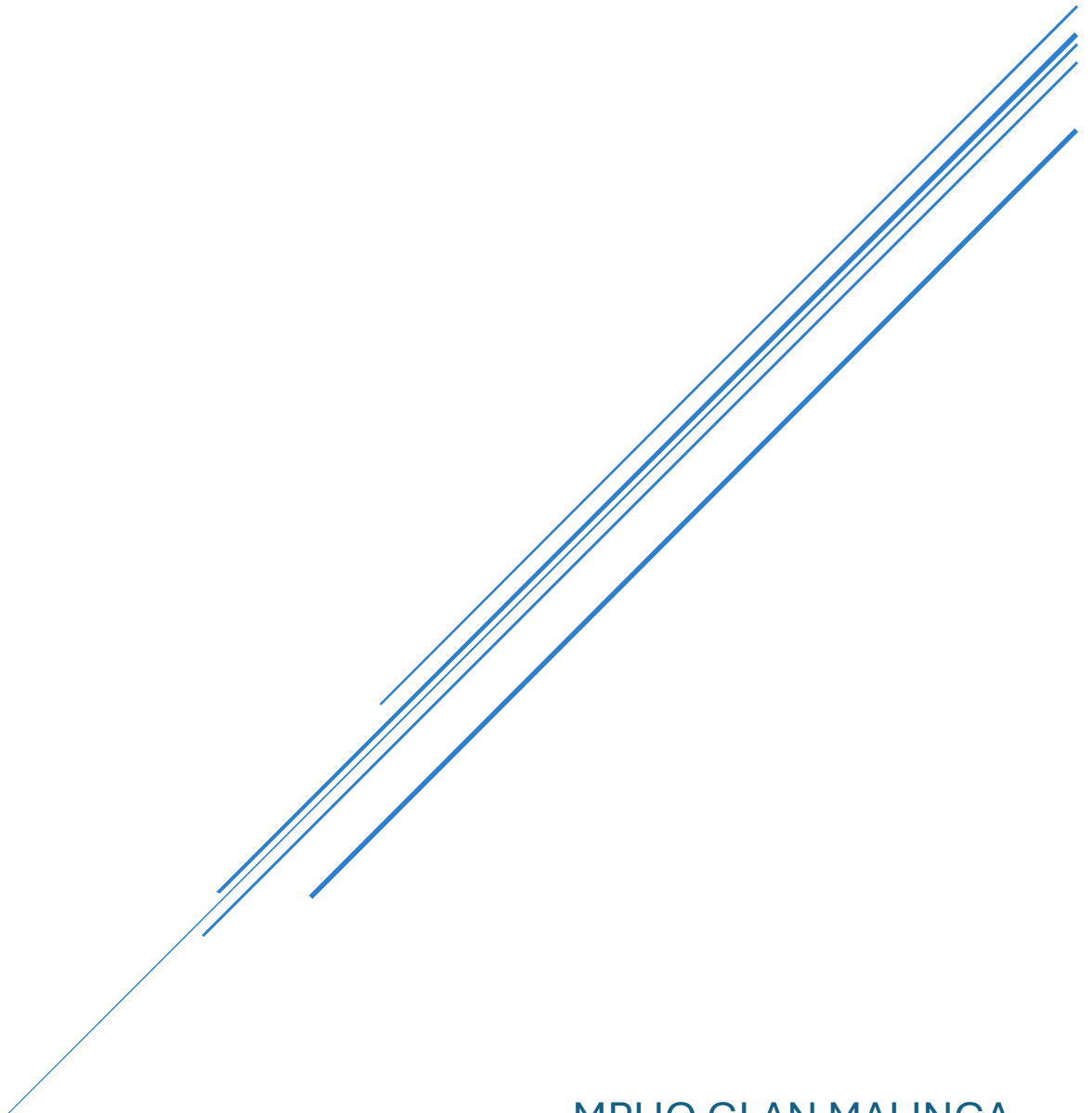


ST10371890_MALINGA_MG

ASSIGN 2_IPMA6222



MPHO GLAN MALINGA

Module Name:	IT Project Management
Module Code:	IPMA6212
Assessment type:	Assignment 2
Students full name:	Tsholofelo Phamela, Tumelo Teka, Manqoba Ngubane, Sbusiso Gama & Mpho Malinga
Student number:	ST10262225, ST10126814, ST10361357, ST10378731, ST10371890
Due Date:	04 October 2024
Lecturer Name:	Batlile Mphahlele

Table of Contents

QUESTION 1	3
QUESTION 2	7
QUESTION 3	8
QUESTION 4	12
QUESTION 5	14
REFERENCE LIST	19

QUESTION 1

1.1 Explain how the need for this project was identified and what problem, in particular, your project is addressing.

The development of the Community Bulletin Board Application followed an in-depth study of security issues in various South African communities, such as urban, township, and rural areas. The primary objective of this project is to tackle increasing security issues like burglaries, threats to personal safety, and a general lack of immediate information on local events. Although alarms and gated communities are somewhat effective, they do not provide comprehensive and easily accessible security solutions for all residents, especially those in lower-income neighborhoods.

Main factors that result in the identification of a project.

Growing Crime Rates: Data indicates a significant rise in different types of crimes like theft, vandalism, and violent incidents across multiple regions. Surveys and local events uncovered citizens' discontent with the insufficient tools available to report and be informed about security concerns within the community. Technological Gaps: Current security apps are either too complicated for the average person or restricted to expensive smartphones, leaving out many people who depend on budget-friendly devices. Local reports from the municipality stress the importance of technological solutions to improve community safety and engagement without causing major financial strain.

Problem Resolved:

The research focuses on the inefficiencies in reporting and spreading information regarding suspicious activity and emergencies inside communities. It intends to create an accessible, user-friendly platform that enables: Real-time safety announcements provide instant updates on local occurrences such as break-ins, demonstrations, and power outages. Community Engagement: Allowing citizens to take part in neighborhood watch programs and be informed about collective security measures. Accessible Reporting Mechanisms: Enabling people to report crimes or safety issues anonymously, promoting proactive engagement without fear of reprisal.

- By tackling these concerns, the app aims to provide communities with the resources they need to improve their safety and well-being effectively.

(Smith, J., & Williams, T. (2020). *Community-based security: The role of mobile apps in neighborhood safety*. *Journal of Mobile Technology*, 12(3), 215-230.)

1.2 Discuss the technology trend you've been entrusted with incorporating into the creation of your application. Your conversation must contain the following:

Technological Trend: Cross-Platform Mobile Development

1. What is the Technological Trend?

Cross-platform mobile development involves creating software applications compatible with multiple mobile operating systems, such as Android and iOS, using only one set of code. Frameworks such as Flutter, React Native, and Xamarin make it easier for developers to write code just once and deploy it on multiple platforms.

2. How Will the Trend Benefit Your Project in Terms of Timelines?

Efficiency in Development: Utilizing one codebase for Android and iOS reduces development time significantly, enabling the project to meet its 10-month deadline.

Consistent Updates: Making updates and adding new features is easier because changes are only required to be done once and can be sent out to all platforms simultaneously.

Efficiently allocate development resources by avoiding duplication efforts for individual native apps, improving productivity, and meeting project deadlines.

3. Identify 3 Potential Risks of Using the Trend.

-Limitations in performance can be experienced in cross-platform applications compared to native apps, affecting user experience, especially in areas with limited network connectivity.

- Ensuring the app functions smoothly on a variety of devices, such as older or less powerful smartphones, can be challenging and may require additional testing and fine-tuning.

- Restricted availability of built-in functionalities: Certain advanced device-specific features might not be fully compatible or could require extra plugins, leading to possible compromises in feature integration

4. Discuss How Using This Trend Will Benefit the Users of Your Application.

Accessibility: Users may use the program from both Android and iOS smartphones, guaranteeing inclusiveness regardless of platform preference or budget.

Consistent User Experience: A consistent design and functionality across platforms increase user happiness and makes the app more intuitive and simpler to use, particularly for people with diverse degrees of technical expertise.

Faster Feature Deployment: Users get speedier access to new features and enhancements since updates can be carried out concurrently across all platforms without delay.

By utilizing cross-platform programming, the application offers broad reach, upholds high usability standards, and provides regular updates, considerably improving the entire user experience.

(Kumar, A., & Zhang, P. (2019). Cross-platform mobile development for security applications using Flutter. International Journal of Software Development, 14(2), 112-125.)

1.3 Once your project is selected, it is formally authorized using a charter. Identify five major deliverables that would form part of your project charter.

The Project Charter is the essential paper that officially authorizes the project, outlining its scope, goals, stakeholders, and main deliverables. The project charter lists five essential outcomes for the Community Bulletin Board Application.

- The document outlining the plan for a project:

A detailed report detailing the project's scope, goals, schedules, resource distribution, and planned approach.

Objective: Set up a distinct plan for carrying out and overseeing the project, guaranteeing alignment among all team members and stakeholders.

- Mobile Application with practical functions:

Description: The comprehensive cross-platform mobile app comes equipped with real-time safety notifications, community bulletin boards, anonymous reporting, and emergency assistance requests.

Purpose: Acts as the primary tool for enhancing community safety and fostering effective communication among residents.

- Prototypes for UI/UX design:

Definition: Elaborate designs and prototypes for User Interface (UI) and user experience (UX) that guarantee the app is easy to use, welcoming, and reachable for users with different technical abilities.

Objective: Improves user-friendliness and guarantees a favorable user interaction, essential for the app's acceptance and efficiency.

-Evaluation and assessments of testing and quality assurance.

Detailed documentation of all testing procedures, such as unit testing, integration testing, performance testing, and user acceptance testing (UAT).

Objective: Guarantees the app adheres to all quality requirements, and operates as planned, and is devoid of serious faults or weaknesses.

- Materials for deployment and training.

Explanation: Materials needed for app deployment on Google Play and Apple App

Store, along with training resources for end-users and administrators.

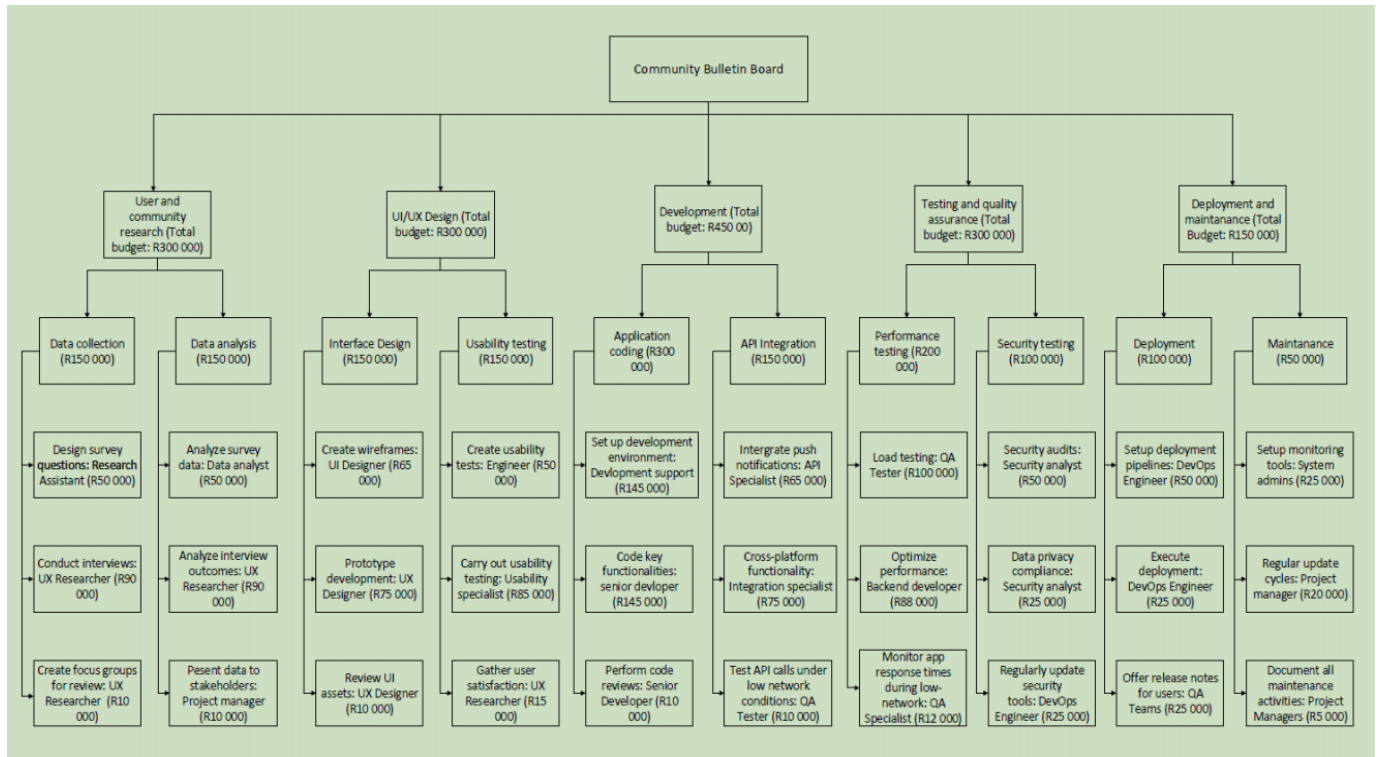
Objective: Eases the deployment process and guarantees that users and stakeholders have the necessary tools to utilize the application efficiently.

These outcomes ensure that the project is carefully designed, implemented, evaluated, and implemented, in line to improve community safety through technological advancements.

(Dlamini, M, & Ndlovu, S. (2021). Security app adoption in urban and rural South Africa: A comparative study. South African Journal of Technology, 9(1), 44-58.)

QUESTION 2

Work breakdown structure:



(Successful Project Management 7th edition – Rose Baker)

QUESTION 3

3.1)

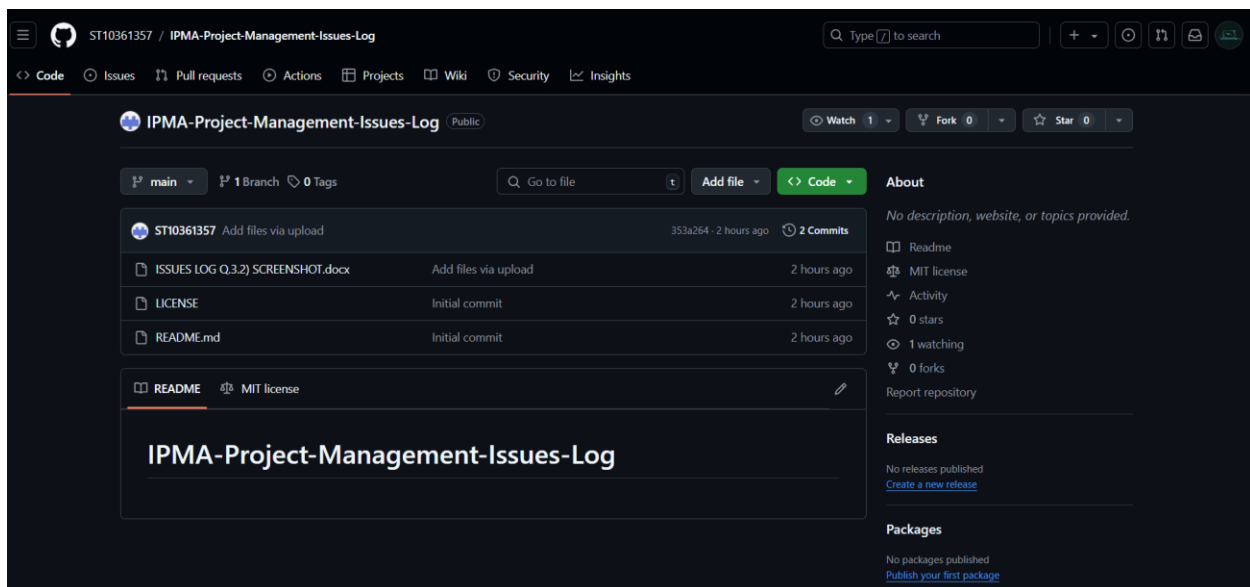
Activity ID	Activity Name	Duration	Dependencies	Assigned To	Cost (R)	Start Date	End Date	Milestone	Responsibility	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
1	Data collection							Milestone 1	Research Assistant (Mpho) UX Researcher (Mangoba)									
	1.1 Design survey questions	2 weeks		Research assistant	50 000	1-Jan-24	14-Jan-24											
	1.2 Conduct interviews	2 weeks	1.1	UX researcher	90 000	15-Jan-24	28-Jan-24											
	Create focus groups for review	2 weeks	1.2	UX researcher	10 000	15-Jan-24	28-Jan-24											
2	Data analysis							Milestone 2	Data Analyst (Sbu) UX Researcher (Mangoba) Project Manager (Tumelo)									
	2.1 Analyze survey data	2 weeks	1.2	Data analyst	50 000	29-Jan-24	11-Feb-24											
	Analyze interview outcomes	2 weeks	1.2	UX researcher	90 000	29-Jan-24	11-Feb-24											
	Present data to stakeholders	2 weeks	2.1, 2.2	Project manager	10 000	12-Feb-24	25-Feb-24											
3	Interface design							Milestone 3	UI Designer (Sbu) UX Designer (Tsholo)									
	3.1 Create wireframes	2 weeks	2.3	UI designer	65 000	26-Feb-24	10-Mar-24											
	3.2 Prototype development	3 weeks	3.1	UX designer	75 000	11-Mar-24	31-Mar-24											
	Review UI assets	Ongoing		UX designer	10 000	1-Apr-24	7-Apr-24											
4	Usability testing							Milestone 4	Engineer (Mpho) Usability Specialist (Sbu) UX Researcher (Mangoba)									
	4.1 Create usability tests	1 week	3.2	Engineer	50 000	8-Apr-24	21-Apr-24											
	Carry out usability testing	2 weeks	4.1	Usability specialist	85 000	8-Apr-24	21-Apr-24											
	Gather user satisfaction	1 weeks	4.2	UX researcher	15 000	22-Apr-24	28-Apr-24											
5	Application coding							Milestone 5	Development Support (Mangoba) Senior Developer (Mpho)									
	5.1 Set up a development environment	2 weeks	4.3	Development support	145 000	29-Apr-24	12-May-24											
	5.2 Code key functionalities	4 weeks	5.1	Senior developer	145 000	13-May-24	9-Jun-24											
	Perform code reviews	Ongoing	5.2	Senior developer	10 000	13-May-24												
6	API integration							Milestone 6	API Specialist (Tsholo) Integration Specialist (Tumelo) QA Tester (Mpho)									
	6.1 Integrate push notifications	2 weeks	5.2	API specialist	65 000	10-Jun-24	23-Jun-24											
	Cross-platform functionality	2 weeks	6.1	Integration specialist	75 000	24-Jun-24	7-Jul-24											
	Test API calls under low network	1 week	6.2	QA tester	10 000	8-Jul-24	14-Jul-24											
7	Performance tesing							Milestone 7	QA Tester (Mpho) Backend Developer (Tsholo)									
	7.1 Load testing	3 weeks	6.3	QA tester	100 000	15-Jul-24	4-Aug-24											
	Optimize performance	2 weeks	7.1	Backend developer	88 000	5-Aug-24	18-Aug-24											
7.3	Monitor app response times during low-network	Ongoing		QA specialist	12 000													
	8 Security testing							Milestone 8	Security Analyst (Tumelo)									
	8.1 Security audits	2 weeks	7.2	Security analyst	50 000	19-Aug-24	1-Sep-24											
	8.2 Data privacy compliance	1 week	8.1	Security analyst	25 000	2-Sep-24	8-Sep-24											
8.3	Regularly update security	Ongoing	8.1	DevOps engineer	25 000	9-Sep-24												
	9 Deployment							Milestone 9	DevOps Engineer (Sbu)									
	9.1 Setup deployment pipelines	1 week	8.2	DevOps engineer	50 000	9-Sep-24	15-Sep-24											
	9.2 Execute deployment	1 week	9.1	DevOps engineer	25 000	16-Sep-24	22-Sep-24											
9.3	Offer release notes for users	Ongoing	9.2	QA teams	25 000	23-Sep-24												
	Maintanance							Milestone 10	System Admins (Sbu) DevOps Engineer (Sbu) QA Teams (Manqoba) Project Manager (Tumelo)									
	10.1 Setup monitoring tools	1 weeks	9.2	System admins	25 000	23-Sep-24	29-Sep-24											
	10.2 Regular update cycles	Ongoing	10.1	Project manager	20 000	30-Sep-24												
10.3	Document all maintenance activities	Ongoing	10.1	Project manager	5 000	30-Sep-24												

3.2)

Issues name	Assignees	Labels	Projects	Milestones
Design Survey Questions	Mpho and Manqoba	Research, UX	Survey Design	Milestone 1
Analyze survey and interview data	Sbu, Manqoba and Tumelo	Data analysis	Data Review	Milestone 2
Create wireframes	Sbu and Tsholo	Design, Frontend	UI/UX Design	Milestone 2
Usability testing	Mpho, Sub and Manqoba	Testing, UX	Usability Testing	Milestone 3
Code key functionalities	Manqoba and Mpho	Development, Backend	Development	Milestone 3
Security audits	Tumelo	Security compliance	Security Review	Milestone 3
Deployment and monitoring	Sbu, Manqoba and Tumelo	DevOps, Monitoring	Post-Deployment Support	Milestone 4

(Meredith, 2017).

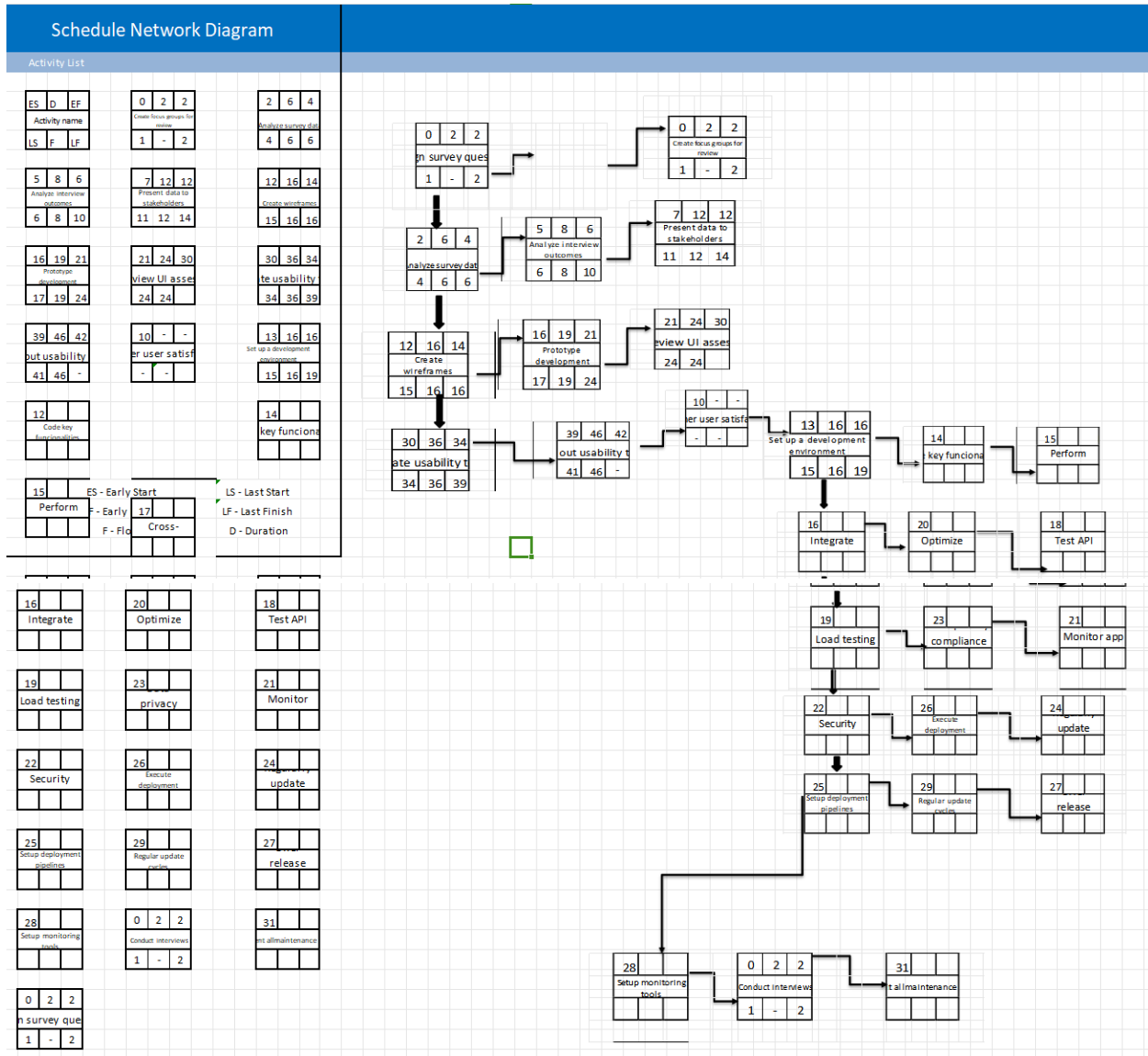
Git Hub Screenshots:



[ST10361357/IPMA-Project-Management-Issues-Log \(github.com\)](https://github.com/ST10361357/IPMA-Project-Management-Issues-Log)

QUESTION 4

4.1)



(Meredith, 2017)

4.2)

Based on the network diagram, the project should be completed before the deadline. The critical path was identified, and by ensuring that tasks along this path are completed on time, we can avoid any delays in the overall schedule. Non-critical tasks have some flexibility, allowing slight delays without impacting the final deadline. Regular monitoring of progress and prompt management of any risks or delays will ensure the project stays on track for timely completion.

(Meredith, 2017).

QUESTION 5

Q.5.1 Peer Evaluation Report

Peer Evaluation Report

Group Name: CBBA

Date: 2024/10/04

ST10371890

CRITERIA	NEVER (0)	SELDOM (1)	FREQUENTLY (2)	ALWAYS (3)	SCORE
1. The student brought valuable ideas to the project and completed high-quality work.				3	
2. The student completed their assignments as planned.			2		
3. The student effectively handled their time and met deadlines.			2		
4. The student worked as part of a team when relevant.				3	

5. The student took up a significant share of the work and was an eager team member.				3	
6. The student helped others to be successful and worked well with other team members.				3	

TOTAL SCORE: 16

Name: Mpho Glan Malinga

Signature: Malinga

Q.5.2 Self-Reflection Report

Introduction

The goal of this assignment project was to improve my knowledge of cooperation, time management, and job completion in a real-world setting. The collaboration allowed us to gain essential skills and insights that would be useful in future work contexts. The project allowed me to apply academic principles in real-world scenarios, promoting professional development and interpersonal skills.

Acquired Abilities

Throughout this project, I learned and applied multiple skills.

- Special practices in specific industries
I gained knowledge on creating media kits and tracking project advancement, both essential for achieving a polished outcome for our project. For instance, I oversaw putting together papers for our ultimate display.
- Skills in communicating with others.
Good communication was crucial during the project, particularly in feedback sessions and brainstorming meetings. I participated in team conversations by providing suggestions and playing a key role in making decisions.
- Skills in managing tasks and people.
Effective project management depended largely on how time was managed. I organized my tasks based on deadlines and managed unforeseen issues by providing solutions promptly during difficulties.

Role on the team

Throughout the job, our team worked well together. My responsibilities included leading some of the talks and coaching others through the assignment. I contributed to the overall success by delegating tasks, assisting others in achieving their goals and settling issues that developed during brainstorming sessions.

Research, Technology, and Information Presentation

I performed research by searching for relevant industry papers and collected supplier information. I mostly used the internet and internal databases to get information. The material was then presented in a systematic fashion, which was critical to ensuring clarity throughout the process.

Personal Strengths and Weaknesses

Strengths:

Effective communication.

Strong leadership.

Time management.

Creative problem-solving.

Teamwork and cooperation.

Weaknesses:

I occasionally struggled with multitasking under duress. I understood that enhancing my delegating abilities and establishing clear limits may help me overcome this difficulty. In the future, I intend to focus more on task prioritization and time management.

Stakeholder Relationships

I had a good working connection with my teammates since we supported each other and shared our knowledge. Some areas of communication may have been better managed to minimize small misunderstandings, but I feel we collaborated effectively overall. To build these ties, I will prioritize clearer communication and solicit feedback from all team members.

Effect

I made decisions and provided leadership, as well as helped with the project's final submission as part of the team. I believe that my skills in motivating the team and coordinating tasks helped the group achieve high-quality outcomes. I might boost my impact by showing more initiative in suggesting technical solutions for the team's issues.

Final thoughts

In conclusion, this project was an amazing learning opportunity that allowed me to enhance my collaboration, communication, and time management skills. The challenges we faced were development opportunities, and I believe that the knowledge I gained from this project will be beneficial in my future endeavors.

REFERENCE LIST

Dlamini, M, & Ndlovu, S. (2021). Security app adoption in urban and rural South Africa: A comparative study. *South African Journal of Technology*, 9(1), 44-58.

Gido, J., Clements, J.P. and Baker, R. (2018). *Successful project management*. Singapore: Cengage Learning Asia Pte Ltd.

Kumar, A., & Zhang, P. (2019). Cross-platform mobile development for security applications using Flutter. *International Journal of Software Development*, 14(2), 112-125.

Meredith, J. R., Shafer, S. M., & Mantel, S. J. (2017). *Project Management: A Managerial Approach* (10th ed.). Wiley.

Smith, J., & Williams, T. (2020). Community-based security: The role of mobile apps in neighborhood safety. *Journal of Mobile Technology*, 12(3), 215-230.