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SECTION 01

PROJECT PROPOSAL P1 & P2 - GROUP TECH MANIAC

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1.0 Introduction

KADA, under the Ministry of Agriculture and Food Security, is focused on improving the socio-economic conditions of farmers in the Kemubu region. However, its current manual, paper-based system for cooperative membership and loan applications is inefficient, prone to data loss, and environmentally unfriendly. To overcome these issues, KADA plans to implement an all-digital platform for online applications, automated eligibility verification, and secure data management. This new system aims to enhance convenience, data security, and administrative efficiency, while also promoting environmental sustainability.

The project will proceed through several stages: planning to identify needs and feasibility, analysis to specify detailed requirements and review current processes, design to develop system architecture and security measures, development to build the platform and database, testing to ensure all features function properly, deployment to implement the system with minimal downtime, and maintenance for ongoing support and updates. The web-based, user-friendly, and secure system will be accessible only to KADA staff and current cooperative members, safeguarding sensitive financial processes.

2.0 Information Gathering

2.1 Method Used

On Industry Day, 15 May 2024, our team conducted an online meeting with Kelantan KADA Staff Cooperative Berhad to gather information for developing their online system. We discussed current processes, challenges, and specific needs with KADA Cooperative representatives, including the person in charge of credit union operations. Through detailed interviews, we explored the manual procedures for employee registration, loan applications, and monthly contributions, identifying key pain points and areas for improvement. Follow-up questions and clarifications via WhatsApp ensured comprehensive and accurate data collection. This information is crucial for creating a super app that will streamline and digitize Koperasi KADA's operations, enhancing efficiency and user-friendliness.

2.2 Summary From Method Used

During the meeting, our team gathered crucial information from Koperasi Kakitangan KADA Kelantan Berhad. Below are the key questions asked and the responses received:

Closed ended question :

QUESTION	ANSWER
1. Is there a possibility for KADA to open its cooperative to the public?	No
2. Regarding the meeting process of the KADA Cooperative Board, do you intend to keep the current manual system, or are you open to suggestions for digitizing the meeting process	The Cooperative Board meetings will remain manual.
3. If registered as a member, is there a membership card	No
4. For loans, does one need to pay for shares each time a loan is taken, or just once?	The RM 300 share capital is paid only once, either in cash or through salary deduction

5. According to the form provided, the RM300 share is to be settled within 6 months. Can this amount be paid through a monthly salary deduction of RM55?	It can be paid through a salary deduction of RM50 for 6 months and RM5 for the contribution to the fund.
6. What is the minimum amount for the fee and contribution categories? (in the membership application form)	The minimum fee contribution is RM35.
7. What is the difference between Share Capital and Membership Fees?	<p>Share Capital: A minimum of RM300 is required to qualify members for loans and is mandated by the Malaysia Cooperative Societies Commission. The maximum share capital is RM10,000.</p> <p>Membership Fees: The monthly fee contributions that members need to pay to the cooperative.</p>
8. What is the difference between the Member Fund and Member Savings, and Fixed Savings?	<p>Member Fund: A RM5 contribution is a fund for member welfare such as for death benefits of members and their spouses, and for Hajj & Umrah.</p> <p>Fixed Savings: Savings for members to use after retirement.</p>
9. Do both the membership and loan processes need to be approved in a meeting, or is it just the loan while membership does not require approval?	Both processes, membership and loan, need to be approved in a meeting.
10. How long has the current system been in use?	The current system has been used for 15 years.
11. What are the issues with the existing system?	The existing system cannot generate monthly and year-end financial reports, meaning it cannot provide complete accounts, including profit and loss statements.

Open Ended Question :

QUESTION	ANSWER
1. Is there a possibility for KADA to open Koperasi Kakitangan KADA to the public?	No, it is exclusive to KADA employees only.
2. Regarding the Koperasi KADA meetings with the Board of Directors, do you wish to keep the manual system, or are you open to digitalizing the process?	We prefer to retain the manual system.
3. Can the RM300 shares be paid via monthly salary deduction of RM55?	Yes, it can be deducted from salary at RM50 for six months, plus a RM5 contribution to the fund.

3.0 Background Study

The Ministry of Agriculture and Food Security runs Lembaga Kemajuan Pertanian Kemubu (KADA), an organization tasked with advancing the social and economic advancement of farmers in the Kemubu region. Through a number of projects and assistance programmes, the organization significantly contributes to raising agricultural productivity and sustaining the livelihood of regional farmers.

KADA has recently introduced a system for cataloging loans for its employees who are enrolled as members of the KADA cooperative. This membership loan program's main goals are to boost cooperation members' pleasure, support community growth, and offer financial assistance. KADA hopes to improve economic stability and members' ability to make a greater impact on the agriculture industry by providing these loans to members so they can access essential financial resources.

KADA employees must complete two separate forms as part of the loan cataloging process: one is for cooperative membership eligibility, and the other is for cooperative membership loans. Both forms need to be personally filled out and turned in before the cooperation board members' monthly meeting. With this manual system in existence for 15 years, the organization has a long-standing tradition and procedure.

After gaining access to their membership loans, eligible cooperation members must pay RM 355 each month, which can be deducted from their paycheck or paid in cash. This payment covers a number of fees: RM300 is set aside for the loan share payment, RM50 is designated for the admission price for cooperative members, RM5 is donated to the fund, and an extra RM35 is designated for contribution fees. To further ensure that the loan terms are suited to each member's financial situation, the loan amounts that are available to members are calculated using the applicant's payslip.

This organized method encourages members to practice financial responsibility and discipline in addition to giving them cash support. KADA contributes to the larger objective of agricultural and social development in the Kemubu area by investing in the well-being of its members, which increases the overall efficacy and sustainability of its programmes.

4.0 Problem Statement

KADA staff members are manually registered as collaboration members using paper forms. Staff members must first fill out a form in order to be eligible for cooperation membership under this method. Staff members who wish to take out a loan for cooperative membership must complete an additional paper form even after they have been accepted as cooperation members, which is decided upon at the monthly membership eligibility meeting.

This two-form procedure is difficult and ineffective. During their monthly meetings, the members of the cooperation board are responsible for supervising and tracking an enormous quantity of two separate paper forms: the cooperation membership eligibility form and the cooperation membership loan form. There are other issues with this manual system, which uses paper forms:

1. Increased Chance of Misplacement or Damage: Paper forms are more likely to be misplaced, lost, or damaged, which increases the risk of data loss and paperwork problems.
2. Time and Energy Consuming: Filling out paperwork by hand, handling them, and arranging them takes a lot of time and energy from the board members as well as the staff. This takes up time that may be better used for other worthwhile tasks.
3. Storage problems: Keeping a lot of paper forms in storage takes up valuable space that may be used for other things. Keeping track of these paper records gets harder and harder over time.
4. Environmental Consequence: Using paper forms a lot has a negative impact on the environment. Cutting back on paper use contributes to resource saving and is in harmony with larger environmental objectives.
5. Inefficiency in Collection and Processing: It can be quite time-consuming to search through a big collection of paper forms for a specific record. This is especially problematic when information needs to be obtained quickly for future events or during audits.

The manual approach that is in place now is outdated and ineffective overall. It wastes resources irrationally, reduces productivity, risks the integrity of the data, and harms the environment. By simplifying these procedures, a digital system could increase their effectiveness, security, and sustainability.

5.0 Proposed Solutions

1. *Creation of an All-Digital Integrated Platform:*

- Online Application and Registration: Provide a user-friendly website where KADA employees can electronically apply for membership loans and register for cooperative membership. Both procedures will be combined into a single, efficient workflow thanks to this platform.
- Automated Eligibility Verification: Put in place an automated method to confirm cooperative members' eligibility. By cross-referencing employee information with predetermined standards, this technology ensures quicker and more precise eligibility determinations.
- Electronic Submission and Monitoring of Forms: Permit employees to turn in forms digitally so they can do it at any time, from any location. A tracking system that offers immediate information on the progress of their applications will also be part of this.

2. *Effective and Safe Data Management:*

- Centralized Database: To safely store all member and loan-related data, create a centralized digital database. This will lessen the possibility of lost, damaged, or misplaced data.
- Data Encryption and Privacy: To safeguard KADA employees' financial and personal information, enact strong security measures, including data encryption. Maintaining privacy will increase confidence in the new system.

3. *Improved Convenience and Accessibility:*

- Web and Mobile Access: Create a platform that can be accessed by internet browsers and mobile gadgets, giving employees the freedom to use the system whenever it's convenient for them.
- User identification and secure access: To guarantee that only authorized personnel may view and edit their own private information, they use a multi-factor authentication (MFA) secure login system.

4. *Enhanced Efficiency in Administration:*

- Automated Board Member Workflow: Make online forms and applications easily accessible to cooperating board members. During monthly meetings, the system will have functions for effectively organizing, filtering, and reviewing applications.
- Real-Time Reporting and Analytics: Include technologies that produce analysis and reports in real-time, allowing board members to take quick, well-informed decisions.

5. *Benefits to the environment and finances:*

- Decrease in Paper Use: Making the transition to a digital system will result in a major reduction in the use for paper, which will support environmental sustainability objectives and lower operating expenses related to paper and storage.
- Savings on Storage: Removing the need for physical storage will free up space and lower the expense of keeping and handling paper records.

6. *Instruction and Assistance:*

- Thorough Training Programmes: Hold training sessions for board members and staff of KADA to make sure they are knowledgeable about and at ease using the new digital platform.
- Continuous Technical Assistance: Provide ongoing technical help for fixing any problems or issues that may come up to guarantee the new system runs smoothly and is adopted.

By putting these suggested solutions into practice, KADA can replace its ancient and inefficient manual system with an advanced digital platform that improves data security, productivity, and environmental sustainability while offering its members more convenience and helping hands.

6.0 Objectives

Planning Phase

Objective : Identifying the needed things and studying if it is possible to be done.

1. Needs collection : Gathering of all functional and nonfunctional requirements such as those that relate to our users' needs or security levels that are required within this matter amongst other technical requirements have to be met by the whole platform.
2. Study of the possibility : An estimation of whether the suggested electronic platform can be established on technical, financial grounds or otherwise should be done before progressing with it.

Analysis Phase

Objective : Detailed Requirements and Systems Analysis

1. Detailed Requirement Specification : To be able to do this task, first of all Make sure you have provided detailed requirements for every aspect found on the platform including online application and registration workflow, automated eligibility verification as well as electronic form submission.
2. System Analysis : Review existing manual processes and find gaps or areas needing improvements so that all known problems can be catered for when the new system is put in place.

Design Phase

Objective : System and Database Design

1. System Architecture Design : The system will consist of two primary components: the admin access, whereby database access is only granted to admins by the software developer, and the user platform, which consists of the user interface and application core designed to satisfy different user needs. Any modifications to admin rights or data may have an effect on the system's overall data safety.
2. Security Design : Highly secure encryption requirements for data and communication will be used by the system to guarantee security at the end and during transmission. As a result, it is more difficult for unidentified people to obtain or modify data through web sites discreetly. By doing this, we solve the problem of data theft and protect our clients' confidence by guaranteeing that their data is always protected from outsiders.

Development Phase

Objective : Platform Development and Coding

1. Software Development : Develop the platform's functionalities, such as automatic eligibility verification systems, user-friendly online application interfaces, and real-time tracking functions.
2. Database Development : Establish a centralized database that can securely host information regarding loans and members, as well as ensuring data availability and integrity.

Testing phase

Objective : Comprehensively test all the features in the platform.

1. Testing for Units and Integration : Carry out both unit testing for the various units involved as well as integrate testing which will run various modules in a sequence by passing output of the precedent module as input to the next module in order to ensure continuous flow.
2. Acceptance Testing for Users (UAT) : Enable all employees and directors in testing of KADA who are willing to participate in this process so as to make sure that it is user friendly enough according to their requirement.

Deployment Phase

Objective : Effective Installation and Implementation

1. Implementation Method : Create a time-bounded plan for deploying the system which incorporates data migration process steps, as well as strategies to reduce downtime during the switch-over process.
2. End-User Training : Implement comprehensive training programs for KADA employees as well as board members so that they become adept at using this new digital landscape.

Maintenance Phase

Objective : Constant Support and System Upgrades

1. Technical Support : Set up an uninterrupted technical support system to deal with any problems and give help to all users.
2. System Updates : Consistently modify the platform to include extra abilities, relieve bugs and user response-derived improvements in performance.

7.0 Scope of The Project

a. User

By creating an all-digital platform for KADA Cooperative Application and Loan Application system, KADA employees will experience an improvement in convenience and efficiency. The online application and registration feature will make it easier for them to apply for membership and loan and also the automated eligibility verification will provide faster and accurate responses.

For KADA Cooperative Board members, the automated workflow will simplify the management and review all of the applications, making administrative tasks easier. Real-time reporting and analytics enable board members to generate and analyze the report instantly. This capability makes them improve their responsiveness and make decisions quickly.

b. Process

KADA has implemented a system for application of cooperative membership and loan application system. The aim of the loan application is to increase member satisfaction, support community growth and provide financial assistance. Employees must fill out the forms which are cooperative membership eligibility and applying for loans. Then having monthly meetings with the board of directors and stakeholders to indicate a well-established procedure.

After gaining access for loans, they need to pay monthly either through payslip deduction or in cash. Also, loan amounts are determined based on the applicant's payslip. The system not only provides financial support but also promotes financial responsibility and discipline among members. The system also can generate monthly and yearly financial reports which would enable it to provide complete accounts including profit and loss statements.

Additionally, by conducting training programs, will make KADA board members and staff gain skills and knowledge to effectively use the new platforms. Providing continuous technical support is crucial for maintaining user experience. These processes are essential for the effective implementation of the new platform.

c. Technology

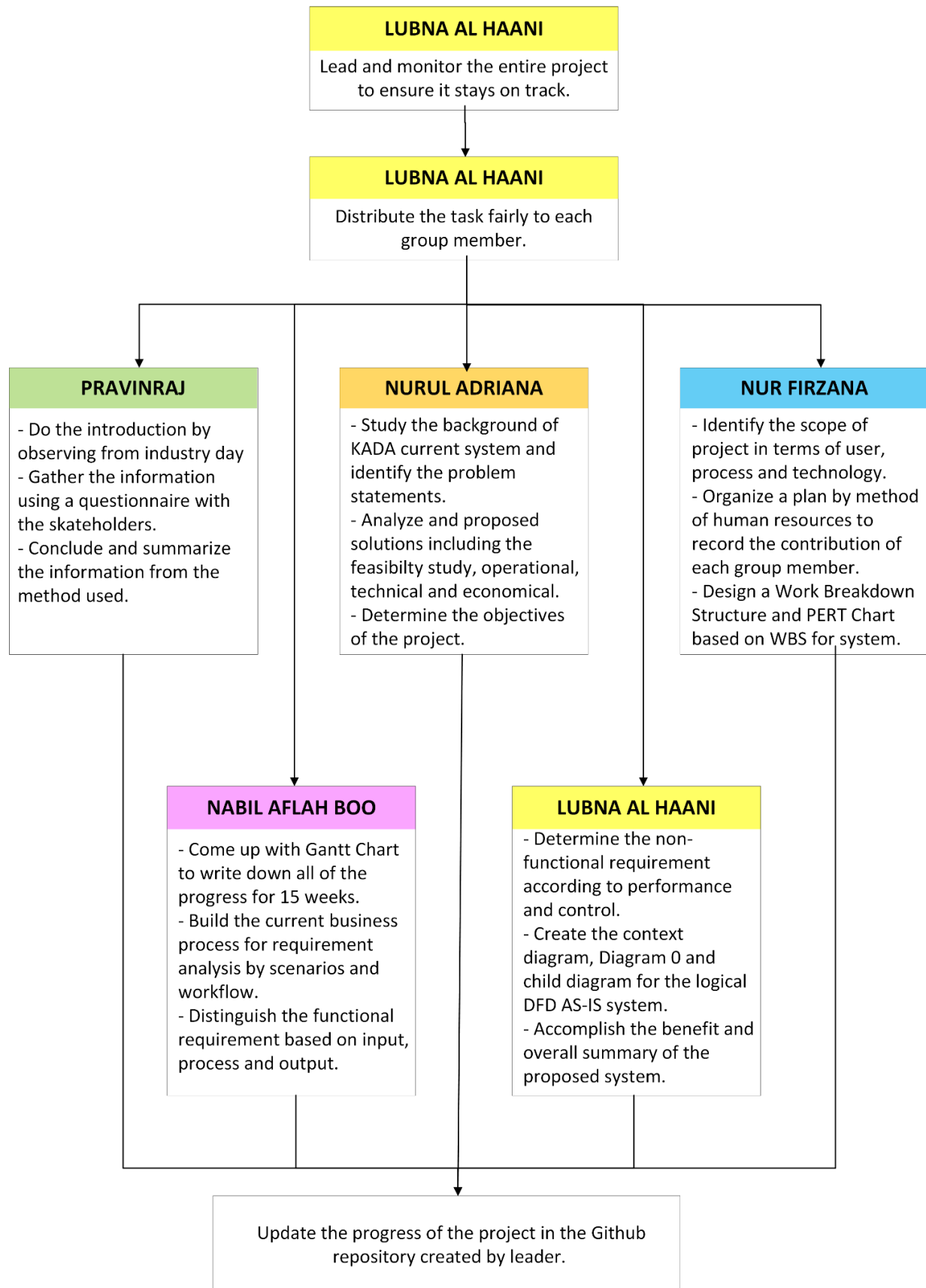
This focuses more on enhancing data management and user accessibility through advanced and secure technological solutions. By establishing a centralized database, the project aims to create a secure repository associated with traditional data storage methods. The implementation of strong data encryption and privacy will protect sensitive information.

The development of a platform compatible with both web and mobile access ensures that users can interact with the system conveniently. These technological advancements will collectively create a secure, efficient and user-friendly system for KADA staff and cooperative members.

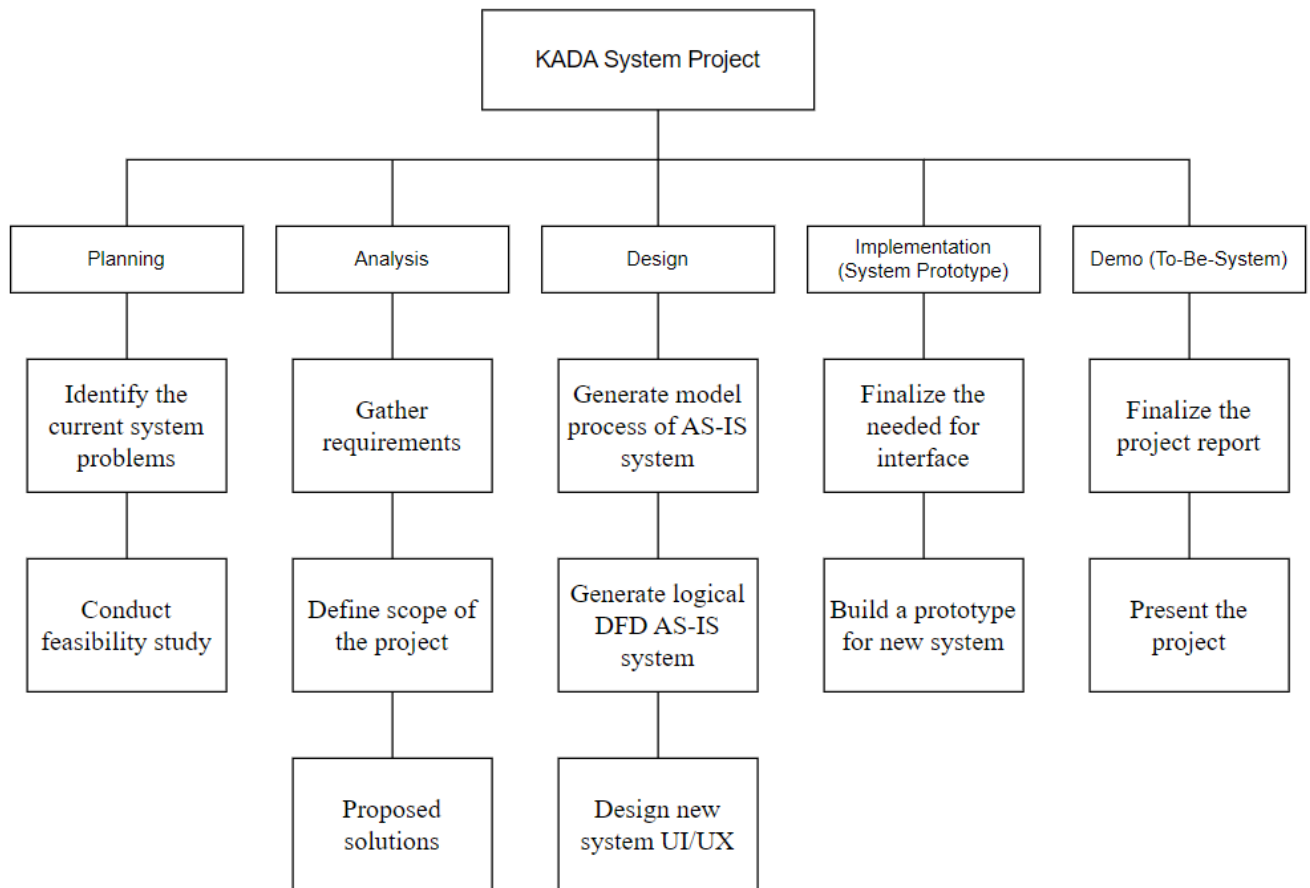
8.0 Project Planning

8.1 Human Resources

NAME	RESPONSIBILITIES
Lubna Al Haani	Lead and monitor the entire project to ensure it stays on track.
Lubna Al Haani	Distribute the task fairly to each group member.
Pravinraj	Do the introduction by observing from the industry day. Gather the information using a questionnaire with the stakeholders and help to analyze problems. Conclude and summarize the information from the method used.
Nurul Adriana	Study the background of KADA current system and identify the problem statements. Analyze and proposed solutions including the feasibility study, operational, technical and economical. Determine the objectives of the project.
Nur Firzana	Identify the scope of the project in terms of user, process and technology of the system. Organize a plan by method of human resources to record the contribution of each group member. Design a work breakdown structure and PERT chart based on WBS for the system.
Nabil Aflah Boo	Come up with a Gantt chart to write down all of the progress for 15 weeks. Build the current business process for requirement analysis by scenarios and workflow. Distinguish the functional requirement based on input, process and output.
Lubna Al Haani	Determine the non-functional requirement according to performance and control. Create the context diagram, diagram 0 and child diagram for the logical DFD AS-IS system. Accomplish the benefit and overall summary of the proposed system.
All members	Update the progress of the project in the Github repository created by the leader.

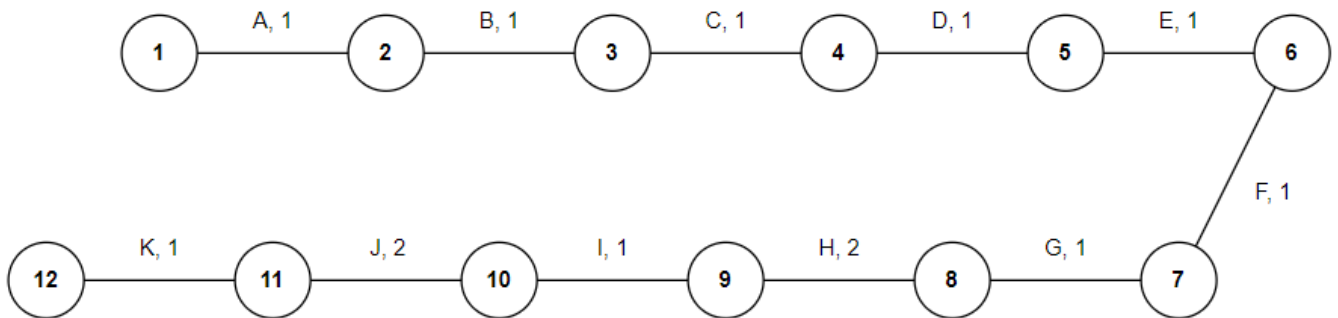


8.2 Work Breakdown Structure (WBS)



8.3 PERT Chart (based on WBS)

Activities	Predecessor	Week Required
A Identify the current system problems	NONE	1
B Conduct feasibility study	A	1
C Gather requirements	B	1
D Define scope of project	C	1
E Proposed solutions	D	1
F Generate model process of AS-IS system	E	1
G Generate logical DFD AS-IS system	F	1
H Design new system UI/UX	G	2
I Finalize the needed for interface	H	1
J Build a prototype for new system	I	2
K Finalize the project report	J	1
L Present the project	K	1



8.4 Gantt Chart

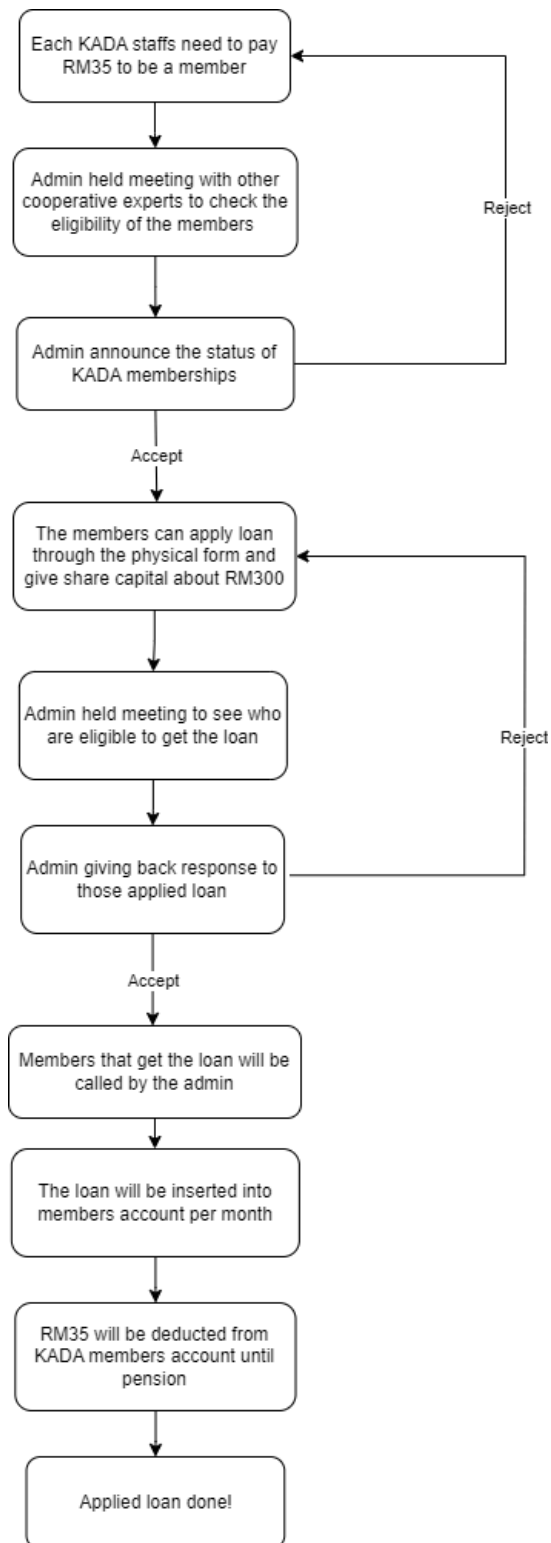
KADA Project Planner

Period (Weeks)

TASK	PLAN START	PLAN DURATION	START	END	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
INDUSTRY DAY																			
Project requirement sharing	9	1	14/5/2024	14/5/2024															
Determine the stakeholders	9	1	14/5/2024	14/5/2024															
PLANNING																			
Identify the current system problems	9	1	15/5/2024	16/5/2024															
Conduct feasibility study	9	1	17/5/2024	18/5/2024															
ANALYSIS																			
Gather requirements	10	1	22/5/2024	23/5/2024															
Define scope of the project	10	1	24/5/2024	25/5/2024															
Proposed solutions	10	1	19/5/2024	21/5/2024															
DESIGN																			
Generate model process of AS-IS system	11	1	26/5/2024	27/5/2024															
Generate logical DFD of AS-IS system	11	1	28/5/2024	30/5/2024															
Design new system UI/UX	11	2	31/5/2024	8/6/2024															
IMPLEMENTATION (SYSTEM PROTOTYPE)																			
Finalize the needed for interface	13	1	9/6/2024	12/6/2024															
Build a prototype for new system	13	2	13/6/2024	20/6/2024															
DEMO TO-BE SYSTEM																			
Finalize the project report	14	1	20/6/2024	22/6/2024															
Present the project	15	1	27/6/2024	27/6/2024															

9.0 Requirement Analysis (based on AS-IS analysis)

9.1 Current business process (scenarios, workflow)



9.2 Functional Requirement (input, process and output)

Functional Requirement	Description
FR1	Each KADA staffs should be able to apply for memberships
FR2	Admin should be able to announce the status of membership
FR3	The members of KADA should be able to apply loan
FR4	The applicants should be able to track the progress of loan status
FR5	Admin should be able to announce the successful loan applicants
FR6	Admin should be able to generate the receipt of the loan that have accounted into successful members account

9.3 Non-Functional Requirements (performance and control)

Non-Functional Requirement	Description
Capacity	The system can store up to 2000 data as of now to match with the number of KADA staff.
Usability	The system should be available for users to use and access at any time with a mean working time of 23 hours.
Security	All the data in the system should be protected with firewall and data encryption to avoid data breaches and transmission over the network.
Data Integrity	All the data must be checked automatically to ensure its accuracy and validity before users submit into the system's data store.

9.4 Logical DFD AS-IS System

Context Diagram :

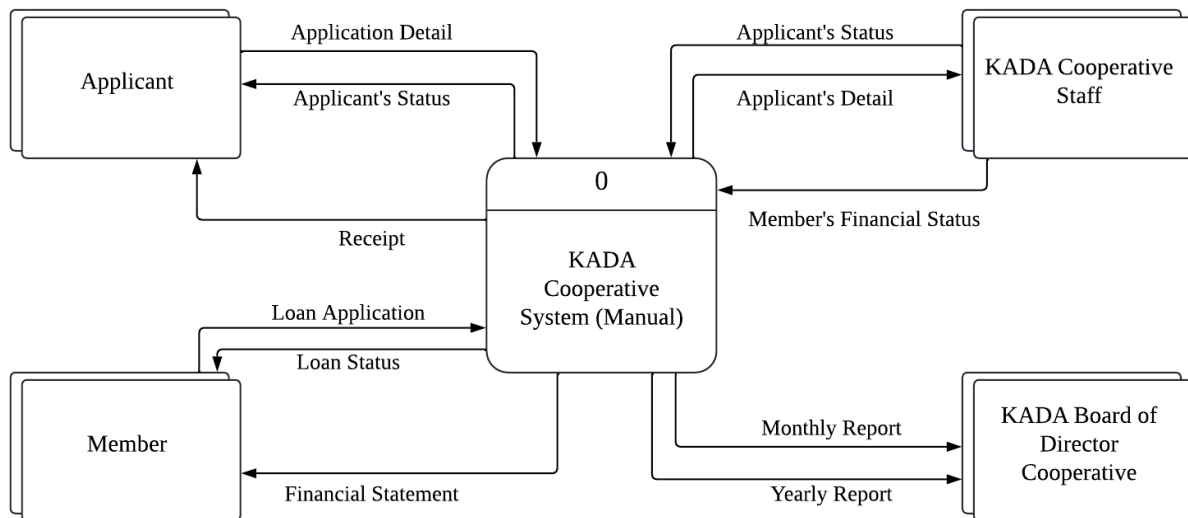
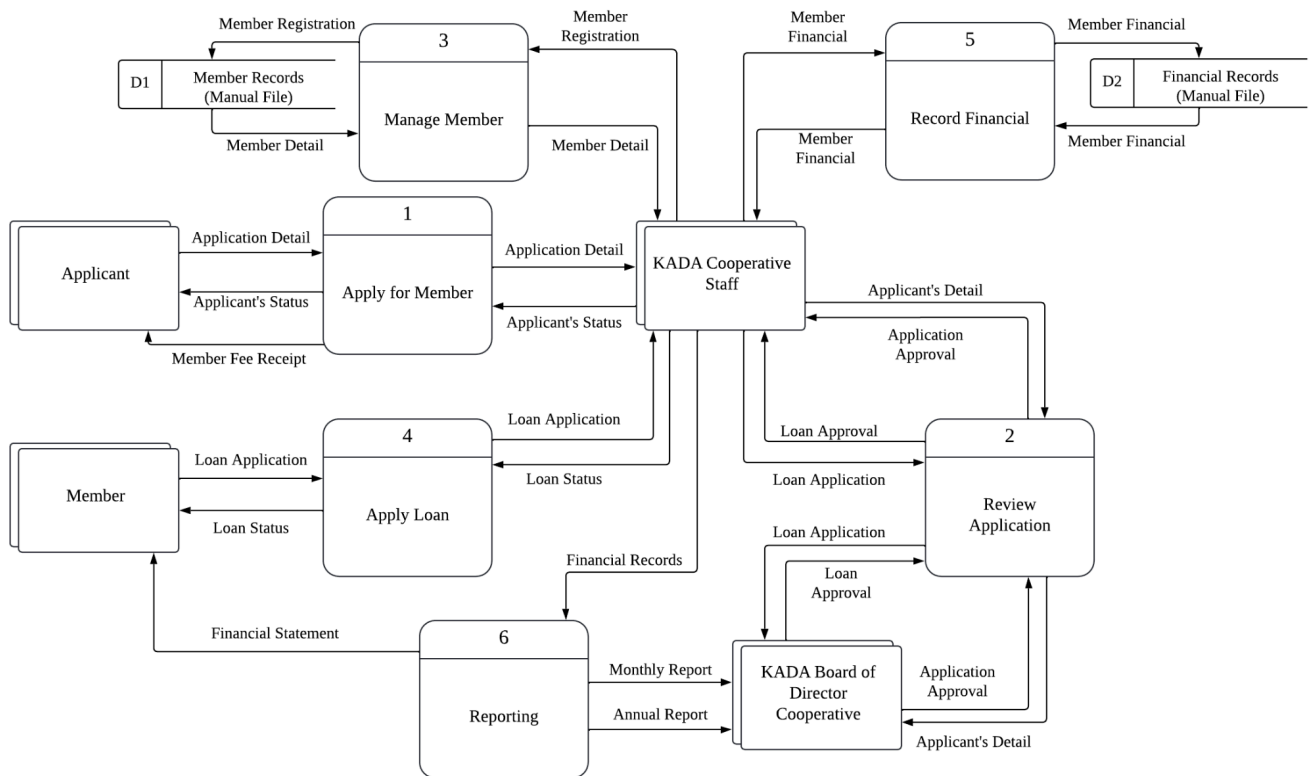
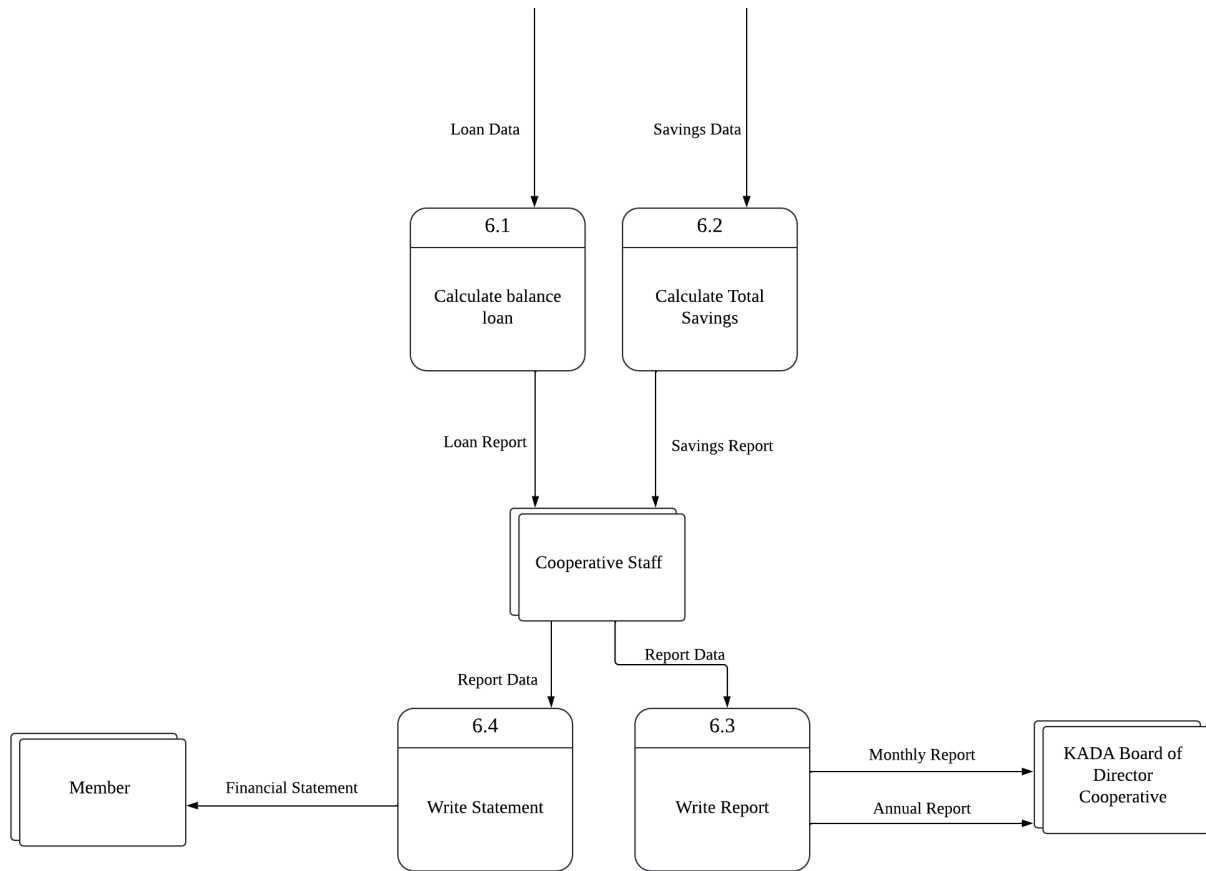


Diagram 0:



Child Diagram : Process 6 (Reporting)



10.0 Benefit and Overall Summary of Proposed System

There are so many benefits that KADA will gain with digitalizing their current Cooperative system. These are few of the benefits of the proposed system :

All-Digital Integrated System :

1. Online Registration and Application

- **Convenience :**

This proposed system allows all KADA staff and Cooperative members to apply for membership or loan anywhere without having to go to the cooperative office.

- **Efficiency :**

This new system also reduces time to process the application by eliminating the need to go through the paperwork process and manual data entry, thus speeding up the registration and application process.

2. Automated Eligibility Verification

- **Consistency :**

This new system should ensure that all the verification process can happen in expected duration except if there is a special case, hence a consistent verification process is a way for the Cooperative to give their client satisfaction with the system.

- **Reduce Cooperative Staff Burden :**

One of the tasks of the Cooperative Staff which is to go through paperwork to review and verify the qualification for each application can also be reduced by using the new automated eligibility verification feature. Thus, this will give them extra time to get other tasks done.

3. Facilitate Data Management Process

- **Centralized Data Storage :**

The proposed system is included with centralized data storage which allows all the data to be stored in one secure digital platform. This can reduce the time to manage and retrieve information.

- **Easy Data Review and Analysis :**

With all the data stored in one place, the review and analysis process become easier and faster. Additionally, it is simpler because no information needs to be manually entered into the digital platform; instead, all data may be automatically recorded after the verification of each registration and application.

4. Enhanced System Accessibility

- **Easy Accessibility :**

The new digitalized system can be easily accessed by the users using their device through the official KADA website and members can access their account with a login feature using their unique id and password which ensure a secure system.

- **Anytime Access :**

All the system users also can access the system any time in 24 hour duration except during system maintenance.

5. Eco-Friendly Environment

- **Reduce paper use :**

The most evident benefit from the proposed system is that the KADA Cooperative staff and system can reduce paper use by using the digitalized system which helps them to contribute to environmental sustainability.

Overall Summary

The objective of the proposed system is to help Cooperative KADA improve their current manual system by digitalizing the current system and enhancing existing system features. This can help them in a variety of aspects including streamline the internal process, reduce administrative workloads and enhance the user experience. The proposed system will be a step-stone for KADA to raise their profile since the cooperative will be able to maintain its integrity and competitiveness in the digital era thanks to this upgrade, which also supports KADA's operational objectives and environmental sustainability initiatives.

There are many benefits that KADA Cooperative system can gain from such as online registration and application, automated eligibility verification, facilitating data management, enhanced system accessibility, eco-friendly environment, and etc.. This digital transformation reflects KADA's dedication to innovation and excellence, setting the cooperative for future growth and success. By adopting this new system, KADA Cooperative will not only improve its internal system but also provide better service to its members, establishing a more efficient, responsive, and long-term cooperative environment.