test plan and results documentation.
7. Final Deployment and Training:
   - Deployment plan, user training materials, and support strategies.

Table 8: Statement of Work

2.2.5 Change Request Form

17th May 2024

Project Name: Geographical Information System (GIS)
Date Request Submitted: 11th July 2023
Title of Change Request: To help the department monitor registration and renewal of signboard, billboard, and bunting licenses in Shah Alam.
Change Order Number: SMY182917
Submitted by: Mohammad Syahmi Hakim Bin Mohammad Firdaus
Change Category: • Functional Enhancement
Description of change requested: Development of a Geographical Information System for the Licensing and Enforcement Department of Majlis Bandaraya Shah Alam (MBSA) to monitor and manage the registration and renewal of licenses for enterprise signboards, billboards, and buntings. The system will capture, store, manage, and display spatial data relevant to the licenses.
Events that made this change necessary or desirable: Internal Process Changes
Justification for the change/why it is needed/desired to continue/complete the project: • **Efficient Monitoring:** Automates tracking of license status and locations. • **Accurate Data:** Reduces errors in license registration and renewal. • **Location-Based Insights:** Helps visualize and manage spatial license data. • **Improved Decision-Making:** Provides tools for better urban planning. • **Compliance:** Ensures adherence to local regulations. • **Future-Ready:** Scalable for future needs.
Impact of the proposed change on: The Geographical Information System (GIS)
Scope: Expands to include GIS functionality for managing license data.
Schedule: **12th DECEMBER 2023**
Cost: RM 1000000

Staffing:

Requires additional GIS-skilled personnel and training.

Risk:

- **Technical:** Challenges in integrating GIS.
- **Schedule:** Potential delays.
- **Cost Overrun:** Risk of exceeding budget.
- **Training:** Need for staff adaptation.

Other: N/A

Suggested implementation if the change request is approved: N/A

Required approvals:

Name/Title	Date	Approve/Reject
En. Noorawi Bin Mohd Esan		Approved

Table 9: Change Request Form

2.3 Appendix (Minutes of Meeting)

MINUTES OF MEETING FOR PROJECT DEVELOPMENT

Minutes of the third Committee Meeting of the Committee Members was held on Tuesday, 11th July 2023 at 9 a.m. at Zenith IT Solutions office.

PRESENT:

- Puan Noraziah Binti Masara
- En. Noorawi Bin Mohd Esan
- Puan Asmaniza Binti Adzmi
- Mohammad Syahmi Hakim Bin Mohammad Firdaus
- Nur Kamilia Binti Adzlan Shah
- Nurul Azyan Syafiqah Binti Toharudin

1. **Project Manager Welcome Address**

   The project manager called the meeting to order at 11 a.m. and welcome all the members

2. **Apologies for Absence**

   No apologies for absence were received at that meeting

3. **Special business**

   This meeting will discuss about Project Scope Management

   - **Scope Management Plan Date:** The requirement management plan on how to prepare a detailed project scope and how to create WBS, how to maintain

and approve WBS, obtain formal acceptance of completed project deliverables.

- **Statement of Work in terms of:**
  - Location
  - Project justification
  - Product characteristic
  - Product User Acceptance Criteria
  - Product-related deliverable

- **Change Request Form in case if there any change requested**

4. **Date, Time and Venue of the Next Meeting**

   It was decided that the next meeting will be held on 18th July 2023 Zenith It Solutions office. The time would be confirmed by the secretary later.

5. **Close**

   The project manager thanked all the team members for their participation during the meeting session and finished the meeting at 11 a.m.

Signed by

Nur Kamilia Binti Adzlan Shah Date

Project Manager

Recorded by Date

Puan Diana Binti Zikri

Secretary

Table 10: Minutes of Meeting

2.4 References

Boston, U. (n.d.). *Project Planning Phase - UMass Boston*. https://www.umb.edu/it/about/project-management-office/project-planning-phase/#:~:text=In%20the%20Planning%20Phase%2C%20the,project%20team%20and%20its%20stakeholders.

Carroll, A. M. (2024, July 2). *Project Planning Phase: A Comprehensive Guide*. project-management.com. https://project-management.com/project-management-phases-exploring-phase-2-planning/

Project Planning. (2024, May 20). ProjectManager. https://www.projectmanager.com/guides/project-planning

3.0 PLANNING PHASE (CHAPTER 5 - PROJECT SCOPE MANAGEMENT)

3.1 Introduction

Project scope management is the process of outlining, managing, and tracking all tasks needed to complete a project successfully. It involves clearly defining and recording the project scope, including tasks, deliverables, deadlines, and any limitations. Effective scope management helps prevent project drift, ensures the project stays on course to meet its goals, manages stakeholder expectations, and keeps both costs and schedules under control.

3.2 Work Breakdown Structure

A Work Breakdown Structure (WBS) is a key tool in project management that helps organize and break down a project into smaller, manageable parts. It is like a hierarchical outline that divides the project into main tasks, sub-tasks, and work packages. The WBS helps project managers and teams clearly see what needs to be done, making it easier to plan, schedule, and assign responsibilities. Each level of the WBS represents more detailed work, from the broad project objectives down to individual tasks. This approach helps in tracking progress, managing scope, and ensuring that all aspects of the project are covered without overlooking any critical components.

Work Breakdown Structure
Project Name: Geographical Information System (GIS)
1.0 Initiating 1.1 Identify key stakeholders 1.2 Prepare project charter 1.3 Project kick-off meeting **2.0 Planning** 2.1 Team project meeting 2.2 Prepare team contract 2.3 Prepare scope statement

2.4 Prepare Work Breakdown Structure
2.5 Prepare schedule and cost baseline
2.5.1 Determining task resource
2.5.2 Determining task duration
2.5.3 Determining task dependencies
2.5.4 Prepare draft Gantt chart
2.6 Identify, discuss, and prioritized tasks
3.0 Executing
3.1 Survey
3.2 User inputs
3.3 Database design
3.4 Forms and report design
3.5 Interface and dialogue design
3.6 Program and coding design
4.0 Monitoring and Controlling
4.1 Progress report
4.2 Change request
5.0 Closing
5.1 Prepare final project report
5.2 Prepare final project presentation
5.3 Lesson learned

Table 11: Work Breakdown Structure

1.0 Initiating

The initiating phase in project management is the first step where a project is officially started. It involves defining the project's purpose, objectives, and feasibility. During this phase, key stakeholders are identified, a project charter is created, and initial resources are allocated. The main goal is to assess whether the project is viable and worth pursuing. This phase sets the foundation for planning and helps ensure that everyone involved understands the project’s goals and scope, reducing the risk of misunderstandings and misaligned expectations later on.

2.0 Planning

Planning in project management is the phase where the project's blueprint is developed. It involves setting clear objectives, defining tasks, allocating resources, and establishing timelines. During this stage, project managers create a comprehensive plan that outlines what needs to be done, who will do it, how long it will take, and how much it will cost. Stakeholders, including team members, clients, and sponsors, are involved in this process to ensure that their needs and expectations are met. Key activities include developing a project schedule, creating a budget, identifying potential risks, and planning for quality management and communication. Effective planning aligns all stakeholders, ensuring everyone understands the project's goals and contributes to its success.

3.0 Executing

Executing in project management is the phase where the planned tasks are carried out to create the project deliverables. This involves collecting data from users and stakeholders through surveys to understand their needs and preferences, which guides the design and development of products. Database design is crucial in this phase to determine how data will be managed and stored effectively. Forms are created to gather data accurately and consistently for input into the system. Reports generated from the database provide detailed analysis to support decision-making throughout the project. Interface design ensures that users can interact effectively with the software, enhancing satisfaction and productivity. Coding is implemented to ensure the software performs reliably and meets user expectations. Execution requires coordination among team members, adherence to timelines, and effective communication to ensure tasks are completed as planned, moving the project forward towards its objectives.

4.0 Monitoring and Controlling

In project management, the monitoring and controlling phase ensures projects remain on track and achieve their objectives. This phase involves overseeing ongoing tasks, tracking progress, and promptly addressing any issues or delays that arise. Regular progress reports are crucial for keeping team members and stakeholders informed about project status, challenges faced, and upcoming milestones. These reports compile comprehensive updates on project activities and performance. Managing change requests is also pivotal during this phase, involving procedures to evaluate, approve, and implement adjustments to project scope, timeline, or resources as needed. This proactive approach ensures projects can adapt to unforeseen circumstances while maintaining alignment with initial goals. Effective monitoring and controlling practices promote transparency, accountability, and efficient resource utilization throughout the project lifecycle, enhancing the likelihood of successful project outcomes.

5.0 Closing

The closure phase in project management signifies the culmination of all project activities and focuses on wrapping up remaining tasks, documenting outcomes, and sharing key insights. It involves preparing a comprehensive final project report that consolidates achievements, challenges, and the project's alignment with its initial objectives. This report serves as a crucial tool for stakeholders, providing a clear overview and acting as a reference for future endeavors. Additionally, a final project presentation is delivered to stakeholders, sponsors, and team members, highlighting essential project components, process outcomes, and overall impact. The closure phase also includes documenting lessons learned, encompassing reflections on successes, challenges overcome, improvements made, and best practices identified throughout the project lifecycle. By capturing these insights, organizations can enhance project management practices and optimize outcomes in subsequent projects based on valuable experiences and knowledge gained.

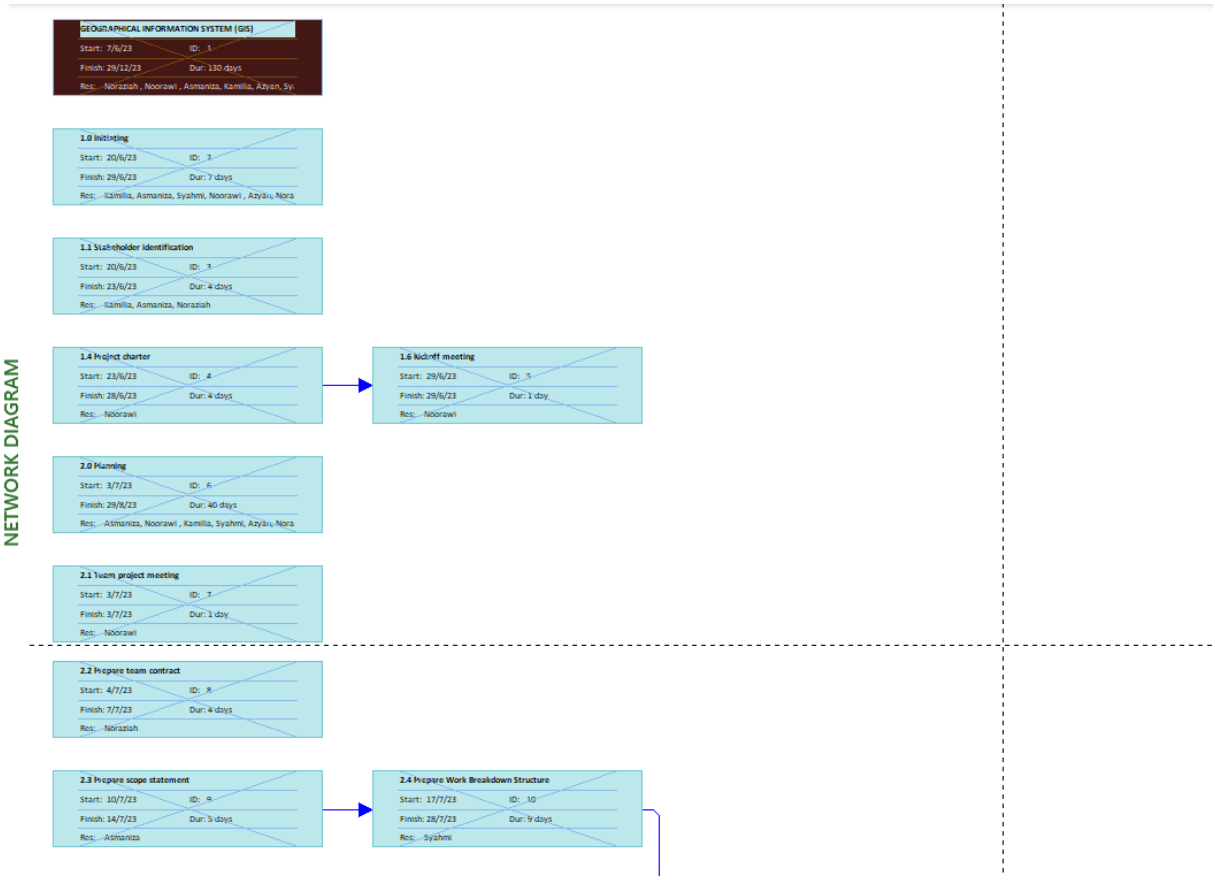
3.3 Gantt Chart

GANTT CHART

	Task Mode	Task Name	Duration	Start	Finish	Predecesso	Resource Names
1		**GEOGRAPHICAL INFORMATION SYSTEM (GIS)**	**130 days**	**Wed 7/6/23**	**Fri 29/12/23**		**Noraziah ,Noorawi ,Asmaniza,Kamilia,Azyan,**
2		**1.0 Initiating**	**7 days**	**Tue 20/6/23**	**Thu 29/6/23**		**Kamilia,Asmaniza,Syahmi,Noorawi ,Azyan,N**
3		1.1 Stakeholder identification	4 days	Tue 20/6/23	Fri 23/6/23		Kamilia,Asmaniza,Noraziah
4		1.4 Project charter	4 days	Fri 23/6/23	Wed 28/6/23		Noorawi
5		1.6 Kickoff meeting	1 day	Thu 29/6/23	Thu 29/6/23	4	Noorawi
6		**2.0 Planning**	**40 days**	**Mon 3/7/23**	**Tue 29/8/23**		**Asmaniza,Noorawi ,Kamilia,Syahmi,Azyan,N**
7		2.1 Team project meeting	1 day	Mon 3/7/23	Mon 3/7/23		Noorawi
8		2.2 Prepare team contract	4 days	Tue 4/7/23	Fri 7/7/23		Noraziah
9		2.3 Prepare scope statement	5 days	Mon 10/7/23	Fri 14/7/23		Asmaniza
10		2.4 Prepare Work Breakdown Structure	9 days	Mon 17/7/23	Fri 28/7/23	9	Syahmi
11		2.5 Prepare schedule and cost baseline	9 days	Tue 1/8/23	Fri 11/8/23		Kamilia
12		2.5.1 Determining task resource	5 days	Mon 14/8/23	Fri 18/8/23	11	Azyan
13		2.5.2 Determining task duration	5 days	Mon 21/8/23	Fri 25/8/23		Azyan
14		2.5.3 Determining task dependencies	3 days	Tue 26/9/23	Fri 29/9/23		Azyan
15		2.5.4 Prepare draft Gantt chart	4 days	Mon 4/9/23	Thu 7/9/23	10,11	Syahmi
16		2.6 Identify, discuss, and prioritized tasks	1 day	Fri 8/9/23	Fri 8/9/23	15	Asmaniza,Syahmi,Noorawi ,Azyan,Noraziah
17		**3.0 Executing**	**40 days**	**Mon 11/9/23**	**Mon 6/11/23**		**Kamilia,Asmaniza,Syahmi,Noorawi ,Azyan,N**
18		3.1 Survey	4 days	Mon 11/9/23	Thu 14/9/23		Kamilia
19		3.2 User inputs	1 day	Thu 14/9/23	Thu 14/9/23		Azyan
20		3.3 Database design	4 days	Mon 18/9/23	Thu 21/9/23	19	Noorawi
21		3.4 Forms and report design	5 days	Fri 22/9/23	Fri 29/9/23	20	Syahmi
22		3.5 Interface and dialogue design	11 days	Mon 2/10/23	Mon 16/10/23		Kamilia,Asmaniza,Syahmi,Noorawi ,Azyan
23		3.6 Program and coding design	15 days	Tue 17/10/23	Mon 6/11/23	22	Azyan
24		**4.0 Monitoring and Controlling**	**30 days**	**Tue 7/11/23**	**Tue 19/12/23**		**Kamilia,Asmaniza,Syahmi,Noorawi ,Azyan,N**
25		4.1 Progress report	16 days	Tue 7/11/23	Tue 28/11/23	24	Kamilia,Asmaniza,Syahmi,Noorawi ,Azyan,Noraz
26		4.2 Change request	6 days	Tue 12/12/23	Tue 19/12/23	25	Kamilia,Asmaniza,Syahmi,Noorawi ,Azyan,Noraz

Figure 12: Gantt Chart

3.4 Network Diagram



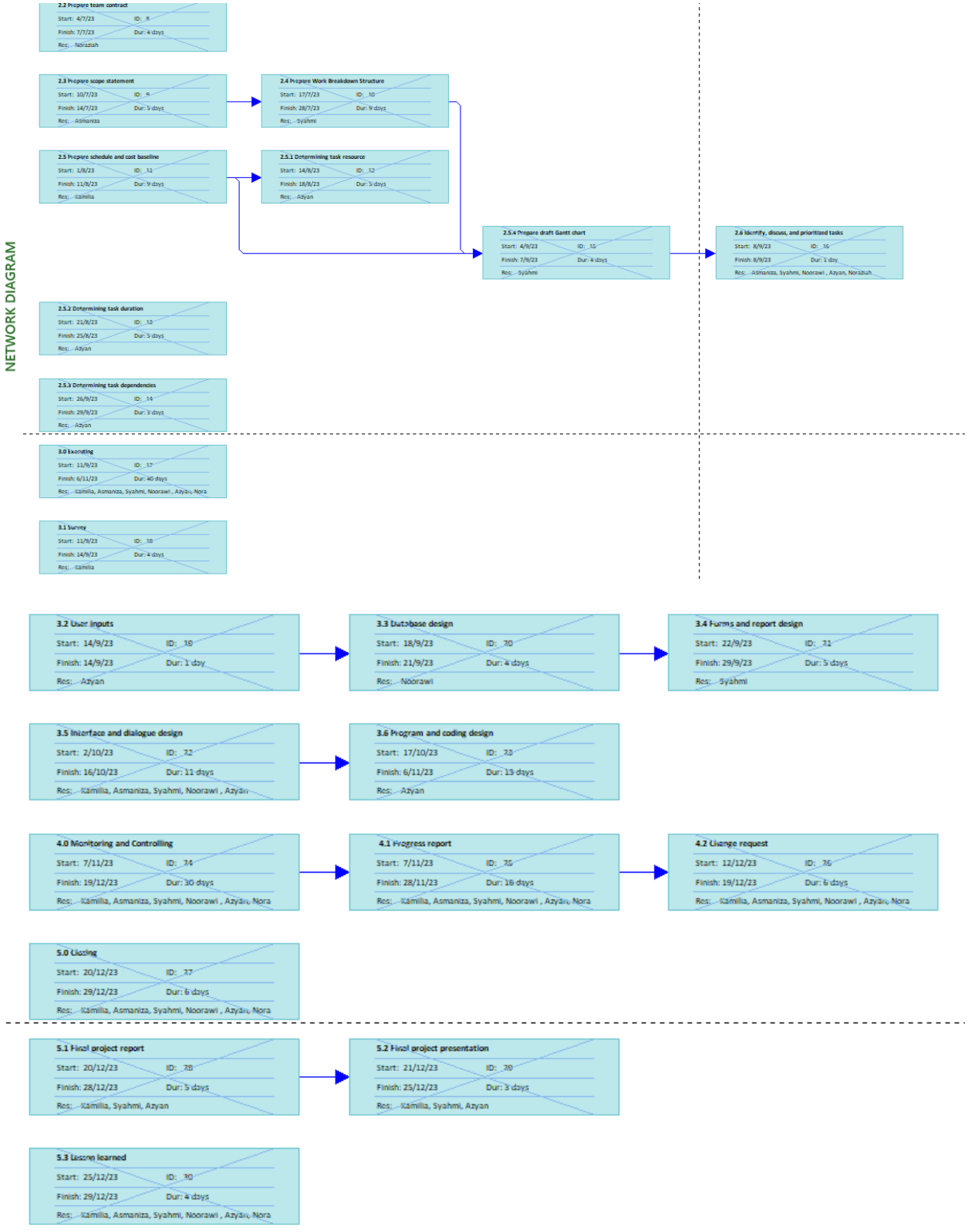


Figure 13: Network Diagram

3.5 Appendix (Minutes of Meeting)

MINUTES OF MEETING FOR PROJECT DEVELOPMENT

Minutes of the third Committee Meeting of the Committee Members was held on Tuesday, 18th July 2023 at 9 a.m. at Zenith IT Solutions office.

PRESENT:

- Puan Umi Aida Binti Ab Malik
- En. Noorawi Bin Mohd Esan
- Puan Asmaniza Binti Adzmi
- Nur Kamilia Binti Adzlan Shah
- Mohammad Syahmi Hakim Bin Mohammad Firdaus
- Nurul Azyan Syafiqah Binti Toharudin

1. Project Manager Welcome Address

The project manager called the meeting to order at 9 a.m. and welcome all the members

2. Apologies for Absence

No apologies for absence were received at that meeting

3. Special business

This meeting will discuss about Project Scope Management

- **Work Breakdown Structure**
  - i. Create project work breakdown structure
  - ii. Create using planning, analysis, design, implementation, and maintenance
- **Gantt Chart**
  - i. Create Gantt chart on Microsoft Project

4. Date, Time and Venue of the Next Meeting

It was decided that the next meeting will be held on 1 August 2023 Zenith IT Solutions. The time would be confirmed by the secretary later.

5. Close

The project manager thanked all the team members for their participation during the meeting session and finished the meeting at 11 a.m.

Signed by Nur Kamilia Binti Adzlan Shah Date Project Manager Recorded by Puan Diana Binti Zikri Secretary Date

Table 12: Minutes of meeting for project development

3.6 References

Landau, P. (2023, October 10). *What Is Project Scope? Scope Management Steps, Tips & Tools*. ProjectManager. https://www.projectmanager.com/blog/project-scope

What is Project Scope Management and Why is it Important? (2023, December 21). https://kissflow.com/project/project-scope-management/

4.0 PLANNING PHASE (CHAPTER 7 – PROJECT COST MANAGEMENT)

4.1 Introduction

Project Cost management is one of the critical areas in the project management that focuses on the improvement of project performance in accordance with the set project budgets. Since Chapter 1, there are three dimensions of project management known as the triple constraint that include the goals of scope, time and cost. Project managers must ensure that their projects are clearly documented to have authentic time and cost guesses, and have a feasible budget, which they approved. The Project Manager has the task of meeting the needs of project stakeholders, but he always must seek the ways to decrease and regulate the costs.

This chapter focuses on establishing understanding of the principles, concepts, and terms associated with the topic of project cost management, stressing its significance and various procedures that are part of it. The four cost management processes in relation to any given project are cost management planning, cost estimations, determination of the project cost, and cost control. In sum, this chapter provides the necessary information that will enable project managers deal with the financial aspects of their projects and consequently deliver projects that meet their scope, time and cost projections.

4.2 Project Cost Estimates

4.2.1 Project Cost Estimates Data

Cost Estimate

Project Name: TAX LICENSE AND MONITORING SYSTEM FOR GEOGRAPHIC INFORMATION SYSTEM (GIS)

	Internal	$/hour	Internal	External	$/hour	External	Total	Non-labor $	Total Cost
WBS Categories	**Labor**		**$ Total**	**Labor**		**$ Total**	**Labor**		
1. Initiating									
1.1 Design, Build and Develop									
a) Tax Monitoring Dashboard	140,000.00	Lumpsum	140,000.00	-	$-	$-	140,000.00	$-	$140,000.00
b) License Monitoring Dashboard	140,000.00	Lumpsum	140,000.00	-	$-	$-	140,000.00	$-	$140,000.00
c) Valuation Dashboard	140,000.00	Lumpsum	140,000.00	-	$-	$-	140,000.00	$-	$140,000.00
d) Garis Panduan Web Application	220,000.00	Lumpsum	220,000.00	-	$-	$-	220,000.00	$-	$220,000.00
1.2 CAD drawing migration (56 Section)	140,000.00	Lumpsum	140,000.00	-	$-	$-	140,000.00	$-	$140,000.00
1.3 Integration with eMASSA & SAIIS system	370,000.00	Lumpsum	370,000.00	-	$-	$-	370,000.00	$-	$370,000.00
1.4 Training (pax) - on Job Training - 3 day	30,000.00	Lumpsum	30,000.00	-	$-	$-	30,000.00	$-	$30,000.00
1.5 Technical, Post Implementation Support and Training Support (Onsite) for 12 months	370,000.00	Lumpsum	370,000.00	-	$-	$-	370,000.00	$-	$370,000.00
2. Planning									
2.1 New Software									
a) ArcGIS Enterprise Standard 4 Cores	-	-	-	210,000.00	unit	210,000.00	210,000.00	$-	$210,000.00
b) ArcGIS Data Interoperability to Server Enterprise Standard per 8 cores server	-	-	-	210,000.00	unit	210,000.00	210,000.00	$-	$210,000.00
c) Maintenance: ArcGIS Data Interoperability for Desktop	-	-	-	6,500.00	unit	6,500.00	6,500.00	$-	$6,500.00
d) Maintenance: ArcGIS Desktop Standard	-	-	-	16,000.00	unit	176,000.00	176,000.00	$-	$176,000.00
3. Executing									
4. Monitoring and Controlling									
5. Closing									
5.1 Wildcard SSL Certificate (24 months)	7,000.00	Lumpsum	7,000.00	-	$-	$-	7,000.00	$-	$7,000.00
6. Project Management	20,000.00	Lumpsum	20,000.00	-	$-	$-	20,000.00	$-	$20,000.00
Subtotal	-	-	$1,573,000.00	-	$1,040,500.00	$2,613,500.00	$2,613,500.00	$220,000.00	$2,833,500.00
Reserves	-	-	$-	-	$220,000.00	$-	$220,000.00	$-	$220,000.00
Total	-	-	$1,573,000.00	-	$1,040,500.00	$2,029,500.00	$2,029,500.00	$220,000.00	$2,249,500.00

Figure 14: Project Cost Estimates Data

4.2.2 Project Cost Baseline

Cost Estimate

Project Name: TAX LICENSE AND MONITORING SYSTEM FOR GEOGRAPHIC INFORMATION SYSTEM (GIS)

	Month												
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Total Cost
WBS Categories													
1. Initiating													
1.1 Design, Build and Develop													
a) Tax Monitoring Dashboard	$140,000												**$140,000**
b) License Monitoring Dashboard	$140,000												**$140,000**
c) Valuation Dashboard	$140,000												**$140,000**
d) Garis Panduan Web Application	$220,000												**$220,000**
1.2 CAD drawing migration (56 Section)	$140,000												**$220,001**
1.3 Integration with eMASSA & SAIIS system	$370,000												**$220,002**
1.4 Training (pax) - on Job Training - 3 day	$30,000												**$220,003**
1.5 Technical, Post Implementation Support and Training Support (Onsite) for 12 months	$370,000												**$220,004**
2. Planning													
2.1 New Software													
a) ArcGIS Enterprise Standard 4 Cores		$210,000											**$210,000**
b) ArcGIS Data Interoperability to Server Enterprise Standard per 8 cores server		$210,000											**$210,000**
c) Maintenance: ArcGIS Data Interoperability for Desktop		$6,500											**$6,500**
d) Maintenance: ArcGIS Desktop Standard		$16,000											**$16,000**
3. Executing													
4. Monitoring and Controlling	$1,000	$2,000	$2,000	$2,000	$3,000	$3,500	$3,000	$3,000	$2,000	$3,000	$2,000	$1,000	**$27,500**
5. Closing											$11,000	$11,000	**$11,000**
Subtotal	$900,000	$442,500											**$1,342,500**
Reserves*											$220,000	$220,000	**$220,000**
Total	$900,000	$442,500											**$2,249,500**

Figure 15: Project Cost Baseline

4.3 References

Adobe Communications Team. (2022). *Project Cost Management in 4 Processes | Adobe Workfront*. Adobe.com. https://business.adobe.com/blog/basics/cost-management

Bridges, J. (2022, July 22). *Project Cost Management Basics*. ProjectManager. https://www.projectmanager.com/training/basics-project-cost-management

Schwalbe, K.. (1999). Information Technology Project Management.

5.0 PLANNING PHASE (CHAPTER 9 – PROJECT HUMAN RESOURCE MANAGEMENT)

5.1 Introduction

Project human resource management involves various processes and activities that optimize the use of individuals involved in a project. These individuals, also known as stakeholders, include a wide range of parties like sponsors, customers, project team members, support staff, and suppliers. Managing human resources in a project extends beyond the internal team to all those who are impacted by or can influence the project. This includes the surrounding community, neighbouring businesses, and the broader network of individuals and organizations connected to the project.

Engaging and involving these stakeholders is crucial for the success of HR projects. Identifying their interests, needs, and concerns is a fundamental step in ensuring their support and alignment with project goals. Effective stakeholder analysis and management in HR projects can lead to improved communication, better decision-making, and ultimately, a more successful outcome. HR departments play a vital role in balancing the needs and priorities of multiple stakeholders, both internal and external, and their ability to manage these diverse interests is essential for the overall success of the organization.

Human resource management in projects involves four main procedures. The first step is planning human resource management by determining and documenting the roles, duties, and reporting lines for each project. This process results in a human resource plan. The next step is assembling the project team by assigning the necessary staff to work on the project. Important outcomes of this procedure include project personnel assignments, resource calendars, and modifications to the project management plan.

The next procedure is improving the project team to enhance both individual and collective skills, which in turn improves project performance. Building team dynamics can be challenging for project managers, but updates on business environmental factors and team performance evaluations are key products of this approach. Finally, managing the project team involves monitoring team member performance, inspiring team members, giving timely feedback, resolving problems and disagreements, and organizing adjustments to improve project performance. Outputs of this procedure include change requests, project management plan updates, project document updates, enterprise environmental factor updates, and organizational process asset updates.

5.2 Project Organizational Chart

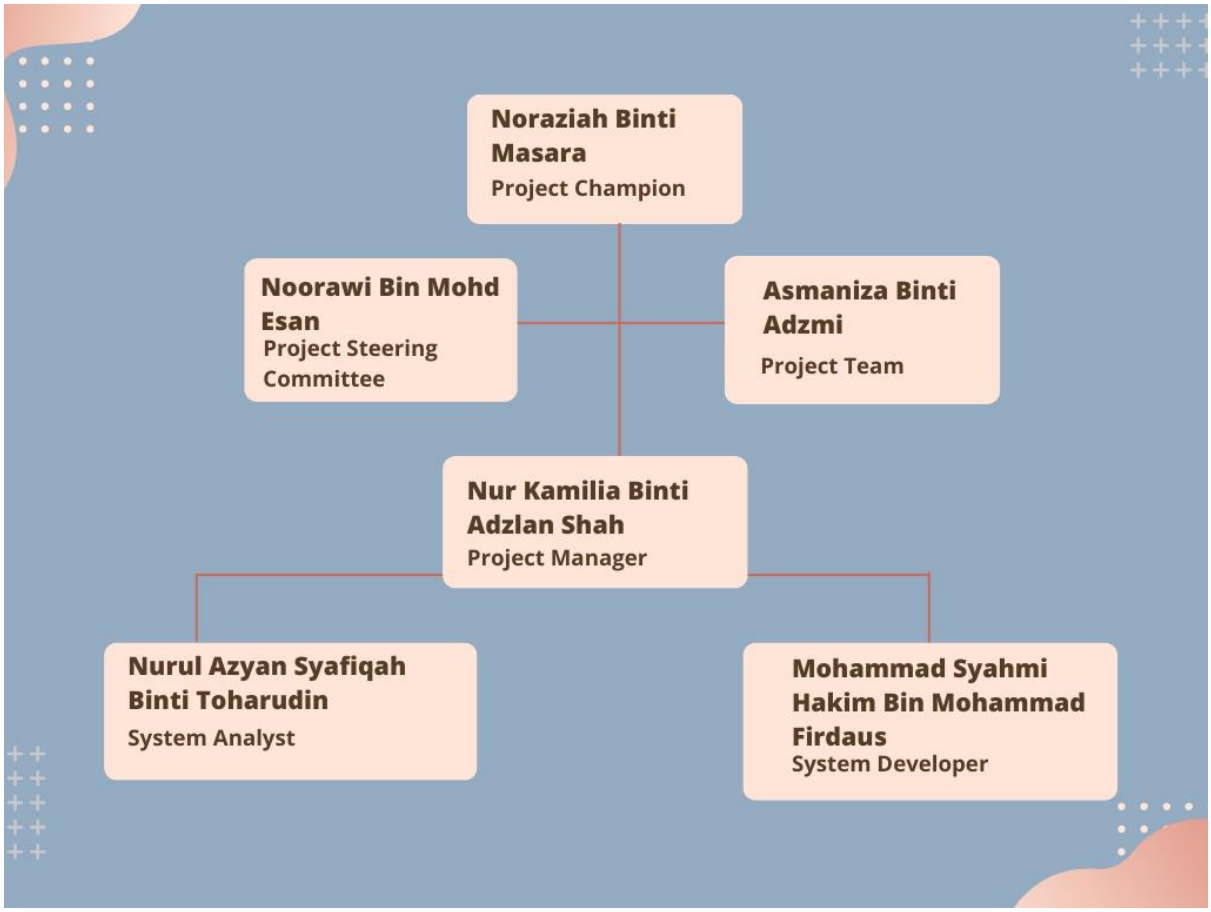


Figure 16: Project Organizational Chart

5.3 Appendix

MINUTES MEETING ORGANIZATIONAL STRUCTURE

Date: 7th January 2024
Time: 10:00 a.m. – 1:00 p.m.
Platform: Bilik Mesyuarat Bahagian Teknologi Maklumat, Tingkat 1

Present:
1. Ms. Nur Kamilia Binti Adzlan Shah (Project Manager)
2. Ms. Nurul Azyan Syafiqah Binti Toharudin (Team Member – System Analyst)
3. Mr. Mohammad Syahmi Hakim Bin Mohammad Firdaus (Team Member – System Developer)

Absence: All presented.

Project Name: Tax license and Monitoring system for Geographic Information System (GIS)

Meeting Objective: Organize the project organizational structure and the reliable person for each role in the progress of the project.

Agenda:
• Introduction of attendees
• Review of project background
• Discussion about the project task from last meeting.
• Discussion of project organizational structure.
• Discussion of the potential person for task and role in the process of the project.
• Ensure all team understand the business process and the project background.

Any other progression: will be discussed in the next meeting with the project steering committee and project champion.

Date and time of next meeting: Wednesday, 7thJanuary 2024, 10:00 a.m. at Bilik

Table 13: Minutes of Meeting Organizational Structure

Figure 17: Organizational Structure's Meeting

5.4 References

Miller, D. (2024, June 24). Project Human Resource Management: Its Stages, Examples & More. ProProfs Project Blog. https://www.proprofsproject.com/blog/project-human-resource-management/

PMP Certification Training - What is Project Human Resource Management. (n.d.). https://www.edwel.com/Free-Resources/Project-Human-Resource-Management.aspx

6.0 PROJECT COMMUNICATION MANAGEMENT

6.1 Introduction

Identifying stakeholders' information and communication needs is crucial in project management as it ensures that messages are effectively delivered, received, and understood by the right people at the right time. This process is vital for maintaining project transparency, fostering stakeholder engagement, and aligning project activities with organizational goals. By understanding what information stakeholders require, project managers can tailor communication strategies accordingly, determining the appropriate frequency, format, and channels for communication. This proactive approach helps in managing expectations, resolving issues promptly, and building trust among stakeholders. Moreover, it supports the efficient dissemination of project reports, progress updates, and relevant plans, ensuring everyone stays informed and involved throughout the project lifecycle. Utilizing suitable communication tools and platforms, such as meetings, emails, and collaborative software, further enhances information sharing and collaboration, contributing to overall project success and stakeholder satisfaction.

6.2 Communication Management Plan

A Communication Management Plan in project management is a structured document that outlines how project participants will communicate effectively throughout the project lifecycle. It details the methods and channels of communication to be used in different situations, ensuring clear and concise messaging. This plan identifies responsible parties for each communication format, whether informal or formal, and specifies when and how communications will occur. By selecting appropriate communication methods tailored to specific needs, the plan facilitates efficient information exchange, decision-making, and problem-solving among team members, stakeholders, and project managers. It serves as a guide to maintain consistency, clarity, and transparency in project communications, helping to prevent misunderstandings and delays. Ultimately, a well-executed Communication Management Plan supports project success by promoting collaboration, managing expectations, and enhancing overall project communication effectiveness.

Project Name: Geographical Information System (GIS)

1. Stakeholder communications requirements:

- Give concise justification for any necessary decisions.
- Inform stakeholders about the project's needs, budget, and schedule.

2. Communications summary: A system project and development that intends to support the needed requirement from the client.

Stakeholders	Communications Name	Delivery Method/Format	Producer	Due/Frequency
Key stakeholders	Organize initial project meeting with team members	Meeting	Project Manager	Initial phase of project, one time only
Project steering committee	Provide weekly updates in written reports and brief meetings	Written report and meeting	ICT Department Deputy	Every Wednesday mornings at 9 a.m.
Sponsor and champion	Conduct weekly status meetings and share progress reports via email	Meeting and email	Project Manager	Weekly, every Friday at 10 a.m.
Project team	Hold regular progress meetings with team members	Meeting	Project Manager	Weekly, every Friday at 2 p.m.

Table 14: Communication Management Plan

3. Comments/Guidelines:

- To ensure efficient communication, stakeholders are urged to actively engage in meetings.
- Before the scheduled meetings, agendas and related papers will be provided at least 24 hours in advance.

4. Escalation procedures for resolving issues:

- Issues are reported by team members to the appropriate team leads.
- Unresolved issues are reported to the project manager by team leads.

- Important problems are brought to the attention of the Deputy of ICT Department by the Project Manager.

5. **Revision procedures for this document:**
   - Revisions must be started by the project manager in response to stakeholder input or modifications in the project's specifications.
   - The Deputy of ICT Department must approve revisions before they are implemented.

6. **Glossary of common terminology:**
   - **QA:** Quality Assurance
   - **Milestone:** Major point of progress in the project

6.2.1 Stakeholder Management Strategy

Stakeholder management strategy in project management involves understanding and improving interactions with stakeholders. It includes identifying stakeholders, assessing their influence and interest in the project, and developing strategies to gain their support and manage potential challenges. This approach ensures that stakeholders are effectively engaged throughout the project, promoting cooperation and minimizing obstacles to project success.

Name	Level of Interest	Level of Influence	Potential Management Strategies
Puan Noraziah Binti Masara	High	High	Leading and managing a team of IT experts, keeping her aware of the main limitations and ensuring that nothing can ever surpass her.
En. Noorawi Bin Mohd Esan	High	High	Directing and supervising a group of IT professionals, ensuring smooth operations, developing a positive work environment, and assisting with developing their skills.

Puan Asmaniza Binti Adzmi	High	High	Assisting to assign work, supervise and manage IT personnel, and ensure effective departmental operations.
Nur Kamilia Binti Adzlan Shah	High	High	As the project manager, she is known to be team-driven, well organized, and easy to work with.
Mohammad Syahmi Hakim Bin Mohammad Firdaus	High	High	Syahmi is an important person as network expertise, where he is responsible of
			connection from many aspects
Nurul Azyan Syafiqah Binti Toharudin	Medium	High	She is just follow the flow to complete this project within the due

Table 15: Stakeholder Management Strategy

6.2.2 Stakeholder Communication Analysis

Making sure that stakeholders receive the information that is related with the project in a timely, precise, and pertinent manner is the aim of stakeholder communication analysis. Indicate which people should be contacted for information, when it is needed, and in what format.

Stakeholder	Document Name	Document Format	Contact person	Due
Department Heads	Monthly status report	Hard copy and meeting	Puan Noraziah Binti Masara	First week of the month
Clients/Customers	Monthly status report	Hard copy	Nur Kamilia Binti Adzlan Shah	First week of the month
ICT Team	Monthly status report	Hard copy and meeting	En. Noorawi Bin Mohd Esan Puan Asmaniza Binti Adzmi	First week of the month

Internal management	Weekly status report	Email	Nur Kamilia Mohammad Syahmi Hakim Nurul Azyan Syafiqah	First week of the month
Network management	Weekly status report	Email	Mohammad Syahmi Hakim	First week of the month
System Assurance	Weekly status report, testing meetings	Email	Nurul Azyan Syafiqah	First week of the month

Table 16: Stakeholder Communication Analysis

6.2.3 Media Choice Table

In communication planning, the Media Choice Table is a strategic tool that helps choose the best media or methods of communication to reach target stakeholders. It assists in evaluating the level to which various media formats are appropriate for various communication requirements.

Key: 1 = Excellent, 2 = Adequate, 3 = Inappropriate				
How Well Medium Is Suited to:	**Hard Copy**	**Phone Call**	**E-mail**	**Meeting**
Assessing commitment	3	2	1	1
Building consensus	3	2	3	1
Mediating a conflict	2	2	3	1
Resolving a misunderstanding	2	3	2	1
Addressing negative behavior	1	1	1	1
Expressing support or appreciation	2	1	2	1
Encouraging creative thinking	3	2	3	1
Making an ironic statement	1	3	2	1

Conveying a reference document	1	3	3	3
Reinforcing one's authority	2	3	3	3
Providing a permanent record	2	3	2	1
Maintaining confidentiality	1	1	3	1
Conveying simple information	1	1	2	2
Asking an informational question	3	1	1	3
Making a simple request	3	1	1	2
Giving complex instruction	3	3	1	1
Addressing many people	2	3	1	1

Table 17: Media Choice Table

6.2.4 Monthly/Weekly Progress Report

Project Name: Geographical Information System (GIS)
Project Manager: Nur Kamilia Binti Adzlan Shah
Work completed this week: ● Business Case ● Work Breakdown Structure ● Project Charter ● Organized all the content files ● Change Request Form ● Discovered the need for some customization
Work to complete next week: ● Code reviews ● Team Contract ● Create new cost estimated for outsourced work ● Risk Register

What's going well and why:

Important project documents must be completed in order to show development and commitment to formal project management procedures. Early customization needs identification enables quick changes and avoids difficulties afterwards in the process.

What's not going well and why:

Although identifying the demands for customization is a proactive step, if it is not considered from the beginning, it could affect the original project plan. Timeliness and resource allocation may be impacted by scope changes resulting from a delayed awareness of adoption demands.

Suggestion/Issues:

- Risk assessment workshops should be considered in order to recognize and deal with such risks as soon as possible.
- Maintain open communication regarding modification requirements, keeping in mind how they may affect the project's schedule and scope.

Project changes:

Needs for customization might result in changes to the project's scope, necessitating the implementation of official change management procedures.

Table 18: Monthly/Weekly Progress Report

6.2.5 Milestone Report

Milestone	Status	Responsible Officer	Issues/Comments
INITIATING PHASE			
Identify key stakeholders	Completed	Nur Kamilia Binti Adzlan Shah	Excellent remarks
Prepare project charter	Completed	Nur Kamilia Binti Adzlan Shah	Excellent remarks

Project kick-off meeting	Completed	All team members	Excellent remarks
PLANNING PHASE			
Signing team contract	Completed	Nur Kamilia Binti Adzlan Shah	Excellent remarks
Completing scope statement	Completed	Nur Kamilia Binti Adzlan Shah	Excellent remarks
WBS Completed	Completed	Mohammad Syahmi Hakim Bin Mohammad Firdaus	Excellent remarks
Completion of list of prioritized risks	Completed	Nurul Azyan Syafiqah	Reviewed with stakeholders
Completion of schedule and cost	Completed	Nur Kamilia	Excellent remarks
baseline			
EXECUTING PHASE			
Completion of survey	Completed	En. Noorawi Bin Mohd Esan	Excellent remarks
Completion of experts' reference	Completed	En. Noorawi Bin Mohd Esan	Excellent remarks
Completion of user requested features	Completed	Puan Asmaniza Binti Adzmi	Several constraints highlighted
MONITORING AND CONTROLLING PHASE			

Progress report	Completed	En. Noorawi Bin Mohd Esan Nur Kamilia Mohammad Syahmi Hakim Nurul Azyan Syafiqah	Excellent remarks
CLOSING PHASE			
Completion of final project presentation	Completed	All team members	Excellent remarks
Sponsor signing-off on project	Completed	Nur Kamilia Binti Adzlan Shah	Excellent remarks
Completion of final project report	Completed	Mohammad Syahmi Hakim Nurul Azyan Syafiqah	Excellent remarks

Table 19: Milestone Report

6.3 Appendix (Minutes of Meeting)

MINUTES OF MEETING FOR PROJECT DEVELOPMENT

Minutes of the sixth Committee Meeting of the Committee Members was held on ● Tuesday, 10th October 2023 at 9 a.m. at Zenith IT Solutions office.

PRESENT:

- Puan Noraziah Binti Masara
- En. Noorawi Bin Mohd Esan
- Puan Asmaniza Binti Adzmi
- Nur Kamilia Binti Adzlan Shah
- Mohammad Syahmi Hakim Bin Mohammad Firdaus
- Nurul Azyan Syafiqah Binti Toharudin

1. Project Manager Welcome Address

The project manager called the meeting to order at 9 a.m. and welcome all the members

2. Apologies for Absence

No apologies for absence were received at that meeting

3. Special business

This meeting will discuss about Project Communication Management

- Communication management plan
- Stakeholder management strategy
- Media choice
- Milestone report

4. Date, Time and Venue of the Next Meeting

It was decided that the next meeting will be held on 14th November 2023 Zenith IT Solutions office. The time would be confirmed by the secretary later.

5. Close

The project manager thanked all the team members for their participation during the meeting session and finished the meeting at 11 a.m.
Signed by Nur Kamilia Binti Adzlan Shah Date Project Manager Recorded by Puan Diana Binti Zikri Secretary Date

Table 20: Minutes of Meeting for Project Development

6.4 References

Carstens, C. (2023, June 6). *5 Strategies to Manage Project Communication*. RMC Learning Solutions. https://rmcls.com/5-strategies-manage-project-communication/

GeeksforGeeks. (2024, March 28). *What is Project Communication Management?* GeeksforGeeks. https://www.geeksforgeeks.org/what-is-project-communication-management/

What is Project Communication Management? | *Wrike*. (n.d.). https://www.wrike.com/project-management-guide/faq/what-is-project-communication-management/

7.0 PLANNING PHASE (CHAPTER 11 – PROJECT RISK MANAGEMENT)

7.1 Introduction

Risk management is a critical practice in both business and project management that encompasses the identification, assessment, and setting priorities of risks, followed by coordinated efforts to reduce, monitor, and control the likelihood or impact of negative events. There are inherent uncertainties and potential hazards that can threaten success in any endeavour, whether it is the introduction of a new product, the management of a project, or the operation of a business. The objective of effective risk management is to proactively address these uncertainties to improve decision-making, mitigate negative consequences, and also capitalise on opportunities that has been made.

In addition to safeguarding against prospective losses, effective risk management also generates opportunities for innovation and expansion. Organisations can more confidently navigate uncertainties, adapt to changes quickly, and ultimately achieve their strategic objectives with greater resilience by proactively managing and understanding risks.

7.2 List of Prioritized Risk

Ranking	Potential Risk
1	Lack of inputs from internal consultants on GIS integration
2	Lack of inputs from client representatives
3	Data security and privacy concerns due to sensitive private data
4	Inaccuracy in GIS data leading to incorrect tax and license calculations
5	Technical issues with integrating GIS with existing tax systems
6	Delays in obtaining up-to-date geographic data
7	Insufficient training for users on the new GIS system
8	High costs associated with purchasing GIS software and licenses
9	Resistance to change from stakeholders accustomed to the old tabular system
10	Ensuring system scalability to handle increasing data volume

Table 21: List of Prioritized Risk

7.2.1 Risk Management Plan

1. Methodology

The risk management methodology for this project will follow the Project Management Body of Knowledge (PMBOK) Guide's risk management process:

- **Risk Identification:** Risks will be identified through brainstorming sessions, expert interviews, and historical data analysis. Tools like SWOT analysis, root cause analysis, and checklists will be used.
- **Risk Analysis:** Identified risks will be analyzed qualitatively to assess their probability and impact using a predefined scoring system. Quantitative analysis will be conducted for high-priority risks to understand their potential impact on project objectives.
- **Risk Prioritization:** Risks will be ranked based on their probability and impact scores. High-priority risks will be addressed first.
- **Risk Response Planning:** Strategies will be developed for each high-priority risk. Possible responses include mitigation (reducing the likelihood or impact), transfer (shifting the risk to a third party), acceptance (acknowledging the risk and preparing to deal with it), or avoidance (eliminating the risk entirely).
- **Risk Monitoring and Control:** Risks will be continuously monitored throughout the project lifecycle. Regular risk reviews will be conducted to update the status of risks and ensure that risk response plans are effective.

2. Roles and Responsibilities

- **Project Manager:** Leads risk management efforts, ensures risks are identified and managed, and oversees the implementation of risk response plans.
- **Risk Management Team:** Comprises members with expertise in GIS, tax systems, and project management. Responsible for identifying, analyzing, and managing risks in their areas of expertise.

- **Stakeholders:** Provide input on potential risks, participate in risk management activities, and support the implementation of risk response plans.
- **Risk Owner:** Each identified risk will have an assigned owner responsible for managing and monitoring the risk, implementing response plans, and reporting on the risk's status.

3. Budget and Schedule

- **Budget:** A portion of the project budget (5-10%) will be allocated for risk management activities, including contingency and management reserves.
- **Schedule:** Risk management activities will be integrated into the overall project schedule. Regular risk assessment meetings will be held bi-weekly, with additional meetings scheduled as necessary. Time will also be allocated for implementing risk response plans.

4. Risk Categories

- **Technical Risks:** Inaccurate GIS data, integration issues with existing tax systems, data security and privacy concerns.
- **Operational Risks:** Delays in updating geographic data, insufficient user training, and resistance to using the new system.
- **Financial Risks:** High costs associated with GIS software and licenses, potential budget overruns.
- **Stakeholder Risks:** Lack of input from internal consultants and client representatives, resistance to change.
- **Project Management Risks:** Ineffective risk management planning, scheduling conflicts, and communication issues.

5. Risk Probability and Impact

Each risk will be evaluated on a scale from 1 to 5 for both probability (likelihood of occurrence) and impact (consequence on project objectives). The combined score will determine the risk's priority:

- **Low (1-2):** Minimal impact, low probability. Risks that are unlikely to occur and have a minor effect on the project.
- **Medium (3):** Moderate impact and/or probability. Risks that could occur and have a noticeable impact on the project.
- **High (4-5):** Significant impact, high probability. Risks that are likely to occur and have a major impact on the project.

6. Risk Documentation

Risks will be documented in the Risk Register, which will be regularly updated. The documentation will include:

- **Risk Description:** A detailed description of each identified risk.
- **Probability and Impact:** Assessed scores for the likelihood of occurrence and the potential impact.
- **Risk Owner:** The individual responsible for managing and monitoring the risk.
- **Risk Response Plan:** Actions to mitigate, transfer, accept, or avoid the risk.
- **Status:** Status of the risk and any actions taken.

7.3 Risk Register

Risk Register
Project Name: TAX LICENSE AND MONITORING SYSTEM FOR GEOGRAPHIC INFORMATION SYSTEM (GIS)

ID No.	Rank	Risk	Description	Category	Root Cause	Triggers	Potential Responses	Risk Owner	Probability	Impact	Status
1	1	Lack of inputs from internal consultants on GIS integration	Inadequate guidance from internal consultants could lead to improper integration of GIS with the tax system, causing project delays and inaccuracies.	Technical	Lack of involvement and expertise from consultants	Delays in project schedule, integration issues	Engage consultants early in the project, schedule regular check-ins, and ensure clear communication channels	Project Manager	High	High	Open
2	2	Lack of inputs from client representatives	Insufficient feedback from client representatives might result in a system that does not meet user needs or expectations, leading to low user adoption.	Stakeholder	Limited engagement with client representatives	User dissatisfaction, low adoption rates	Conduct regular stakeholder meetings, gather detailed requirements, and implement feedback loops	Stakeholder Manager	High	High	Open
3	3	Data security and privacy concerns due to sensitive private data	The system will handle sensitive tax and license data, requiring robust security measures to prevent data breaches and ensure compliance with privacy regulations.	Technical/Security	Handling of sensitive and private data	Security breaches, non-compliance penalties	Implement strong encryption, conduct regular security audits, and ensure compliance with data protection laws	IT Security Lead	High	High	Open
4	4	Inaccuracy in GIS data leading to incorrect tax and license calculations	Errors in GIS data could lead to incorrect tax and license calculations, causing financial discrepancies and user dissatisfaction.	Technical	Inaccurate or outdated GIS data	Incorrect calculations, user complaints	Implement rigorous data validation processes, regularly update GIS data, and cross-verify data accuracy	GIS Specialist	Medium	High	Open
5	5	Technical issues with integrating GIS with existing tax systems	Technical difficulties in integrating the new GIS system with existing tax systems could cause delays and additional costs.	Technical	Integration complexity	System downtime, increased costs	Conduct thorough integration testing, create a detailed integration plan, and allocate contingency funds	Systems Integrator	Medium	High	Open
6	6	Delays in obtaining up-to-date geographic data	Timely access to accurate geographic data is crucial for the system's accuracy. Delays in obtaining this data could impact project timelines and performance.	Operational	Dependency on external data providers	Project delays, performance issues	Establish agreements with data providers, set realistic timelines, and have contingency plans for data delays	Data Acquisition Lead	High	Medium	Open
7	7	Insufficient training for users on the new GIS system	Users may struggle to effectively use the new system without adequate training, leading to errors and inefficiencies.	Operational	Lack of comprehensive training programs	User errors, low system efficiency	Develop detailed training programs, schedule training sessions, and provide ongoing user support	Training Manager	Medium	Medium	Open
8	8	High costs associated with purchasing GIS software and licenses	The project may face budget overruns due to the high costs of acquiring necessary GIS software and licenses.	Financial	High prices of GIS software and licenses	Budget overruns, financial strain	Budget carefully, explore cost-effective alternatives, and negotiate with software vendors	Financial Manager	Medium	Medium	Open
9	9	Resistance to change from stakeholders accustomed to the old tabular system	Stakeholders may resist transitioning from the old tabular system to the new GIS-based system, hindering project implementation and user adoption.	Stakeholder	Familiarity with the old system and reluctance to change	User resistance, implementation delays	Conduct change management activities, involve stakeholders early, and demonstrate the benefits of the new system	Change Manager	High	Medium	Open
10	10	Ensuring system scalability to handle increasing data volume	The system must be scalable to manage growing amounts of data over time. Failure to ensure scalability could result in performance issues and system failures.	Technical	Increasing data volume	Performance degradation, system failures	Design for scalability, conduct performance testing, and implement scalable infrastructure solutions	System Architect	Medium	High	Open

Figure 18: Risk Register

7.4 References

Coursera Staff (2024, June 10). *How to Manage Project Risk: A 5-Step Guide*. Coursera. https://www.coursera.org/articles/how-to-manage-project-risk

Schwalbe, K.. (1999). Information Technology Project Management.

Schwartz, B. (2021, February 26). The Risk Management Process in Project Management. ProjectManager. https://www.projectmanager.com/blog/risk-management-process-steps

8.0 CLOSING PHASE (CHAPTER 12 – CLOSING THE PROJECT)

8.1 Introduction

The closing process of a project is one of the most important processes in project management since it entails the completion of all the project activities and acceptance of the deliverable and achievement of the project objectives. This section reiterates the discussion on the sub-activities of Project Manager and how outsourcing has taken root in IT project procurement management. The management of procurement plays a significant role the process of acquiring the required resources, services, and products from external suppliers to facilitate the achievement of a project mission.

Activities that are part of the planning of procurements include identifying the proper type of contract, writing a procurement management plan, statement of work, the criteria for selecting source, and lastly, the make-or-buy analysis. Procurements are done through strategies for responding to seller's offers, selecting the sellers, and awarding the contracts. This phase helps the project team obtain the most favorable vendors and agreements so that the undertaking of the project would be successful.

In general, this section gives a brief description on how to close a project, more specifically, the procurement management aspect in closing a project.

8.2 Client Acceptance/Project Completion Form

Customer Acceptance/Project Completion Form

14.12.2023

Project Name: TAX LICENSE AND MONITORING SYSTEM FOR GEOGRAPHIC INFORMATION SYSTEM (GIS)

Project Manager: NORAZIAH BINTI MASARA

I (We), the undersigned, acknowledge and accept delivery of the work completed for this project on behalf of our organization. My (Our) signature(s) attest(s) to my (our) agreement that this project has been completed. No further work should be done on this project.

Name	Title	Signature	Date

1. Was this project completed to your satisfaction? __/__ Yes _____ No

2. Please provide the main reasons for your satisfaction or dissatisfaction with this project.

Satisfaction:

1. The deliverables met or exceeded expectations in terms of quality and functionality.
2. The project was completed within the agreed-upon timeline, which was crucial for our operations.
3. The project team maintained clear and consistent communication, keeping us informed of progress and any issues that arose.

Dissatisfaction:

1. The project went slightly over budget, which was a concern for our financial planning.
2. Some unexpected technical issues arose during the implementation phase, causing temporary disruptions.

3. Please provide suggestions on how our organization could improve its project delivery capability in the future.

1. Implement more robust risk management practices to anticipate and mitigate potential issues before they impact the project.

2. Invest in ongoing training and development for the project team to keep them updated with the latest project management methodologies and tools

Thank you for your input.

Figure 19: Client Acceptance Form

8.3 Lessons Learned Report

Project Name: TAX LICENSE AND MONITORING SYSTEM FOR GEOGRAPHIC INFORMATION SYSTEM (GIS)
Project Sponsor: Majlis Bandaraya Shah Alam (MBSA)
Project Manager: Nur Kamilia Binti Adzlan Shah
Project Date:
Final Budget:
1. Did the project meet scope, time, and cost goals? Yes, the project met the scope and time goals. However, we exceeded the budget slightly.
2. What were the success criteria listed in the project scope statement? Ensure the project pays for itself within one year. Achieve strong user input and satisfaction. Develop a method for capturing benefits during and after project implementation.
3. Reflect on whether you met the project success criteria. We met most of the success criteria. Although we went over budget, the project was completed within the time frame and has already shown positive financial and reputational benefits.
4. What were the main lessons your team learned from managing this project? 1. Having a supportive and creative project sponsor was crucial. 2. Taking time for team bonding and creating a team contract was beneficial. 3. Investing time in thorough planning paid off during execution. 4. Regular and clear communication with the project team and sponsor was essential.
5. Describe one example of what went right on this project. The kick-off meeting was highly effective, helping the team to align and work cohesively from the start.
6. Describe one example of what went wrong on this project. We faced unexpected technical issues during the implementation phase, which caused temporary disruptions and delayed progress.
7. What will you do differently on the next project based on your experience working on this project? • To predict and reduce potential issues, implement more proactive risk management strategies. • Improve the planning and allocation of resources to prevent bottlenecks. • Ensure that all stakeholders are informed and engaged by maintaining consistent communication and providing regular updates.

Figure 20: Lesson Learned Report

8.4 References

How To Do Lessons Learned in Project Management (Plus Template). (2024). Indeed Career Guide. https://www.indeed.com/career-advice/career-development/how-to-do-lessons-learned-in-project-management

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