SEMESTER 2 2023/2024

SYSTEM ANALYSIS AND DESIGN

(SECD2613)

PHASE 1

PROJECT PROPOSAL AND PLANNING

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SECTION

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1.0 INTRODUCTION

The management system requires consideration as well as knowledge of the current educational environmental conditions that place a high value on academics. Especially in faculties involving intensive research and paper writing, effective task management is essential. In this project, we are given the task to upgrade the task management for paper writing and publication for postgraduate students. The current manual processes utilized by lecturers and postgraduate students are inefficient and limited, so a specialized task management system was created. The goal of the project is to create from the traditional way to an easier way of managing tasks in academic settings.

We are creating and developing into place a centralized task management system designed for writing and publishing academic papers. The availability in the system is a user-friendly interface. Moreover, the goal is to facilitate smooth communication and coordination among faculty members and postgraduate students. Manage the progress tracking and status updates to make it easier for the user. Furthermore, our system is designed to scale with user bases and project demands without sacrificing usability or efficiency. The system can assist the users in more efficiently allocating their time and resources with the algorithm.

2.0 BACKGROUND STUDY

Task management for paper writing and publication for postgraduate students has traditionally way of managing tasks in academic settings primarily involving using some application. For example, Excel sheets and Notepad applications. Due to that, tasks are listed in a spreadsheet and noted are hard to check and take time. Task management is trying to manage several technologies at once for scheduling, task listing, tracking progress, and communicating results. Besides, timelines are manually created in a separate Excel column or maintained in calendars and require frequent manual updates as project timelines shift. Then, in the current system progress is manually tracked by updating the status of tasks in Excel. This frequently involves classifying jobs as finished, in progress, or pending using color coding. In addition, the manual setup of alerts and reminders in digital calendars or notes means that they are not integrated with task lists and must be regularly maintained in sync.

3.0 PROBLEM STATEMENT

3.1 Operation inefficiency and time-consuming

Manual task recording and updating requires a significant time, and effort commitment and takes important resources from important academic work. Task management is trying to manage several technologies at once for scheduling, task listing, tracking progress, and communicating results in fragmented processes and lower productivity

3.2 Lack of Real-Time Collaboration

The smooth flow of ideas and cooperation between team members is hampered by the lack of real-time collaboration options. Collaboration breaks down in the absence of synchronized updates and shared visibility into task status which encourages misunderstandings and pointless work.

3.3 Be prone to negligence and errors

In academic settings where project requirements and deadlines are constantly changing, manual task management is inherently prone to errors. Deadlines that are missed, oversights, inconsistent version control and updates that are missed compromise the dependability and quality of research results.

3.4 Limited Accessibility

Only a small group of stakeholders have access to task-related information due to the localized storage of Excel files or notes. These restrictions make it difficult for team members to share knowledge and collaborate easily which could delay the advancement of research initiatives.

3.5 Scalability Issues

Manual systems find it difficult to handle growing user bases and demands as job volumes and complexity increase. Insufficient scalability leads to increased workload, less effectiveness and an incapacity to adjust to changing project circumstances.

3.6 Challenge in Task Prioritization

Postgraduate students and faculty members capacity to manage time and resources efficiently is hampered by the manual task management processs lack of systematic approach to work prioritization. Students could find it difficult to recognize and take care of the most important activities right once without defined prioritization criteria and tools to help with decision-making. This is because it will cause delays in project completion and possible inconsistencies in reaching project objectives and deadlines.

4.0 PROPOSED SOLUTION

Implementation of an Integrated Task Management System

Develop and put into place a centralized task management system designed especially for writing and publishing academic papers. Task listing, scheduling, progress tracking, collaboration, and communication should all be available in this system under a single and user-friendly interface.

Real-Time Collaboration Integration

To enable smooth communication and coordination between faculty members and postgraduate students, we decided to integrate real-time collaboration capabilities into the task management system. To improve collaboration and cut down on time, features like instant chat, version control, comments, and real-time document editing should be included

Progress Tracking and Status Updates

Transparent communication and accountability are facilitated by the ability for users to follow task progress in real-time, update status, and receive notifications on completed ongoing, or pending activities.

Enhanced Accessibility and Scalability

Ensure the task management system is universally accessible by offering online and mobile interfaces that are available to all parties involved. Besides, consider scalability while designing the system to handle expanding user bases and project demands without sacrificing usability or efficiency

Implementation of Task Prioritization Algorithms

To help users find and quickly take care of the most important activities, including task prioritization algorithms in the task management system. Using preset criteria or user-specified priorities, the system can assist users in more efficiently allocating their time and resources which can minimize delays and improve project results.

Automation of Task Reminders and Alerts

To notify users of impending deadlines, task assignments and updates, automate the task management systems generation of task reminders and alerts. Reminders and alarms can be integrated into the system immediately, so that the users can stay informed and proactive without requiring additional tools or manual interventions.

4.1 Technically Feasibility

The technical feasibility of implementing a Task Management System (TMS) for postgraduate paper writing and publication can ensure the availability of modern technologies and development tools. Thus to realize the Task Management System, the following contents will be needed:

- Integration
  To promote the smooth data transmission and improve user experience, the TMS can integrate with current academic platforms and tools such as learning management system or institutional repositories.
- Security
  Implementing authentication procedures, data encryption and role-based access control can ensure the security and privacy of academic research data stored within the Task Management System.
- Infrastructure
  The TMS can be developed as a web-based application that makes use of cloud infrastructure. This requires standard web development tools such as JavaScript, HTML5, and so on.

4.2 Operational Feasibility

The Task Management System revolves around its usability, integration, and interaction with academic procedures are key factors in determining its operational viability. Hence, the following are the main points we need to consider:

- User Acceptance
  Involving stakeholders at every stage of development such as lecturers, administrators, postgraduate students, and IT support staff. This is to ensure alignment with their requirements and preferences and foster a sense of ownership.
- Training and Support
  Providing comprehensive user materials, tutorials, and continuous technical assistance helps to ensure a smooth TMS adoption process and minimize interruptions to academic operations during the transition period.
- Change Management
  Implement the change management techniques into practice such as doing pilot tests, proactively resolving issues, and soliciting feedback. you may lessen resistance to change and foster a continuous improvement culture. This

may help mitigate resistance to change and foster a continuous improvement culture.

4.3 Economic Feasibility

Cost-Benefits Analysis (CBA)

ESTIMATED COST	
Hardware	RM22500
Software	RM18000
Maintenance	RM8000 per year
Training	RM7500
IS support	RM6000 per year
Upgrades	RM6500 per year

ASSUMPTIONS	
Discount rate	10%
Annual change in production costs	5%
Annual change in benefits	6%
Sensitivity factor(costs)	1.1
Sensitivity factor(benefits)	0.9

ESTIMATED BENEFITS	
Increase revenue	RM20000
Savings	RM30000
Reduced Risks	RM8000

Costs	Year0	Year1	Year2	Year3	Year4	Year5
Hardware	24750					
Software	19800					
Training	8250					
Total	52800					
Production Cost						
Maintenance		8800	9240	9702	10187	10696
Upgrade		7150	7508	7883	8277	8691
IS support		6600	6930	7277	7640	8022
Annual Prod.Costs		22550	23678	24862	26104	27409
(Present Value)		20500	19569	18679	17829	17019
Accumulated Costs		73300	92869	111548	129377	146396

Benefits	Year0	Year1	Year2	Year3	Year4	Year5
Increase Revenue		18000	19080	20225	21438	22725
Savings		27000	28620	30337	32157	34087
Reduced Risks		7200	7632	8090	8575	9090
Annual Benefits		52200	55332	58652	62170	65902
(Present Value)		47455	45729	44066	42463	40920
Accumulated Benefits		47455	93184	137250	179713	220633
Gain or Loss		-25845	315	25702	50366	74237
Profitability Index	1.41					

Through the calculation, we can see that the profitability index is 1.41. Thus, this is a good investment because the value of index is greater than 1. Although we lose around RM25845 in first year, but it increases quickly after that. Our system is estimated to get RM74237 in year 5 so we will get back the cost and be rewarded in the next few years.

5.0 OBJECTIVE

- Develop and deploy a specialized task management system tailored for postgraduate students engaged in paper writing and publication.
- Revolutionize and optimize the academic journey by providing a meticulously crafted digital platform.
- Streamline multifaceted facets of academic writing while fostering heightened levels of productivity and seamless collaboration among researchers.
- Empower users with intuitive user interfaces and advanced functionalities.
- Enable users to effortlessly create, assign, monitor, and communicate tasks pertinent to their research projects.
- Catalyze the efficient and timely completion of tasks, ultimately culminating in the successful publication of high-caliber research papers.
- Contribute significantly to the academic and intellectual landscape.

6.0 SCOPE OF PROJECT

6.1 System

- Develop a centralized task management system custom-made for academic paper writing and publication
- Design a user-friendly interface with an instinctive route and clear communication.
- Implement collaborative features for real-time communication and report sharing.
- Ensure adaptability to accommodate developing user bases and project demands.
- Incorporate calculations to help with task prioritization and resource allocation.
- Establish strong security measures to protect touchy academic information

6.2 User

- Conduct user inquiries about to understand the needs, preferences, and torment focuses of faculty members and postgraduate students.
- Create user personas speaking to diverse stakeholders to direct framework design.
- Prioritize user encounters by planning instinctive interfacing and customizable workflows.
- Provide comprehensive training and support materials for fruitful appropriation and usage.
- Gather feedback from users to ceaselessly improve the framework based on their advancing needs.

6.3 Project Management

- Develop a project plan with clear timelines, points of reference, and resource allocations.
- Assign parts and duties to group individuals included in system development and deployment.
- Monitor project advance and relieve risks to guarantee opportune delivery within budget
- Establish communication channels for regular updates, collaboration, and feedback.

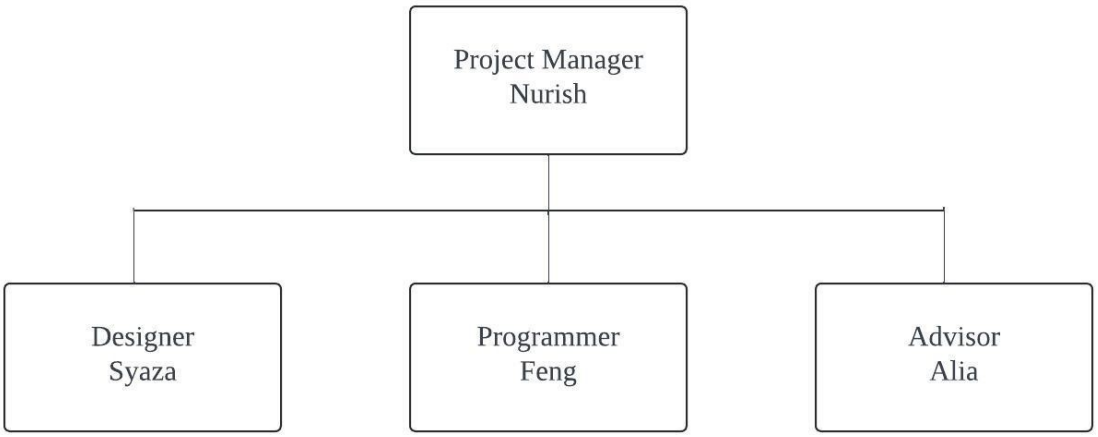
6.4 System and Design

- Conduct a thorough analysis of current manual forms and recognize areas for improvement.

- Gather system requirements through stakeholder interviews, surveys, and workshops.
- Create system design and plan determinations based on requirements.
- Perform ease-of-use testing to approve plan decisions and recognize potential enhancements

7.0 PROJECT PLANNING

7.1 HUMAN RESOURCE



Project Manager : Nurish Syafiqa Binti Hazlan

- Oversees the completion and advancement of assignments oversees the completion and advancement of assignments
- Gives folks duties to do

Designer: Syaza Syafiah Binti Ahmad Akmal

- Create a wireframe for the website's initial drawings.
- Improve the prototype websites design.

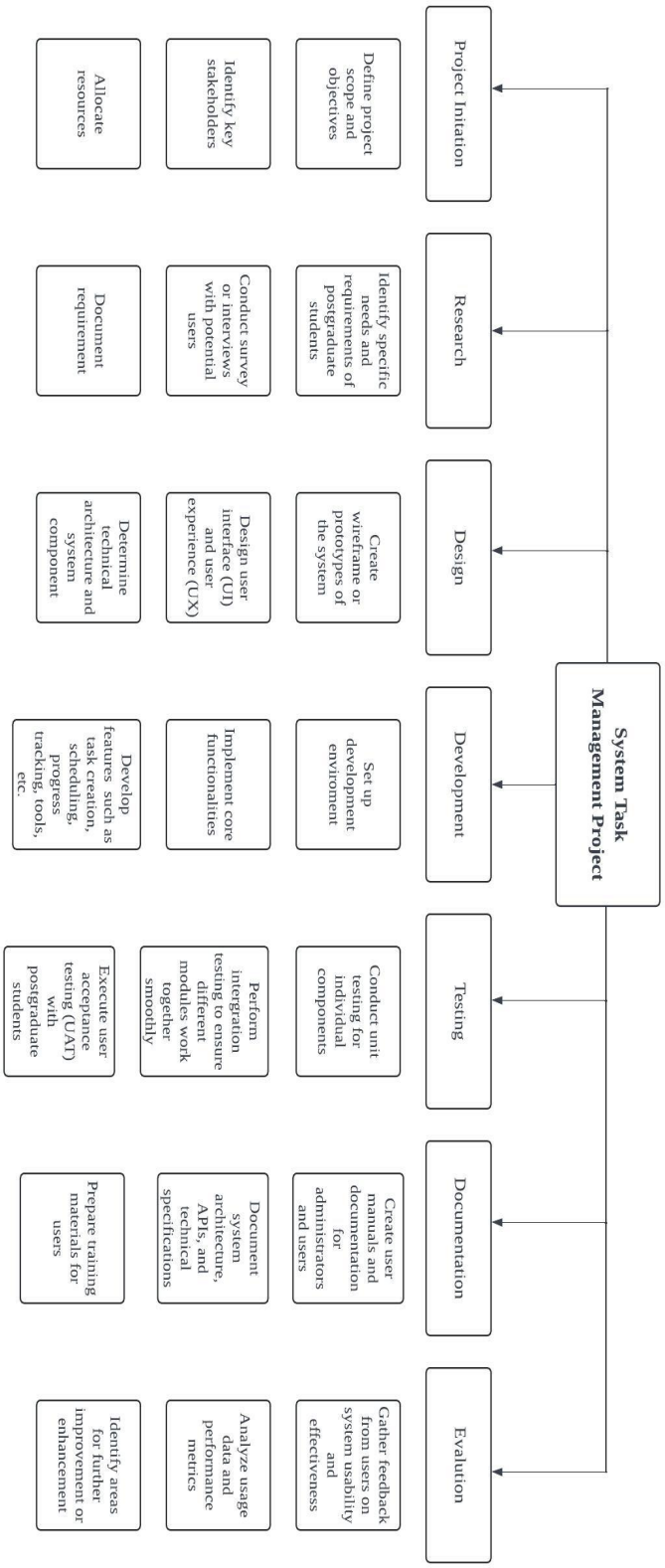
Programmer: Liow Jia Feng

- Create a programmable website using design guidelines.

Advisor: Alia Natasha Binti Mohd Hafizar

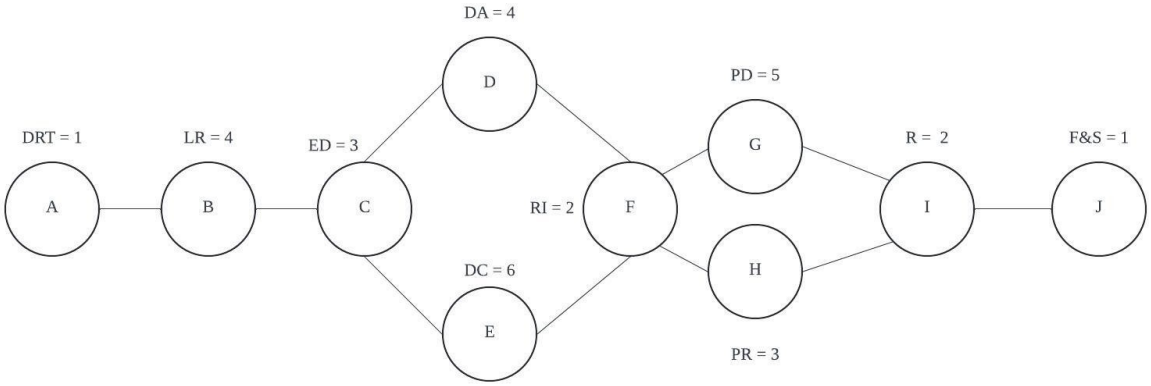
- Evaluate the work in progress
- Recognise and highlight areas for improvement.

7.2 WORK BREAKDOWN STRUCTURE (WBS)



7.3 PERT CHART

ACTIVITY	DESCRIPTION	TIME (WEEKS)	PREDECESSORS
A	Define Research Topic	1	NONE
B	Literature Review	4	A
C	Experimental Design	3	B
D	Data Collection	6	C
E	Data Analysis	4	C
F	Result Interpretation	2	D,E
G	Paper Drafting	5	B,C,D,F
H	Peer Review	3	F
I	Revision	2	G,H
J	Finalization and Submission	1	I



7.4 GANTT CHART

Activity																										
Define Research Topic																										
Literature Review																										
Experimental Design																										
Data Collection																										
Data Analysis																										
Result Interpretation																										
Paper Drafting																										
Peer Review																										
Revison																										
Finalization and Submission																										
Duration	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**

8.0 BENEFIT AND OVERALL SUMMARY PROPOSED SYSTEM

The proposed gadget for mission administration in paper composing and publication for postgraduate college understudies offers a few gifts and gives a total strategy to streamline the frequently complicated procedure of guidelines research and publishing. Heres a beat level see of the Favors and a rundown of the proposed framework:

Benefits:

- **Efficiency**

  The gadget complements proficiency by utilizing giving a centralized stage for managing with all angles of paper composing and publication. This incorporates wander challenge, advancement following, collaboration, and due date control.
- **Organization**

  Postgraduate college understudies can superiorly plan their research obligations, writing studies, data assessment, and composing strategy in the framework. This makes a difference avoid errands from falling through the splits and ensures an organized procedure to paper enhancement.
- **Collaboration**

  The gadget empowers collaboration among college understudies, advisors, and co-authors. It licenses for consistent communication, record sharing, and real-time collaboration on archives, driving to ventured forward cooperation and productiveness.
- **Deadline Administration**

  By advertising updates and notices for cut-off dates, the gadget makes a difference college understudies live on track and meet wander points of reference in a well-planned way. This diminishes the likelihood of closing-minute surges and progresses widespread challenge control.
- **Feedback Circle**

  The machine licenses a streamlined comments circle in which advisors and peers can offer comments and recommendations without delay in the stage. This cultivates iterative enhancement and upgrades the first-class of research yield.
- **Version Control**

  Adaptation capabilities make certain that each one emphases of the paper are followed and open, permitting for simple reference and returning to going before varieties if needed. This advances straightforwardness and obligation in the composing strategy.

- **Publication Following**
  The framework can combine with distribution databases and scholarly diaries to melody accommodation time limits, assessment notoriety, and book impacts. This empowers understudies uncover the advance of their entries and live educated approximately the status of their work.

Proposed Framework Summary:

The proposed framework for errand administration in paper composing and distribution for postgraduate understudies is a web-based stage planned to streamline the whole inquire about and distributing handle. Key highlights of the framework include:

- **Task and Following**
  Understudies can make errands, dole out them to group individuals, and track advance in real-time. Assignments can be categorized based on venture stages, such as writing survey, information collection, composing, and revision.
- **Collaborative Composing Environment**
  The framework gives a collaborative composing environment where numerous clients can work on the same record at the same time. Adaptation control guarantees that changes are followed, and clients can take off comments and recommendations for each other.
- **Deadline Updates and Notices**
  Clients get mechanized updates and notices for up-and-coming due dates, guaranteeing that imperative breakthroughs are not missed.
- **Integration with Distribution Databases**
  The framework coordinating with scholastic distribution databases and diaries, permitting clients to track accommodation due dates, survey status, and distribution results straightforwardly inside the platform.
- **Feedback and Survey Framework**
  Clients can request criticism from advisors and peers inside the framework, encouraging a straightforward and productive survey process.
- **Analytics and Announcing**
  The framework gives analytics and detailing highlights to track extend advance, recognize bottlenecks, and degree efficiency metrics.

Overall, the proposed framework offers a comprehensive arrangement to the challenges confronted by postgraduate understudies in overseeing the paper composing and distribution prepare. By upgrading proficiency, collaboration, and organization, the framework enables understudies to create high-quality inquire about yield and explore the complexities of scholastic distributing with certainty.