FACULTY OF COMPUTING

SEMESTER II 2023/2024

SECP2613 SYSTEM ANALYSIS AND DESIGN

SECTION 1

PROJECT PROPOSAL AND PLANNING

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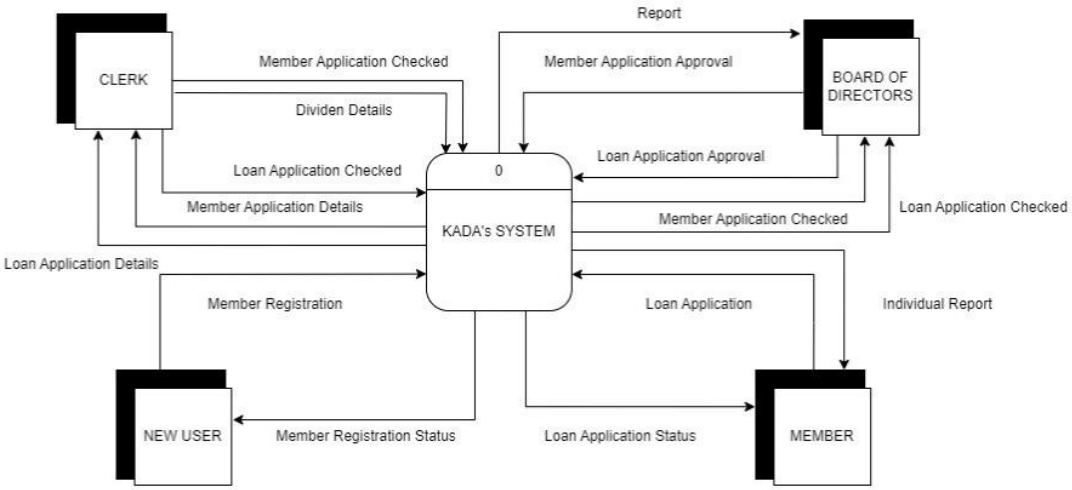
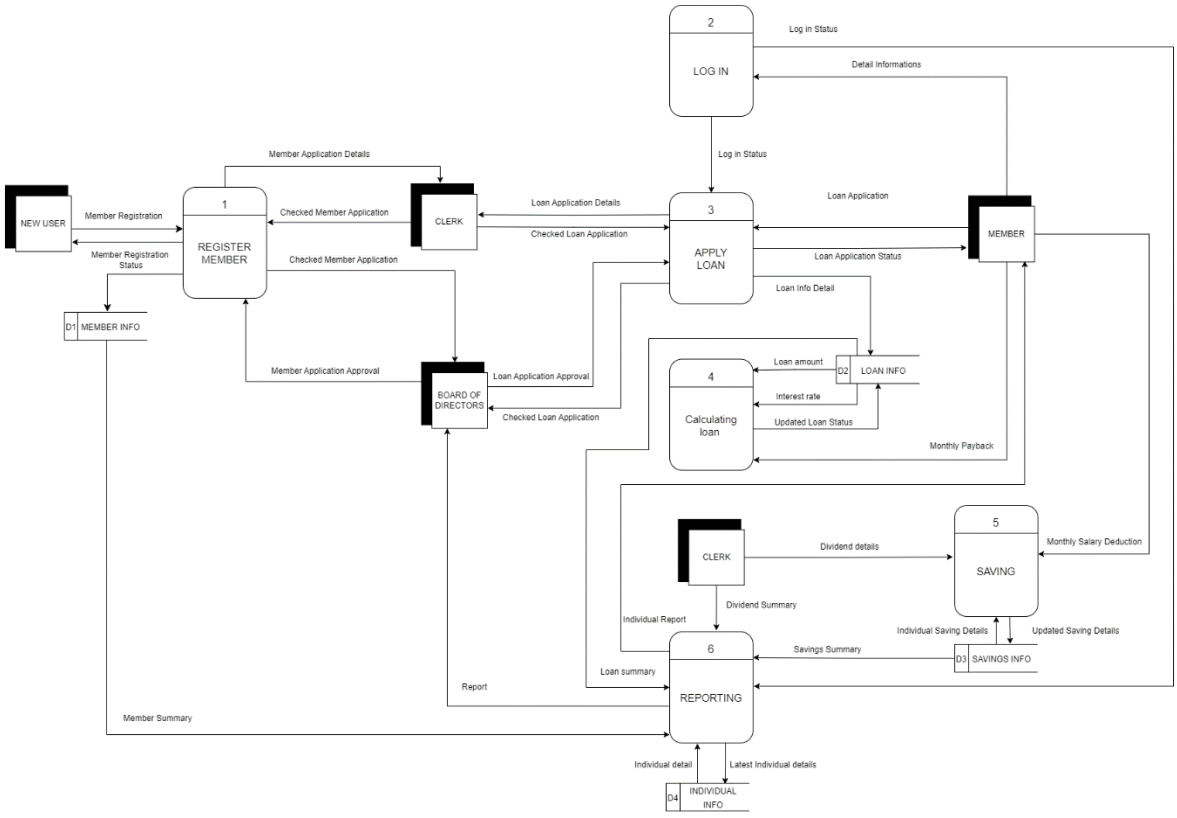
Logical DFD (TO-BE) System

1. Context Diagram

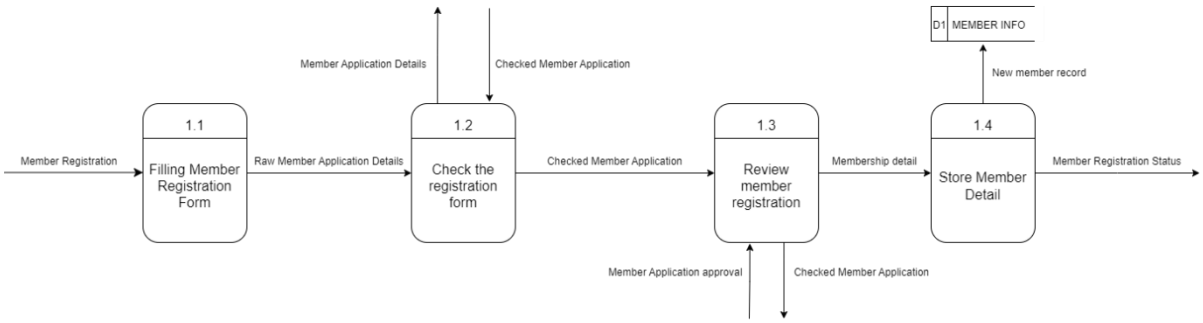


2. Diagram 0

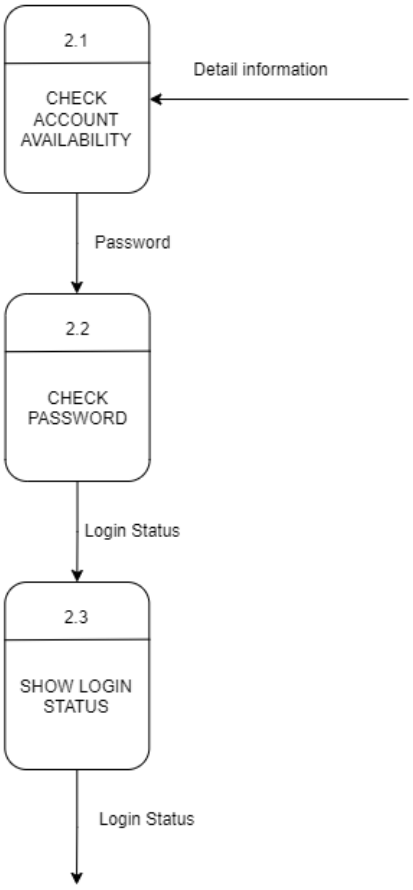


3. Child Diagram

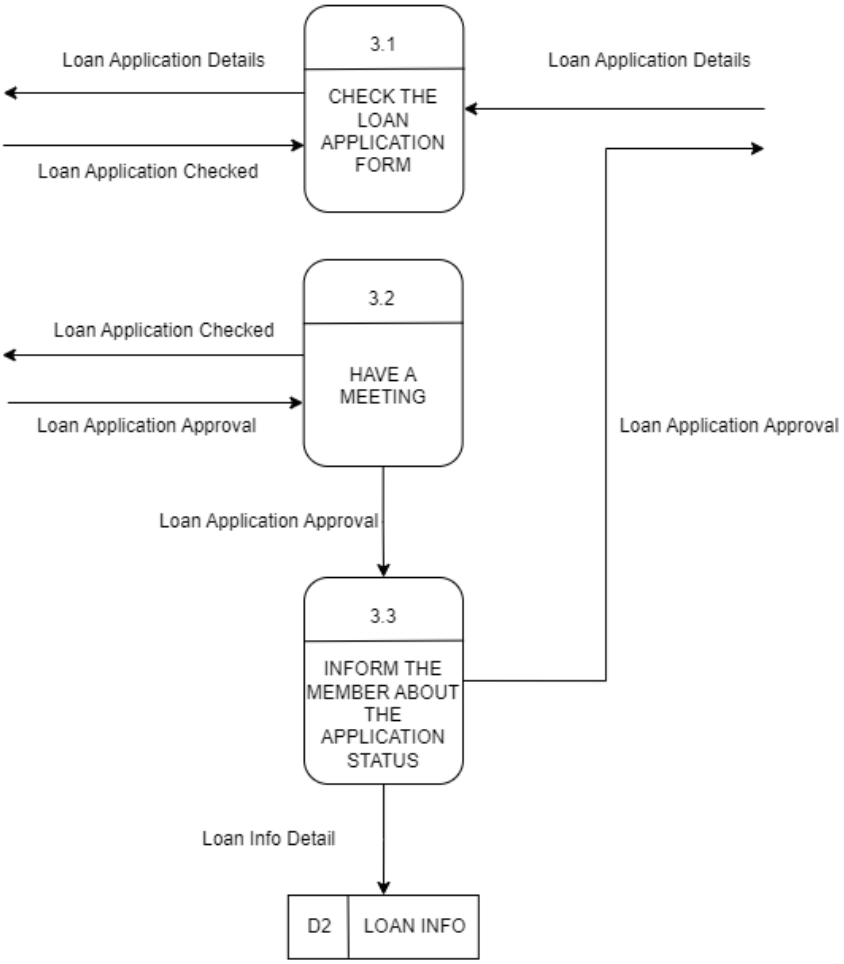
1.0 Register Member



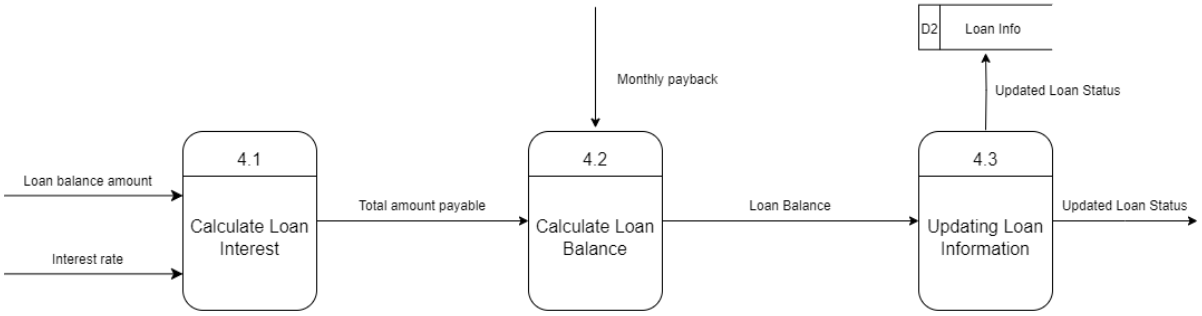
2.0 Log In



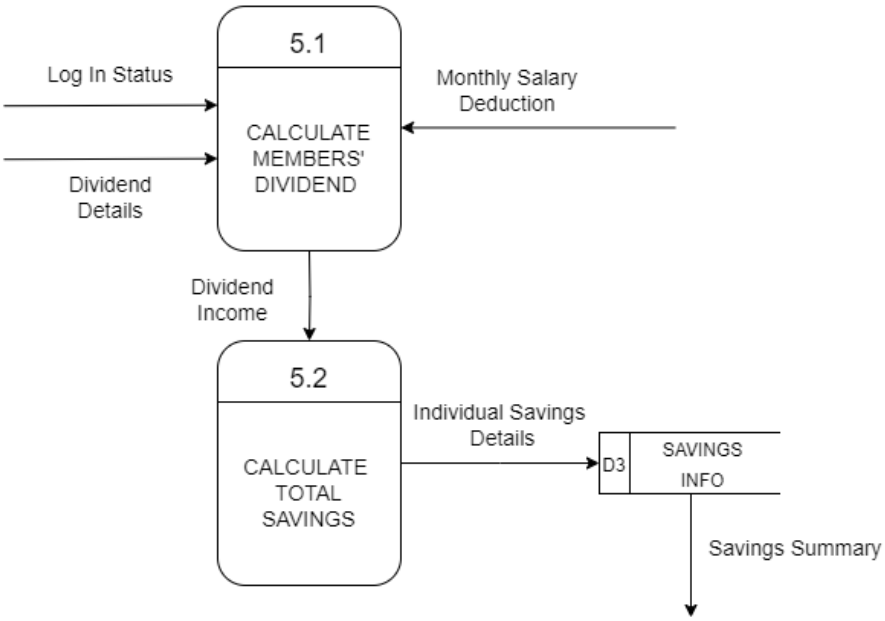
3.0 Apply Loan



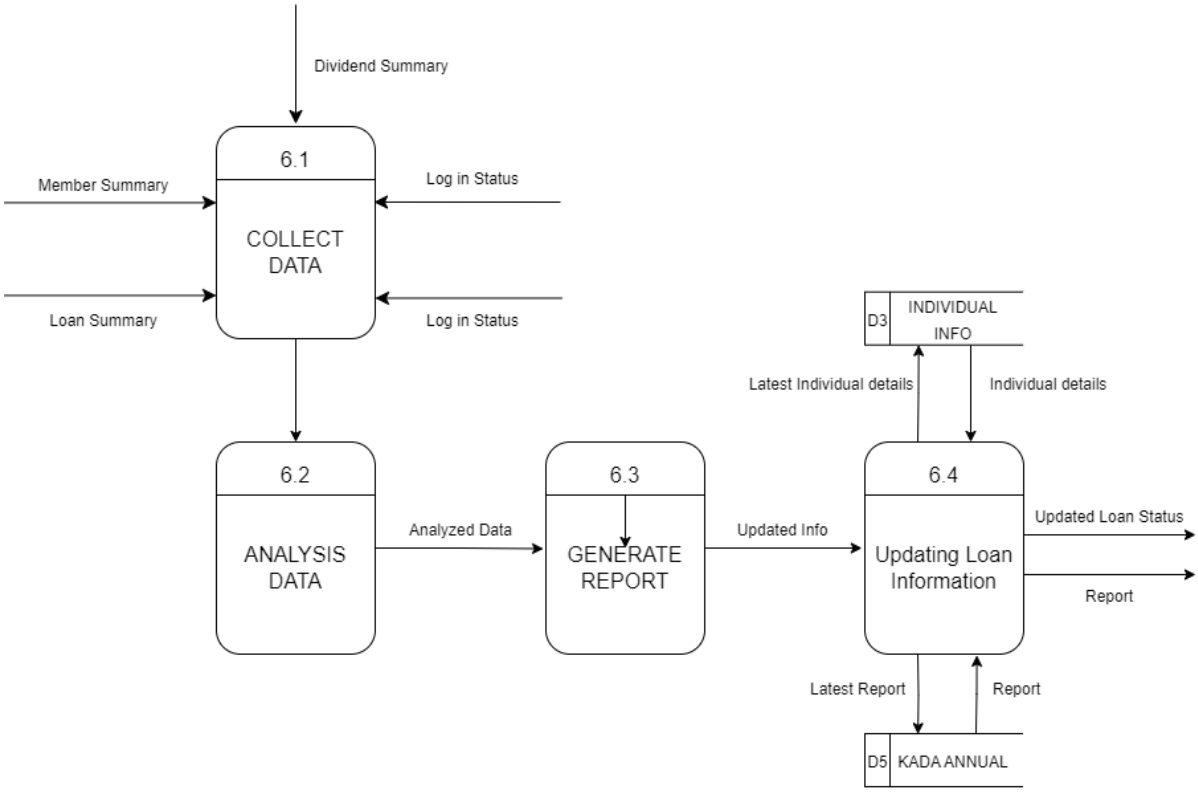
4.0 Loan Calculation



5.0 Calculate Savings



6.0 Reporting



Process Specification (TO-BE) System

1. New user member registration

DO

BEGIN IF

IF member registration received

PROVIDE member application details to clerk

THEN

READ member application checked by clerk

PROVIDE application to board of director

END IF

READ member application approval from board of director

IF member application approval = “TRUE”

    STORE new member details into database MEMBER INFO

END IF

UPDATE member summary for reporting

UPDATE member registration status to user

END

2. Member login

DO

READ member information

BEGIN IF

IF account availability = “TRUE”

    PERFORM member login

    PROVIDE login status for reporting

    PROVIDE login status for apply loan

END IF

END

3. Member apply loan

DO

BEGIN IF

IF log in Status = “TRUE”

READ loan application

PROVIDE loan application to Clerk

THEN

READ checked loan application by Clerk

PROVIDE loan application to Board of Directors

END IF

IF loan application approval = “TRUE”

STORE loan info details into database LOAN INFO

END IF

PROVIDE loan application status to Member

END

4. Calculate loan

DO

READ Loan balance amount

READ Interest Rate

READ Monthly Payback

CALCULATE Loan Balance

UPDATE Loan Status to database LOAN INFO

END

5. Updating Savings info

BEGIN

READ monthly salary deduction (From MEMBER)

IF dividend details were received

CALCULATE new savings details

UPDATE Savings summary to Savings INFO

END IF

PROVIDE Savings summary for process reporting

END

6. Generate report

BEGIN

DO

READ Member Summary

READ Loan Summary

READ Savings Summary

READ Individual Details

READ Log in Status

BEGIN IF

IF log in status is “TRUE”

GENERATE individual report

PROVIDE report details to member

IF dividend summary is received

Update the new data of savings and loan (Latest individual details) into individual info

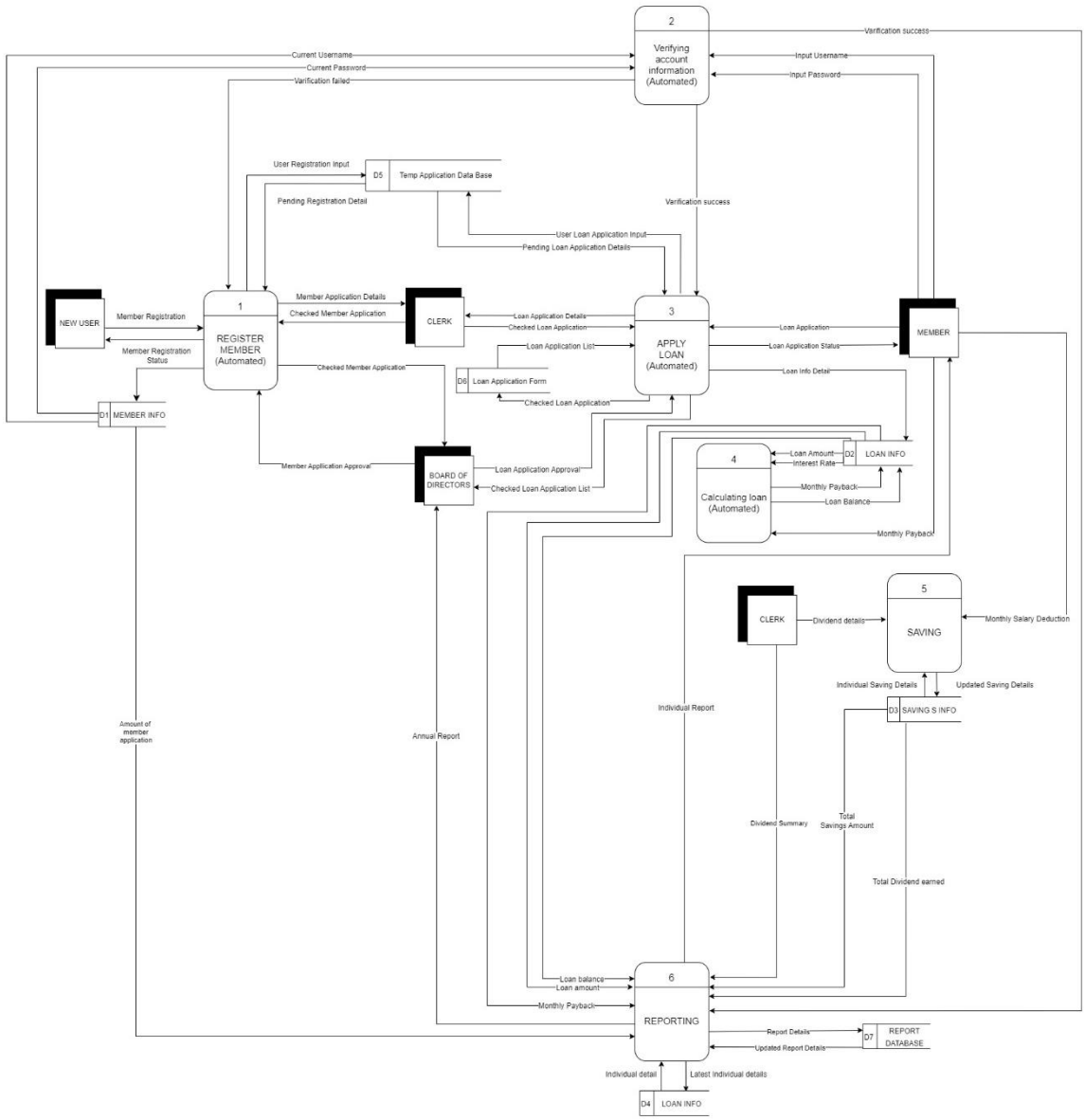
END IF

PROVIDE Loan Summary to BOARD OF DIRECTORS

END

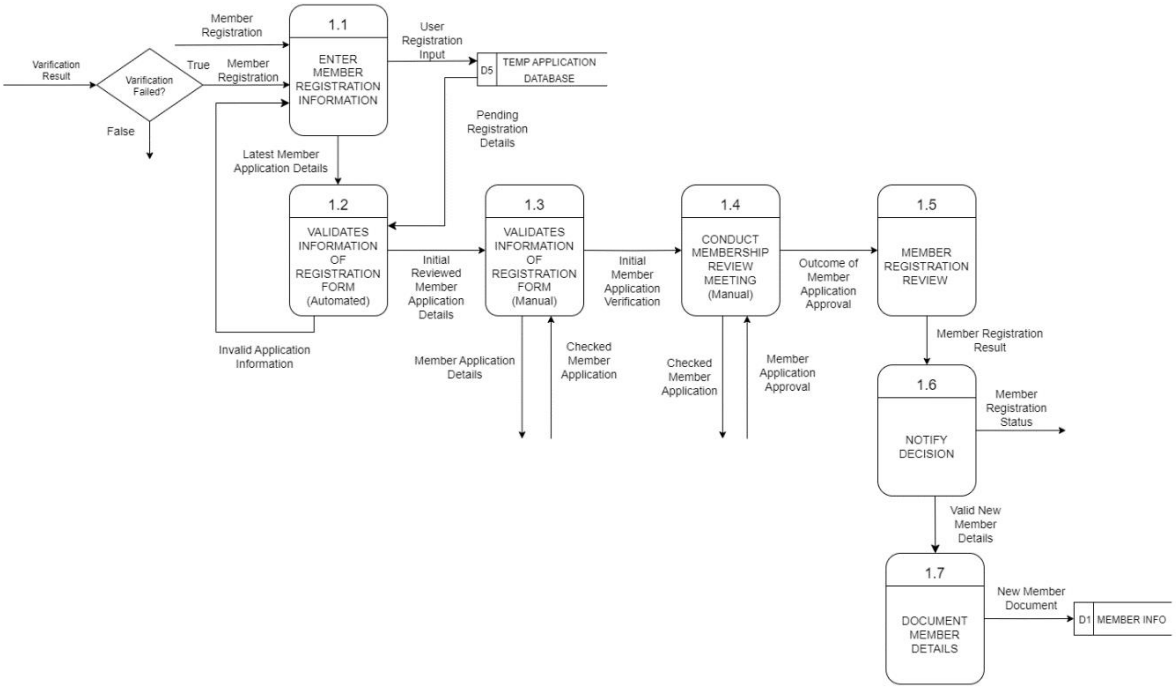
Physical DFD (TO-BE) System

1. Zero Diagram

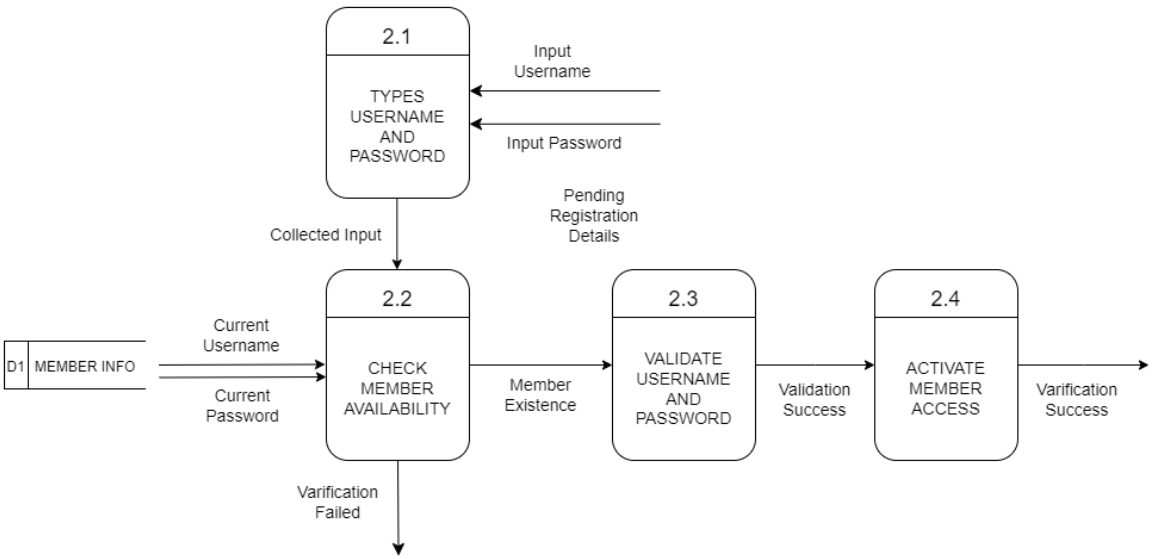


2. Child Diagram

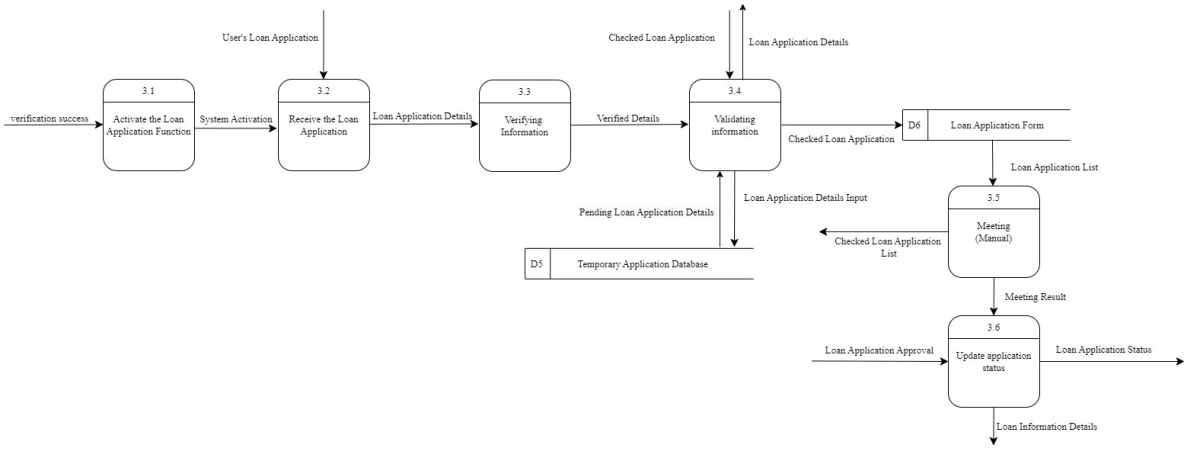
1.0 Register Member (Automated)



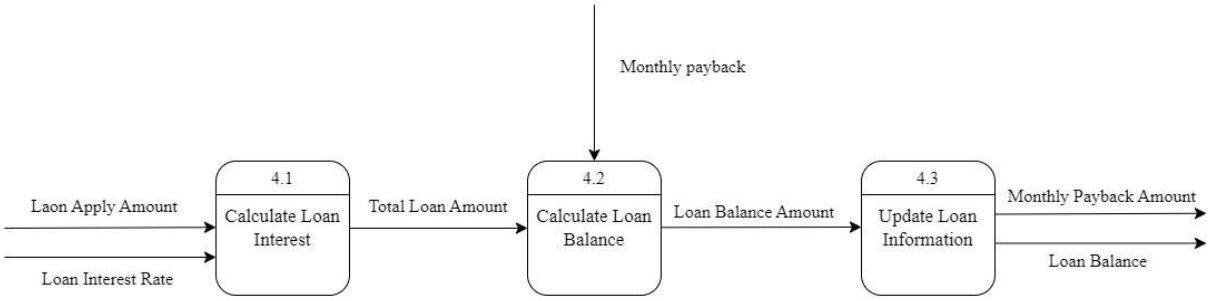
2.0 Verifying Account Information (Automated)



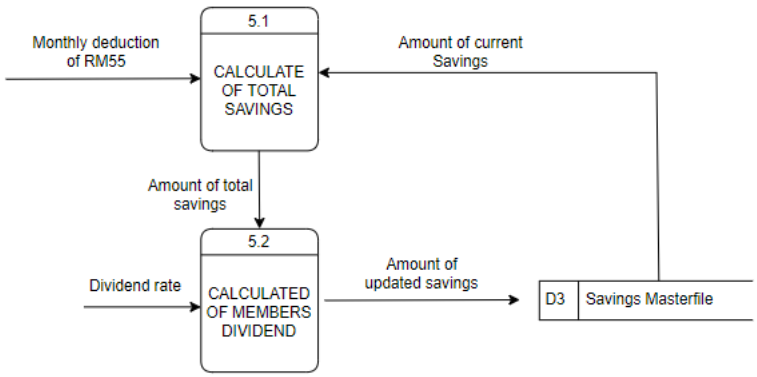
3.0 Applying Loan (Manual + Automated)



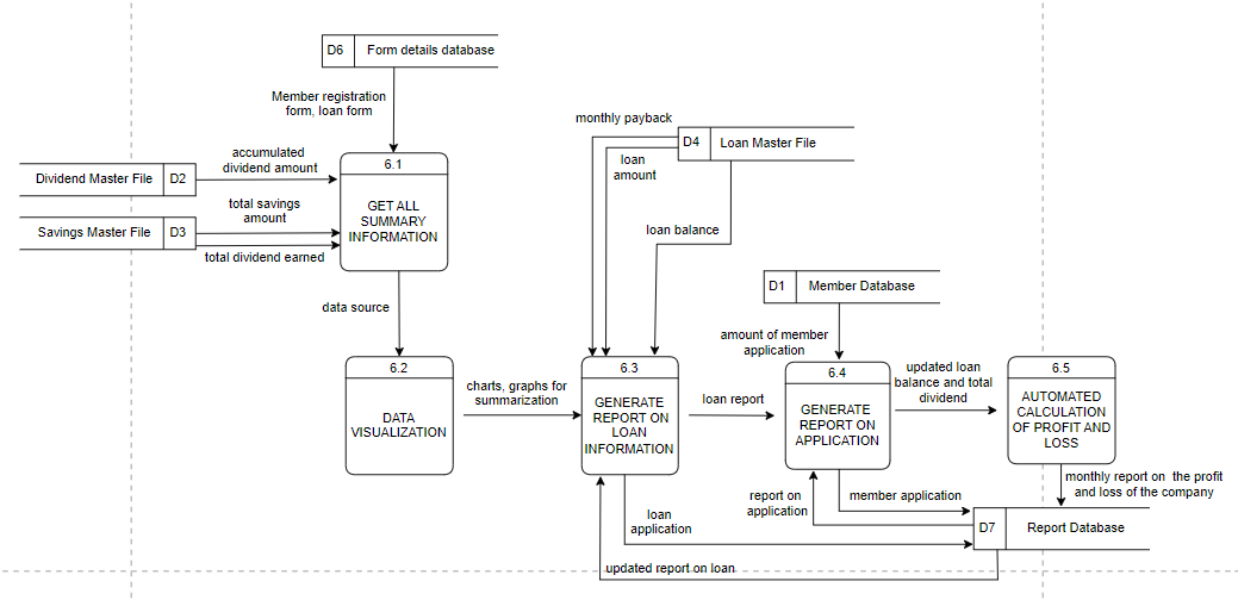
4.0 Calculate Loan (Automated)



5.0 Saving (Automated)

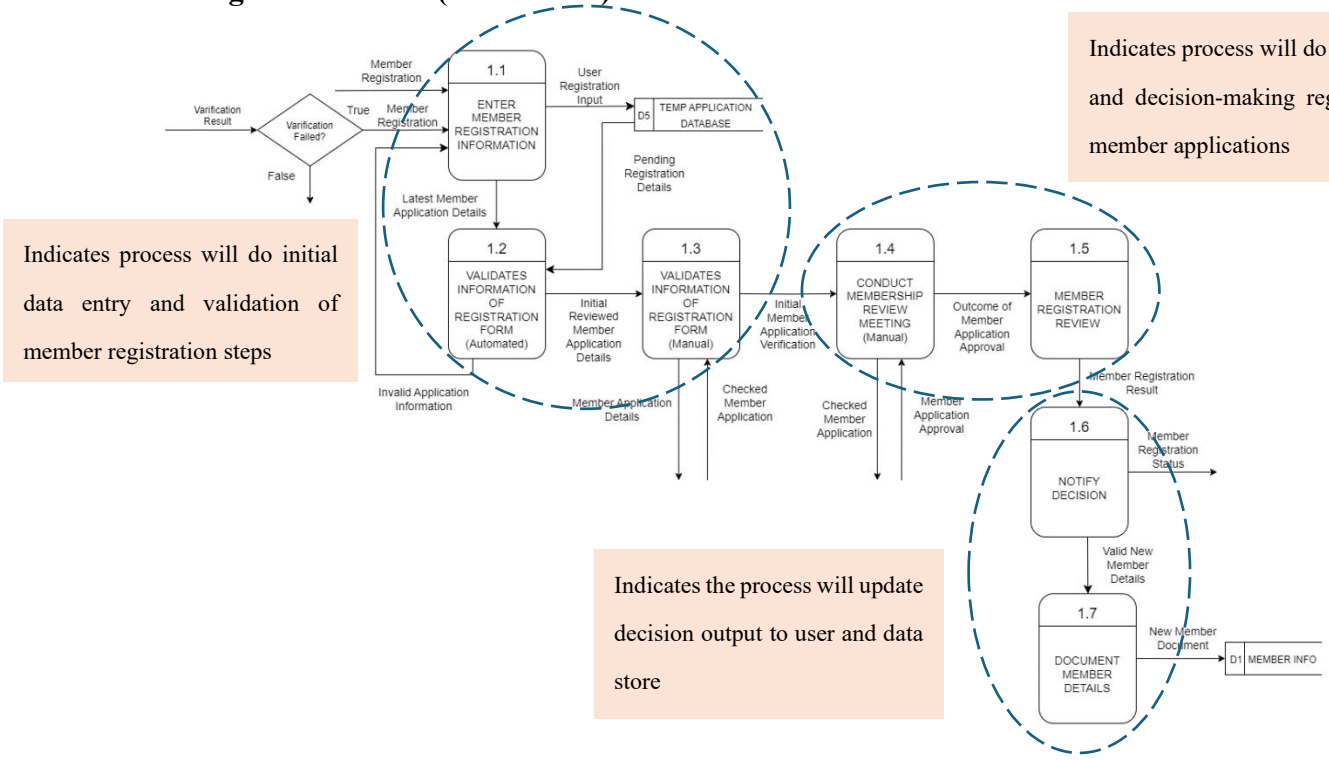


6.0 Reporting - Generate Report (Automated)



3. Partitioning

1.0 Register Member (Automated)



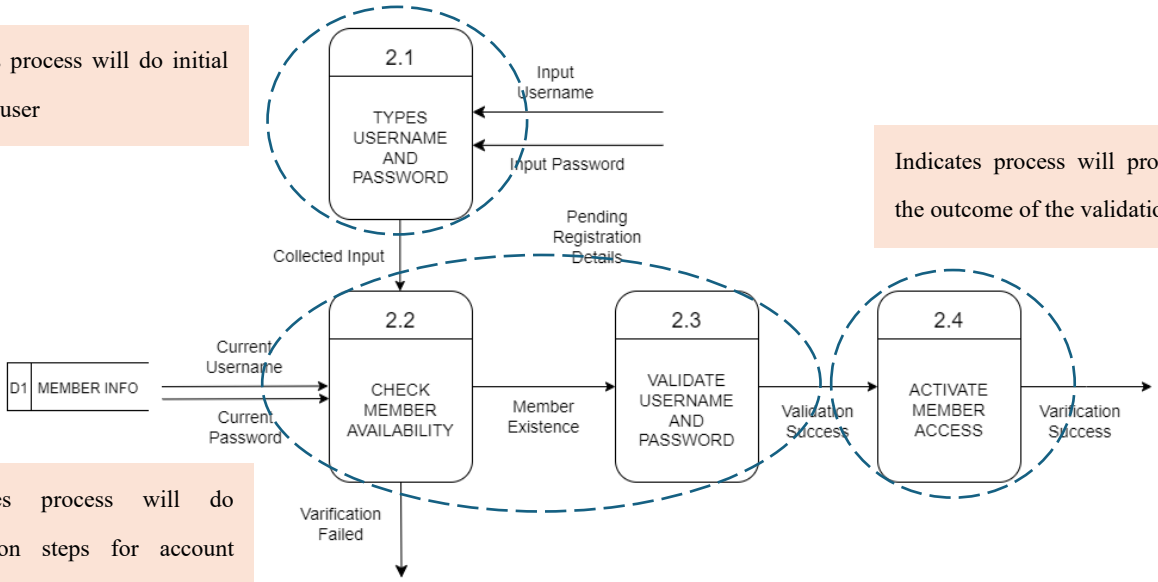
Indicates process will do initial data entry and validation of member registration steps

Indicates process will do review and decision-making regarding member applications

Indicates the process will update decision output to user and data store

2.0 Verifying Account Information (Automated)

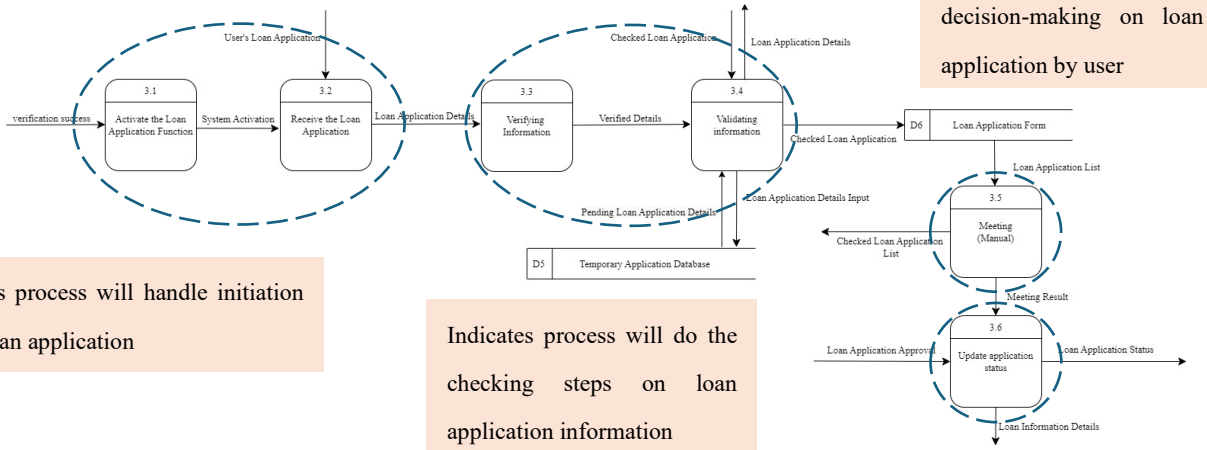
Indicates process will do initial input by user



Indicates process will produce the outcome of the validation

Indicates process will do validation steps for account input

3.0 Applying Loan (Manual + Automated)



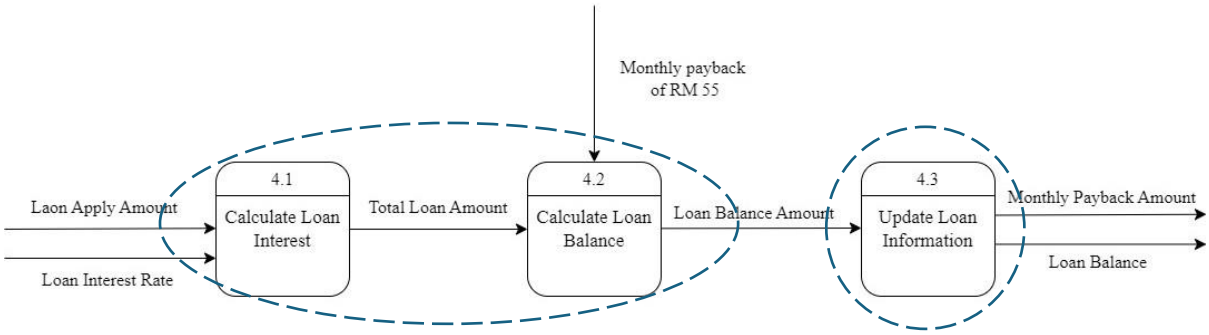
Indicates process will do decision-making on loan application by user

Indicates process will handle initiation of the loan application

Indicates process will do the checking steps on loan application information

Indicates process will update decision output to user and data store

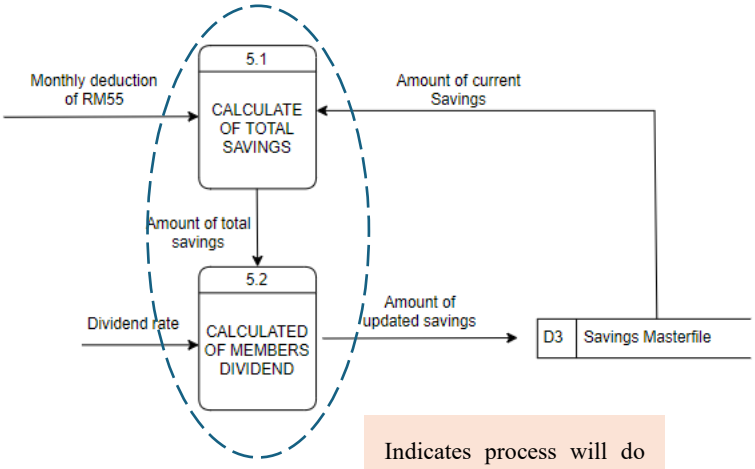
4.0 Calculate Loan (Automated)



Indicates process will do the calculation of loan

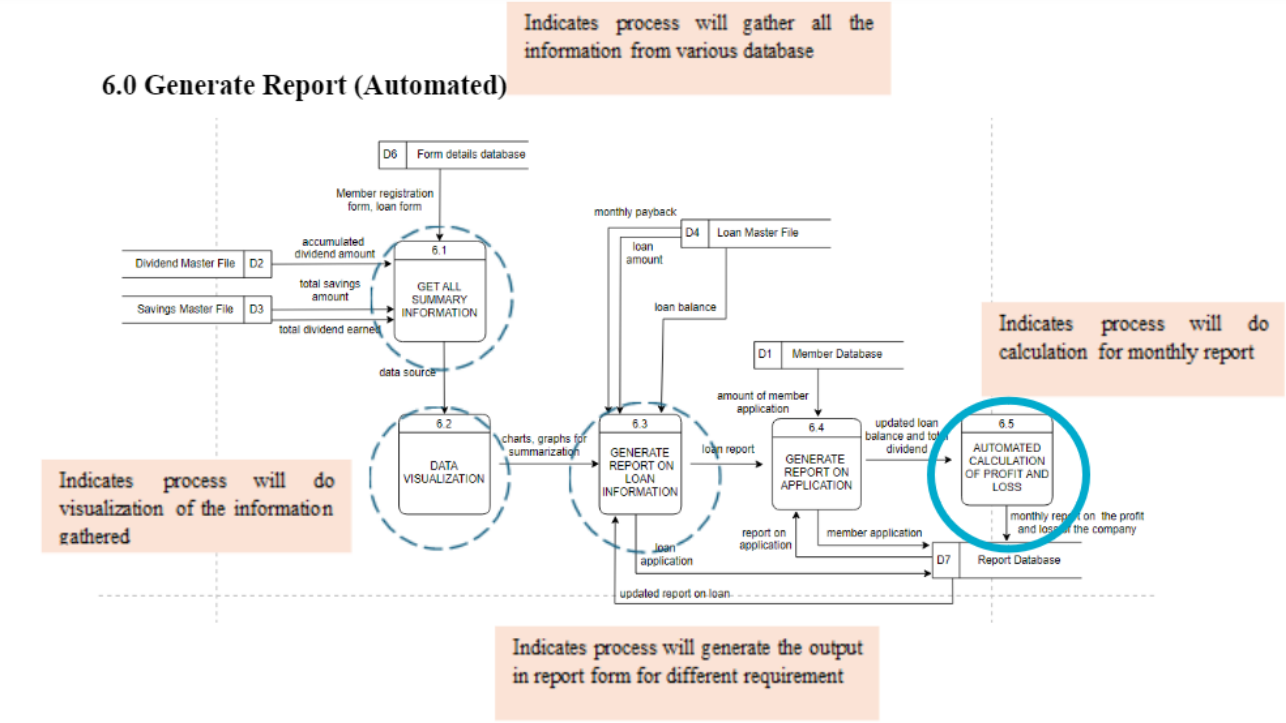
Indicates process will update decision output to data store

5.0 Calculate Members' Total Savings and Dividend (Automated)



Indicates process will do the calculation of savings

6.0 Generate Report (Automated)



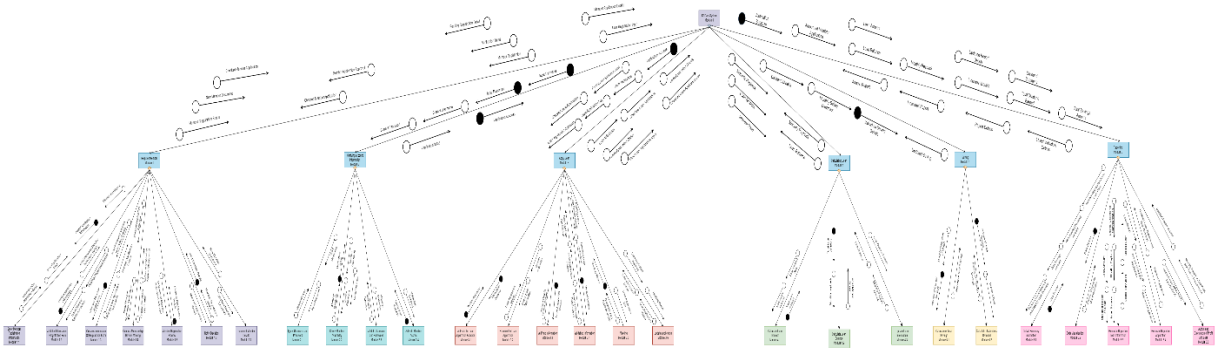
4. CRUD MATRIX

Process/Subprocess	Member Database	Loan Database	Savings Database	Report Database
1.0 Register Member (Automated)	CRU			
2.0 Verifying Account Information (Automated)	R			
3.0 Applying Loan (Manual + Automated)	R	CRU		
4.0 Calculate Loan (Automated)		R		
5.0 Calculate Members' Total Savings and Dividend (Automated)	R		R	
6.0 Generate Report (Automated)	R	R	R	CRU

5. Event Response Table

Event	Source	Trigger	Activity	Response	Destination
New user register	New user	Member registration info	Check member application info. Store member info. Send member registration status.	Member registration status	New user
Member login	Member	Input username and password	Verifying the existence of account. Access to member website page.	Member website page	Member
Apply loan	Member	Loan application info	Check loan application form Store loan info details. Send loan application status.	Loan application status	Member
Calculate loan	Member	Loan amount and interest rate	Calculate monthly payback. Update loan balance.	Loan balance and monthly payback	Report
Savings	Clerk and Member	Dividend rate and monthly salary deduction	Enter dividend rate and deduct monthly salary Store updated savings details.	Savings details	Report
Reporting	Clerk	Dividend summary, savings details and loan details	Generate individual and annual report	Individual report and annual report	Member and Board of Director

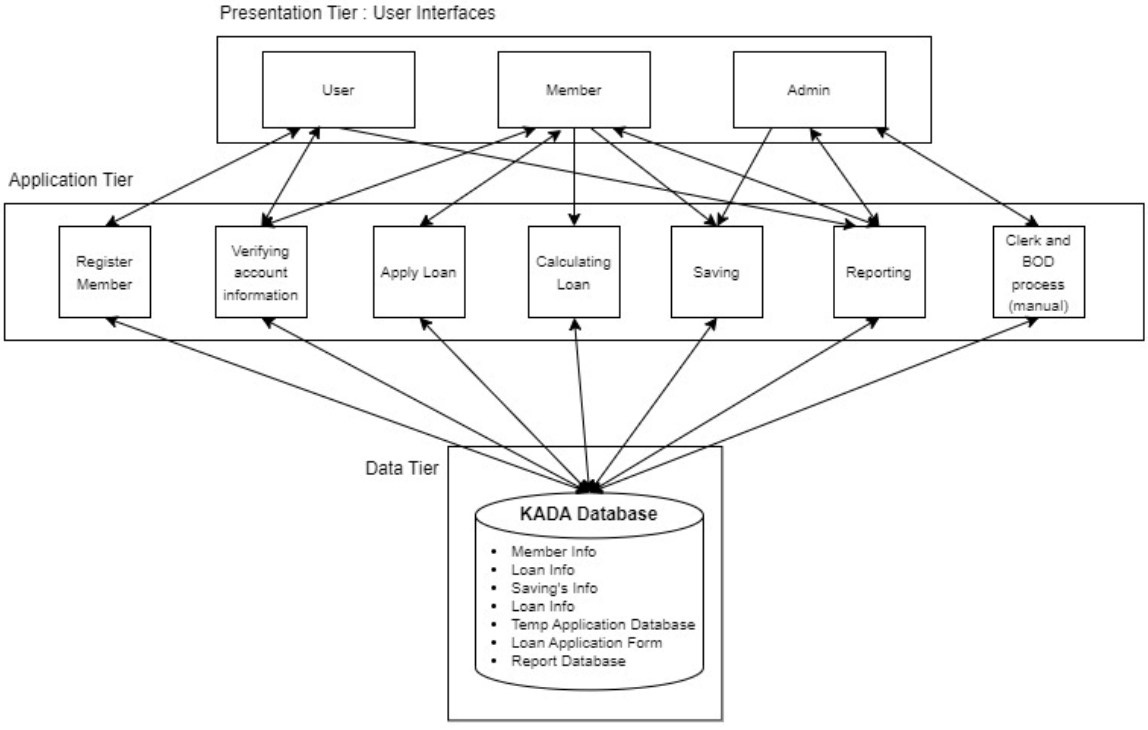
6. Structure Chart



structurecChart.webp

https://drive.google.com/file/d/1VTlDdoHs7hiDUP-9illeGoQj-RiT1HXK/view?usp=sharing

7. System Architecture



Figma

Workspace:

https://www.figma.com/design/ngtbKYww7szXtyvMZMD98q/KADA-WEBSITE?node-id=415-842&t=FCMsCRPWbQVr7VWM-1

Prototype:

Member/Staff UI

https://www.figma.com/proto/ngtbKYww7szXtyvMZMD98q/KADA-WEBSITE?page-id=0%3A1&node-id=25-2&viewport=-2208%2C1644%2C0.38&t=IstHBdrfOnsZfMxz-1&scaling=contain&content-scaling=fixed&starting-point-node-id=25%3A2

Admin UI

https://www.figma.com/proto/ngtbKYww7szXtyvMZMD98q/KADA-WEBSITE?page-id=0%3A1&node-id=373-605&viewport=564%2C35%2C0.03&t=JKEmtprDs16Oqb8n-1&scaling=contain&content-scaling=fixed&starting-point-node-id=25%3A2