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| **Project title** | **BalanceBuddy** |
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| **Group** | **30423** |

# Task Description

The proposed application, named BalanceBuddy, is an accounting and transaction management system designed to help users track financial transactions, manage suppliers, and generate summary reports. The application aims to provide a user-friendly interface for efficient financial management.

**Functionality**

**1. Dashboard**

The dashboard serves as the home screen providing a quick overview of the user's financial status. It includes:

• A welcome message with the user's email.

• A graphical representation of key financial metrics.

**2. Transactions**

**2.1 Transaction Management**

• View Transactions: Users can view a list of all transactions, including details like ID, amount, date, measure unit, description, and supplier.

• Add Transaction: Users can add a new transaction by entering details such as ID, amount, date, measure unit, description, and selecting a supplier.

• Delete Transaction: Allows users to delete selected transactions.

• Search Transactions: Users can search for transactions based on different criteria.

**2.2 Transaction Details**

• View Details: Users can view detailed information about a transaction, including price per unit, TVA, price without TVA, discount, and total.

• Add Details: Users can add additional details to a transaction.

• Delete Details: Allows users to delete selected details.

**3. Suppliers**

• View Suppliers: Displays a list of all suppliers with information such as ID, name, CUI, address, and phone number.

• Add Supplier: Users can add a new supplier by providing details such as name, CUI, address, and phone number.

• Delete Supplier: Allows users to delete selected suppliers.

• Search Supplier Transactions: Users can view transactions associated with a particular supplier.

**4. Summary**

* View Summary: Displays a summary of transactions with details such as ID, date, and total amount.
* Add Summary Entry: Users can add a new summary entry by specifying the date and total amount.
* Delete Summary Entry: Allows users to delete selected summary entries.
* Update Summary Entry: Enables users to update existing summary entries
* Search Summary: Users can search for summary entries based on date or other criteria

**User Interaction**

The application utilizes a tab-based interface for easy navigation. Each tab corresponds to a specific module (Dashboard, Transactions, Transaction Details, Suppliers, Summary).

# 2. Class Discovery

Here you should use CRC cards to find classes, responsibilities and collaborators (see Lecture 7). A sample CRC is shown below. Draw by hand and take snapshots with your camera/smartphone or edit directly in this document.

|  |  |
| --- | --- |
| **Transaction** | |
| Manage transaction information (id, date, description, amount, measure unit, supplier name). | AccountingAppController  Supplier  TransactionDetails  Transaction  SupplierTransaction |
| Communicate with the database for CRUD operations related to transactions. | DbFunctions |
|  |  |
| **TransactionDetails** | |
| Manage detailed information about transactions (id, price, TVA, discount, priceNoTva, total). | AccountingAppController  TransactionDetails  Transaction |
| Calculate total amount based on transaction details. | AccountginAppController  DbFunctions  TransactionDetails |
| Communicate with the database for CRUD operations related to transaction details. | DbFunctions |
|  |  |
| **Supplier** | |
| Manage supplier information (id, name, cui ,adress). | AccountingAppController  Supplier |
| Communicate with the database for CRUD operations related to transactions. | DbFunctions |
| Provide methods for checking supplier existence in the database. | AccountginAppController  DbFunctions |
| Associate transactions with suppliers. | SupplierTransaction |
|  |  |
| **DbFunctions** | |
| Establish and manage database connections. | AccountingAppController |
| Execute SQL queries for data retrieval and manipulation. | AccountingAppController |
|  |  |
| **AccountingAppController** | |
| Handle user interactions in the accounting application. |  |
| Manage the flow of data between the UI and the backend. | Transaction  TransactionDetails  Supplier  DbFunctions  SupplierTransaction  Summary |
|  |  |
| **SupplierTransaction** | |
| Represent the association between a supplier and a transaction. | Supplier  Transaction |
| **Summary** | |
| Association between date and transactions in that date | AccouningAppController  Transaction  TransactionDetails |
|  |  |
| **MainProject** | |
| Launch the controller | LoginController |
|  |  |
| **LoginController** | |
| Manage the login part of the app |  |
| Communicate with the database | DbFunctions |

# 1. Class Diagram

A diagram of a software application

Description automatically generated