UTM

UNIVERSITI TEKNOLOGI MALAYSIA

UNIVERSITI TEKNOLOGI MALAYSIA SEMESTER 1 SESSION 2024/2025

SCHEDULE MANAGEMENT SYSTEM

Project 1: Cloud-Based Task Management System with Collaborative Features

SECD2613: SYSTEM ANALYSIS AND DESIGN

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GROUP NAME : Sunflower

COURSE : 1 SECBH

LECTURER'S NAME : DR. AHMAD NAJMI BIN AMER HAIDER NUAR

GITHUB REPOSITORY : https://github.com/nazatulnadhirah/Sunflower_Project1_SAD_20232024

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1.0 INTRODUCTION

As undergraduate students majoring in Bioinformatics at Universiti Teknologi Malaysia (UTM), we are committed to pursuing academic excellence. To fulfil the requirements for the Systems Analysis and Design course (SECD2613), we undertook this project to demonstrate our capabilities in this important area. This project allowed us to apply theoretical knowledge to a real-world challenge, developing a practical solution that could have a significant impact on the academic writing experience.

We believe that a cloud-based thesis management system can address current limitations and enable students and supervisors to navigate the thesis writing process more easily and effectively. The following sections of this proposal will delve deeper into the current challenges of the traditional thesis writing process, followed by a detailed description of the proposed cloud-based management system, its features, and its features.
it and the potential benefits it brings to the academic community.

2.0 BACKGROUND STUDY

The current manual processes for task management in academic settings are often cumbersome and inefficient, relying on pen and paper, spreadsheets, and basic project management tools. These methods lack the ability to handle the complexity and volume of tasks involved in research and paper writing, leading to missed deadlines, duplicated efforts, and a lack of visibility into project progress.

3.0 PROBLEM STATEMENT

The academic world, particularly research-intensive environments, faces a critical roadblock: the inefficiency of managing complex thesis writing projects. Lecturers and postgraduate students currently rely heavily on traditional, manual processes like pen and paper, spreadsheets, and basic project management software. These methods, while familiar, are demonstrably inadequate for the intricate demands of academic research and writing.

These manual processes are plagued by several limitations. Data entry for tasks, deadlines, and communication notes in spreadsheets and notebooks is time-consuming and prone to errors. This human element introduces the potential for inaccuracies, missed deadlines, and wasted time spent on corrections. Furthermore, traditional methods hinder real-time collaboration and co-writing of thesis documents. Version control issues arise from using email attachments and external cloud storage solutions. Feedback exchange becomes fragmented, lacking a centralized platform for discussions and annotations on drafts.

Spreadsheets and notes also fail to provide a comprehensive view of project progress. Both students and supervisors struggle to track overall completion, identify potential delays, or adjust timelines effectively. This lack of transparency can lead to confusion and missed opportunities to address issues before they escalate. Inefficient workflows translate to wasted time spent on manual updates, sorting through documents, and clarifying communication through scattered email threads. These activities detract from the core research and writing activities critical for academic success.

The limitations of manual processes have significant negative impacts on the academic writing experience. The inefficiencies can significantly delay thesis completion due to missed deadlines and overall workflow hangups. The stress associated with missed deadlines, confusion, and disorganization can negatively impact the well-being of postgraduate students. Time wasted on manual tasks and communication management reduces overall efficiency and productivity for both students and supervisors. Lack of centralized communication platforms can lead to misunderstandings and breakdowns in communication between students and supervisors. Disorganization and inefficiency can hinder the quality of research and writing, potentially leading to subpar thesis work.

The current methods for managing thesis writing are outdated and hinder the success of both students and supervisors. There is a critical need for a more efficient, collaborative, and cloud-based solution specifically designed to address the challenges faced in academic research and writing projects. By implementing a new approach, we can create a more streamlined and productive workflow, fostering academic excellence and a more positive learning environment for all stakeholders.

4.0 Proposed Solutions (include feasibility study – technical, operational, economical - CBA)

This paper proposes a solution: a cloud-based thesis management system designed specifically to address these pain points. This innovative platform will empower postgraduate students and their supervisors to navigate the thesis writing process with greater efficiency, organization, and collaboration. By replacing outdated manual processes with a centralized and user-friendly system, this project aims to Reduce wasted time. Eliminate the need for cumbersome tasks like creating and updating multiple spreadsheets or managing versions of documents through email attachments. Secondly, to enhance collaboration by foster seamless communication and real-time co-editing of drafts between students and supervisors. It can also improve organization by providing a central platform to manage tasks, deadlines, and project milestones, ensuring everyone remains on the same page. Next, it is to increase transparency. Offering supervisors a clear view of student progress and facilitate timely feedback exchange. Lastly, to boost productivity by equipping students and supervisors with the necessary tools to streamline the thesis writing process, allowing them to focus on the core research and writing tasks.

This cloud-based system has the potential to revolutionize the thesis writing experience for postgraduate students and their supervisors. By transforming the traditional, often cumbersome process into a more efficient and collaborative one, this project aims to significantly improve the quality and timeliness of thesis completion.

Feasibility Studies

Technical

The proposed system will be developed using modern web technologies, ensuring compatibility with current infrastructure and while providing a user-friendly interface for both stakeholders and students. The system will include features such as deadline tracking, progress monitoring and collaboration tools to facilitate teamwork on research projects.

Operational

To minimize disturbance to ongoing operations, the system will be designed to interface easily with the current academic workflows. It will also be scalable to meet the various requirements of different research projects

Economical

Estimated Cost	
Software	RM 15 000
Training	RM 30 000
Design	RM 25 000
Consulting	RM 22 000
Maintenance	RM 2 600 per year
Data Backup and Security	RM 20 000 per year

Assumptions	
Discount Rate	15%
Annual change in production costs	7%
Annual change in benefits (inventory)	15%
Annual change in benefits (improve strategic alignment)	20%

Estimated Benefits	
Inventory costs	RM 50 000
Improve strategic alignment	RM 60 000

Costs	Year 0	Year 1	Year 2	Year 3
Development Costs - Software - Training - Design - Consulting	 15 000 30 000 25 000 22 000			
Total	92 000			
Production Costs - Maintenance - Data Backup and Security		 2 600 20 000	 2 782 21 400	 2 977 22 898
Total		22 600	24 182	25 875
Annual Prod.Cost (Present Value)		19 652	18 285	17 013
Accumulated Costs		111 652	129 937	146 950

Benefits	Year 0	Year 1	Year 2	Year 3
- Reduced inventory costs - Improve strategic alignment (Present Value)		50 000 60 000	57 500 72 000	66 125 86 400
Total		110 000	129 500	152 525
Accumulated benefits (Present Value)		95 652 95 652	97 920 193 572	100 287 293 859
Gain or Loss (Acc Benefit – Acc Cost)		(16 000)	63 635	146 909
Profitability Index	1.59			

Since profitability index = 1.59, therefore it shows that this project is a good investment because of its index is more than one.

5.0 OBJECTIVES

The proposed cloud-based thesis management system aims to address the limitations of traditional thesis writing processes by focusing on several key objectives which are to:

- Enhance efficiency and streamline workflows. This is to reduce time wasted on manual tasks like creating and updating spreadsheets, managing multiple document versions, and sending emails. Automate task creation and deadline tracking to improve time management and prevent missed deadlines. This is to provide centralized access to all project information, minimizing time spent searching for documents or clarifying communication gaps.

- Improved collaboration and communication. Facilitate real-time co-editing of thesis documents, enabling collaborative writing and seamless feedback exchange between students and supervisors. To offer a dedicated communication platform within the system to eliminate reliance on email and ensure clear, documented communication throughout the project. This is also to improve transparency and visibility of project progress for both students and supervisors.

- Increase organization and visibility. Providing a centralized platform for managing all thesis-related tasks, documents, and communication threads. Implement visual dashboards and progress tracking tools to offer a clear overview of project status and identify potential roadblocks. Also to offer secure cloud storage for thesis documents with version control functionality, eliminating confusion around outdated versions and ensuring data security.

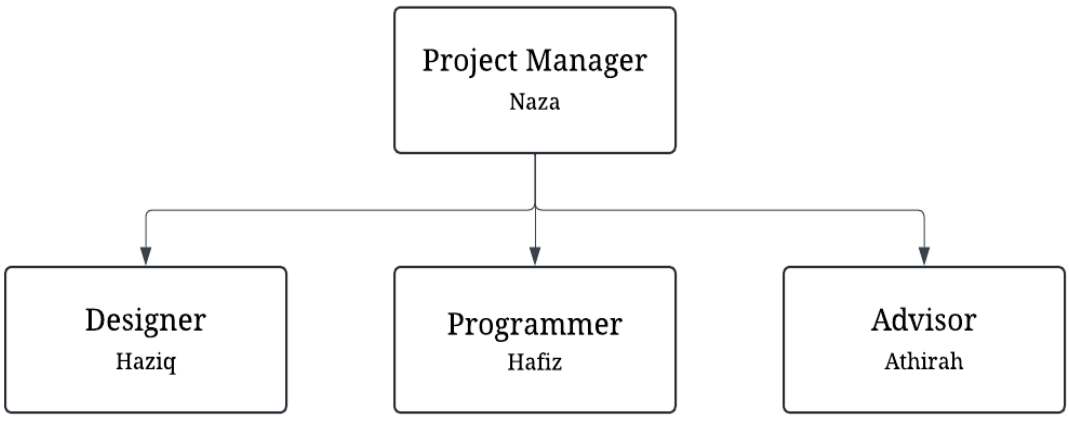
6.0 Scope of the Project

This cloud-based thesis management system targets a specific set of users and stakeholders within the academic environment. The primary users are postgraduate students: The system is designed to directly benefit postgraduate students engaged in thesis research and writing. It will provide them with tools to manage tasks, collaborate with supervisors, track progress, and improve overall efficiency in the writing process. Next is supervisors. Professors and lecturers who guide postgraduate students through the thesis process will also be primary users. The system will facilitate communication, provide a platform for real-time feedback exchange on drafts, and enhance visibility into student progress.

The secondary stakeholders are university administration. While not directly using the system, university administrators have a vested interest in the success of postgraduate programs. The improved efficiency and streamlined workflows offered by the system can potentially lead to faster thesis completion times and higher quality research output, ultimately benefiting the university's academic reputation.

7.0 Project Planning

7.1 Human resources



Project Manager: Nazatul Nadhirah binti Sabtu

- Oversees task management and progress tracking for the cloud system
- Assigns tasks to team members and ensures timely completion

Designer: Muhammad Haziq bin Mohd Hafizal

- Develops initial design concepts and user interface mock-up's for the cloud system
- Refines design elements and ensures consistency in the user experience

Programmer: Muhammad Hafiz Bin Mohd Shaharuddin

- Designs the architecture and functionality of the cloud system
- Implements and tests the system's features, ensuring scalability and reliability

Advisor: Nurul Athirah Syafiqah binti Mohd Razali

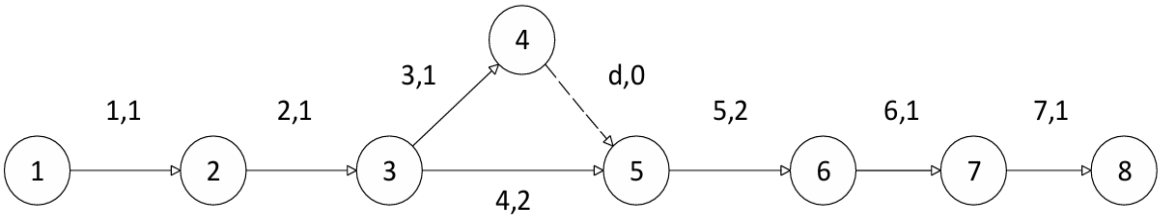
- Provides expert guidance on cloud technology and best practices
- Reviews project milestones and offers feedback to optimize system performance

7.2 Work Breakdown Structure (WBS)

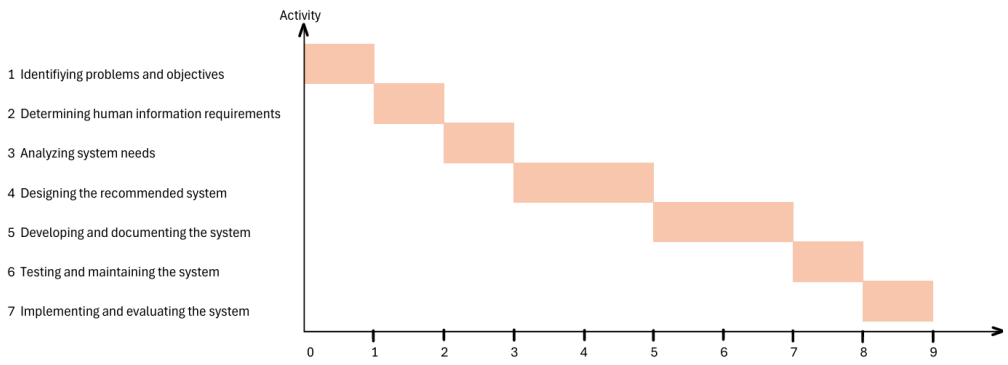
ACTIVITY	PREDECESSOR	DURATION (week)
1. IDENTIFYING PROBLEMS AND OBJECTIVES	NONE	1
2. DETERMINING HUMAN INFORMATION REQUIREMENTS	1	1
3. ANALYZING SYSTEM NEEDS	2	1
4. DESIGNING THE RECOMMENDED SYSTEM	2, 3	2
5. DEVELOPING AND DOCUMENTING THE SYSTEM	3, 4	2

6. TESTING AND MAINTAINING THE SYSTEM	5	1
7. IMPLEMENTING AND EVALUATING THE SYSTEM	5, 6	1

7.3 PERT Chart (based on WBS)



7.4 GANTT Chart



8.0 Benefit and Overall Summary of Proposed System

The proposed cloud-based proposal administration framework offers a comprehensive arrangement to address the current inadequacies of conventional proposal composing forms. By giving a user-friendly and collaborative stage with a centre on effectiveness, organization, and communication, this framework has the potential to essentially make strides the involvement for both understudies and bosses. This inventive approach can lead to

Quicker Proposal Completion:
Streamlined workflows and moved forward communication can essentially diminish delays and assist proposal completion.

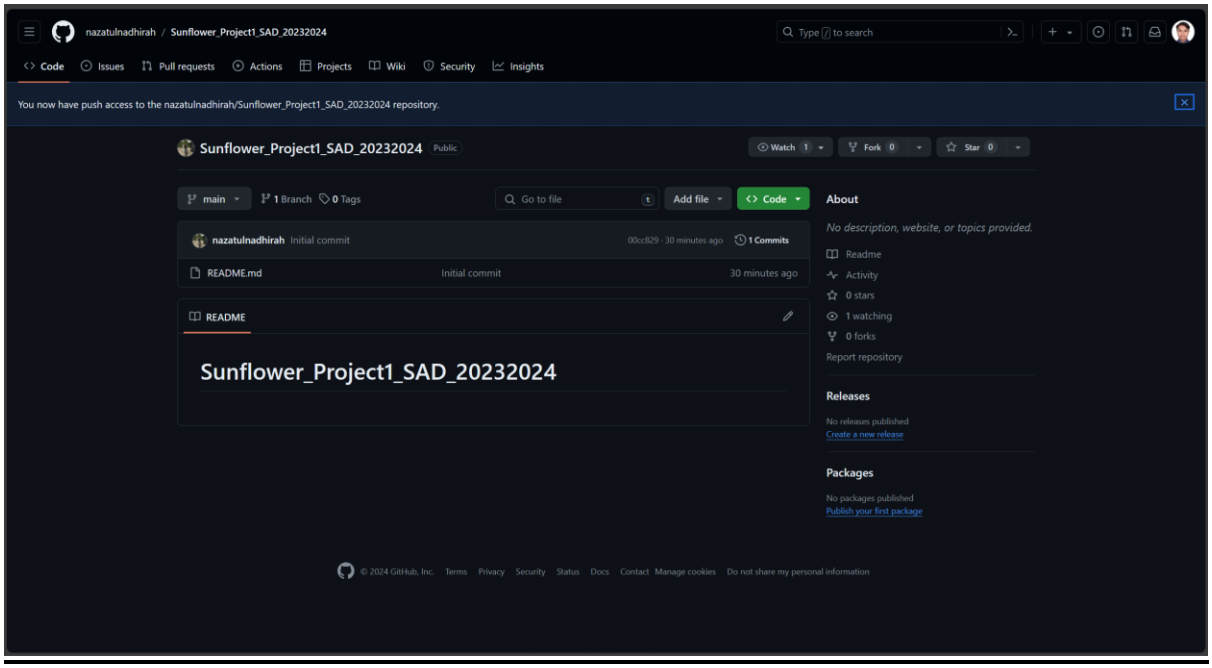
Higher Quality Proposition Work:
Upgraded collaboration, organization, and centre on centre inquire about exercises can lead to moved forward proposition quality.

Expanded Understudy and Boss Fulfilment:
A more effective and profitable composing involvement can lead to expanded fulfilment for both understudies and administrators.

Positive Affect on Scholarly Environment:
By cultivating a more effective and collaborative investigate and composing culture, this framework can contribute to a more positive scholastic environment for all partners.

This cloud-based proposal administration framework has the potential to revolutionize the way postgraduate proposition ventures are overseen, driving to a more productive, collaborative, and eventually, more fruitful scholastic involvement.

9.0 GITHUB REPOSITORY SNAPSHOT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Type / to search
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You now have push access to the nazatulnadhirah/Sunflower_Project1_SAD_20232024 repository.
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Public
Watch 1
Fork 0
Star 0
main
1 Branch
0 Tags
Go to file
Add file
Code
About
No description, website, or topics provided.
nazatulnadhirah Initial commit
00cc829 · 30 minutes ago
1 Commits
README.md
Initial commit
30 minutes ago
Readme
Activity
0 stars
1 watching
0 forks
Report repository
README
Releases
No releases published
Create a new release
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