Identify the classes. Classify them as weak and strong classes and draw the class diagram for the specified Case Study

Table of Contents

[Classes 2](#_Toc152101736)

[User 2](#_Toc152101737)

[Attributes 2](#_Toc152101738)

[Methods 2](#_Toc152101739)

[Expense 2](#_Toc152101740)

[Attributes: 2](#_Toc152101741)

[Methods: 2](#_Toc152101742)

[Dashboard 2](#_Toc152101743)

[Attributes: 2](#_Toc152101744)

[Methods: 2](#_Toc152101745)

[Settings 2](#_Toc152101746)

[Attributes: 2](#_Toc152101747)

[Methods: 2](#_Toc152101748)

[AuthenticationManager 2](#_Toc152101749)

[Methods: 2](#_Toc152101750)

[Class Relationships 2](#_Toc152101751)

[Class Diagram 3](#_Toc152101752)

# Classes

## User

Attributes: UserID, Username, Password, Email, BudgetLimit

Methods: Login (), SignUp (), ChangePassword (), SetBudgetLimit ()

## Expense

Attributes: ExpenseID, UserID, Amount, Category, Description, Date

Methods: AddExpense (), ViewExpenseReport (), CategorizeExpense ()

## Dashboard

Attributes: UserID, Expense Data

Methods: Generate Dashboard ()

## Settings

Attributes: UserID, Theme, NotificationPreferences

Methods: ChangeTheme (), UpdateNotificationPreferences ()

# AuthenticationManager

Methods: Verify Login (), Verify Signup (), GenerateOTP (), ResetPassword ()

# Class Relationships

User has a Dashboard.

User can have multiple Expenses.

Settings are associated with a User.

Authentication Manager manages User authentication processes.

Weak and Strong Classes

Strong Classes: User, Expense, Dashboard, Settings

These classes have distinct attributes and methods, representing clear entities within the system.

Weak Class: Authentication Manager

This class is more of a manager or service class, handling specific processes rather than representing a distinct entity with attributes.

# Class Diagram

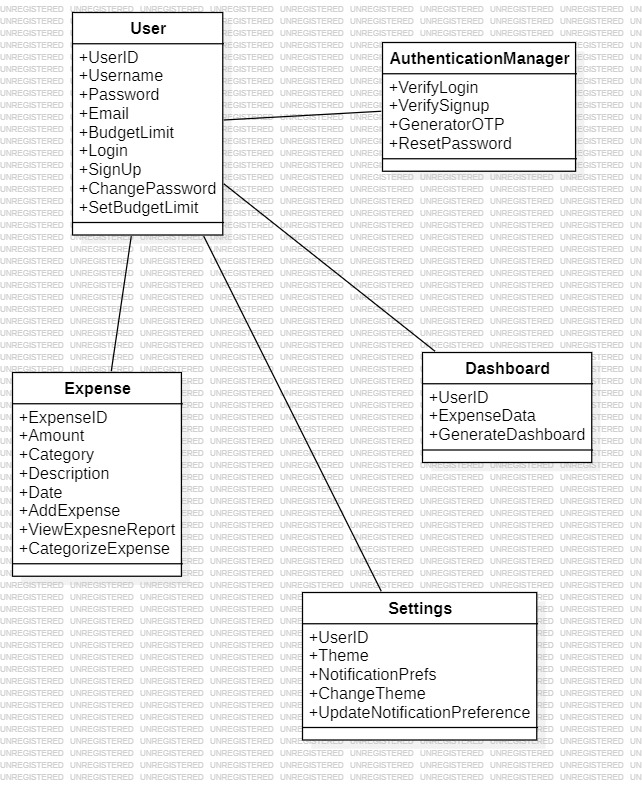


Figure 1:Expense Sharing App Class Diagram