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# **CSCE 5430: Software Engineering**

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## **Project Workbook**

**Spring 2023**

CSCE 5430: Software Engineering	Issue: Spring 2023
Project Workbook	Issue Date: January 27, 2023
Group11_CSCE5430_003_Workbook	

## Revision History

<b>Date</b>	<b>Issue</b>	<b>Description</b>	<b>Author</b>
January 27, 2023	Project Phase 1	Adding Glossary for assignment1	Group11/003
January 27, 2023	Project Phase 1	Identifying and describing system actors	Group11/003
January 27, 2023	Project Phase 1	Identifying and describing use cases	Group11/003
January 27, 2023	Project Phase 1	Drawing use case diagram	Group11/003

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## IFINANCE System Glossary

### 1.1 Introduction

This document is used to define terminology specific to the problem domain, explaining terms, which may be unfamiliar to the reader of the use-case descriptions or other project documents. Often, this document can be used as an informal *data dictionary*, capturing data definitions so that use-case descriptions and other project documents can focus on what the system must do with the information.

### 1.2 Glossary

The glossary contains the working definitions for the key concepts in the IFINANCE System.

Term	Definition
iFinance	Software tool for Windows Operating System to manage and keep track of money based on liabilities, assets, expenses and income of users.
Assets	Any resource that a person, company, or an organization owns, or controls is referred to as an asset. It can be utilized to generate positive economic value.
Liabilities	Liability is defined as a debt or obligation to a person or institution due to past transactions which will be settled with money, assets or services
Balance Sheet	A balance sheet contains the transaction details of a person's or organization's finances at one point in a financial year and includes assets, liabilities, income, and expenses.
Profit and Loss Statement	Profit and loss statement keeps track of money earned and money spent by an individual or organization over a specified time and provides net income or net loss.
Double-entry Bookkeeping	In double-entry bookkeeping method we enter a transaction both on the debtor and creditor accounts to maintain the financial information. When a transaction takes place, it will affect at least two accounts, that always contains at least one credit and one debit and total debits are equal to total credits.
Encrypted password	User's passwords are scrambled to make the password unreadable and unusable by other persons using encryption methods like SHA-256 to maintain security and then stored in database.
System administrator	A system administrator is a person who controls the maintenance, setup, and performance of computer systems, particularly those with multiple users, like servers.
Debits	A transaction where money is withdrawn from a bank account. Debits are normally listed on the left-hand side of the account.
Credits	A transaction where money is deposited to a bank account. Credits are normally listed on the right-hand side of the account.
iFinance Custom Group	The user can use Custom Group form to create, modify, or remove a custom sub-category.
iFinance Chart of Accounts	Users can use this form to create, modify and delete Master accounts. This form contains details of Master account like account id, account name, openingAmount, closingAmount, accountGroup.

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Master Account	The record of an account holder's financial rights and liabilities is called a master account.
Opening Amount	Amount of money present in bank account at the start of a financial year.
Closing Amount	Amount of money present in bank account at the end of a financial year.
Transaction Number	Unique number that is used to identify a transaction in a banking system.
Trial Balance	Banks utilize a trial balance, a list of credit and debit entries, to check the accuracy of their double-entry accounting systems internally.
Master-detail style form	A user interface design pattern that is used to display data that has a one-to-many relationship, such as a Master Account and its sub-accounts. The Master-detail style form typically displays a list of items in the Master Account and allows the user to select an item to view more details in a separate detail panel.

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## IFINANCE System Actors

iFINANCE System Actors are the individuals or systems that interact with the iFINANCE software system. They may include:

**Customer:** Customer is a person who has an account in iFinance system with assets, liabilities, income and expenses tagged under the account. The customer can be a private user, small business, association, or clubs. Customer can use system to generate financial reports.

**Admin:** Admin is a person who has access to add, edit or delete the customer accounts in the iFinance system.

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## iFINANCE System Use cases

iFINANCE System use cases are the functionalities or features that the iFINANCE system provides to its users. Some examples of iFINANCE System use cases may include:

- **User Login:** The user should be able to log in using a username and encrypted password, which dynamically changes the system's access controls to match the user's permissions.
- **User Account Management:** The system administrator should be able to add, edit, and delete user profiles.
- **Account Settings:** Each user should be able to change their password.
- **Account Categories and Types:** The system should maintain four predefined account categories (Assets, Liabilities, Income, and Expenses) and two account types (Debits and Credits) to ensure proper organization of financial data.
- **Manage Custom Groups:** The user should be able to add, update, or delete custom sub-categories (Groups) with parent-child relationships, and these groups can be decomposed into further sub-groups.
- **Manage Chart of Accounts:** The user should be able to add, update, or delete Master Accounts, including account Id, account-name, opening-amount, closing-amount, and account-group, to specify a group/sub-group to which the account belongs. The closing-amount field should be updated automatically based on user transactions to display accurate balance sheets and profit and loss reports.
- **Manage Transactions:** The user should be able to manage accounts' transactions using double entry bookkeeping, which includes adding, updating, or deleting transaction entries in a Master-Detail style form. The Master part of the form should include the transaction number, date, total amount of debit, total amount of credit, and a comments/notes field, and the Detail part should be a grid that has each line's account number and name, debit amount, credit amount, and a field of comments.
- **Generate Financial Reports:** Using user financial data, the system should provide financial reports including the Trial Balance, Balance Sheet, Profit and Loss statement, and Cash Flow Statement. These reports should be able to be printed as a PDF document or shown on the computer screen precisely displaying closing balances, income, spending, and profits or losses.

## IFINANCE System Use case Diagram

