Software Requirements Specifications

Open LGU Finance and Accounting General Ledger

Version 1.1

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1.0. Introduction

This software requirements specification is about the ledger, which is a sub-function of the OpenLGU-Finance and Accounting module. A ledger is an accounting record or book, used to keep track all monetary transactions of a group (Rouse, 2012).

1.1. Purpose

This document presents a detailed description of the Finance and Accounting General Ledger. It also discusses the design, restrictions, features as well as the activities that each user can perform in the system. This document is intended for both the stakeholders (administrator, employees, and staff) and the developer of the system. An activity log is also maintained in every important action performed by the user in the system.

1.2. Scope of the Project

The OpenLGU Finance and Accounting General Ledger allows the user to add entries to journal, post to ledger, and create a trial balance basically. The system will be accessed by signing in using a username and a password.

The system manages the posting of accounts to the ledger, checking of the entered accounts from the Chart of Accounts and the creation of trial balance based on the ledger. It provides an option for viewing the journal entries and the ledger accounts as well as the trial balance. The users will include a note describing the entry upon entering in the journal to provide documentations.

1.3. Glossary

Journal	Consists of original entries that can be used in the future for reconciling and transferring to official records.
Chart of Accounts	Listings of accounts used in the accounting system of a group.
Ledger	Contains the final entries. It uses T-Accounts to illustrate the effect of the journal entries to the general ledger.
Trial Balance	List of closing balances on ledger accounts on a certain date.
Audit Trail	Validates or invalidates accounting entries.
Employee	Main inhabitants in the Accounting Department of the local government unit that performs accounting activities.

Administrator	Manages the entire Ledger system.
Database	Collection of data present in the system.
Software Requirements Specification	Document that provides complete description and behavior of the system to be developed.

1.4. References

IEEE. IEEE Std 830-1998 IEEE Recommended Practice for Software Requirements Specifications. IEEE Computer Society, 1998.

Rouse, M. General Ledger. (2012). *Searchfinancialapplications.techtarget*. Retrieved February 22, 2014 from http://searchfinancialapplications.techtarget.com/definition/general-ledger.

Chart of Accounts. (n.d.). *Accountingcoach*. Retrieved February 22, 2014 from http://www.accountingcoach.com/terms/C/chart-of-accounts.

T-Account. (n.d.). *Accountingcoach*. Retrieved February 22, 2014 from http://www.accountingcoach.com/terms/C/chart-of-accounts.

Trial Balance. (n.d.). *Accounting*-simplified. Retrieved February 22, 2014 from http://accounting-simplified.com/trial-balance.html.

Rouse, M. Audit Trail. (2005). *Searchcio.techtarget*. http://searchcio.techtarget.com/definition/audit-trail.

1.5. Overview of the Document

The next chapter of this document, Overall Description Section, gives an overview of the functionality of the system. It describes the informal requirements and is used to establish a context for the technical requirements specification in the next chapter.

The third chapter of this document, Requirements Specification Section, is written primarily for the developers and describes, in technical terms, the details of the functionality of the system.

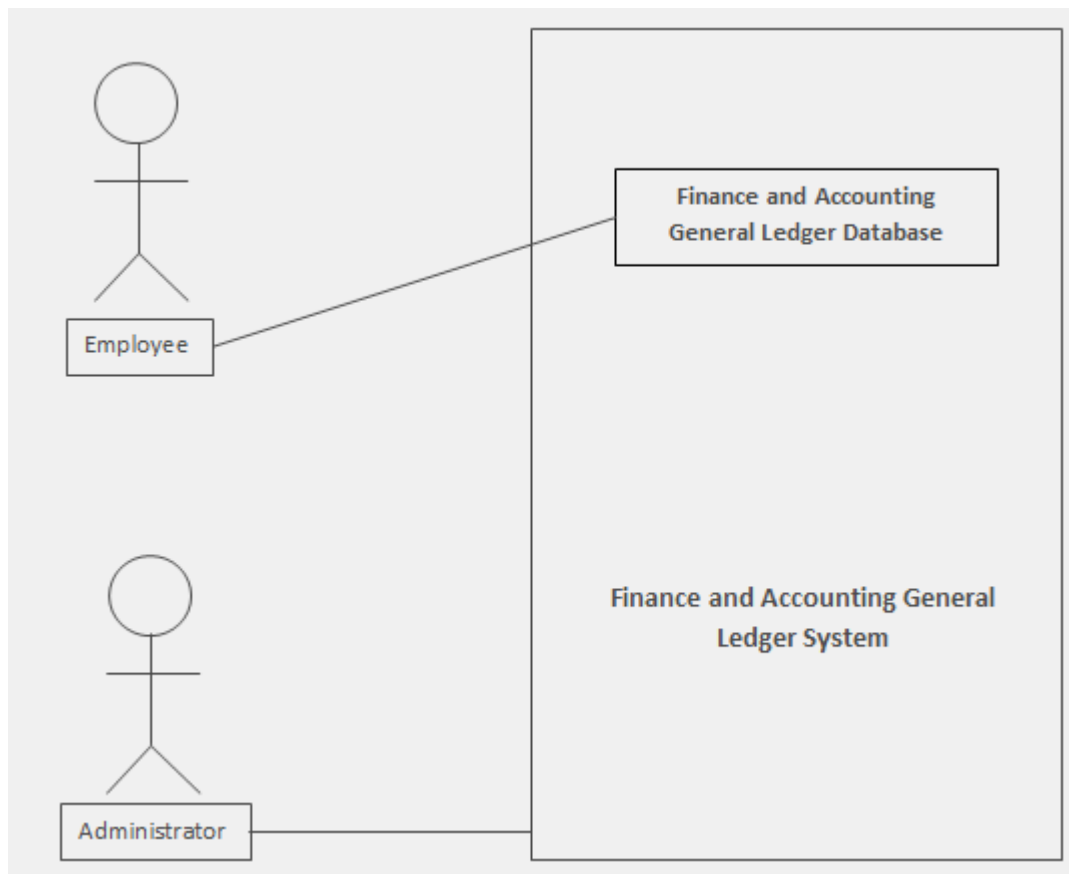## 2.0. Overall Description

2.1. System Environment

Figure 1 – System Environment

The OpenLGU Financial and Accounting General Ledger has two active actors, namely: the employees who access the Ledger Database, and the administrator who accesses the entire system directly.

2.2. Functional Requirements Specifications

This section outlines the use cases for each of the main actors in the system separately. The main actors include Employee, and Administrator.

2.2.1. Administrator Use Cases

- Log In
- Log Out
- Create a Journal Entry
- Update a Journal Entry
- Delete a Journal Entry
- View Journal Entries
- Create a Particular
- Update a Particular
- Delete a Particular
- View Particulars
- Post Entry
- Search Posted Entry
- Create a Ledger Account
- Update a Ledger Account
- Delete a Ledger Account
- View Ledger Accounts
- Generate a Trial Balance
- Close Month
- View Audit Trail
- Delete from Audit Trail
- View Log
- Download Reports
- Create new User
- Update User
- Delete User

Use case: **Log in**

Brief Description
     The administrator submits the username and password using the log in button.
Initial Step-By-Step Description
     Before this use case can be initiated, the administrator has already accessed the sign in page of the system.
1. The administrator fills up the information.
2. The administrator submits the information by clicking the log in button.
3. The system will display the home page (Welcome Page).

Use case: **Log out**

Brief Description
     The administrator clicks the log out button.
Initial Step-By-Step Description
     Before this use case can be initiated, the administrator has already logged in the system.
1. The administrator clicks the log out button.
2. The system will display the home page (Welcome Page).

Use case: **Create a Journal Entry**

Brief Description
     The administrator clicks the create entry button.
Initial Step-By-Step Description
     Before this use case can be initiated, the administrator has already on journal entry page.
1. The administrator clicks the create entry button.
2. The system will display a dialog box.
3. The administrator fills up the fields.
4. The administrator clicks the create button.
5. The system will display the initial contents of the journal entry.

Use case: **Update a Journal Entry**

Brief Description
     The administrator clicks the update option beside a row in the entries.
Initial Step-By-Step Description
     Before this use case can be initiated, the administrator has already on journal entry page.
1. The administrator clicks update option beside the row in the entries.
2. The system will display a page containing the editable contents of the entry.

3. The administrator updates the contents of the entry.
4. The administrator clicks the save button.
5. The system will display the edited journal entry.

Use case: **Delete a Journal Entry**

Brief Description
　　　The administrator clicks the delete option beside a row in the entries.
Initial Step-By-Step Description
　　　Before this use case can be initiated, the administrator has already on journal entry page.
1. The administrator clicks delete option beside the row in the entries.
2. The system will ask for confirmation.
3. The administrator clicks ok.
4. The row will be deleted in real time.

Use case: **View Journal Entries**

Brief Description
　　　The administrator clicks the journal entries link.
Initial Step-By-Step Description
　　　Before this use case can be initiated, the administrator has already logged in the system.
1. The system will display the tabular list of journal entries
2. The administrator has the option to view the posted journal entries.

Use case: **Create a Particular**

Brief Description
　　　The administrator clicks the create particular button.
Initial Step-By-Step Description
　　　Before this use case can be initiated, the administrator has already on the view page of the selected journal entry.
1. The administrator clicks create particular button.
2. The system will display a dialog with fields.
3. The administrator fills up the fields.
4. The administrator clicks create button.
5. The system will display the view page of the journal entry with the added particular.

Use case: **Update a Particular**

Brief Description

The administrator clicks the update option beside a row in the list of particulars.

Initial Step-By-Step Description

Before this use case can be initiated, the administrator has already on the view page of the selected journal entry.

1. The administrator clicks the update option beside a row in the list of particulars.
2. The system will display a page with the editable contents of the particular.
3. The administrator updates the contents of the particular.
4. The administrator clicks the save button.
5. The system will display the list of pending journal entries.

Use case: **Delete a Particular**

Brief Description

The administrator clicks the delete option beside a row in the list of particulars.

Initial Step-By-Step Description

Before this use case can be initiated, the administrator has already on the view page of the selected journal entry.

1. The administrator clicks the delete option beside a row in the list of particulars.
2. The system will ask for a confirmation.
3. The administrator clicks the ok button.
4. The system will display the list of particulars of the selected journal entry with the deleted particular.

Use case: **View Particulars**

Brief Description

The administrator clicks the view option beside a row in the list of journal entries.

Initial Step-By-Step Description

Before this use case can be initiated, the administrator has already on journal entry page.

1. The administrator clicks the view option beside a row in the list of journal entries.
2. The system will display a page with the tabular list of particulars contained in the journal entry.

Use case: **Post Entry**

Brief Description

The administrator clicks the post button.

Initial Step-By-Step Description

Before this use case can be initiated, the administrator has already on the view page of the selected journal entry.

1. The administrator clicks the post button.
2. The system will ask for a confirmation.

3. The administrator clicks the ok button.
4. The system will display the page of posted entries.

Use case: **Search Posted Entry**

Brief Description
     The administrator clicks complete search operation.
Initial Step-By-Step Description
     Before this use case can be initiated, the administrator has already on posted journal entries page.
1. The administrator clicks the complete search operation.
2. The system will display the page of posted journal entries with searching tools.
3. The administrator searches for the desired keyword.
4. The system will display the results of the searching done.

Use case: **Create a Ledger Account**

Brief Description
     The administrator clicks the create account button.
Initial Step-By-Step Description
     Before this use case can be initiated, the administrator has already on ledger accounts page.
1. The administrator clicks the create account button.
2. The system will display a dialog box.
3. The administrator fills up the fields.
4. The administrator clicks the create button.
5. The system will display the ledger account page.

Use case: **Update a Ledger Account**

Brief Description
     The administrator clicks the update option beside a row in the ledger accounts.
Initial Step-By-Step Description
     Before this use case can be initiated, the administrator has already on ledger account page.
1. The administrator clicks update option beside the row in the ledger accounts.
2. The system will display a page containing the editable contents of the account.
3. The administrator updates the contents of the account.
4. The administrator clicks the save button.
5. The system will display the ledger account page.

Use case: **Delete a Ledger Account**

Brief Description
        The administrator clicks the delete option beside a row in the ledger accounts.
Initial Step-By-Step Description
        Before this use case can be initiated, the administrator has already on ledger account page.
1. The administrator clicks delete option beside the row in the ledger account.
2. The system will ask for confirmation.
3. The administrator clicks ok.
4. The row will be deleted in real time.

Use case: **View Ledger**

Brief Description
        The administrator clicks the ledger accounts link.
Initial Step-By-Step Description
        Before this use case can be initiated, the administrator has already logged in the system.
1. The system will display the tabular list of ledger accounts.

Use case: **Generate a Trial Balance**

Brief Description
        The administrator clicks the generate button.
Initial Step-By-Step Description
        Before this use case can be initiated, the administrator has already on trial balance page.
1. The administrator clicks the generate button.
2. The system will ask for a confirmation.
3. The administrator clicks the ok button.
4. The system will display a page with the generated trial balance (accumulated).

Use case: **Close Month**

Brief Description
        The administrator clicks the close month button.
Initial Step-By-Step Description
        Before this use case can be initiated, the administrator has already on trial balance page.
1. The administrator clicks the close month button.
2. The system will ask for a confirmation and an end date.
3. The administrator enters end date and clicks the ok button.
4. The system will create and download an excel file of the monthly trial balance.

Use case: **View Audit Trail**

Brief Description
      The administrator clicks the Audit Trail link.
Initial Step-By-Step Description
      Before this use case can be initiated, the administrator has already logged in the system.
1. The system will display the tabular list of the audit trail.

Use case: **Delete from Audit Trail**

Brief Description
      The administrator clicks the delete option beside the row in the Audit Trail page.
Initial Step-By-Step Description
      Before this use case can be initiated, the administrator has already in the audit trail page.
1. The administrator clicks the delete option beside the row in the Audit Trail page.
2. The system will ask for a confirmation.
3. The administrator clicks the ok button.
4. The row will be deleted in real time.

Use case: **View Log**

Brief Description
      The administrator clicks the log operation.
Initial Step-By-Step Description
      Before this use case can be initiated, the administrator has already on audit trail page.
1. The administrator clicks the log operation.
2. The system will display the tabular list of anomalies found in the journal entries that are attempted to be posted.

Use case: **Download Reports**

Brief Description
      The administrator clicks the download reports operation.
Initial Step-By-Step Description
      Before this use case can be initiated, the administrator has already on audit trail page.
1. The administrator clicks the download reports operation.
2. The system will display a page with buttons corresponding to the report to be downloaded.
3. The administrator fills up the fields, if necessary and clicks the download button.

4. The system will create and download the excel report.

Use case: **Create new User**

Brief Description
      The administrator clicks the create button.
Initial Step-By-Step Description
      Before this use case can be initiated, the administrator has already on the users page.
1. The administrator clicks the create button.
2. The system will display a dialog box with text fields.
3. The administrator fills up the fields.
4. The administrator clicks create button.
5. The system will display the users page with the added user.

Use case: **Update User**

Brief Description
      The administrator clicks the update option beside the rows in the users page.
Initial Step-By-Step Description
      Before this use case can be initiated, the administrator has already on the users page.
1. The administrator clicks the update option beside the rows in the users page.
2. The system will display a page with editable contents of the user.
3. The administrator edits the contents.
4. The administrator clicks save button.
5. The system will display the users page with the added user.

Use case: **Delete User**

Brief Description
      The administrator clicks the delete option beside the rows in the users page.
Initial Step-By-Step Description
      Before this use case can be initiated, the administrator has already on the users page.
1. The administrator clicks the delete option beside the rows in the users page.
2. The system will ask for a confirmation.
3. The administrator clicks the ok button.
4. The user will be deleted real time.

2.2.2. Employee Use Cases

- Log In
- Log Out
- Create a Journal Entry
- Update a Journal Entry
- Delete a Journal Entry
- View Journal Entries
- Create a Particular
- Update a Particular
- Delete a Particular
- View Particulars
- Post Entry
- Search Posted Entry
- Create a Ledger Account
- Update a Ledger Account
- View Ledger Accounts
- Generate a Trial Balance
- Close Month
- View Audit Trail
- View Log
- Download Reports

Use case: **Log in**

Brief Description
      The employee submits the username and password using the log in button.
Initial Step-By-Step Description
      Before this use case can be initiated, the employee has already accessed the sign in page of the system.
1. The employee fills up the information.
2. The employee submits the information by clicking the log in button.
3. The system will display the home page (Welcome Page).

Use case: **Log out**

Brief Description
      The employee clicks the log out button.
Initial Step-By-Step Description
      Before this use case can be initiated, the employee has already logged in the system.
1. The employee clicks the log out button.
2. The system will display the home page (Welcome Page).

Use case: **Create a Journal Entry**

Brief Description
      The employee clicks the create entry button.
Initial Step-By-Step Description
      Before this use case can be initiated, the employee has already on journal entry page.
1. The employee clicks the create entry button.
2. The system will display a dialog box.
3. The employee fills up the fields.
4. The employee clicks the create button.
5. The system will display the initial contents of the journal entry.

Use case: **Update a Journal Entry**

Brief Description
      The employee clicks the update option beside a row in the entries.
Initial Step-By-Step Description
      Before this use case can be initiated, the employee has already on journal entry page.
1. The employee clicks update option beside the row in the entries.
2. The system will display a page containing the editable contents of the entry.

3. The employee updates the contents of the entry.
4. The employee clicks the save button.
5. The system will display the edited journal entry.

Use case: **Delete a Journal Entry**

Brief Description
      The employee clicks the delete option beside a row in the entries.
Initial Step-By-Step Description
      Before this use case can be initiated, the employee has already on journal entry page.
1. The employee clicks delete option beside the row in the entries.
2. The system will ask for confirmation.
3. The employee clicks ok.
4. The row will be deleted in real time.

Use case: **View Journal Entries**

Brief Description
      The employee clicks the journal entries link.
Initial Step-By-Step Description
      Before this use case can be initiated, the employee has already logged in the system.
1. The system will display the tabular list of journal entries
2. The employee has the option to view the posted journal entries.

Use case: **Create a Particular**

Brief Description
      The employee clicks the create particular button.
Initial Step-By-Step Description
      Before this use case can be initiated, the employee has already on the view page of the selected journal entry.
1. The employee clicks create particular button.
2. The system will display a dialog with fields.
3. The employee fills up the fields.
4. The employee clicks create button.
5. The system will display the view page of the journal entry with the added particular.

Use case: **Update a Particular**

Brief Description

The employee clicks the update option beside a row in the list of particulars.

Initial Step-By-Step Description

Before this use case can be initiated, the employee has already on the view page of the selected journal entry.

1. The employee clicks the update option beside a row in the list of particulars.
2. The system will display a page with the editable contents of the particular.
3. The employee updates the contents of the particular.
4. The employee clicks the save button.
5. The system will display the list of pending journal entries.

Use case: **Delete a Particular**

Brief Description

The employee clicks the delete option beside a row in the list of particulars.

Initial Step-By-Step Description

Before this use case can be initiated, the employee has already on the view page of the selected journal entry.

1. The employee clicks the delete option beside a row in the list of particulars.
2. The system will ask for a confirmation.
3. The employee clicks the ok button.
4. The system will display the list of particulars of the selected journal entry with the deleted particular.

Use case: **View Particulars**

Brief Description

The employee clicks the view option beside a row in the list of journal entries.

Initial Step-By-Step Description

Before this use case can be initiated, the employee has already on journal entry page.

1. The employee clicks the view option beside a row in the list of journal entries.
2. The system will display a page with the tabular list of particulars contained in the journal entry.

Use case: **Post Entry**

Brief Description

The employee clicks the post button.

Initial Step-By-Step Description

Before this use case can be initiated, the employee has already on the view page of the selected journal entry.

1. The employee clicks the post button.
2. The system will ask for a confirmation.

3. The employee clicks the ok button.
4. The system will display the page of posted entries.

Use case: **Search Posted Entry**

Brief Description
	The employee clicks complete search operation.
Initial Step-By-Step Description
	Before this use case can be initiated, the employee has already on posted journal entries page.
1. The employee clicks the complete search operation.
2. The system will display the page of posted journal entries with searching tools.
3. The employee searches for the desired keyword.
4. The system will display the results of the searching done.

Use case: **Create a Ledger Account**

Brief Description
	The employee clicks the create account button.
Initial Step-By-Step Description
	Before this use case can be initiated, the employee has already on ledger accounts page.
1. The employee clicks the create account button.
2. The system will display a dialog box.
3. The employee fills up the fields.
4. The employee clicks the create button.
5. The system will display the ledger account page.

Use case: **Update a Ledger Account**

Brief Description
	The employee clicks the update option beside a row in the ledger accounts.
Initial Step-By-Step Description
	Before this use case can be initiated, the employee has already on ledger account page.
1. The employee clicks update option beside the row in the ledger accounts.
2. The system will display a page containing the editable contents of the account.
3. The employee updates the contents of the account.
4. The employee clicks the save button.
5. The system will display the ledger account page.

Use case: **View Ledger**

Brief Description
    The employee clicks the ledger accounts link.
Initial Step-By-Step Description
    Before this use case can be initiated, the employee has already logged in the system.
1. The system will display the tabular list of ledger accounts.

Use case: **Generate a Trial Balance**

Brief Description
    The employee clicks the generate button.
Initial Step-By-Step Description
    Before this use case can be initiated, the employee has already on trial balance page.
1. The employee clicks the generate button.
2. The system will ask for a confirmation.
3. The employee clicks the ok button.
4. The system will display a page with the generated trial balance (accumulated).

Use case: **Close Month**

Brief Description
    The employee clicks the close month button.
Initial Step-By-Step Description
    Before this use case can be initiated, the employee has already on trial balance page.
1. The employee clicks the close month button.
2. The system will ask for a confirmation and an end date.
3. The employee enters end date and clicks the ok button.
4. The system will create and download an excel file of the monthly trial balance.

Use case: **View Audit Trail**

Brief Description
    The employee clicks the Audit Trail link.
Initial Step-By-Step Description
    Before this use case can be initiated, the employee has already logged in the system.
1. The system will display the tabular list of the audit trail.

Use case: **View Log**

Brief Description
      The employee clicks the log operation.
Initial Step-By-Step Description
      Before this use case can be initiated, the employee has already on audit trail page.
1. The employee clicks the log operation.
2. The system will display the tabular list of anomalies found in the journal entries that are attempted to be posted.

Use case: **Download Reports**

Brief Description
      The employee clicks the download reports operation.
Initial Step-By-Step Description
      Before this use case can be initiated, the employee has already on audit trail page.
1. The employee clicks the download reports operation.
2. The system will display a page with buttons corresponding to the report to be downloaded.
3. The employee fills up the fields, if necessary and clicks the download button.
4. The system will create and download the excel report.

2.3 User Characteristics

      The employee is expected to fill out forms and operate form elements such as buttons, and drop-down lists; The employee is expected to be computer literate and have a knowledge and experience in doing accounting activities like journalizing of entries, posting the accounts to ledgers, adjusting entries, and creating trial balances.

      The administrator is expected to fill out forms and operate form elements such as buttons, and drop-down lists; The administrator is expected to be computer literate and have a knowledge and experience in doing accounting activities like journalizing of entries, posting the accounts to ledgers, adjusting entries, and creating trial balances.

2.4. Non-Functional Requirements

      The OpenLGU Financial and Accounting General Ledger was done using PHP, Yii, Wamp, and PostgreSQL. The project will be on a local database of the physical machine to be used (i.e., computer). The software developed will be using a web server package such as WAMP (Windows, Apache, MySQL, PHP) or XAMPP (Cross-platform, Apache, MySQL, PHP and Perl) for connection between the web pages and the database.

3.0. Requirements Specifications

3.1. Detailed Non-Functional Requirements

3.1.1. Logical Structure of the Data

The logical structure of the data to be stored in the internal Financial and Accounting General Ledger database is given below:
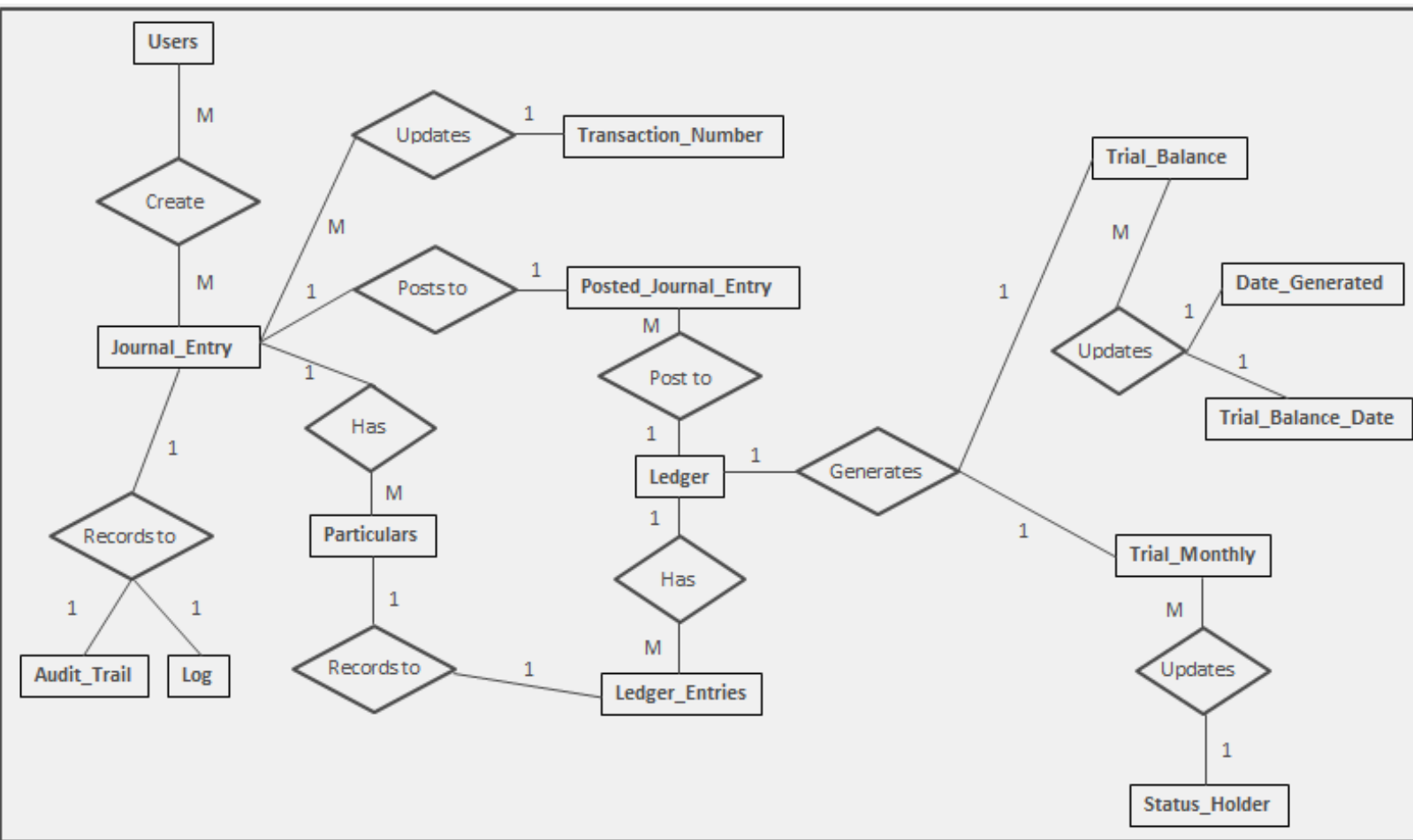

Figure 5 – Logical Structure of OpenLGU Finance and Accounting General Ledger

3.1.2. Description of Data Entities

Audit_Trail Data Entity

Data Item	Type	Description	Comment
audit_trail_id	SERIAL	Auto-incrementing id	Primary Key
date	Date	System date when action was done	
amount_involved	Numeric		
activity	Text	Action performed	
user	Text	User responsible for the action	

Date_Generated Entity

Data Item	Type	Description	Comment
Date_generated_id	integer	Always set to one	Primary Key
Date_generated_value	Date	System date when action was done	

Journal_Entry Entity

Data Item	Type	Description	Comment
Journal_id	SERIAL	Auto-incrementing id	Primary Key
Journal_page	integer	User-specified	
Transaction_number	integer	Initially NULL	Got a value upon posting
Date	date	Transaction Date	
Responsibility_Center	text		
Total_debit	numeric		
Total_credit	numeric		

Comment	text	Explanation	
Entry_type	text	Normal or Adjusting	
Post_status	integer	Pending or Posted	0 for Pending and 1 for Posted

Ledger Data Entity

Data Item	Type	Description	Comment
Account_code	integer	Use NGAS	Primary Key
Account_title	text	Use NGAS	
Ledger_page	integer	User-specified	
Major_account_title	text	Asset, Liability, Capital	
Normal_balance	text	Debit or Credit	Depends on major account title
debit	numeric		
credit	numeric		

Ledger_Entries Data Entity

Data Item	Type	Description	Comment
Ledger_entry_id	SERIAL	Auto-incrementing	Primary Key
Particular_id	integer		
Date	date		
Account_title	text		
Account_code	integer		
Journal_page	integer	Reference page	
Ledger_page	integer	Reference page	
debit	numeric		
credit	numeric		

Log Data Entity

Data Item	Type	Description	Comment
Log_id	SERIAL	Auto-incrementing	Primary Key
Journal_page	integer	Journal affected	
comment	text	Unbalanced entry or debit and credit are both zeroes	

Particulars Data Entity

Data Item	Type	Description	Comment
Particular_id	SERIAL	Auto-increment	Primary Key
Journal_id	integer		
Date	date		
Journal_page	integer		
Ledger_page	integer		
Account_title	text		
Account_code	integer		
pr	text	Post reference	Usually null
debit	numeric		
credit	numeric		

Posted_Journal_Entry Data Entity

Data Item	Type	Description	Comment
Posted_entry	SERIAL	Auto-incrementing	Primary Key
Journal_page	integer	Page of posted journal	
Transaction_number	integer		
Date	date	Date of transaction	

Year	text	From Date	
Month	text	From Date	
Day	integer	From Date	
Responsibility_center	text		
Total_debit	numeric		
Total_credit	numeric		
Comment	text	Explanation	
Entry_type	text	Normal or Adjusting	

Status_Holder Data Entity

Data Item	Type	Description	Comment
Status_holder_id	SERIAL	Auto-incrementing	Primary Key
Last_month_status	integer	Status of last month	1 for closed and 0 for open
Today_month_status	integer	Status of current month	1 for closed and 0 for open
Accept_status	integer	Status if entry is accepted	1 for closed and 0 for open
Date_holder	date	Current date	Updates upon change of month
Constant_id	integer	Always set to 1	

Transaction_Number Data Entity

Data Item	Type	Description	Comment
Transaction_number_id	SERIAL	Always set to 1	Primary Key
Transaction_number_value	integer	Increments when an entry was posted	

Trial_Balance Data Entity

Data Item	Type	Description	Comment
Trial_balance_id	SERIAL	Auto-incrementing	Primary Key
Account_title	text	From ledger	
Account_code	integer	From ledger	
Debit_balance	numeric	From ledger	Consider normal balance
Credit_balance	numeric	From ledger	Consider normal balance

Trial_Balance_Date Data Entity

Data Item	Type	Description	Comment
Trial_balance_data_id	integer	Always set to 1	Primary Key
asof	date	Latest date posted in the ledger	

Trial_Monthly Data Entity

Data Item	Type	Description	Comment
Trial_balance_id	SERIAL	Auto-incrementing	Primary Key
Account_title	text	From ledger	
Account_code	integer	From ledger	
Debit_balance	numeric	From ledger	Consider normal balance
Credit_balance	numeric	From ledger	Consider normal balance

Users Data Entity

Data Item	Type	Description	Comment
User_id	SERIAL		Primary Key
First_name	text		
Last_name	text		
email	text	optional	
username	text	unique	
password	text	Encrypted using MD5	