

1.0 Project Description

San Francisco Multi-Purpose Cooperative (SFMPC) is a transformation of Samahang Nayon with principal office of business in ARC San Francisco Bulakan, Bulacan. It was organized and registered in the year 1989, which aims to enable the farmer beneficiaries as well as seasonal farm workers, vendors and small businessmen to avail of the lending program and other services to avoid exploitation of the indigent members. It was registered with the Cooperative Development Authority of the Philippines.

The cooperative offers a variety of services such as savings, withdrawals and lending programs through membership. The San Francisco Multi-Purpose Cooperative System has been using the manual system in record keeping, member's profiling and other data processing since it was established. As years passed by and with the growing number of human population the demand for pangkabuhayan services cannot be anticipated. The cooperative must maintain a reliable and accurate system in record keeping and data processing.

As we have seen and experienced, the fast rate of technological advancement greatly diminishes the ability of one organization to deliver its services effectively. To counteract this adverse effect of rapid change in technology, one must improve an existing information system and plan an appropriate measure that would bring it to the level compatible to economic viability in sustaining progress. The manual system can be considered as a thing of the past. Automation by the use of machine rather than person increases efficiency. Retrieval of needed information can sometimes be frustrating, one request take minutes or hours to be processed completely. Resources like manpower and materials needed are rising slowly compare to the original allotted resources for each task. With the stated

problem, the proponents proposed a Cooperative System that would help in providing services to the people in a great deal as well as the staff in the organization. The San Francisco Multipurpose Cooperative System would reduce the processes involved in making a certain output. The system would reduce the long-time procedure of accessing of files and producing an output in a reliable way without sacrificing quality. For this reason, the San Francisco Multipurpose Cooperative System can help to have a unified member records and compiled them in a database. With these it would help the staff in a great deal saving some manpower and resources that can be allotted to other productive tasks and to attend to other problems of the organization.

1.1 Overview of the Current State of Technology

In the era where technology plays an important role in business processes. Automation of activities and handling of information can be considered as a good tool for better delivery of services. Setting up a cooperative system is an attractive strategy for small and medium enterprises like the San Francisco Multipurpose Cooperative. Unless carefully planned and managed, the impact of converting from manual to computerized system may not be wholly positive but an advantage for the organization in rendering services to its client. Computers can process data more accurately and quickly than humans.

With the increasing number of mobile phones user and network providers, incorporating SMS text messaging in the Cooperative system for notifying member's transactions could be an advantage since it would open an avenue for communication between members and the organization.

1.2 Project Objectives

General Objective

Develop an information system for San Francisco Multi-Purpose Cooperative that will improve the day-to-day processes involving withdrawal, savings and lending programs and with the utilization of short messaging system (SMS) as a method of notifying members regarding any business transactions made within the cooperative.

Specific Objectives

1. To plan and analyse a new and interactive avenue to the staff and members of San Francisco Multi-Purpose Cooperative.
2. To design a cooperative system using programming languages available like Java for better delivery of information and to provide a database using MySQL as a storage of the system for ease of accessibility, and to decrease the time allotted in retrieving records through logbooks and files saved in the computer.
3. To design a system efficient in adding members and capable of accommodating different loan applications for faster delivery of service.
4. To develop a system proficient in generating essential reports such as member's profile, member's list, overdue of loans, and transactions (loans, withdrawal, deposit), mission and vision, also a letter of notice to a member which is having an overdue of his/her loan.
5. To design a system capable of computing member's up-to-date savings, loans, deposits and withdrawals, ensuring its accuracy and reliability.

6. To test and implement a SMS based notification dedicated to the SFMPC members for them to be notified with the transactions and loans.
7. To test and implement a secured record-keeping system that is accessible anytime during working hours.

1.3 Scope and Delimitation of the Project

The scope of the proposed system for the San Francisco Multipurpose Cooperative System with SMS Based Notification will be: the system is secured with log in password to avoid unauthorized use and data manipulation because the system stores information and transaction details made by the members of the cooperative. Also the system is capable of adding, retrieving and updating records of the cooperative members that would provide an ease of information management and is capable of adding new membership application, providing a checklist for the user to monitor if pending membership comply with the organization's requirements. The system is capable of producing reports such as application form for membership, list of members and transactions such as deposit and withdrawal slip; computing interest for time deposit; keeping track of the day-to-day transactions and a SMS notification would be sent to the members who would made transaction such as membership application approval, maturity of saving account specifically the time-deposit savings, loan approval, and notice for loan payment.

The proposed system limitation will be: The system did not cover the calculation for deposit and loan's interest because the computation varies to the organization's income. Unfortunately, the system would not include the use of bar codes and biometrics for profiling of member's personal and account information and would also not include the use of credit cards in any kind of payment or any online transactions. The system is ready

for LAN-based connection but due to limited resources of the organization the proponents opted not to do it. Lastly, the system will be developed in the school year 2014-2015 using the programming language Java as it's front-end, a database that is developed using MySQL and applications for enhancing graphics, text and images.

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1.4. Significance of the Project

As human entered the new millennium, computers affected nearly every aspect of people's daily lives for it has given them easy access to up to date information in almost all areas. Consolidation of existing information system and creating new must be done. It aims the attainment of effective delivery of service through identified strategies that will enhance and contribute to higher productivity of the organization and today, that we have reach the techno-era, and to attain the objectives and goals set, the information system must be more responsive and effective according to the need of the society especially on the level of the implementation.

The study is common and overly used topic in the field of IT but the proponents believe that with the development of San Francisco Multi-Purpose Cooperative with SMS Based Notification will be beneficial to the following:

The Cooperative - The Cooperative will have more precise and systematic organization of member's information managed by the user of the system thus creating an effective way to deliver a good and reliable service to its members.

The Staff – It can be a venue for information exchange among staff about transactions and other information handled and processed by the system.

The Cooperative Members – Through the use of the developed system, printed reports and SMS notification would serve as a copy and reference for transactions handled by the system.

2.0 Review of Related Literature and Related System

A cooperative system may be defined as combination of technologies, human beings and organizations which is supporting the communication and coordination in order to contribute to the efficient realization of joint objectives. The corresponding research group Cooperative Systems, headed by Prof. Dr. Peter Reichl, starts in 2013 and will focus on the investigation of distributed systems in the area of ICT from an explicitly holistic perspective which addresses technological issues together with related economic and user-centric aspects. The resulting interdisciplinary research area is based on solid knowhow about future architectures, communication protocols and distributed algorithms, including their technical and user-centric performance evaluation, but at the same time aims at integrating the perspective of computer science with neighboring disciplines from economics, human and social sciences. During the setup phase, the research group will

deliberately focus on corresponding topics in telecommunications, and especially around the Internet which currently represents the cooperative system par excellence.

Conferring to the study of Gatus, Corea and Ignacio (as cited in Cruz, Pablo, Pineda, Robles and Santiago, 2008) the system was made for Panasahan Credit Cooperative to fully organize and simplify the existing system used by the cooperative. The proponents provide a simpler and user-friendly system to give the cooperative the same services but more efficient than the old system. To systemize the cooperative the proponents come up for a better system. Even the computerized system is not that board in terms too much function, it will lessen the time allotted for creating, searching and computing for loans and payment transaction of cooperative member. With the used of computerized system, it will give less task for the cashier and other staff of Panasahan Credit Cooperative. Computerizing the system of Panasahan Cooperative will be great help in terms of storing records and tracing unpaid loans with the automation of the system misplacement of records will not be a problem anymore. Panasahan Credit Cooperative is believed to benefit through the development and proper implementation of the system.

According to the study conducted by the cooperative is data quality management is a very relevant task for them a low quality data circulation can cause a continuous detoriation of the data quality inside single circulation. For CIS's there is a need to improve data quality in order to avoid a general spread of data low quality. As cited by Cacanindin, et al, La Putt stated the computer is like a human brain that can take data and process it. In addition to that he also explained that computer can process raw data and deliver it as processed data to answer the demand of the outside world. Livestock Management Information System for Manatal Multi-Purpose cooperative farm is a computer based

system are used in order to upgrade the kind of work and to be updated in the latest technology and a solution for problems encountered like errors in record keeping and inefficient of the employees in monitoring the record of the swine. It will be very useful to them because it will keep all records or data has the user or the company needs and can update the records of the swine. The front-end of the system is the Visual Basic Language while the back-end is the Structured Query Language. The reason for developing a livestock management is to reduce cost to trends faster improves customer services up merchandise are long gone, because the replacement machine do so much in times of record keeping. As stated by Stain and Reynolds, a Cooperative System is typically considered to the sets of interrelated elements of components that collect, manipulate and disseminate data and information and provide a feedback mechanism to meet an objective.

One successful cooperative is the Quinlogan Samahang Nayon. According to a study made by the Special Task Force Division, Bureau of Cooperative Development of the Ministry of Local Government and Community Development, the success of the group (composed of 94 farmers) was due to the active role played by the leaders of the SN; the participation of the members in every stage of program planning and implementation; the self-reliant spirit of the group members and the timely extension assistance provided by the government. The latter factor has been recognized as an indispensable component of a development program and a dominating TAN: COOPERATIVE SYSTEM 341 factor in the successful operations of some Samahang Nayons (Special Task Force Division, 1978). Government policies to promote cooperatives have proven to be viable. As a result, various cooperative development programs, notably the Cooperative Development Loan Fund (CDLF), were suspended due to low repayment rate on loans and to insufficient viability

of the cooperatives' economic activities. One factor that stands out after a review and analysis of cooperatives' failures is the need for extensive training among cooperative members on the Nuances on how to get a cooperative system going. Thus the government thrust in this regard is to make certain such training needs are met.

3.0 Project Methodology

3.1 Conceptual Framework Diagram

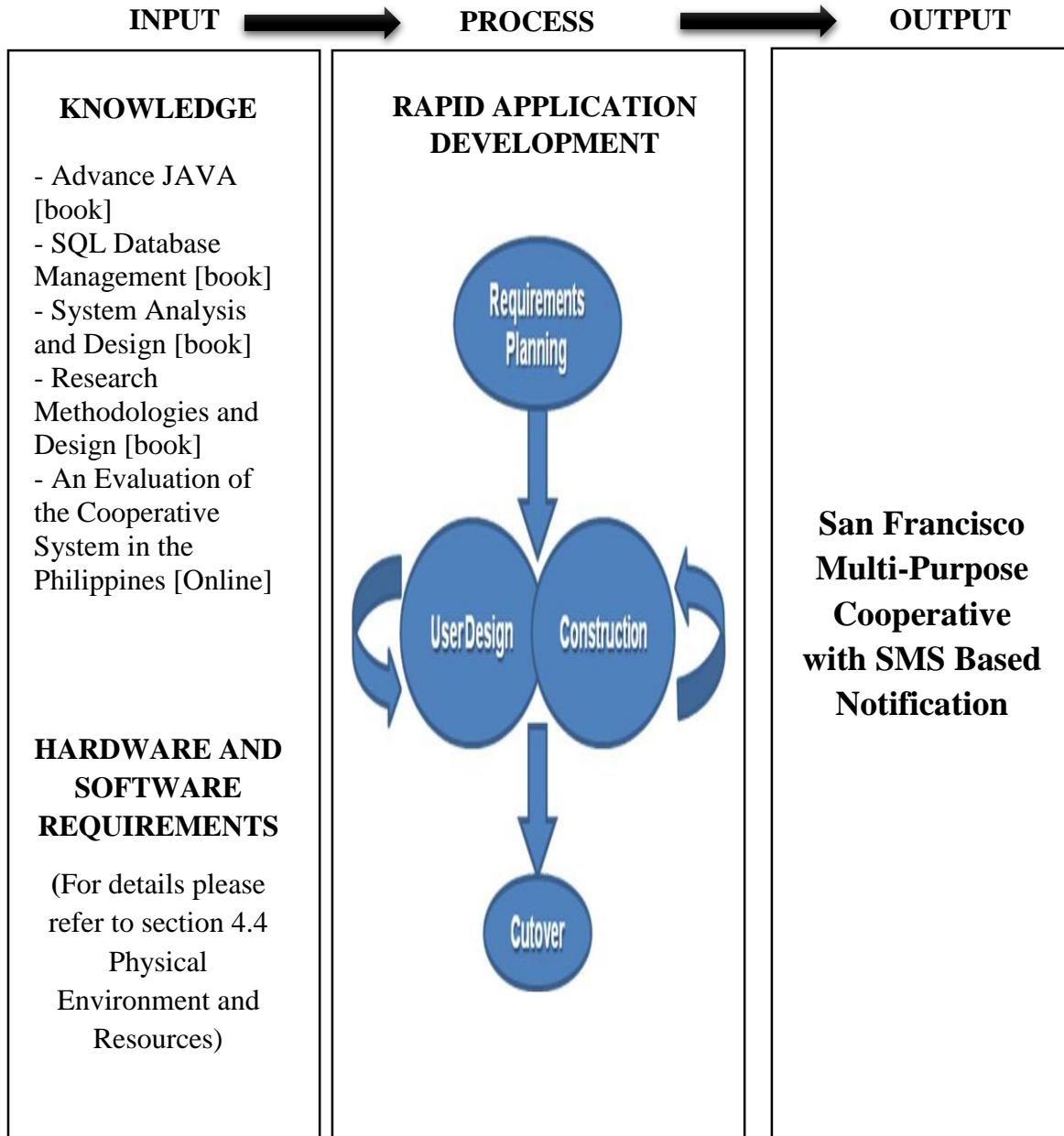


Figure 1.0 Displays the IPO

Rapid Application Development

Requirements Planning Phase.

In the first phase the development team begun eliciting information, determining business functions, communicating the problem, how can a possible solution be designed to solve the problem, what needs to be done and finding risks associated in handling the requirements.

User Design Phase.

During the design phase the team developed models and prototypes to represent the actual process in implementing the requirements. It allows end users to operate the system and its functions.

Construction Phase.

In the construction phase the team focuses on the actual development of the proposed system. It involves coding, system integration, finalizing design while working directly with the users. It is then checked to ensure functionality that users actually want. The modification process continues until the team meet the needs of the project sponsors.

Cutover Phase.

In the final phase the developed system is built and tested, once the project is ready for implementation the objective of the team is not only to have reliable, working system but also to ensure that the users are all trained.

4.0 San Francisco Multipurpose Cooperative System with SMS-Based Notification

This section shows the overview, objectives, functions, physical environment and resources and architectural design of the system. This gives the overall specifications and functional requirements of the system that will be developed.

4.1 System Overview

The San Francisco Multipurpose Cooperative System with SMS-Based Notification is intended to provide a solution for San Francisco Multipurpose Cooperative that would help in automating the manual handling of information and improve the services being conducted such as less time and easier accessing and retrieval of information needed. The system would be composed of Profiling system, Loan and Savings application and Loan and Savings calculations that would lessen the work of staff in processing business transactions by manual process. Features of the system would be generating of deposit and withdrawal slips, system database, security of the system and SMS notification for membership application approval, maturity of saving account specifically the time-deposit savings, loan approval, and notice for loan payment.

4.2 System Objectives

1. Logging in and out

1.1. The system would request for user log in details.

1.2. The system would check the validity of entered username and password.

1.3. User must be able to login and logout.

1.3. User must be able to update username and password.

2. Profiling System

2.1. The system must be able to create new member's application for

membership.

2.2. The system must be able to determine if membership application is

approved by completing the requirements checklist.

2.3. The system can update and archive member's account.

2.4. User must be able to search the member's account by id, last name and

first name.

3. Transactional Functions: Loan and Savings Application

3.1. User must be able to create a loan and savings application that will

notify the cashier.

3.2. Cashier must be able to search member by id, last name and first name.

3.3. Cashier must be able to choose mode of payment.

3.3. Cashier must be able to enter desired amount to be deposited or withdrawn.

3.4. Cashier must be able to view member's ledger.

4. Report Generation

- 4.1. The user must be able to view and print membership application.
- 4.2. The user must be able to view and print list of members.
- 4.3. The user must be able to view and print daily, monthly and yearly member's and account transactions history.
- 4.4. Cashier must be able to print deposit and withdrawal slip.

5. SMS Notification

- 5.1. The system must be able to send a SMS Notification to members who made transaction such as loan approval, membership approval, loan passed due and overdue and maturity of time deposit.

4.3 System Functions

This section provides a listings of all the functions that must be performed by the system and description of each.

1. Login – process of identifying oneself to a computer, usually by entering a valid username and password.
2. List of Members – contains all the list of members of the cooperative that when double-clicked another form that contains member's information and a checkbox that a user can check if the member requested to open a savings or time deposit

account. The form contains archive buttons to archive selected members in the table and a print button to print the list of members.

3. Member Page – the user can add and decline new membership application.
4. Account – contains loan application form that can be printed and submitted to notify cashier for loan application.
5. My Account – contain details about the user currently using the system. The user can modify login details.
6. Admin Dashboard – contain notifications about transactions and processed made by the users.
7. Manage User – the administrator can view users who is available or blocked. The admin can unblock all user or specific user of the system that has been blocked to use the system. The admin can also add new system user, update user account and remove user.
8. Log in History – the administrator can view users who logged in the system on a specific date and print the login history.
9. Member and Account History – the administrator can print and view users who made transactions like added new membership application and account transactions like deposit, withdrawal and loan application.
10. Transaction – the administrator can view and print daily, monthly and annual transactions made by the system.

4.4 Physical Environment and Resources

Hardware Requirements:

Table 1.0 System Hardware Specifications

Category	Minimum Specifications	Recommended
Processor	Intel Dual Core	Intel Core I3
Memory	2GB	4GB
Hard Disk	250 GB	500GB
Screen Resolution	800 x 600	1280 x 1024

Software Requirements:

Table 2.0 System Software Specifications

Resource	Description
NetBeans	<p>NetBeans is a software development platform written in Java. The NetBeans Platform allows applications to be developed from a set of modular software components called modules. Applications based on the NetBeans Platform, including the NetBeans integrated development environment (IDE), can be extended by third party developers.</p> <p>The NetBeans IDE is primarily intended for development in Java, but also supports other languages, in particular PHP, C/C++, and HTML5. NetBeans is cross-platform and runs on</p>

	Microsoft Windows, Mac OS X, Linux, Solaris and other platforms supporting a compatible JVM.
MySQL	MySQL is one of the most popular open source databases meaning it is free to use under any environment, provided that the General Public License (GPL) rules abided. In terms of security, though SQL commands, MYSQL supports basic security at the table level. MySQL would be a good choice for creating web pages that are dynamically populated with information from the database. Therefore, it is often an excellent choice of database for use in internet applications.
Java	Java is a programming language. It was first developed by James Gosling at Sun Microsystems, which is now a part of Oracle Corporation. It was released in 1995 as a part of Sun Microsystems' Java platform. The language has developed much of its syntax from C and C++. Java applications are usually compiled to byte code (class file) that can run on any Java Virtual Machine (JVM). Java is currently one of the most popular programming languages being used. It has about 10 million users.
Jasper Reports	JasperReports is an open source Java reporting tool that can write to a variety of targets, such as: screen, a printer, into PDF, HTML, Microsoft Excel, RTF, ODT, Comma-separated values or XML files. It can be used in Java-enabled applications,

	<p>including Java EE or web applications, to generate dynamic content. It reads its instructions from an XML or .jasper file. JasperReports is part of the Lisog open source stack initiative.</p>
JRE (Java Runtime environment)	<p>An environment required to run applets and applications written using the Java programming language, It is an implementation of the Java Virtual Machine* which actually executes Java programs.</p> <p>It is a bundle of software that you can use to develop Java based applications. Java Runtime Environment is a plug-in needed for running java programs. Java Development Kit is needed for developing java applications. The JRE is smaller than the JDK so it needs less Disk space.</p>
JDK (Java Development Kit)	<p>A software development kit used to write applets and applications using the Java programming language, it is a bundle of software that you can use to develop Java based applications, Java Development Kit is needed for developing java applications, It includes the JRE, set of API classes, Java compiler, Web start and additional files needed to write Java applets and applications.</p>

4.5 Architectural Design

4.5.1 Data Flow Diagram

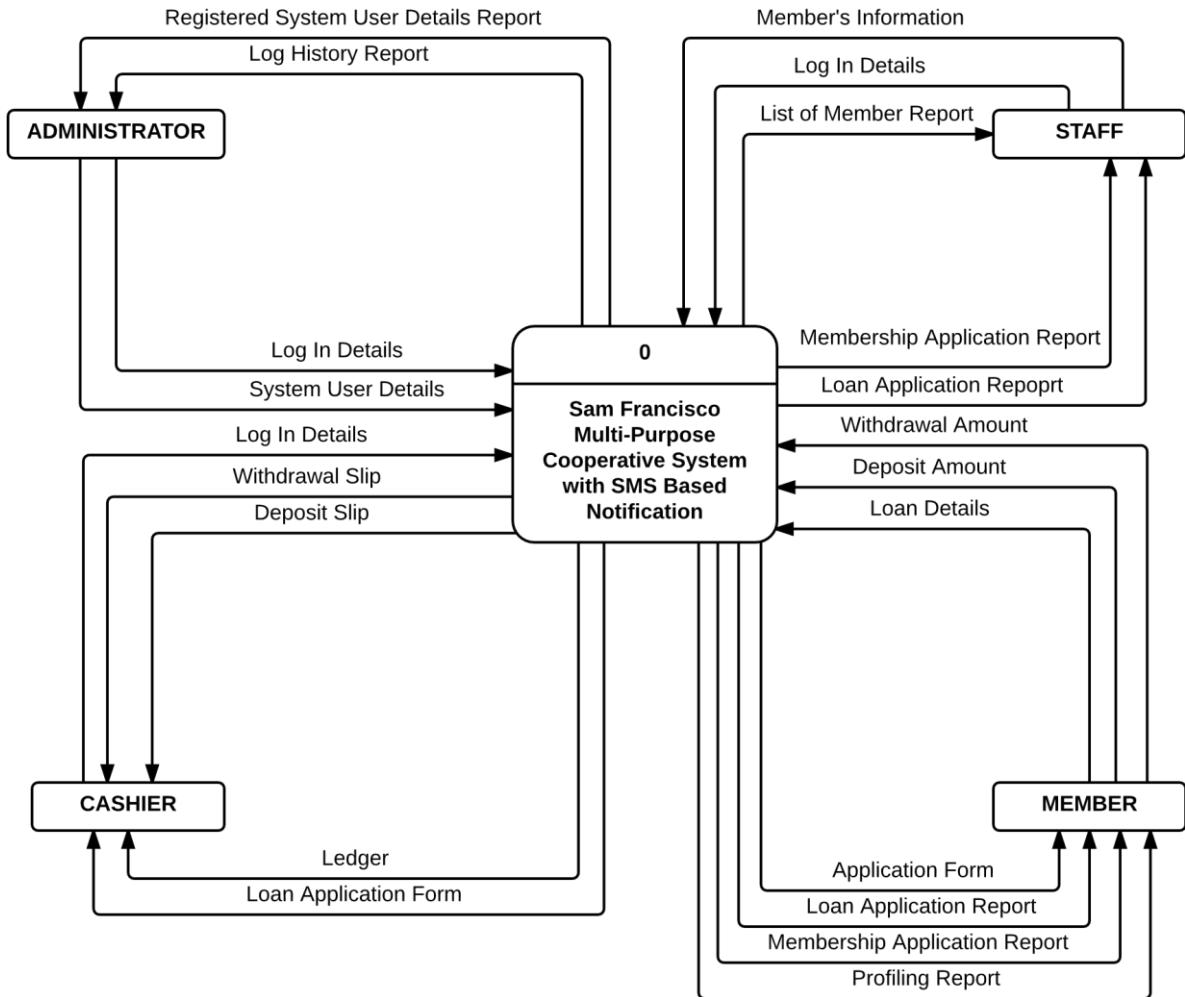


Figure 2.0 Context Diagram of San Francisco Multipurpose Cooperative System with SMS-Based Notification

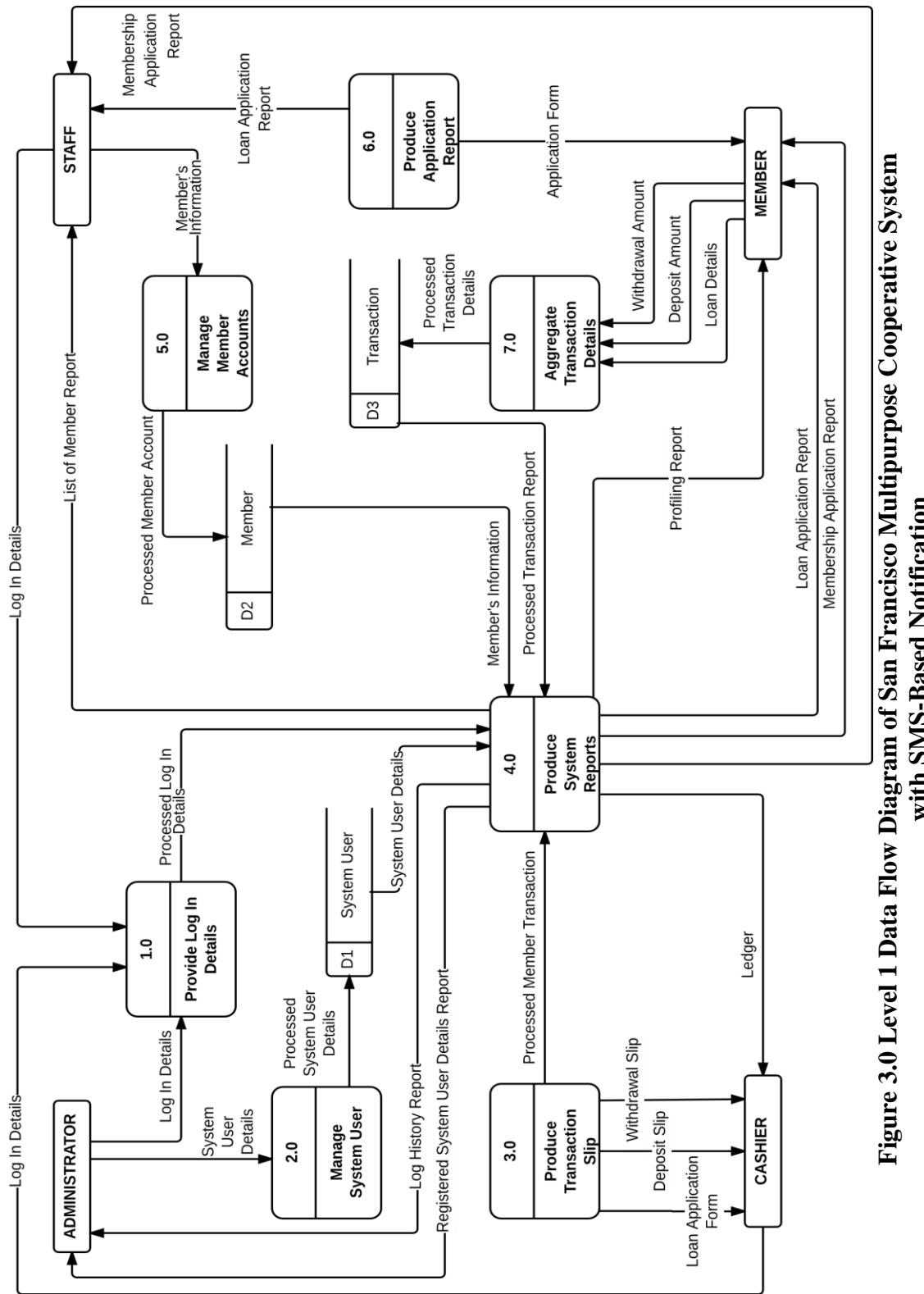


Figure 3.0 Level 1 Data Flow Diagram of San Francisco Multipurpose Cooperative System with SMS-Based Notification

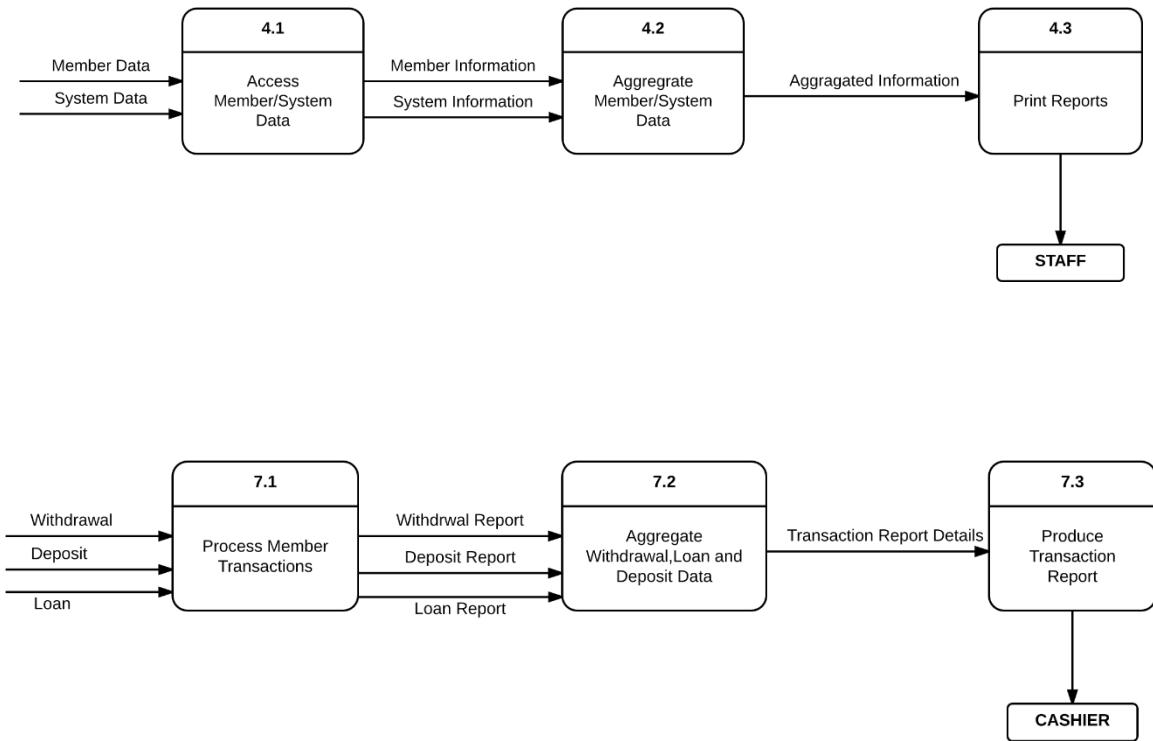


Figure 4.0 Level 2 Data Flow Diagram of San Francisco Multipurpose Cooperative System with SMS-Based Notification

4.5.2 System Flowchart

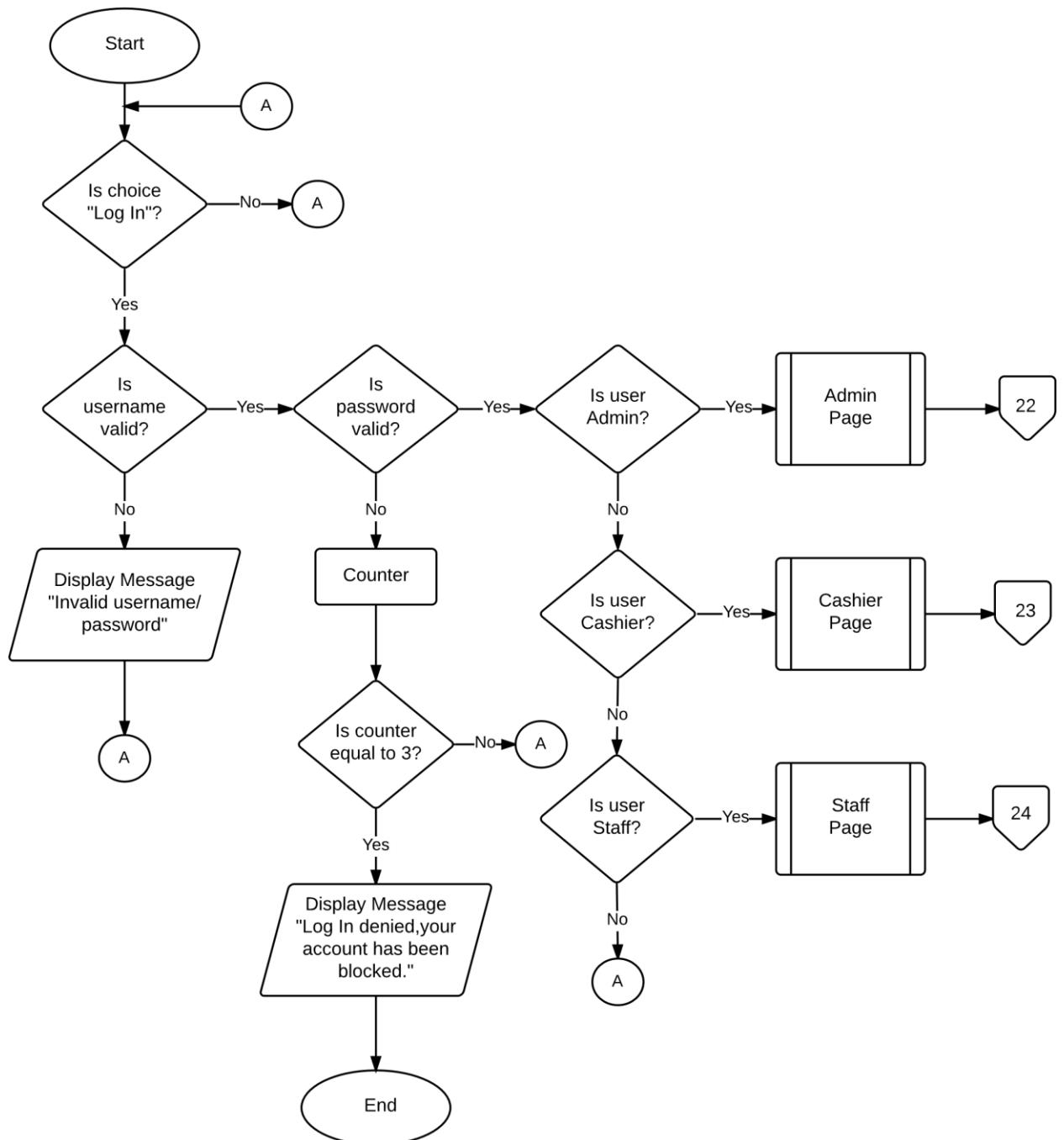


Figure 5.0 Log in Flowchart

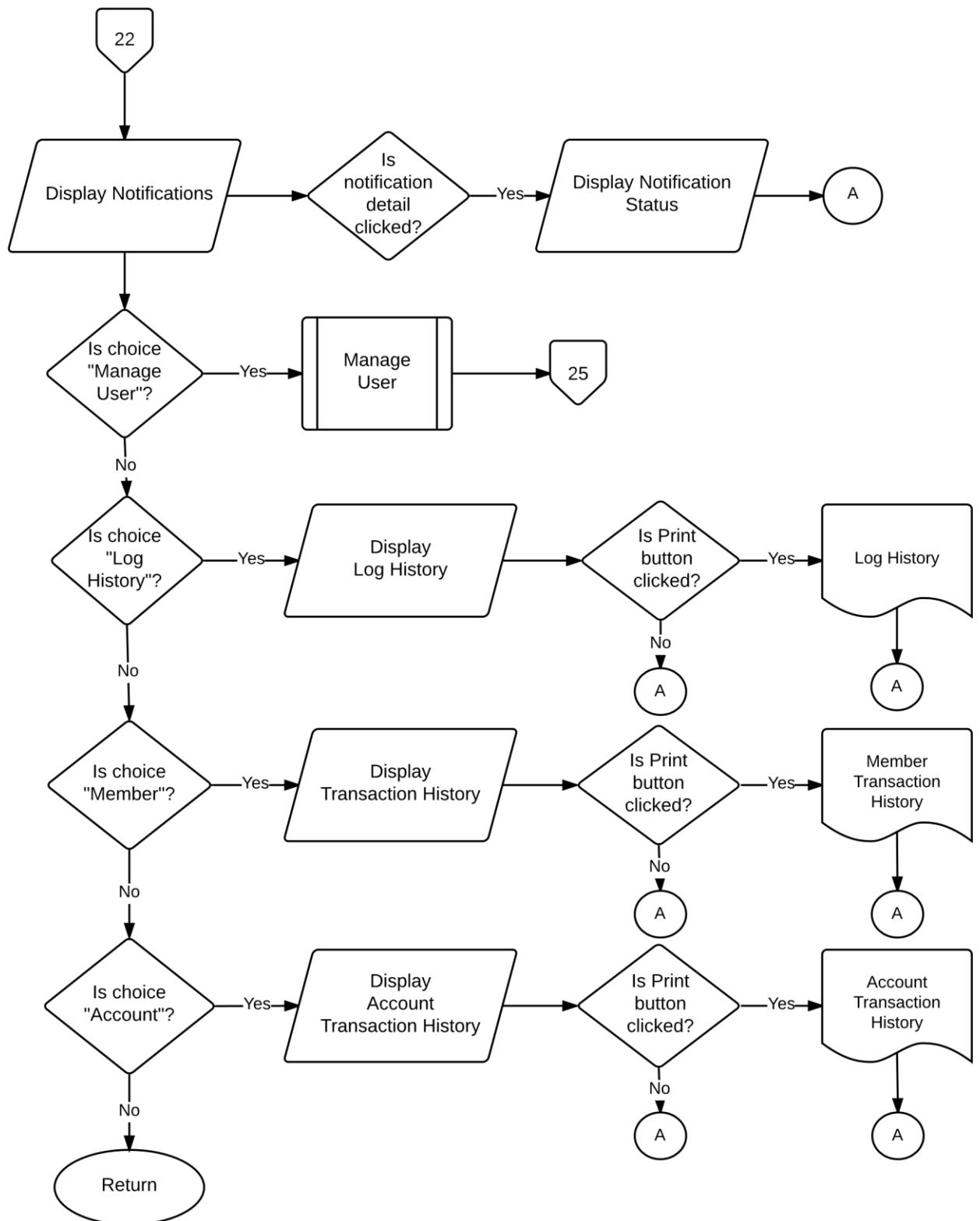


Figure 6.0 Administrator Flowchart

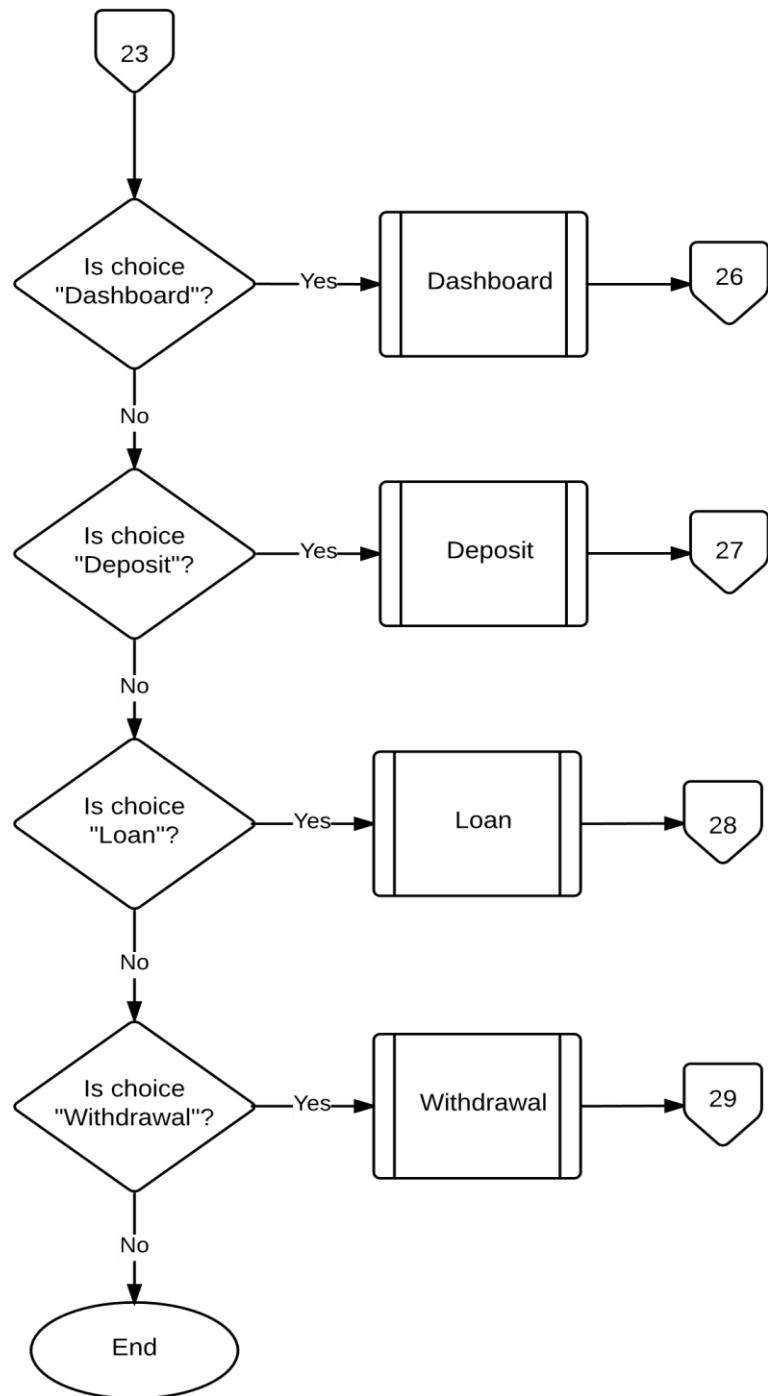


Figure 7.0 Cashier Flowchart

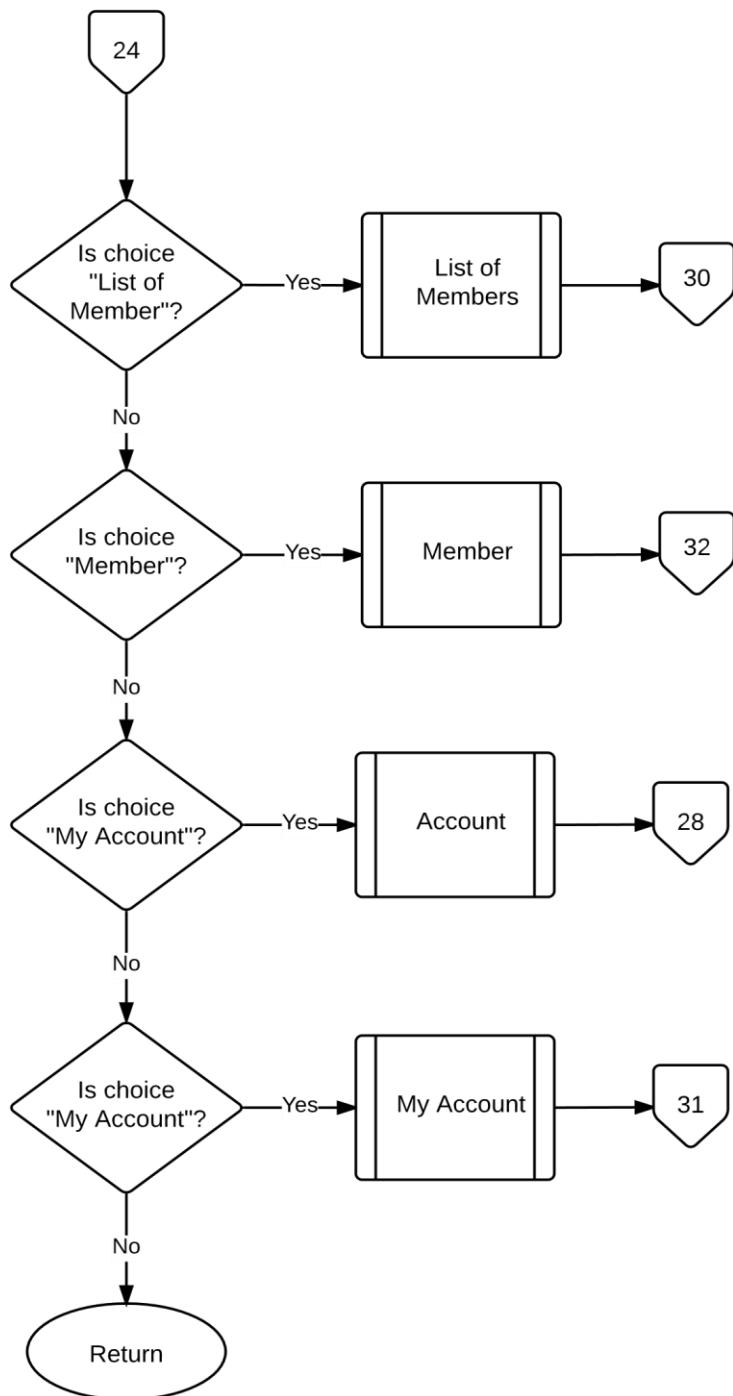


Figure 8.0 Staff Flowchart

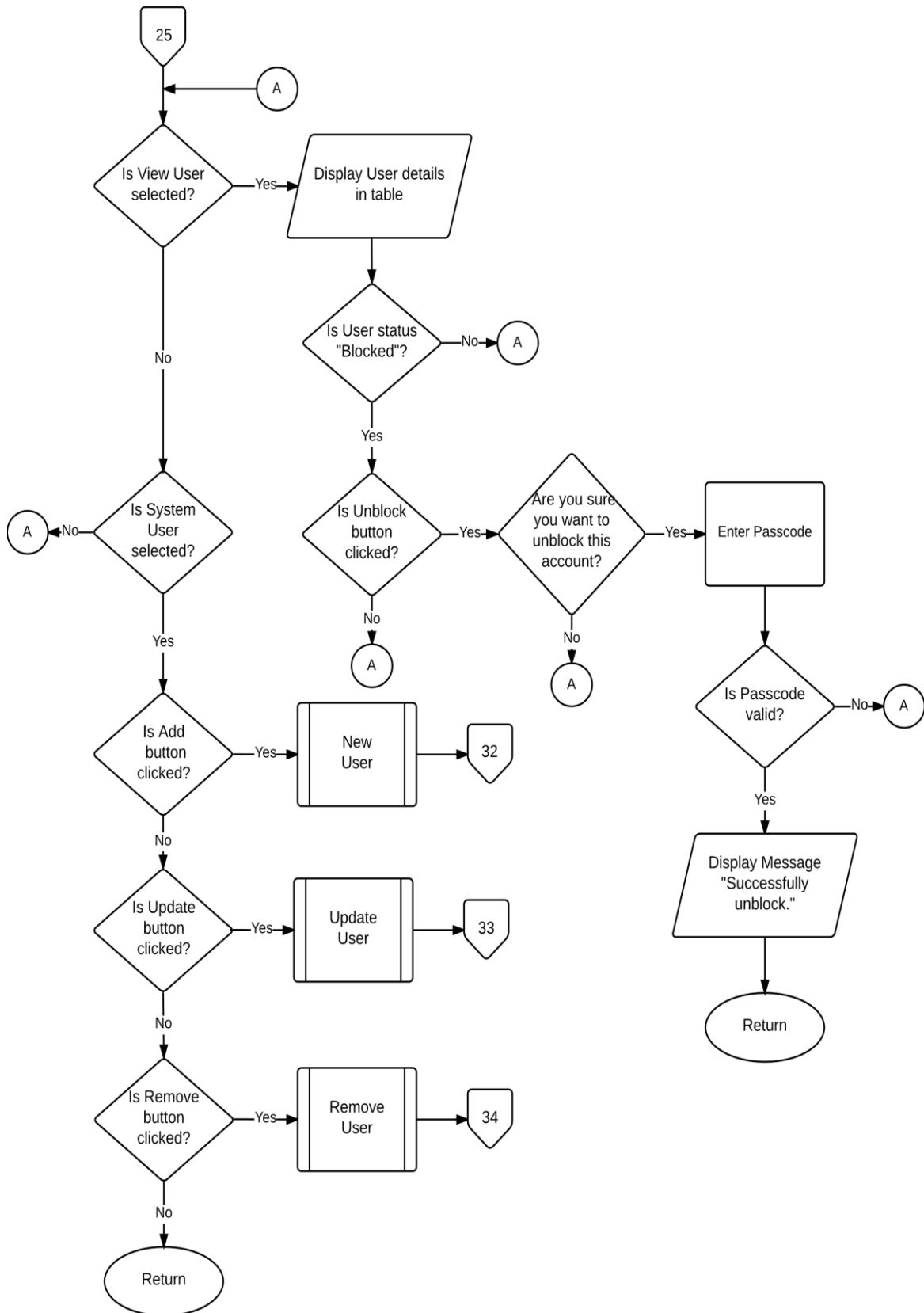


Figure 9.0 Manage User Flowchart

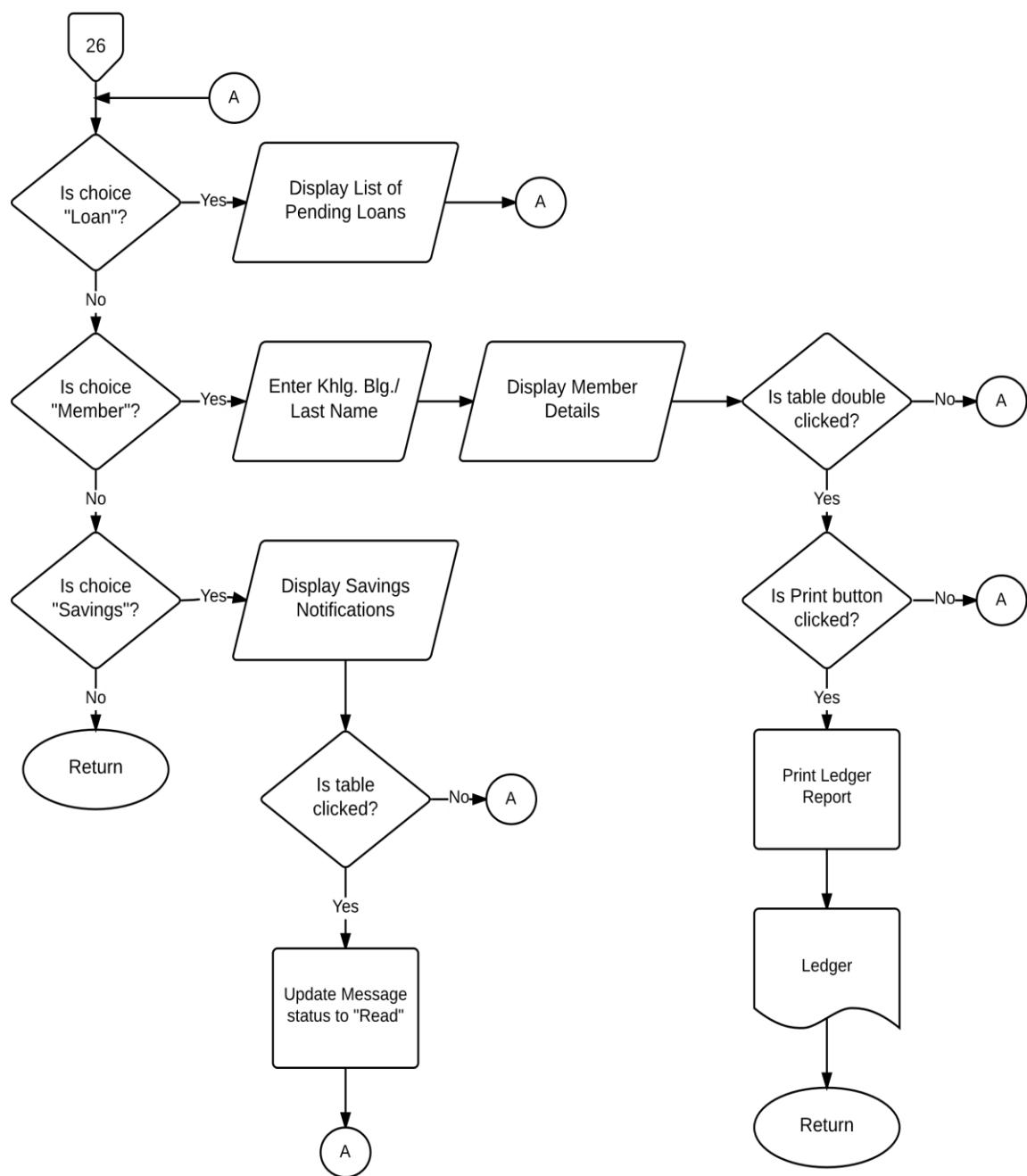
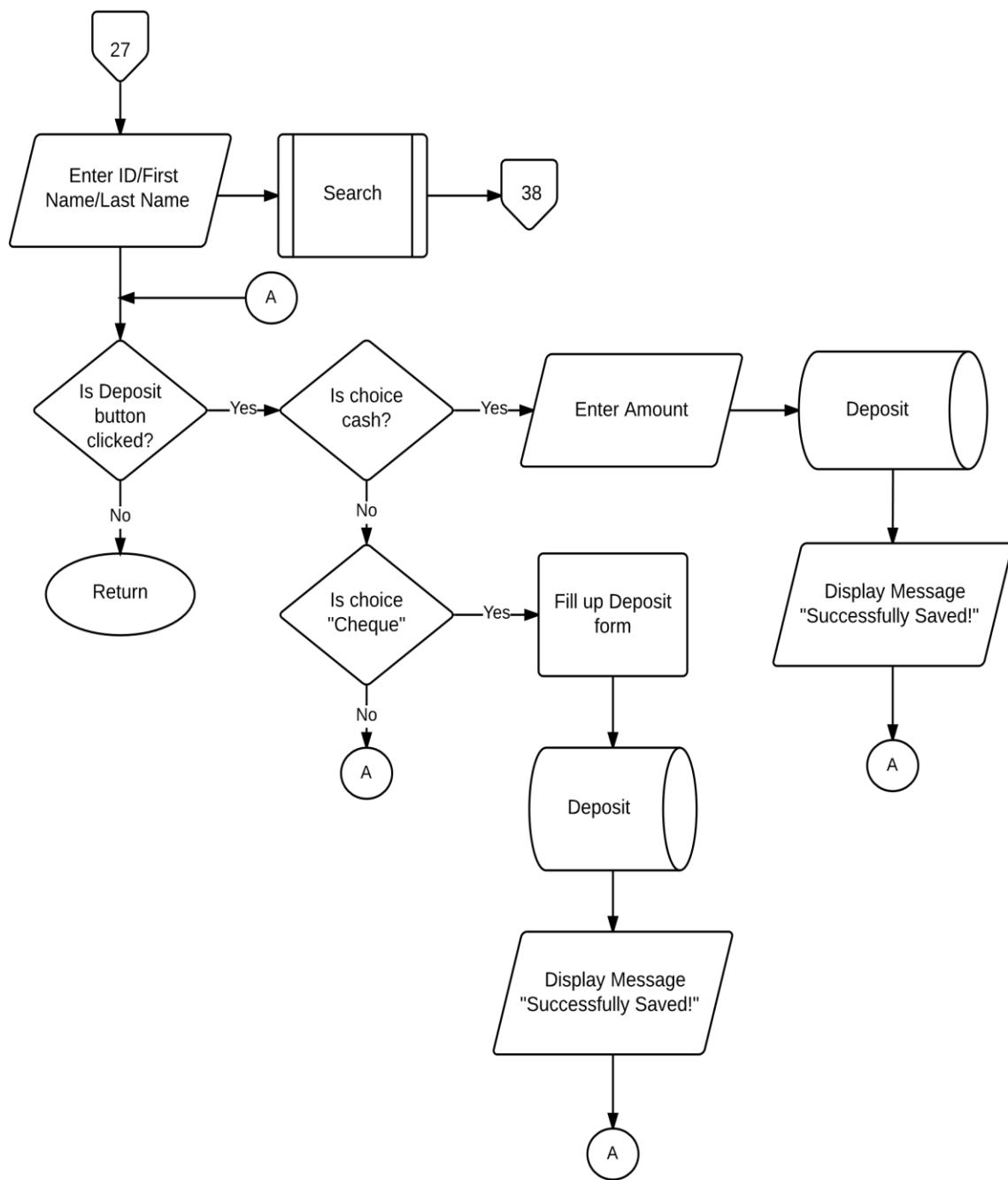
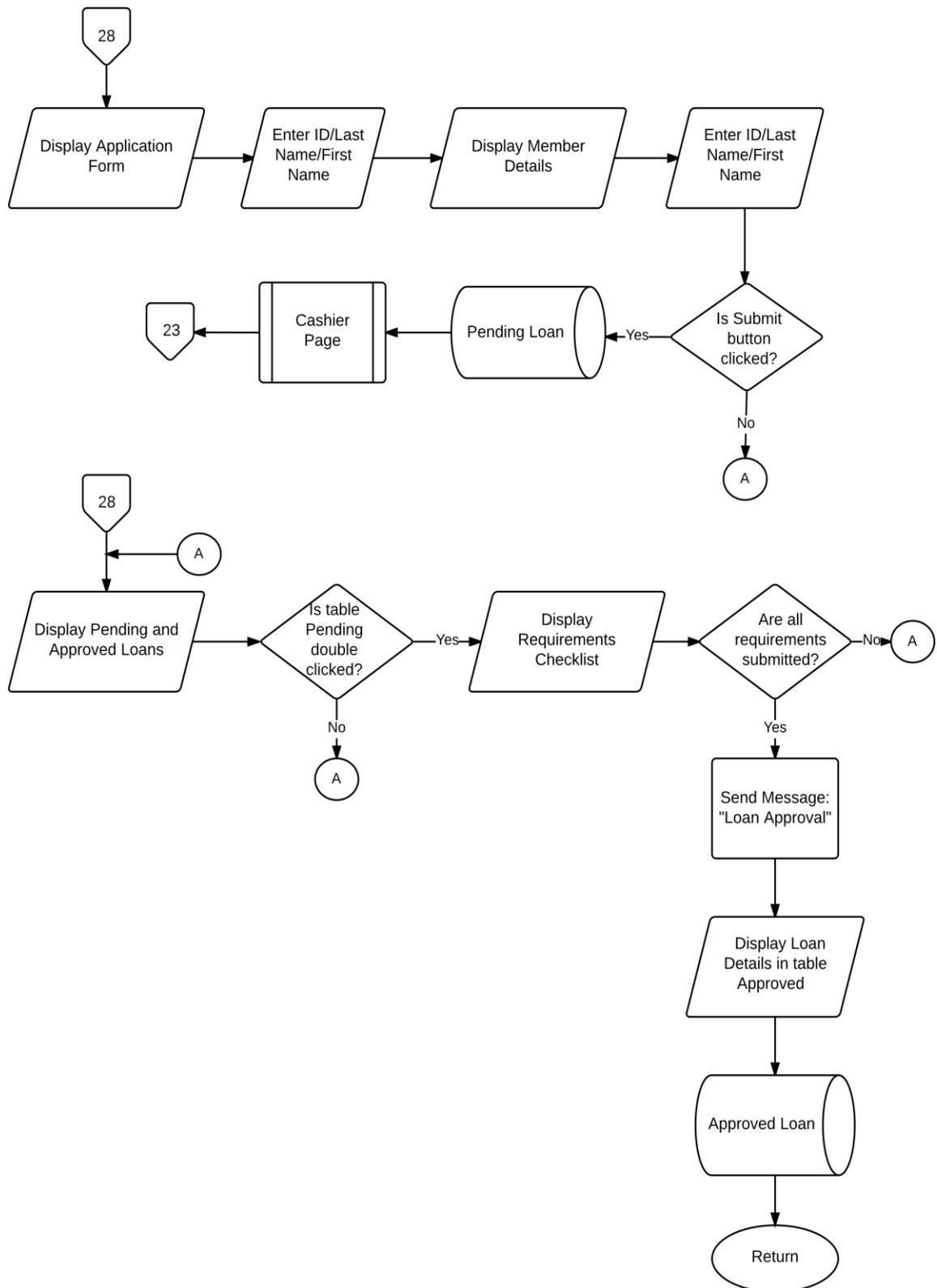
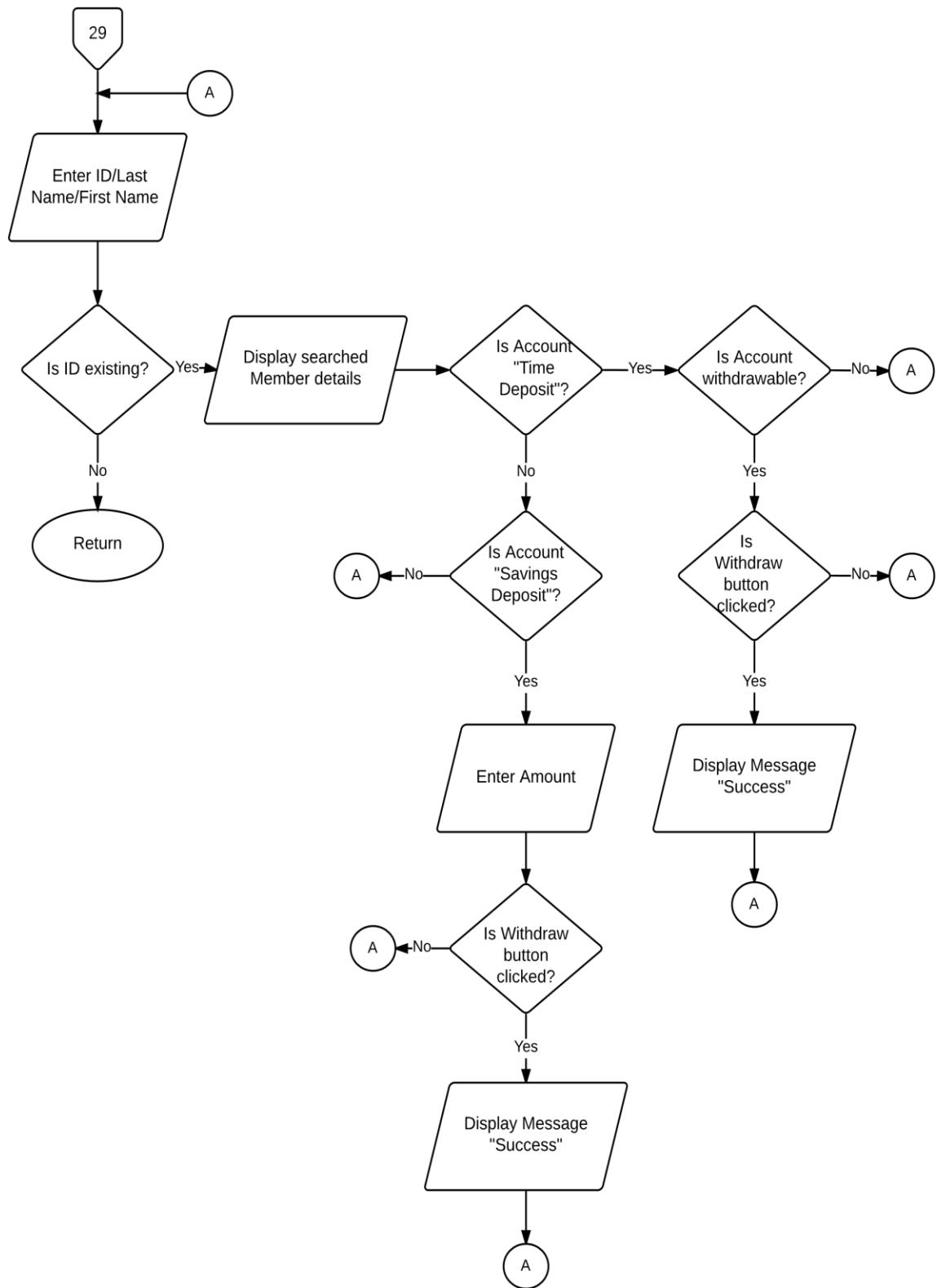


Figure 10.0 Cashier Dashboard Flowchart

**Figure 11.0 Deposit Flowchart**

**Figure 12.0 Loan Flowchart**

**Figure 13.0 Withdrawal Flowchart**

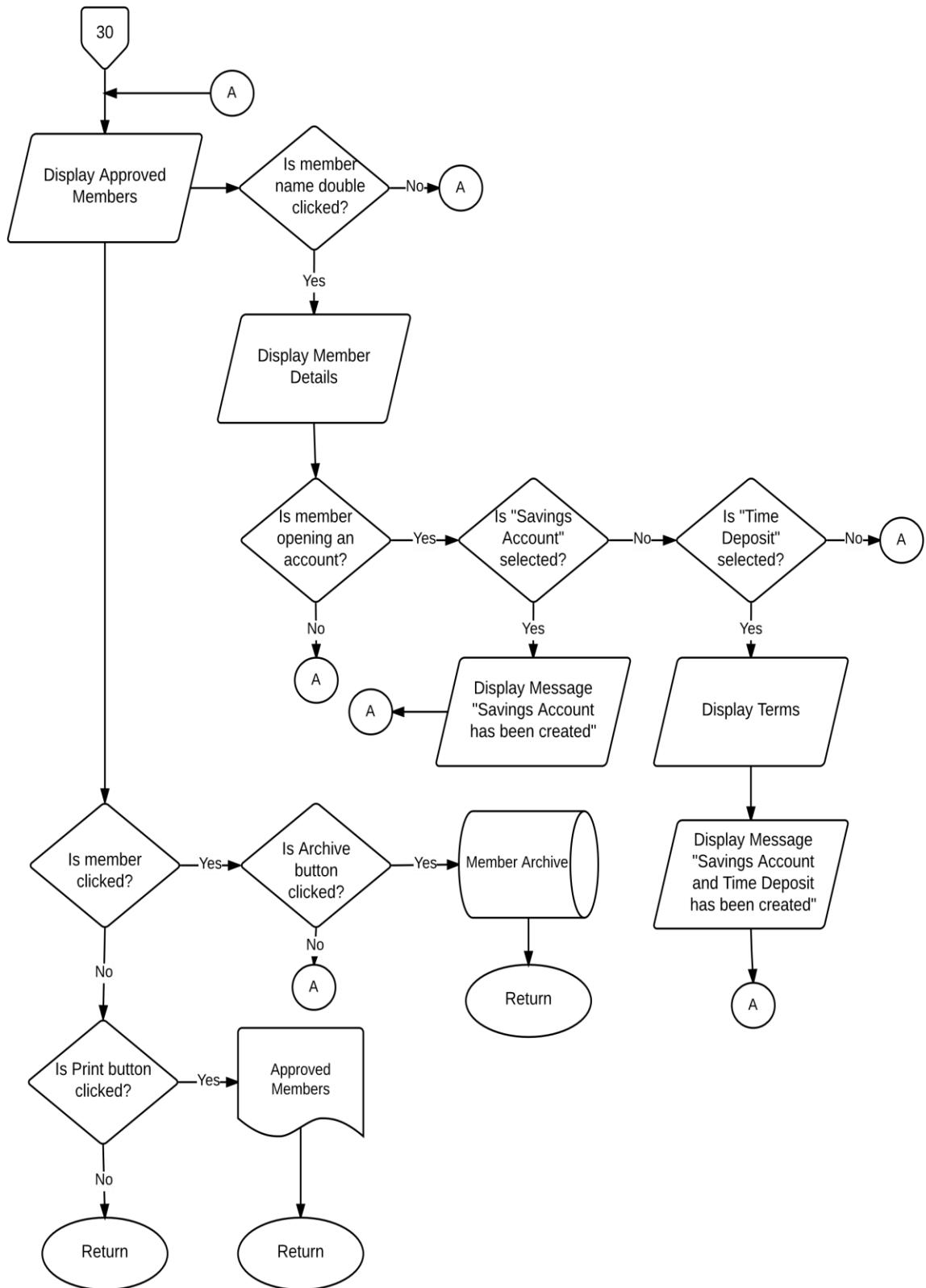


Figure 14.0 List of Members Flowchart

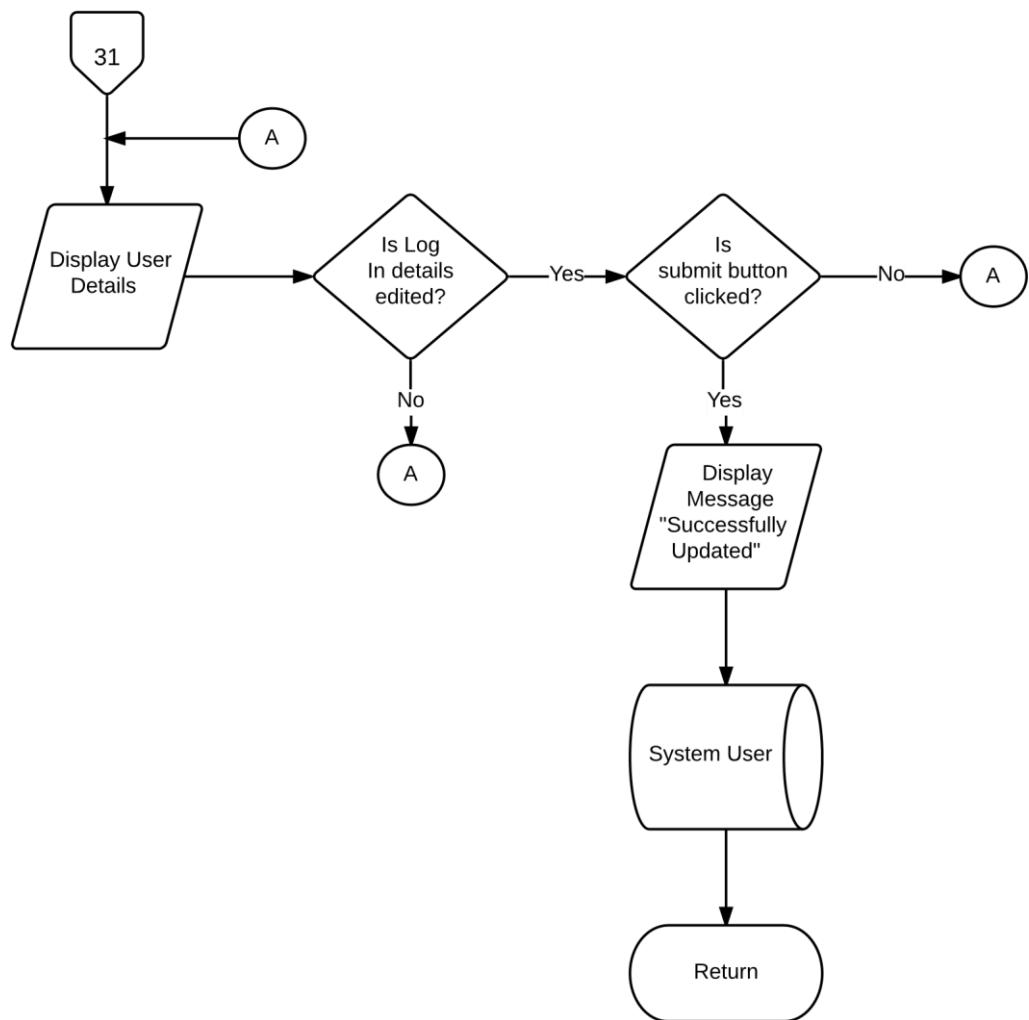


Figure 15.0 My Account Flowchart

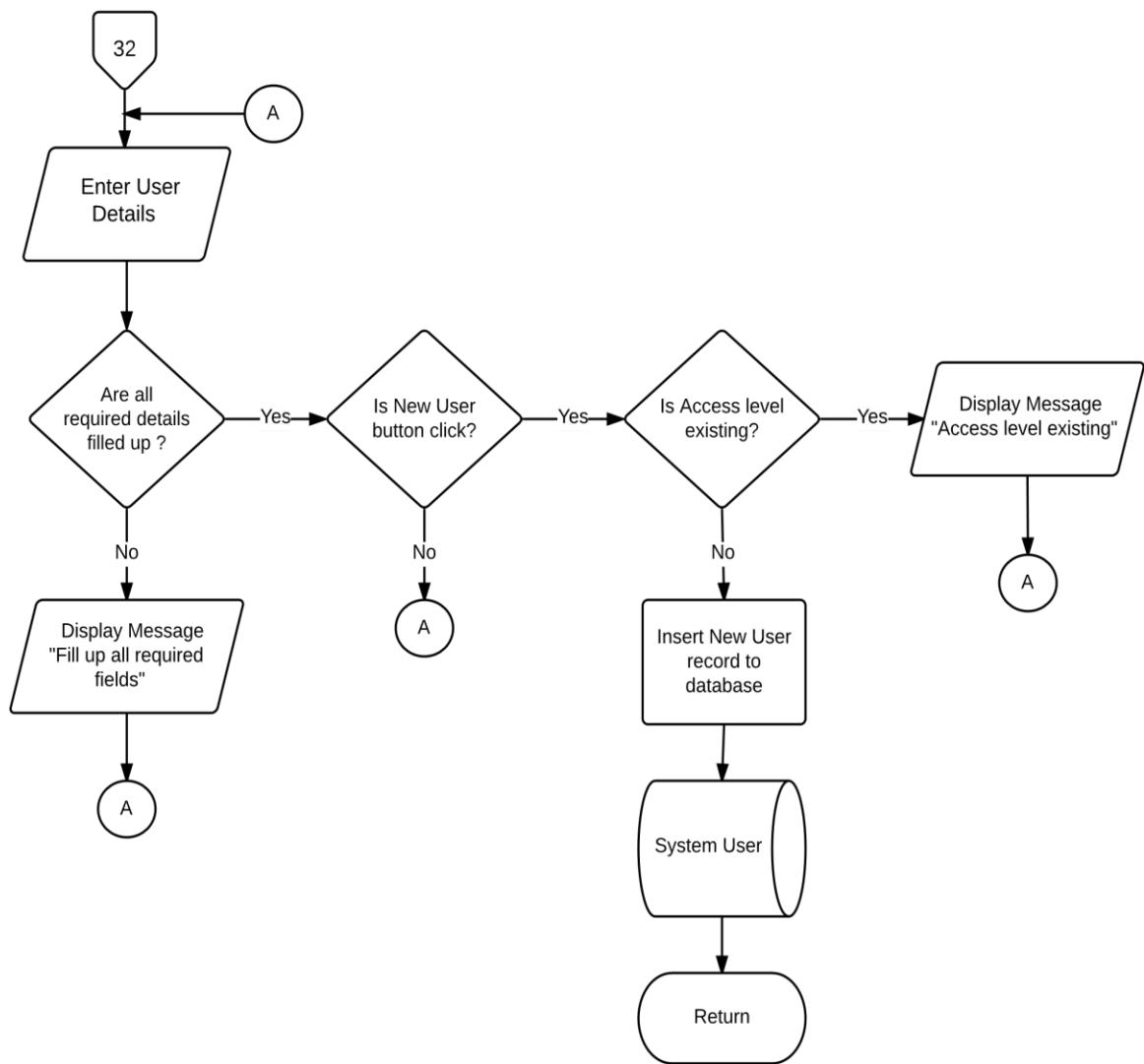


Figure 16.0 New User Flowchart

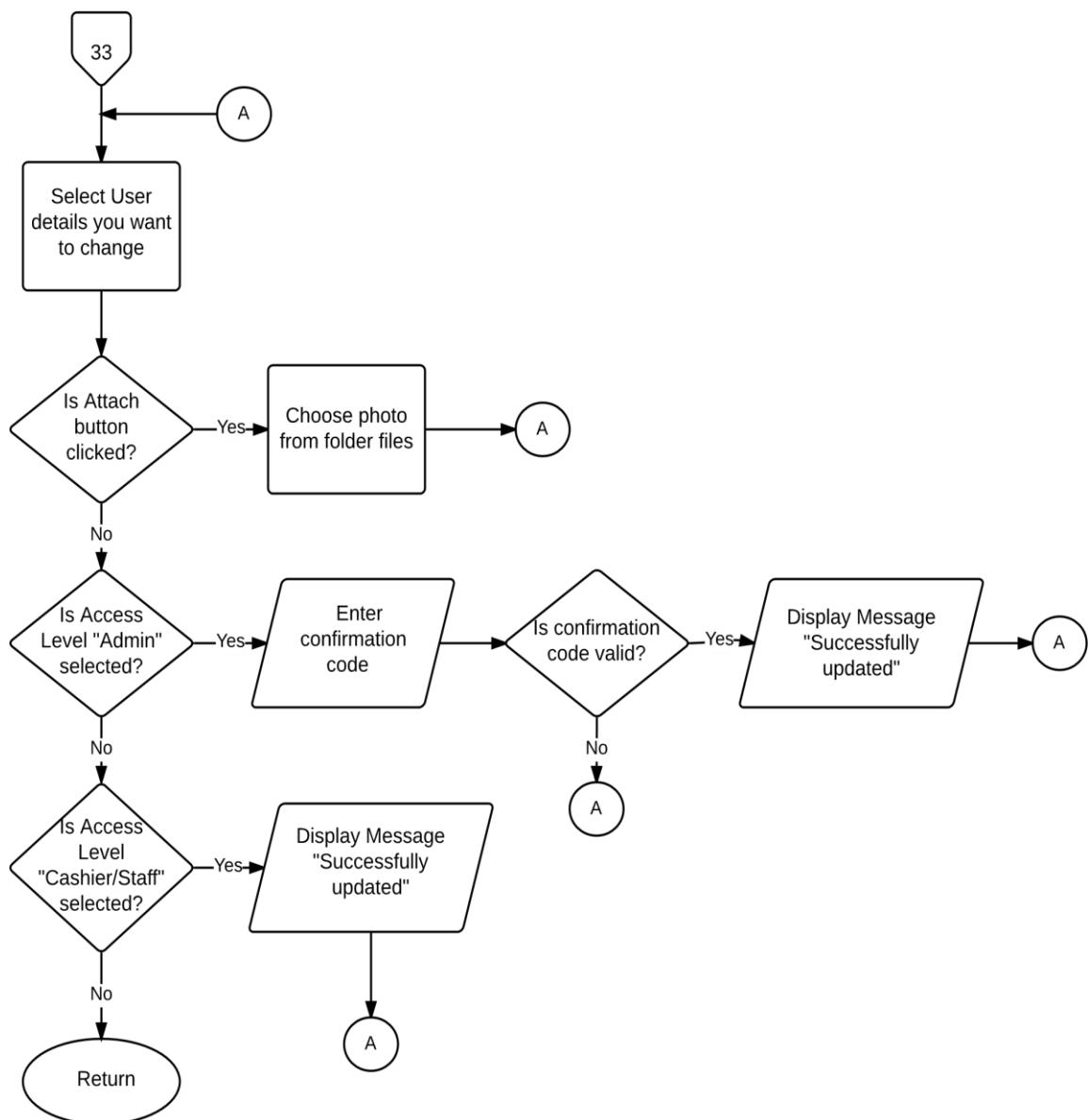


Figure 17.0 Update User Flowchart

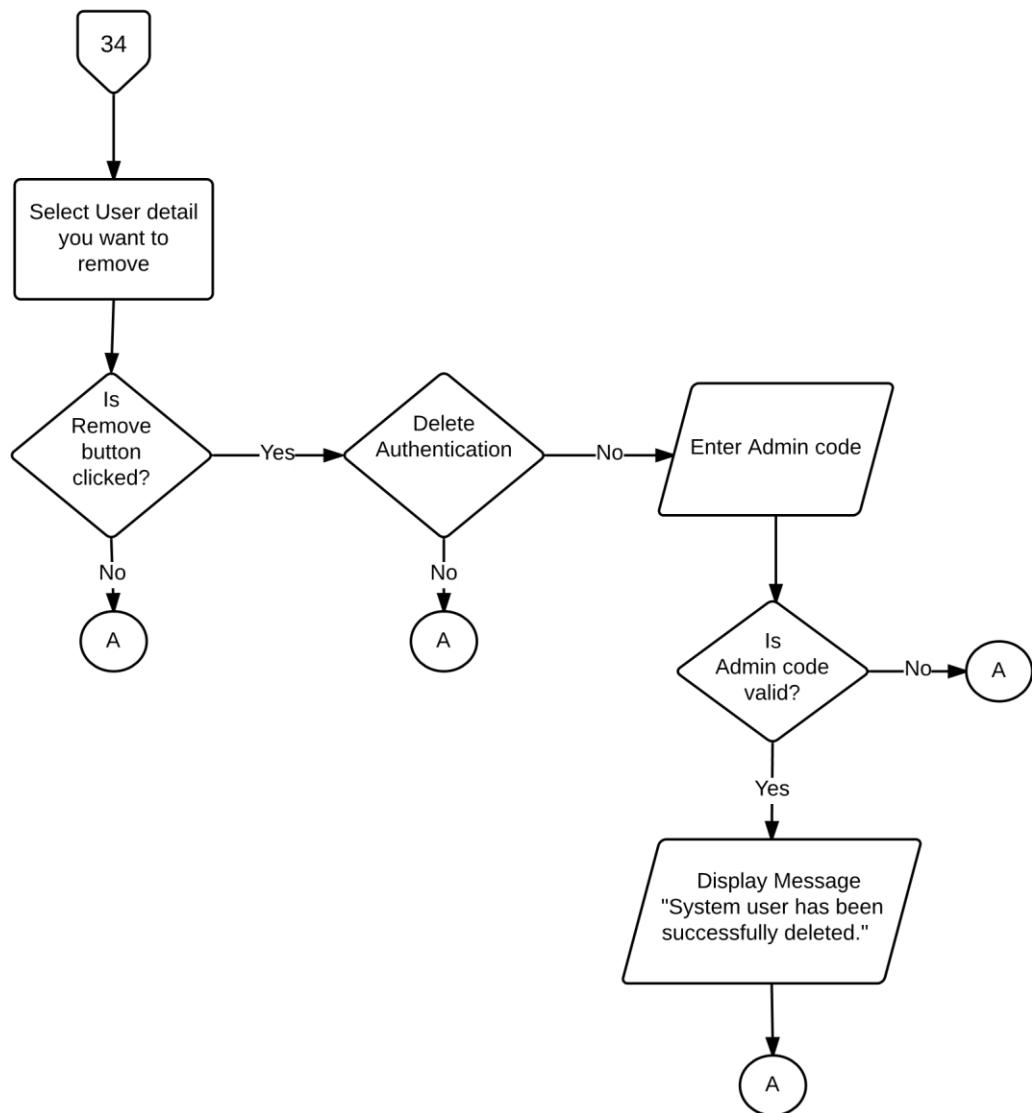


Figure 18.0 Delete User Flowchart

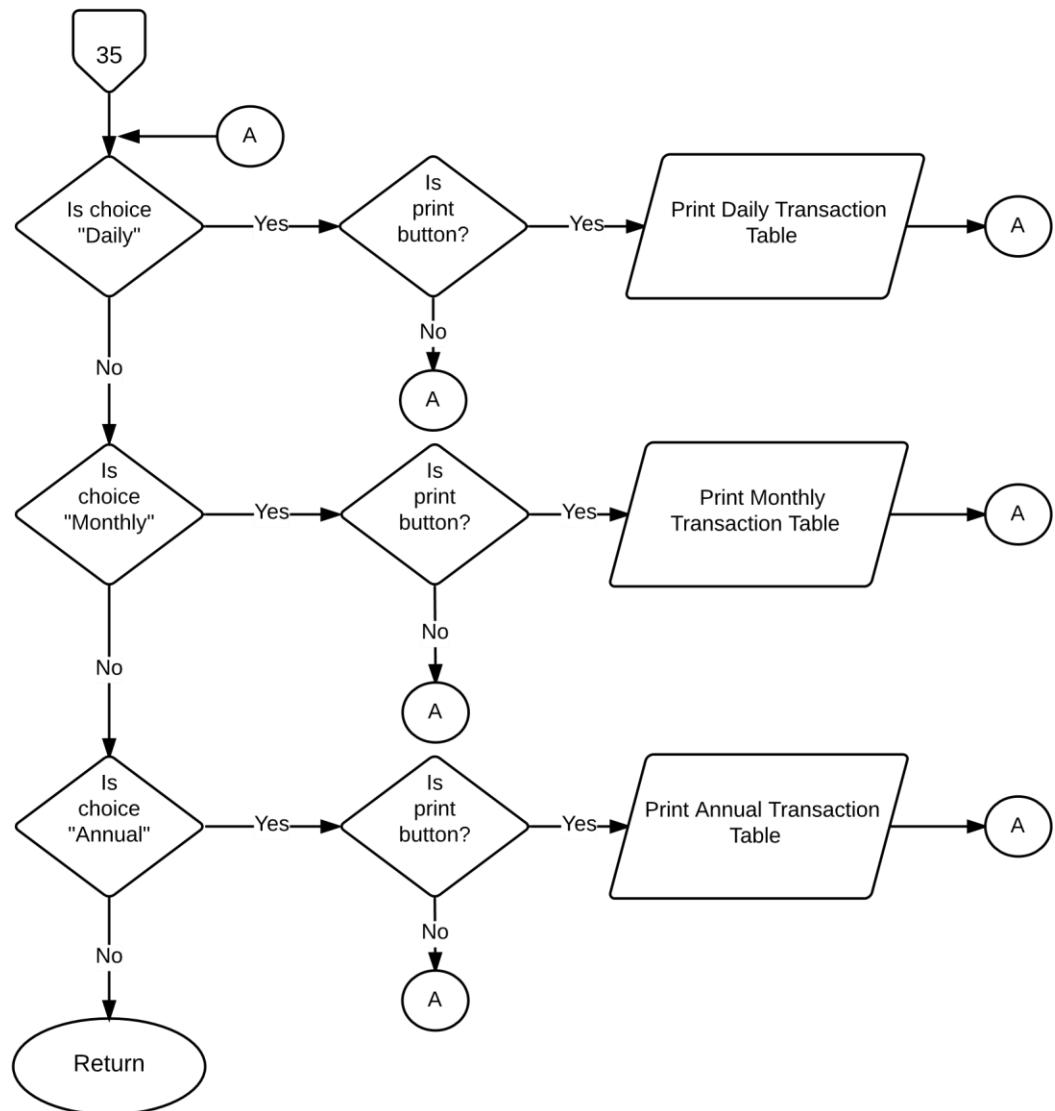


Figure 19.0 Transaction Flowchart

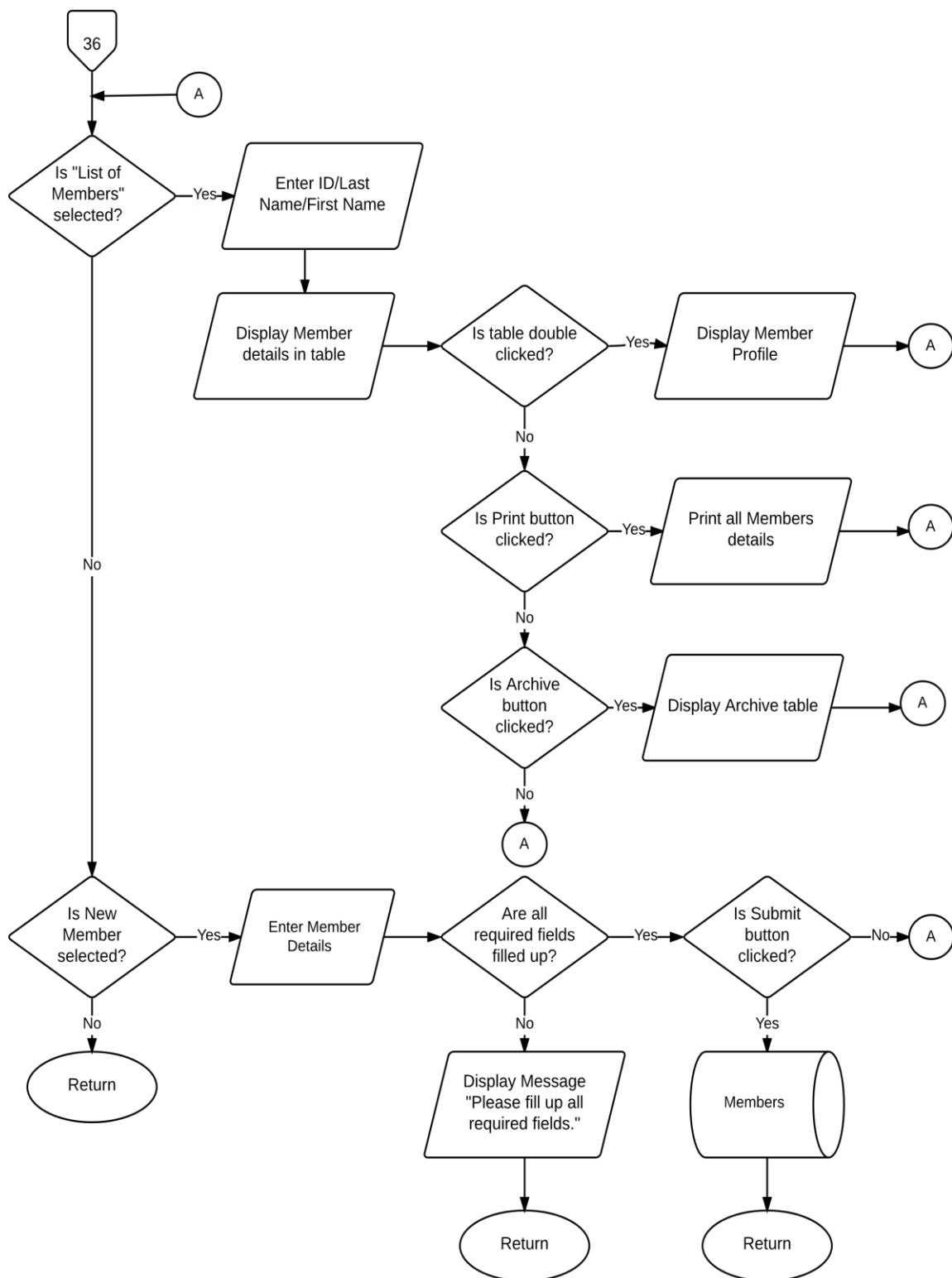


Figure 20.0 Manage Member Flowchart

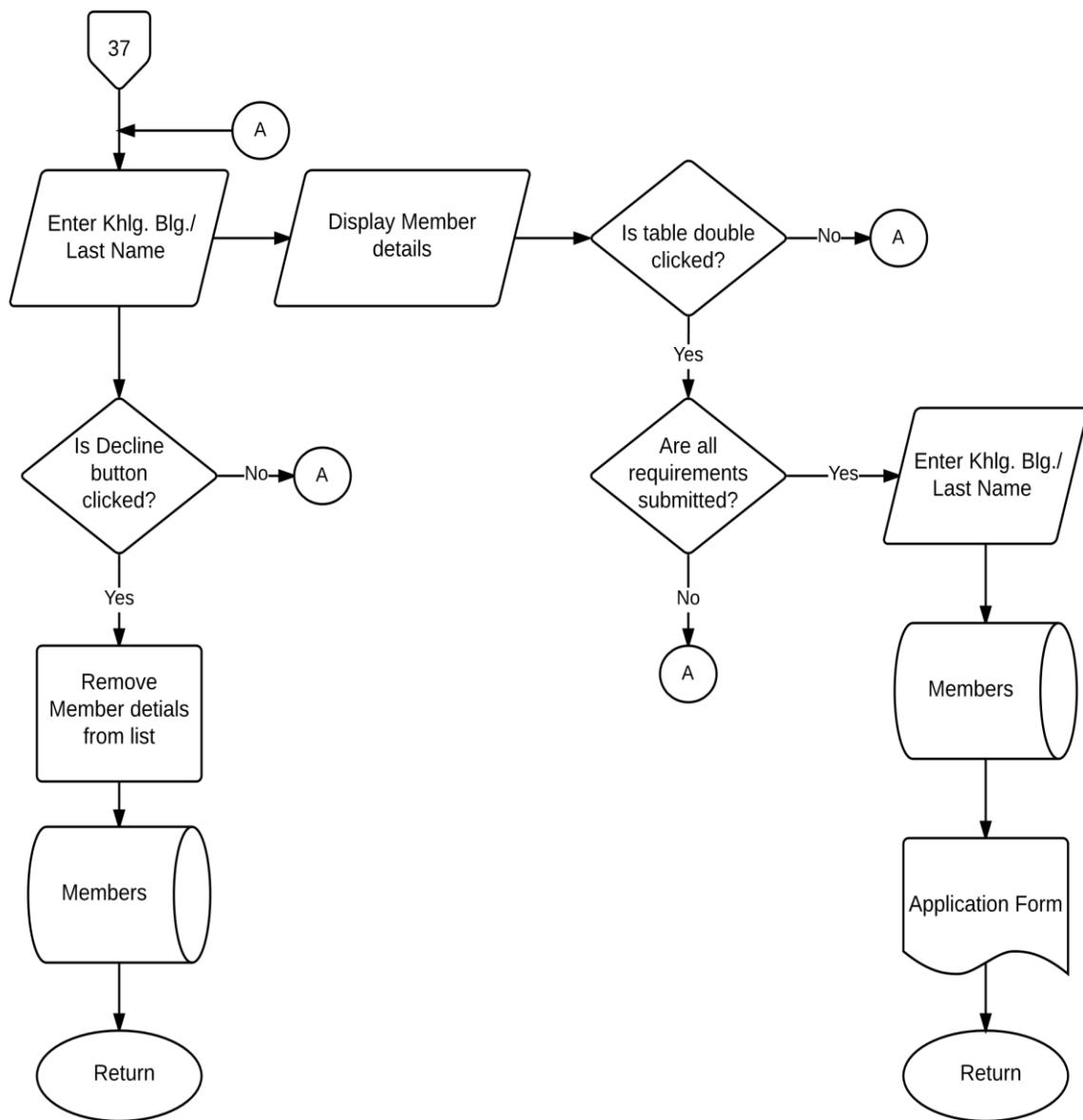


Figure 21.0 Member Pending Flowchart

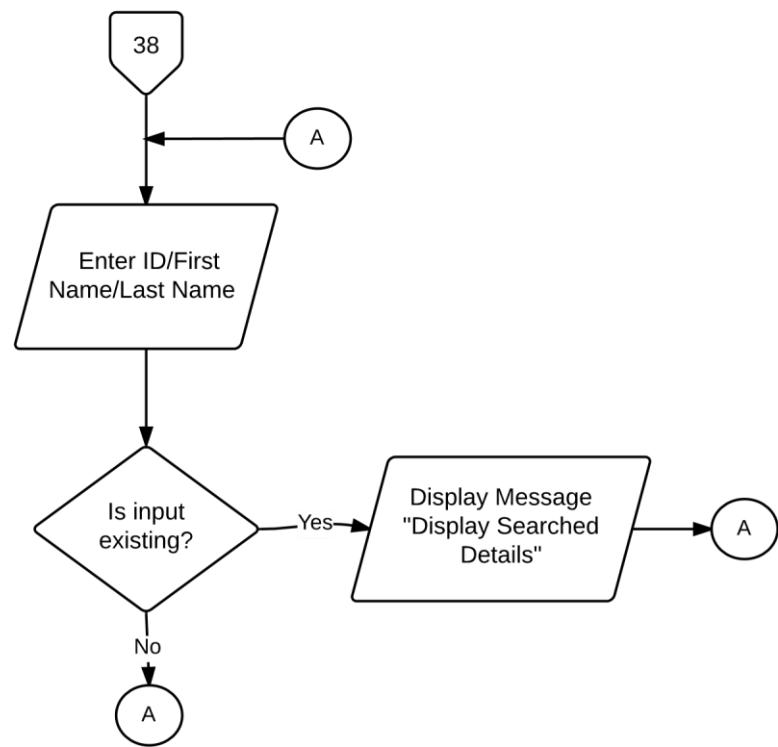


Figure 22.0 Search Flowchart

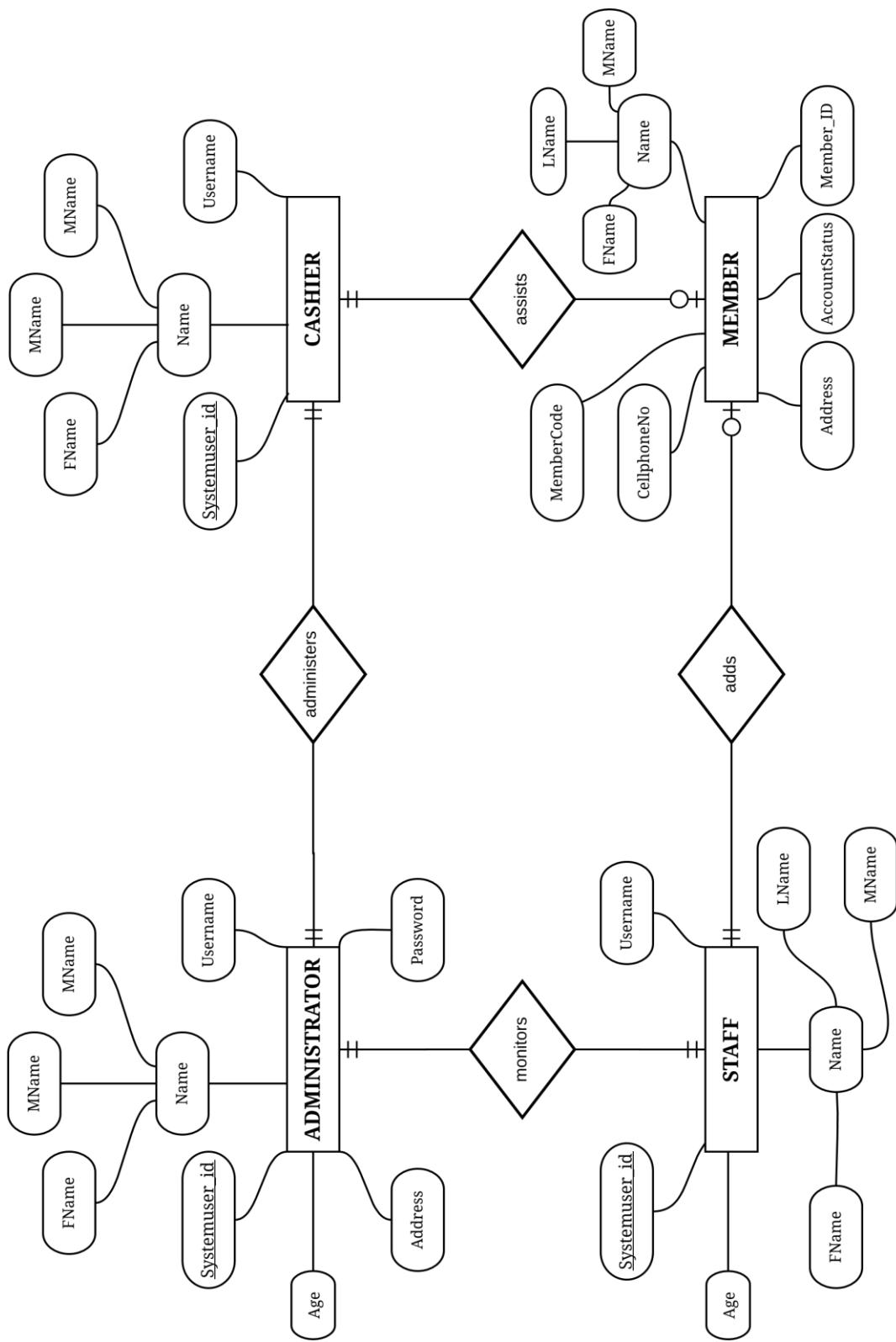
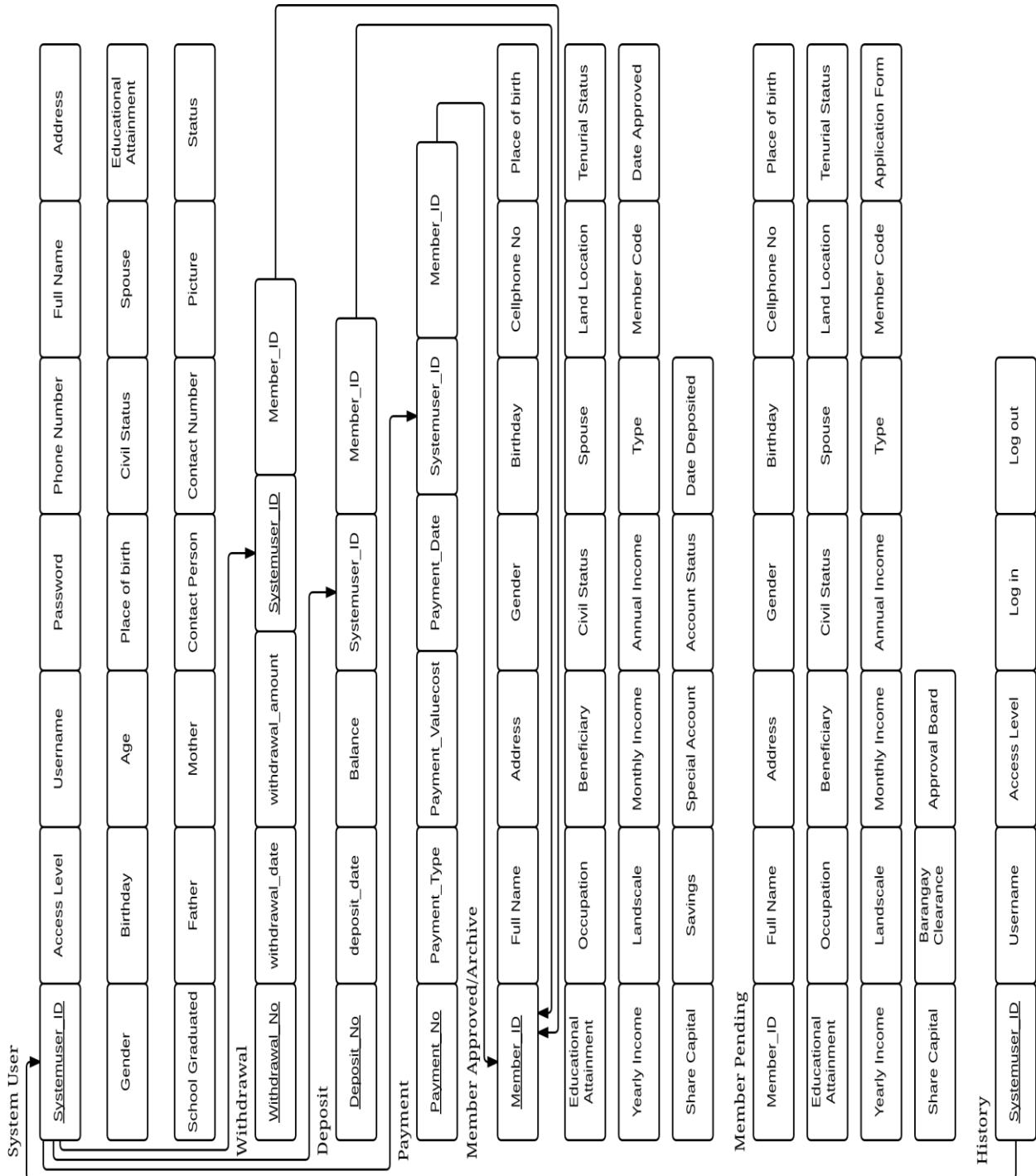


Figure 23.0 Entity Relationship Diagram of San Francisco Multipurpose Cooperative System



Loan Approved/ Pending

Loan_No	Name	Date	Place of birth	Spouse	Birthday	Deposit
Saping Puhunan	Tanging Puhunan	Aplikante	Asawa	Other Member	Uri ng Inuutang	Halaga ng Inuutang
Paraan ng Pagbabayad	Tagal ng Pagbabayad	Paggagamitan	Klase ng Panagot1	Klase ng Panagot2	Halaga1	Halaga2
Sedula Blg	Lugar	Petsa	Credit Investigation	Lupong Patnugot	Lupon sa Pagpapautang	Halaga
Pulonng Ginanap	Kapasyahan	Member_ID				

Associate Member Pending

Member_ID	Pangalan	Tirahan	Kasarian	Kapanganakan	Antas ng Pinagarian	Trabaho
Ama	Ina	Tagakapakinabang	Member Code	Date Approve	Share Capital	Barangay Clearance

Approval Board

Member_ID	Pangalan	Tirahan	Kasarian	Kapanganakan	Antas ng Pinagarian	Trabaho
Ama	Ina	Tagakapakinabang	Member Code	Date Approve	Share Capital	Savings
Special Amount	Account Status	Date Deposited				

Account History

notID	Type of Transaction	Full Name	Date	Amount	Processed By

Decline	<u>Member_Id</u>	Full Name	Address	Gender	Birthday	Cellphone No	Place of Birth
Educational Attainment	Occupation	Beneficiary	Civil Status	Spouse	Land Location	Tenurial Status	
Yearly Income	Landscape	Monthly Income	Annual Income	Type	Member Code	Date Approved	
Share Capital	Savings	Special Account	Account Status	Date Deposited			
Decline	<u>LedgerNo</u>	Date	Deposit Amount	Balance	Withdrawal Amount	Member Id	

Figure 24.0 Database Schema of the System

System Interface



Figure 25.0 Splash Screen Form

Upon loading of the system, a splash screen would be displayed. It displays the organization's name, the title of the system and the names of students who developed the system.



Figure 26.0 Log in Form

A log-in form is one way of identifying oneself to the system. A valid username and password must be entered in able to log in to the system.



Figure 27.0 Log-in Authentication Dialog box

If the user is trying to log in to the system, and failed to enter a valid username or password, Log in Authentication dialog box will pop up.



Figure 28.0 Block User Dialog box

Block user dialog box, when display means that the user has been temporarily blocked in logging in to the system after inputting invalid password in three tries. And if one user has been blocked, the administrator would be notified and the admin also has the capability to unblock the blocked user.

The screenshot shows a Windows application window titled "San Francisco Multi-Purpose Cooperative". The main title bar says "SAN FRANCISCO MULTIPURPOSE COOPERATIVE" and has a "LOG OUT" button. On the left is a vertical sidebar with four items: "List of Members" (selected), "Member", "Account", and "My Account". Below the sidebar, it says "Currently log-in: paula". The main content area is titled "List of Members" and contains a table with the following data:

Member's ID	Name	Gender	Date Approved	Occupation	Type of Membership
SF-92015001	Vianca Denice Aquino	Babae	September 27, 2015	Student	Regular
SF-92015002	Camille Cruz	Babae	September 12, 2015	Student	Regular
SF-92015003	Anna Pamela Juguian	Babae	September 09, 2015	Student	Associate
SF-92015004	John Dave Manuel	Lalaki	September 14, 2015	Student	Regular
SF-92015005	Paula Bianca Leal	Babae	September 01, 2015	Student	Regular

At the bottom of the content area are two buttons: "Archive" and "Print". The status bar at the bottom right shows "Today is: September 27, 2015 The time is: 0 : 38 : 30 AM".

Figure 29.0 List of Member Form

Access level was categorized into three: the staff, the cashier and the administrator. When the staff successfully logged in to the system, the first form displays the list of the members, the current date and time, and name of the user that is currently logged in. In this page, the user can search the member's list by clicking the combo box which include options for searching such as: member ID number, first name, last name date approved and type of membership

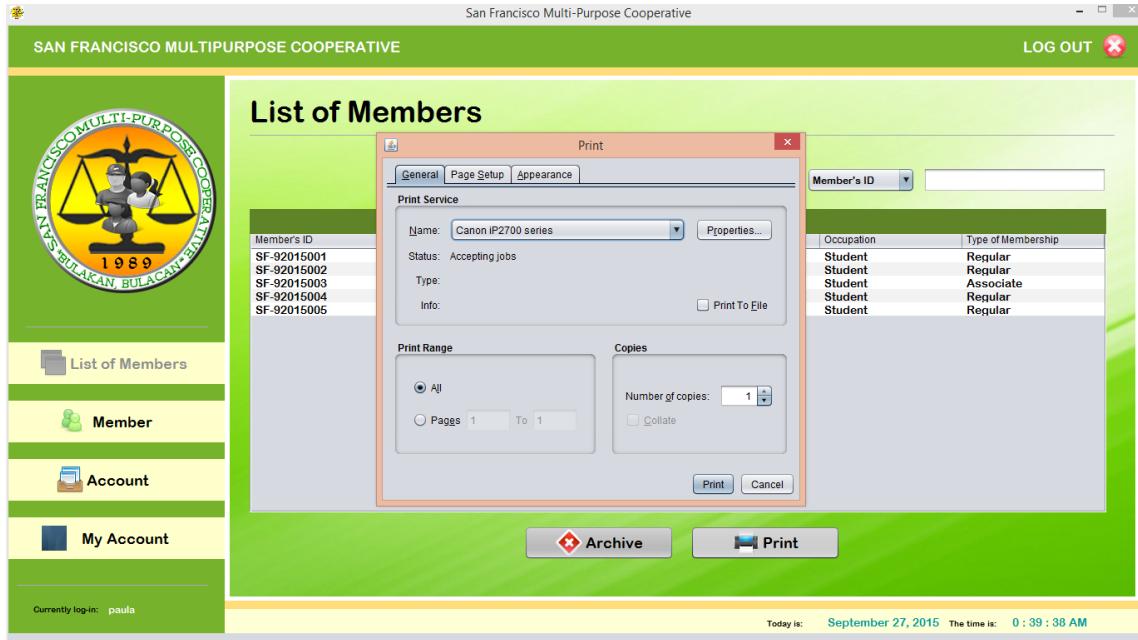


Figure 30.0 Print dialog box for List of Members

The user can print the list of the members after clicking the print button.

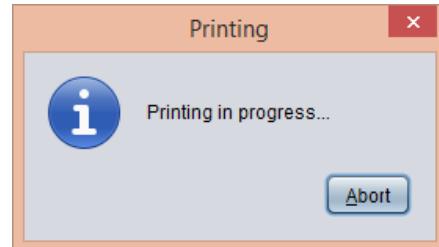


Figure 31.0 Printing in Progress dialog box for List of Members

If the print button is selected, the system would display that the printing of the list is already in progress.



Figure 32.0 Delete Authentication dialog box for archiving user

The user can remove the name and information of a certain member by selecting the name of a member wants to archive from the list and pressing the archive button.

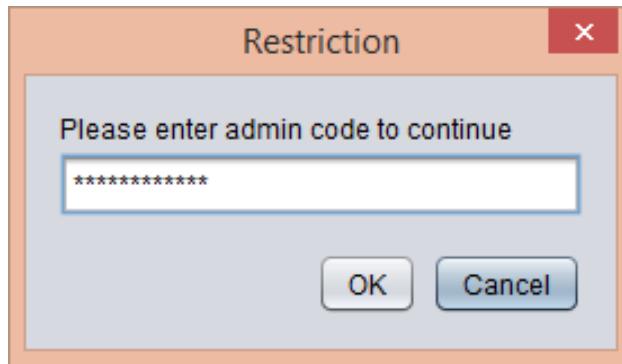


Figure 33.0 Restriction dialog box for archiving user

For security purposes, admin code would be asked before successfully archiving member' information.



The image shows a software interface titled "Member's Information". At the top right is a red "X" button. Below the title is a section labeled "Personal Details" containing member information: Member's ID No: SF-92015001, Full Name: Vianca Denice Aquino, Address: Tambubong Longos Malolos City, Gender: Babae, Phone No: 639261717927, Birthday: Mar 5, 1996, Place of Birth: Manila, Civil Status: Binata/Dalaga, and Spouse Name: (empty). Below this is a "Professional Information" section with Educational Attainment: Di Nakatapos ng Hayskul, Occupation: Student, and Yearly Income: P 120000.0. At the bottom left is a "Create Account" button. On the left side of the main form, there is a sidebar with a question mark icon and a "Time Deposit" section.

Figure 34.0 Member's Information Form and Add Account form

Member's Information form displays personal details, professional information of a certain member. Also in this page, if the member requested to open an account, the user have to check the specified type of account.



Figure 35.0 Add terms for time deposit dialog box

If the user checked the time-deposit/savings account, the time deposit dialog box will appear. The user have to choose among the terms specified on the dialog box.

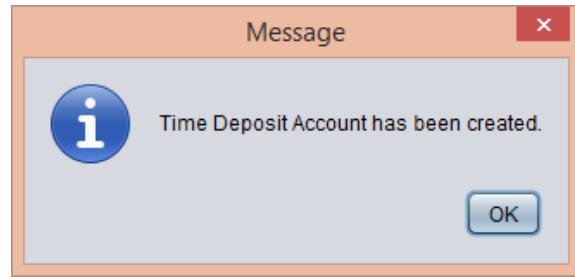


Figure 36.0 Time deposit dialog box

After the terms have been selected, the message dialog box will appeared informing the user that the time deposit account has been created.

Figure 37.0 Add New Regular Member Form

When member button was clicked, member page would be display. In this page, the user can add new member for registration.

The screenshot shows a Windows application window for the San Francisco Multi-Purpose Cooperative. The title bar says 'San Francisco Multi-Purpose Cooperative' and 'LOG OUT'. The main area is titled 'Member' and has tabs for 'New Member' and 'Pending Member Application'. A dropdown menu shows 'Associate Member' selected. The form itself is titled 'KAHILINGAN SA PAGSAPI (Associate Member)'. It contains fields for 'Apelyido', 'Pangalan', 'Pangalinan Pangalan', 'Tirahan', 'Barangay/Subdibisyon/Kalye', 'Bayan', 'Probinsya', 'Kapanananan', 'Lugar', 'Antas ng Pinag-Aralan', 'Kasarian', and gender selection ('Lalake' or 'Babae'). A 'Submit' button is at the bottom. The sidebar on the left lists 'List of Members', 'Member', 'Account', and 'My Account'. The status bar at the bottom shows 'Today is: September 30, 2015 The time is: 10 : 56 : 58 PM'.

Figure 38.0 Add New Associate Member Form

There are two types of membership namely: the Regular and Associate. User can choose between the two by clicking and selecting in the combo box.



Figure 39.0 Print Member Application Form dialog box

After the text fields was completely filled out and the submit button was clicked, the dialog box would appeared and asked if the user wants to print the application form. Additionally, the newly created member application would be placed to the pending member table and awaits for approval.

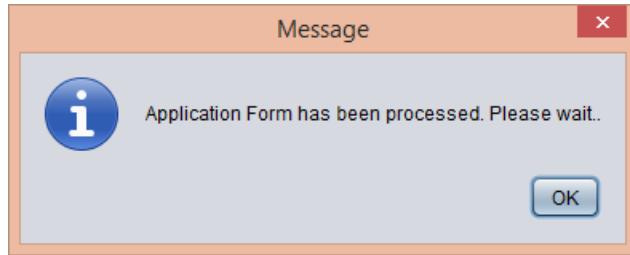


Figure 40.0 Print Member Application is in processed dialog box

If the user clicked the yes option for printing the application form, the dialog box will pop up informing that the application form has been processed.

PENDING MEMBER APPLICATION LIST		
Kahilingan Blg.	Pangalan	Uring Pagmimiyembro
92015R-2	Vianca Denice Aquino	Regular

Figure 41.0 Pending Member Application Tab Form

Pending Member Application tab shows the member application list waiting for approval. The user have to double-click on the name in the table in order to display the requirements for the membership approval.

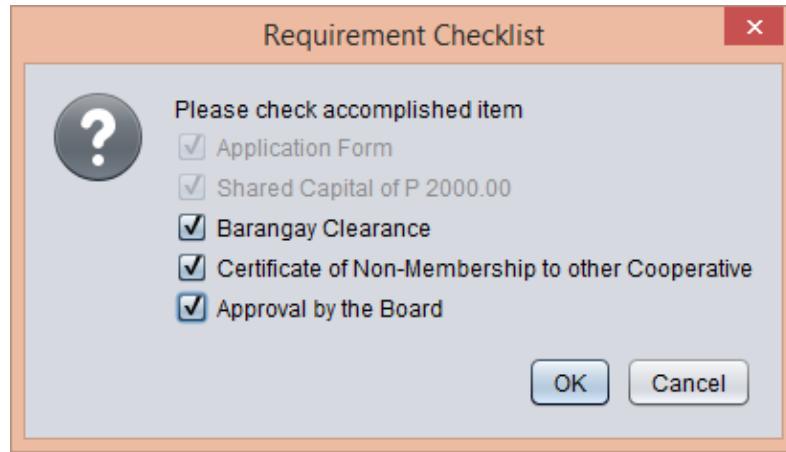


Figure 42.0 Requirement Checklist for Member Application dialog box

Upon double-clicking the names on the table, the dialog box will popped up on the screen. The user needed to check the item that is already completed in order for the application to be moved to the approved list.

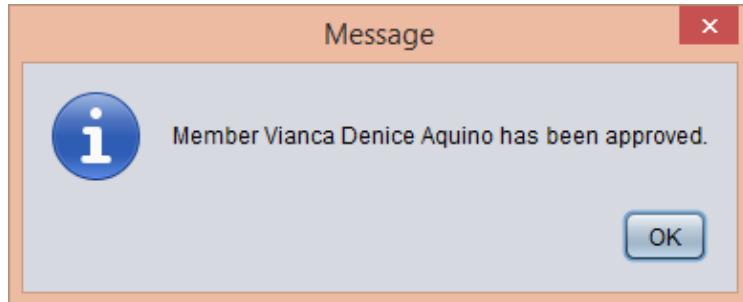


Figure 43.0 Approved Member Application dialog box

Approved dialog box will show if the member application requirements has been supplied. A SMS notification would be sent to the member informing that the membership application has been approved and the member can now avail the services and privileges offered by the cooperative.

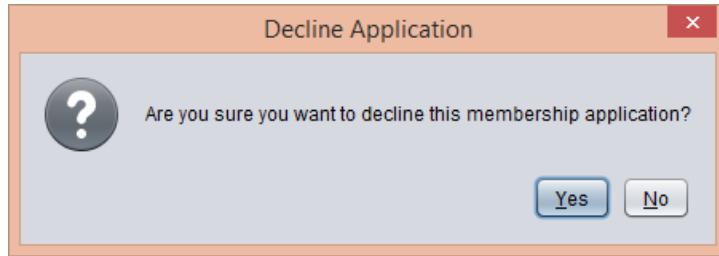


Figure 44.0 Decline Member Application dialog box

If the user wanted to decline membership application, the user can do so by clicking the decline button on the member's page and the decline application dialog box would be display.

A screenshot of the "Account" section of the "SAN FRANCISCO MULTIPURPOSE COOPERATIVE" application. The left sidebar shows navigation options: "List of Members", "Member", "Account", and "My Account". The main area is titled "Loan Application" and contains a search bar ("Search: Member's ID" with value "SF-92015001") and a "Print Form" button. Below the search bar is a green header bar with the text "San Francisco Multi Purpose Cooperative System". The form fields include:

Brgy:	92015LN-2	Petsa:	September 27, 2015
Pangalan:	Vianca Denice Aquino	S.F. No.:	SF-92015001
Tirahan:	Tambubong Longos Malolos City	Estado Sib:	Binata/Dalaga
Petsa ng Kapanganakan:	Mar 5, 1996	Lugar:	Manila
Pangalan ng Asawa:			
Saping Puhunan:	2000	Deposito:	
Tanging Puhunan (Preferred):			

At the bottom of the page, there is a footer with the text "Today is: September 27, 2015 The time is: 0 : 42 : 48 AM".

Figure 45.0 Add Loan Application Form

In this page, if the member requested for Loan Application, the user needed to fill up the form on this page completely before submitting it. Additionally, the user can search the member's ID number to fill out the fields automatically with member's information. The user can also print blank form if requested.

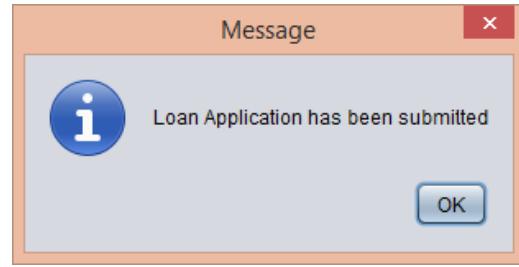


Figure 46.0 Submitted Load Application dialog box

If the required fields are completely filled out, the dialog box will popped up. The cashier would be notified that there is a member requesting for loan application.

EDIT MY ACCOUNT					
San Francisco Multi Purpose Cooperative System					
Employee ID No:	SF72015-E3				
Full Name:	Leal, Paula Bianca Santos				
Address:	Bulakan, Bulacan				
Telephone Number:	0926123456	Gender:	Female		
Birthday:	Dec 28, 1985	Age:	30	Place of Birth:	Malolos City
Civil Status:	Married	Name of Spouse:	Ron		
Educational Attainment:	Masteral Degree Holder	School Graduated:	Bulacan State University		

Currently log-in: paula Today is: September 30, 2015 The time is: 2 : 48 : 15 PM

Figure 47.0 My Account Form

The My Account Page enables the currently logged in user to view account details and update user log in details.

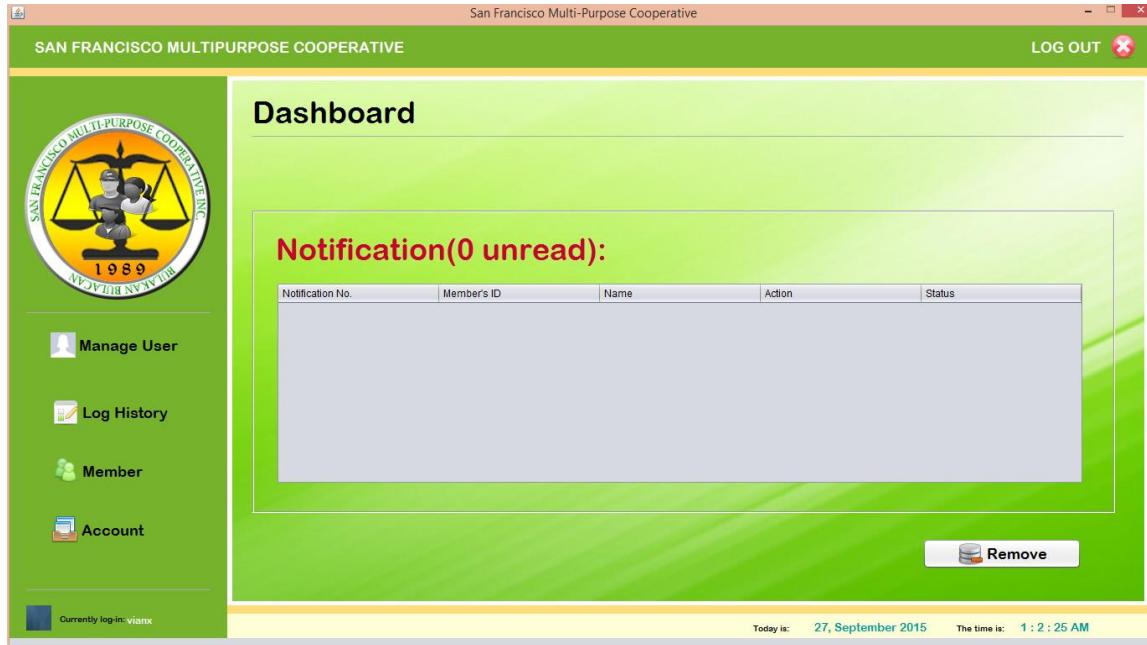


Figure 48.0 Admin Dashboard

The dashboard page for admin displays notifications of the activities took place within system. The admin can remove the notification from the table by clicking the remove button.

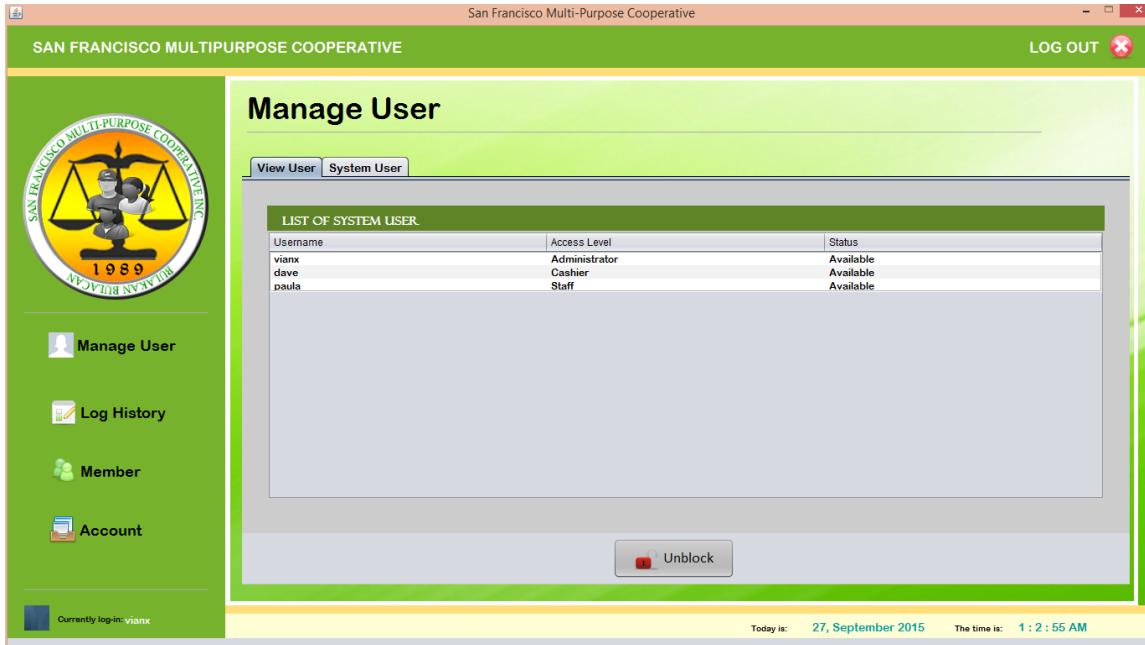


Figure 49.0 Unblock User form

The Manage User Page enables the administrator to view the active and blocked user of the system. The admin can also unblock blocked user by clicking the unblock button.

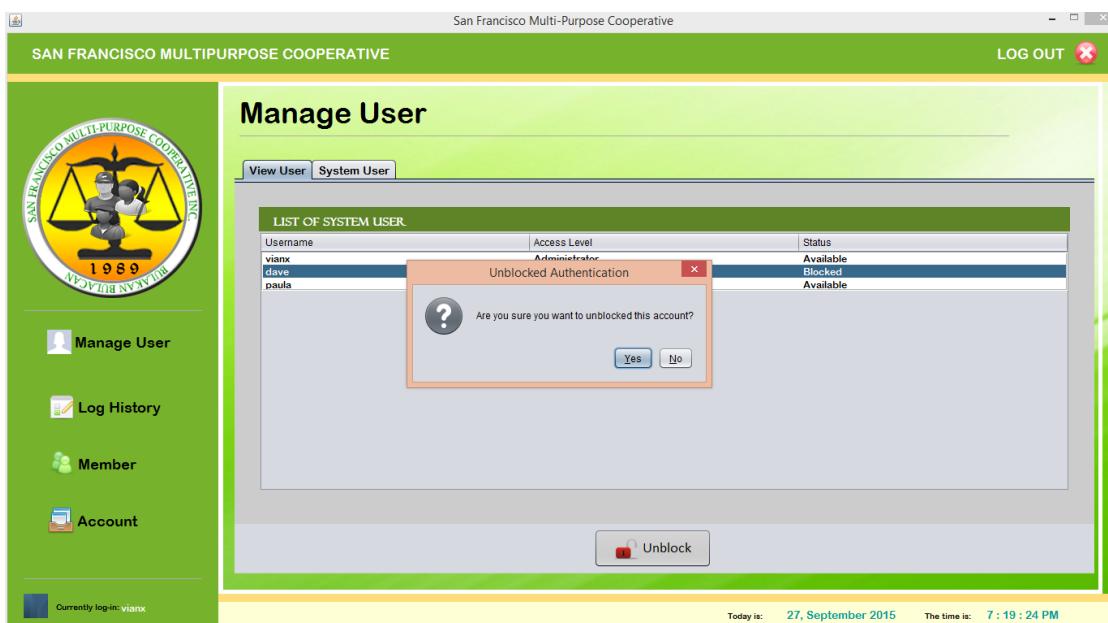


Figure 50.0 Unblocked Authentication dialog box

The administrator have to select the name first to unblock before clicking the unblock button, and a dialog box would be displayed.



Figure 51.0 No Account dialog box

If the administrator tried to unblock user with available status, the unblock authentication dialog box will pop up.

Figure 52.0 Add New System User Form

System User tab is another tab that can be found in the Manage User Page. In this form, the administrator have to fill out the form completely in able to add new system user.

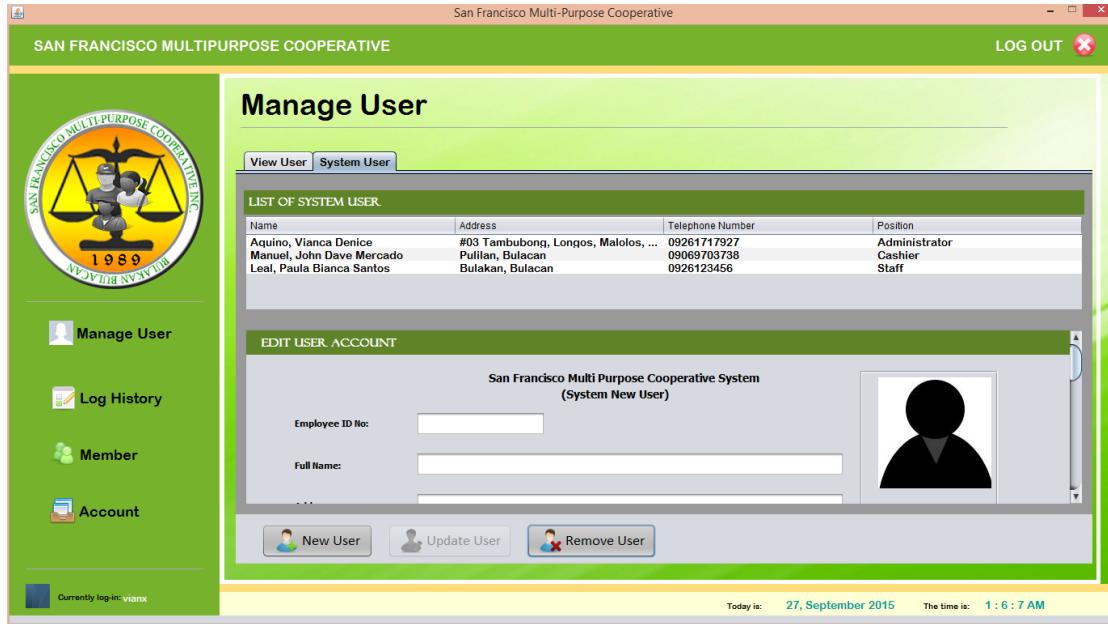


Figure 53.0 Update System User Form

By clicking the names on the list of system user table, the input fields would be filled out with the user's details automatically.

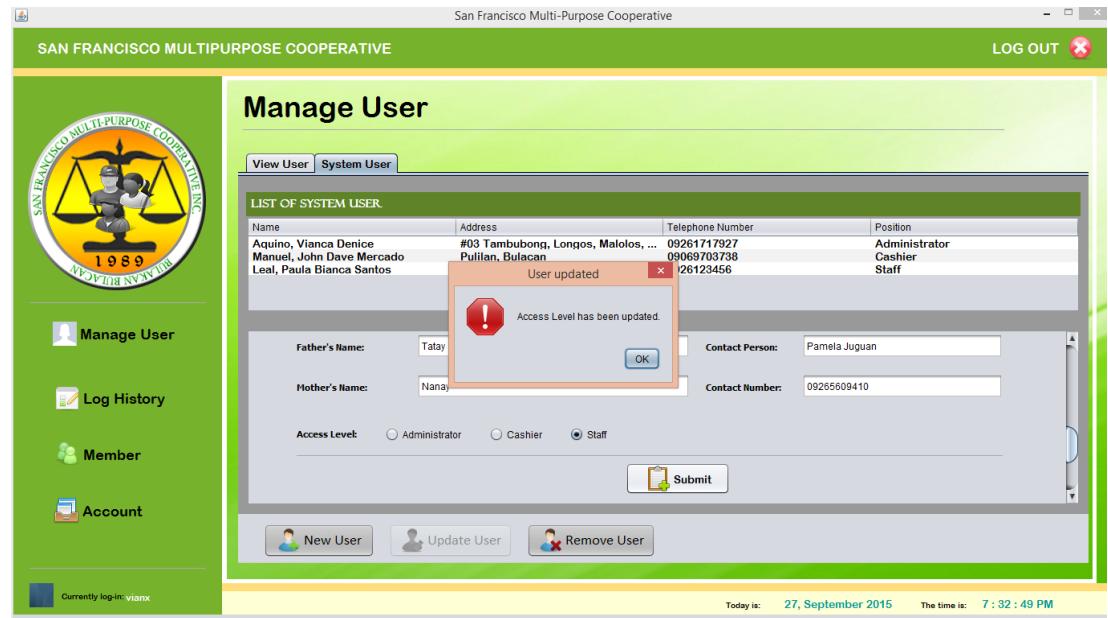


Figure 54.0 User Updated dialog box

User information and access level can be updated by the admin.

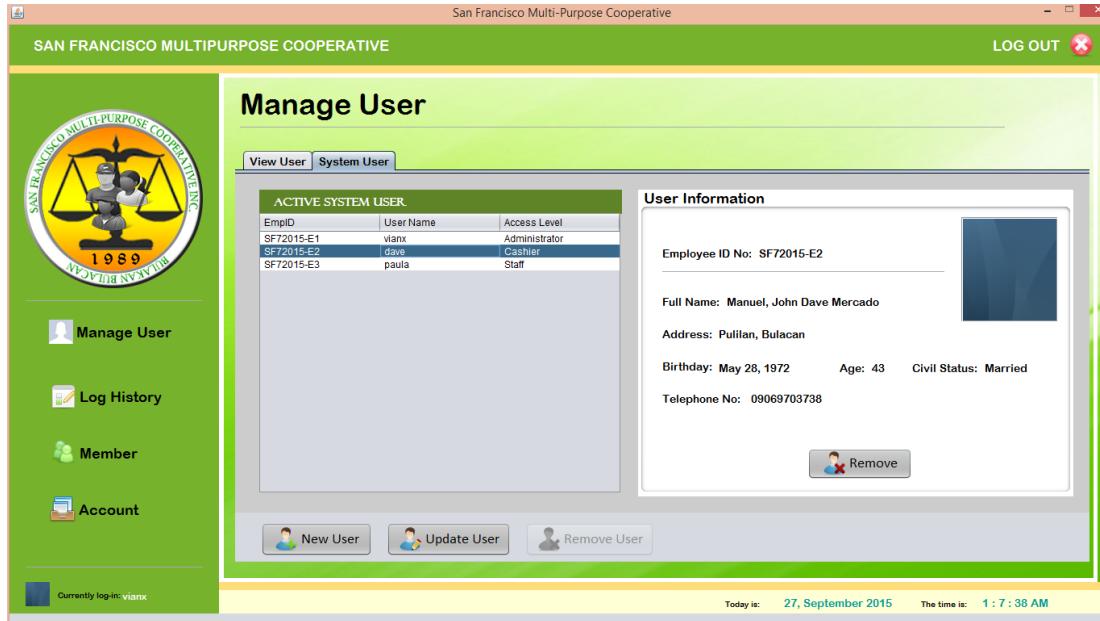


Figure 55.0 Remove System User Form

The system user tab also has the remove button enabling the administrator to remove system user. First, the administrator have to select on the table, then user information would be displayed and upon clicking the remove button a dialog box would be displayed.



Figure 56.0 Restriction for Update System User dialog box

For security purposes, removing system user requires the administrator to input admin code to successfully remove the user in the system. And if an invalid authentication code is entered, a prompt message will be displayed informing that the inputted code is invalid and the administrator will have to try again.

Log History

Username	Level Access	Log-In	Log-Out
paula	Staff	2015-9-26	Logged-in
paula	Staff	2015-9-27	Logged-in
paula	Staff	2015-9-27	Logged-in
paula	Staff	2015-9-27	Logged-in
vianx	Administrator	2015-9-27	Logged-in
vianx	Administrator	2015-9-27	Logged-in
vianx	Administrator	2015-9-27	LoggedOut
paula	Staff	2015-9-27	Logged-in
paula	Staff	2015-9-27	LoggedOut
vianx	Administrator	2015-9-27	Logged-in
vianx	Administrator	2015-9-27	LoggedOut

Print

Today is: 27, September 2015 The time is: 1 : 5 : 33 AM

Figure 57.0 Log History Form

The log history form displays all the user that made access in the system. The administrator can also print the entire list of history if needed.

Member

MEMBER TRANSACTION HISTORY				
Transaction	ID Number	Name	Date	Processed By
Deposit	SF-92015001	leal, psu	2015-9-8	dave

Print

Today is: 27, September 2015 The time is: 1 : 9 : 8 AM

Figure 58.0 Member Transaction History Form

The member transaction history page contains the transactions requested by the member and the name of the user who processed the transaction. The date when the transactions was made would also display.

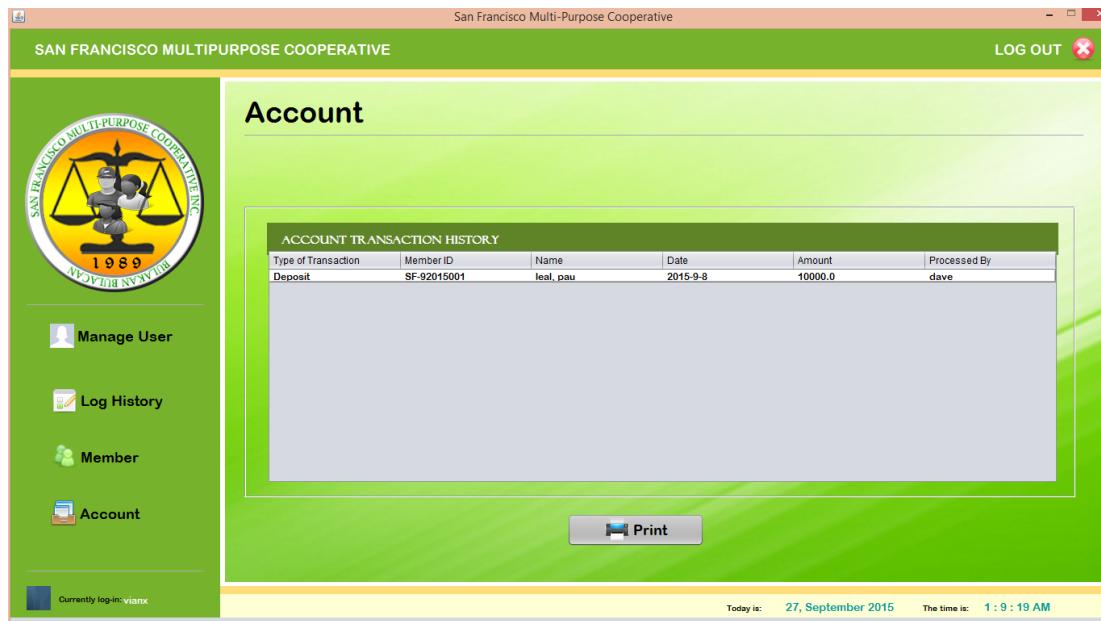


Figure 59.0 Account Transaction History Form

The administrator can also monitor all the transactions made within the system. The Account transaction history displays the type of transactions made, user's information like the ID number, name, the date when the transaction was made, the amount of money and the user who processed the transaction. In this page, the administrator can also print the entire account transaction history.

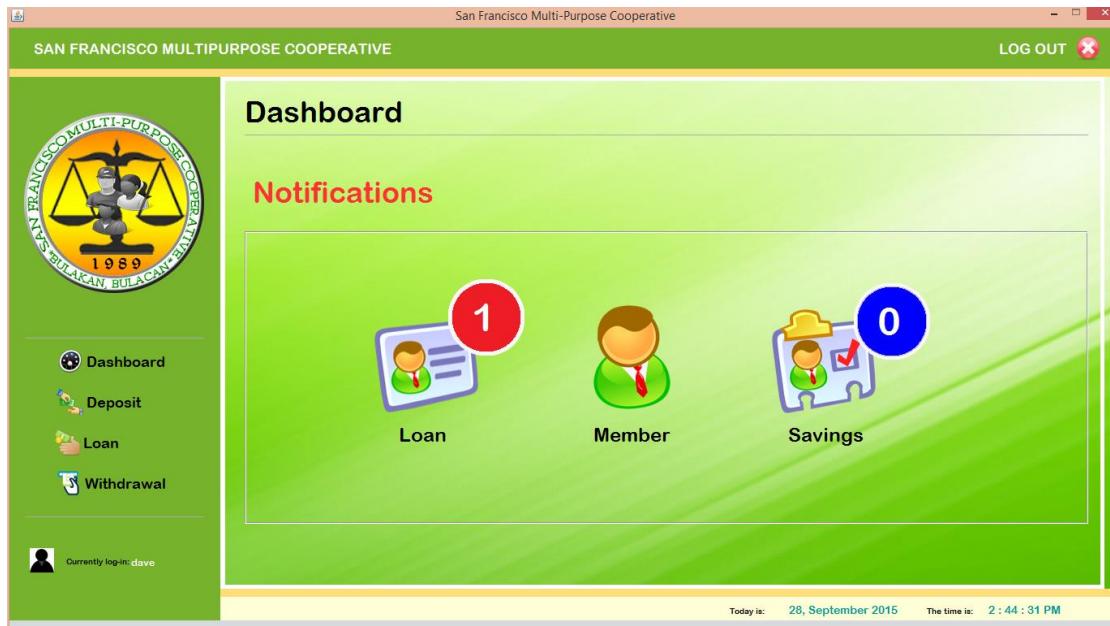


Figure 60.0 Cashier Dashboard

Cashier Dashboard displays notifications for loans and savings. It also contains the button for deposit, loan and withdrawal.

Notification No	ID Number	Action	Status
268	SF-92015001	pending application	Read
269	SF-92015001	pending application	Unread

Figure 61.0 Loan Notification Form

If the loan notification icon was clicked, loan notification form would be displayed. The form contains details like: ID number of the member who requested for loan application, the action and the status of the notification.

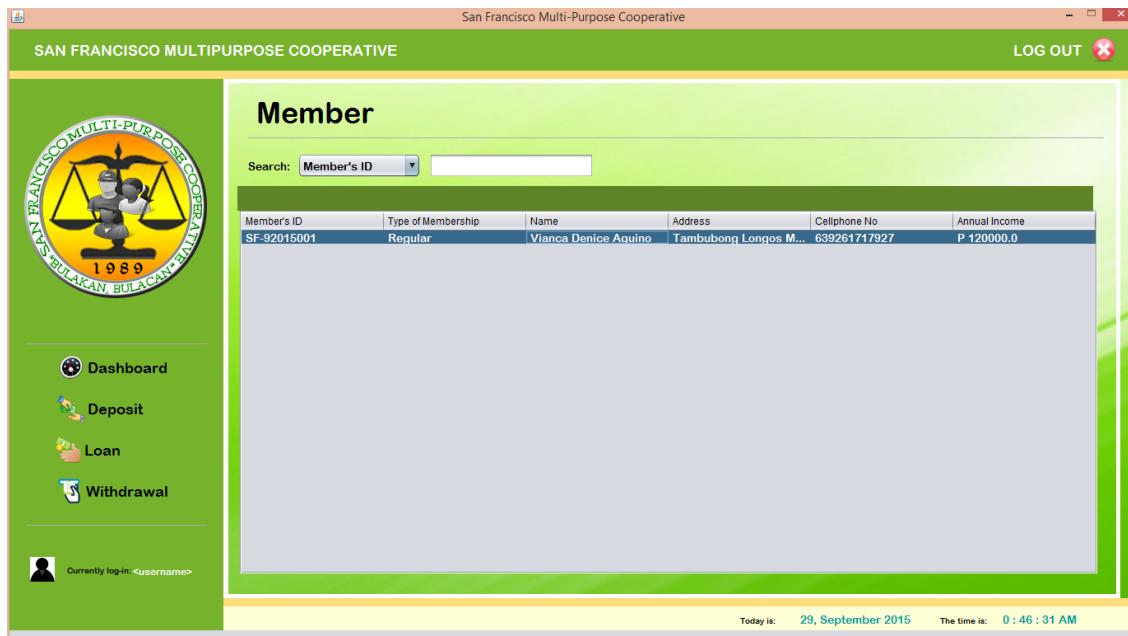


Figure 62.0 List of Member Form

The Member Page would be displayed if the cashier clicked on the member icon on the dashboard page. This page displays the list of members that contains details like member ID number, type of membership, full name, address, cell phone number and annual income. Once the cashier select a name on the table and double-clicked it, the ledger form will be displayed.

SAN FRANCISCO MULTIPURPOSE COOPERATIVE

SAN FRANCISCO MULTI-PURPOSE COOP INC.
San Francisco Bulakan, Bulacan
TIN No. 002-752-105
NV 3B-21-005916

ID NO: **SF-92015001** ADDRESS: **Tambubong Longos Malolos City**

TIME OR SAVINGS DEPOSIT					
Date	OR/CV	RECEIVED	WITHDRAWN	BALANCE	REMARKS
2015-9-11	SF-92015001	100,000.00		100,000.00	
2015-9-11	SF-92015001		20,000.00	80,000.00	
2015-9-8	SF-92015001	10,000.00		10,000.00	
2015-10-9	SF-92015001	57.53	10,057.53	0	
2015-9-28	SF-92015001	10,000.00		10,000.00	
2015-9-28	SF-92015001	▫ 10,000.00		▫ 60,000.00	
2015-9-28	SF-92015001	▫ 10,000.00		▫ 70,000.00	
2015-9-28	SF-92015001	▫ 3,000.00		▫ 73,000.00	
2015-9-28	SF-92015001	▫ 2,000.00		▫ 75,000.00	
2015-9-28	SF-92015001	▫ 1,000.00		▫ 76,000.00	
2015-9-29	SF-92015001	▫ 1,000.00		▫ 77,000.00	
2015-9-29	SF-92015001	▫ 2,000.00		▫ 75,000.00	
2015-9-29	SF-92015001	▫ 2,000.00		▫ 81,000.00	
2015-9-29	SF-92015001	▫ 1,000.00		▫ 82,000.00	

TOTAL: ₱ 82,000.00

Today is: **29, September 2015** The time is: **0 : 50 : 47 AM**

Figure 63.0 Member's Ledger Form

The ledger form displays the time and savings deposit account of the selected member. The form also displays the date of the transaction has been made, the OR/CV, the amount received by the cashier, the amount withdrawn, the balance and the remarks.

Savings Notification

Notification No	ID Number	Action	Status
22	SF-92015001	Vianca Denice Aquino requ...	Unread

Figure 64.0 Savings Notification Form

The savings notification form would be displayed if the cashier clicked the savings icon on the dashboard page.

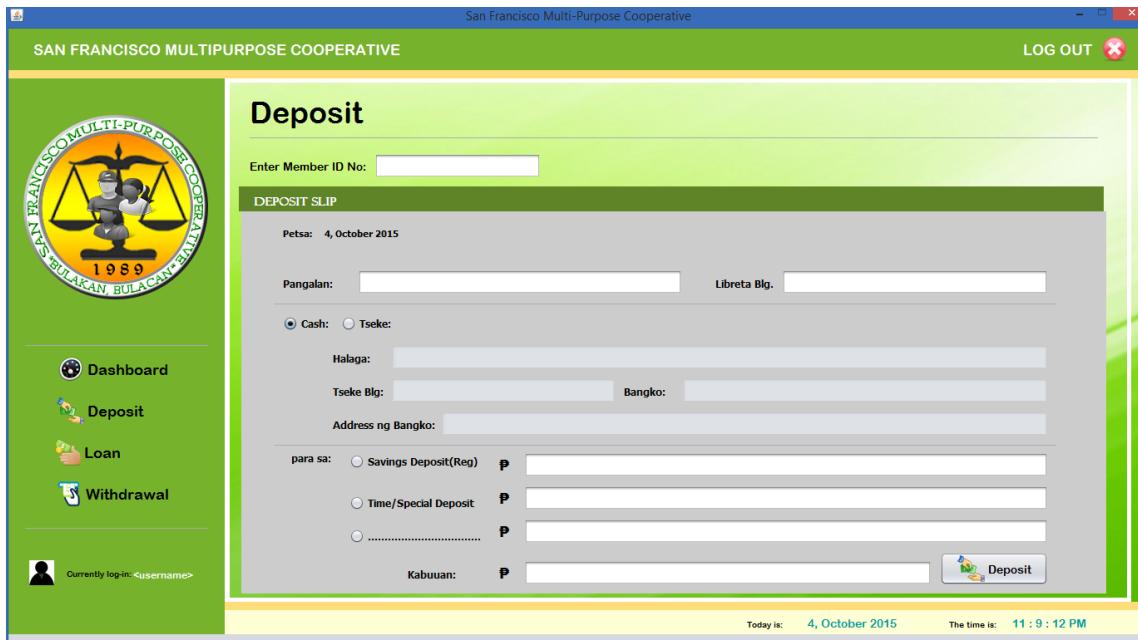


Figure 65.0 Deposit Slip Form

One of the transaction that can be made in the system is the deposit. The cashier have to fill out the deposit slip form with the member's details manually or by inputting the member's ID in order to filled the text fields with member's details automatically.

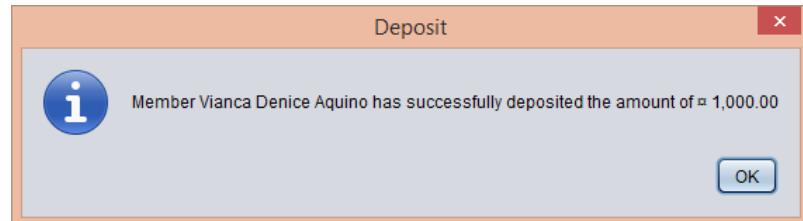


Figure 66.0 Deposit dialog box

The deposit dialog box will be displayed if the cashier successfully filled out the details needed in the deposit slip form. The dialog box display the member's full name and the amount deposited.

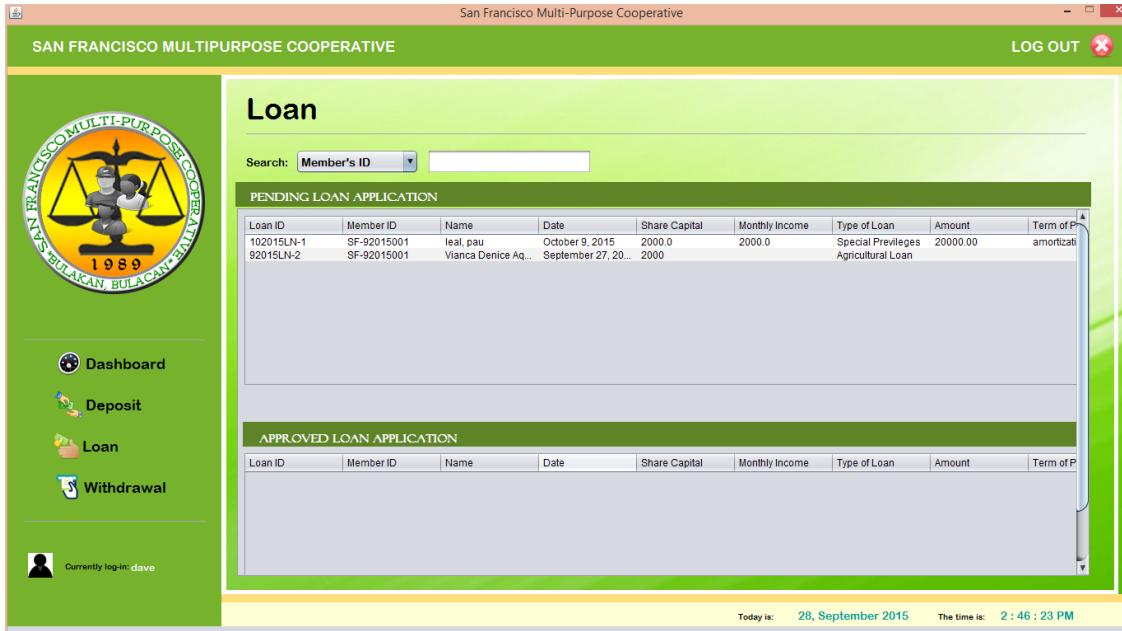


Figure 67.0 Pending and Approved Loan Application Form

The Loan Form contains the list of pending application and approved loan application. In order for the member to be approved, list of requirements would have to be checked and completed and by double-clicking the selected name a dialog box will be displayed.

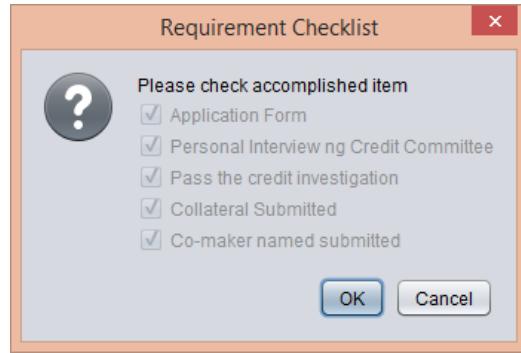


Figure 68.0 Loan Approval Checklist dialog box

The cashier can approve member's loan application by checking the item included in the requirements checklist which includes the application form, personal interview conducted by the credit committee, have passed the credit investigation, have submitted the loan collateral, and the names of the co-maker have been submitted.

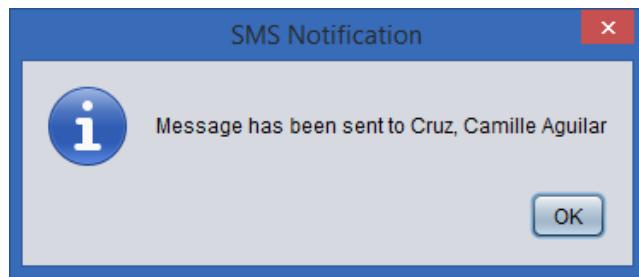


Figure 69.0 Message Sent dialog box

The SMS Notification dialog box would be displayed if the cashier approved member's loan application.

The screenshot shows the withdrawal slip form for the San Francisco Multi-Purpose Cooperative. The form includes fields for member ID, Pangalan, Libreta Blg., Galing sa (radio buttons for Savings Deposit(Reg) or Time/Special Deposit), Sa Salita, Kabuuhan, and a Withdraw button.

Figure 70.0 Withdrawal Slip Form

Another transaction that can be made in the system is the withdrawal. The cashier have to fill out the form with name and the passbook number (libreta blg.) in order to have a successful withdrawal transactions.

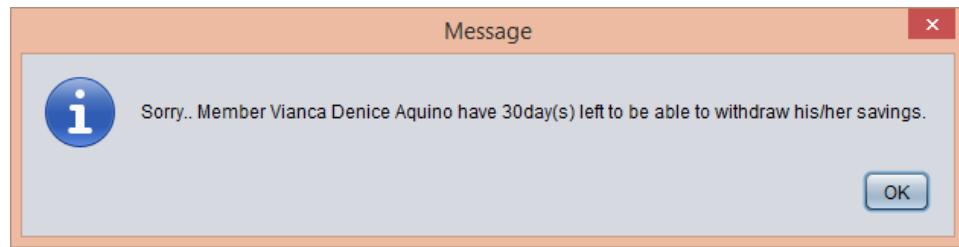


Figure 71.0 Decline Withdrawal Transaction dialog box

The notification dialog box includes the name of the member, and the days left for the account to mature.

5.0 Design and Implementation Issues

This chapter discusses about the problem encountered while creating the project. This also includes the solutions to the issues that arose while the project was being created.

After a comprehensive planning and analysis of system development, experiencing difficulties and errors is inevitable. The project was successfully delivered and presented but several issues and problems were encountered.

The San Francisco Multipurpose Cooperative System with SMS-Based Notification is a system that includes member profiling system, transaction processing such as loan and savings account application and calculations that would lessen the workload of staff in processing transactions by manual process. The system also serve as a secured record-keeping system that stores member's personal information and transaction details, thus reducing the long-time procedure of retrieval of files needed and safe from unauthorized access. With these, the system will help the organization in a great deal in providing fast and reliable delivery of services and information without sacrificing its quality.

Problems, conflicts and issues were encountered during the development of the system. First is with the flow of the program and system interface. Another was the development of the system was delayed due to slow response of the computer used. Lastly, the proponents had a hard time searching for application and API for sending SMS that is compatible with the programming language chosen. From the problems mentioned, the proponents have concluded the following solutions: through detailed planning and brainstorming, ideas were shared and possible problems that may encounter were given a

considered possible solution. The proponents decided to let the computer to rest after long period of used. With that, compiling and debugging of the project will took less time. Also delegation of tasks was made to minimize the workload of the computer being used in the creation of the system. Lastly, with the help of research and assistance of an expert, the proponents were able to find a free SMS provider.

In the implementation of the project, the proponents learned that not all of the staff were computer literate. After learning that, the proponents decided to conduct a demonstration and teaching on how to use the system.

6.0 Results and Observation

Table 3.0 Summary of Total Respondents

Respondents	Number
BSIT Students	20
Total	20

Table 3.0 reflects the summary of the conducted evaluation of San Francisco Multi-Purpose Cooperative. The evaluated respondents consist of twenty (20) BSIT students.

This chapter presents the result of data analysis and discusses the findings obtained from the primary instrument used in the study. The data were collected and then processed in response to the problems posed and state the statistical treatment and statistical results obtained and the level of significance and interconnections between and among data in the context of the study.

Table 4.0 Evaluation Mean Rating on Functionality

INDICATORS	MEAN	RESPONSE DESCRIPTION
A. Functionality		
1. Suitability. Functions are appropriate to specifications.	4.35	VERY GOOD
2. Accurateness. Functions are correct.	4.3	VERY GOOD
3. Interoperability. Software can interact with other components or systems.	4.35	VERY GOOD
4. Compliance. Adherence to standard.	4.35	VERY GOOD
5. Security. Provision for security requirements.	4.15	VERY GOOD
TOTAL MEAN	4.3	VERY GOOD

Table 4.0 shows the summary of the evaluators' response on San Francisco Multi-Purpose Cooperative System's functionality. The System got a total mean of 4.3, which is interpreted as "Very Good".

Table 5.0 Evaluation Mean Rating on Reliability

INDICATORS	MEAN	RESPONSE DESCRIPTION
B. Reliability		
1. Maturity. Absence of failure.	4.25	VERY GOOD
2. Fault Tolerance.	4.0	VERY GOOD

3. Recoverability. Ability to bring back a failed system to full operation including data and network connections.	3.39	GOOD
4. Correctness. Ability to produce correct computations output or reports.	4.4	VERY GOOD
TOTAL MEAN	4.15	VERY GOOD

Table 5.0 shows the summary of the evaluators' response on San Francisco Multi-Purpose Cooperative System's reliability. The System got a total mean of 4.15, which is interpreted as "Very Good".

Table 6.0 Evaluation Mean Rating on Usability

INDICATORS	MEAN	RESPONSE DESCRIPTION
C. Usability		
1. Understandability. Ease of which the system's functions can be understood	4.3	VERY GOOD
2. Learnability. Learning effort for different users, i.e novice, expert, casual etc.	4.2	VERY GOOD
3. Operability. Ability of the software to be easily operated by a given user in a given environment.	4.1	VERY GOOD
4. Provision for comfort and convenience.	3.85	GOOD
TOTAL MEAN	4.11	VERY GOOD

Table 6.0 shows the summary of the evaluators' response on San Francisco Multi-Purpose Cooperative System's usability. The System got a total mean of 4.15, which is interpreted as "Very Good".

Table 7.0 Evaluation Mean Rating on Maintainability

INDICATORS	MEAN	RESPONSE DESCRIPTION
D. Maintainability		
1. Analyzability. Ability to identify the root cause of a failure within the software.	4.2	VERY GOOD
2. Changeability. Software adjust well to different screen dimensions, colour depths, and font sizes. Different interfaces can be chosen to suit beginners and more advanced users.	4.15	VERY GOOD
3. Stability. Characterizes the sensitivity to change a given system.	4.25	VERY GOOD
TOTAL MEAN	4.2	VERY GOOD

Table 7.0 shows the summary of the evaluators' response on San Francisco Multi-Purpose Cooperative System's maintainability. The System got a total mean of 4.15, which is interpreted as "Very Good".

Table 8.0 Evaluation Mean Rating on Portability

INDICATORS	MEAN	RESPONSE DESCRIPTION
E. Portability		
1. Adaptability. Ability of the system to change to new specifications or operating environments.	4.6	VERY GOOD
2. Installability. Are there different options available for installation? Is software easy to install?	4.25	VERY GOOD
3. Replaceability. Ease of exchanging a given software component within a specified environment and system coupling	4.0	VERY GOOD
4. Software Compatibility. Provision for portability of operating system used.	4.25	VERY GOOD
5. Build Environment Portability. Absence of other software requirement such as runtime system or standard database management engine.	4.3	VERY GOOD
TOTAL MEAN	4.28	VERY GOOD

Table 8.0 shows the summary of the evaluators' response on San Francisco Multi-Purpose Cooperative System's portability. The System got a total mean of 4.3, which is interpreted as "Very Good".

Table 9.0 Evaluation Mean Rating on Training and Documentation

INDICATORS	MEAN	RESPONSE DESCRIPTION
F. Maintainability		
1. Availability of guides and printed documentation.(technical or user's manual)	4.4	VERY GOOD
2. Provision for trainings/ tutorials or real interactive learning.	3.75	GOOD
3. Provision for help component. Text should be clear and use language correctly, with appropriate headings and subheadings. Unfamiliar terms should be defined and explained. Organization should be logical. All information should be readily accessible for reference.	3.95	GOOD
TOTAL MEAN	4.03	VERY GOOD

Table 9.0 shows the summary of the evaluators' response on San Francisco Multi-Purpose Cooperative System's maintainability. The System got a total mean of 4.15, which is interpreted as "Very Good".

7.0 Conclusions and Recommendations

This chapter gives an assessment of what happened in this project. It presents explanations and justifications on how the objectives of the project were met, to what extent and why some objectives were not met.

This chapter also includes a discussion of possible improvements that can be made on the software, as well as future directions of the project in general. This serves as a springboard for projects that may be done by future project proponents.

Conclusion

The main purpose of the study is to design and develop a “San Francisco Multipurpose Cooperative System with SMS-Based Notification” that will improve the day-to-day processes involving withdrawal, savings and lending programs and with the utilization of short messaging system (SMS) as a method of notifying members and a record keeping system to be innovated and convenient for the said staff of the organization.

Several system functionalities were incorporated in the developed system: member's profiling system, loan and savings application, generations of transaction reports and notification for member's transaction with the cooperative through SMS.

In designing and development of the system, a lot of requirements were considered. User design and construction were done repeatedly until the system is ready to be implemented and make sure that the system is running smoothly and error free.

Recommendations

Recommendations could help broaden the scope of the study and perhaps give better clarity in particular areas and computerization makes the tasks easier and faster to accomplish that is why the proponents of the study recommends that all the staff should learn the newly developed system. With that, the system can be a tool for better rendering of services and can be a stepping stone in order for the organization to keep pace with the innovations and trends of the technology. Also the proponent's system can be improved further when it comes to the features of the system that involves the handling of monetary transactions. Lastly, maintenance of the developed system is recommended.

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