

PROJECT REPORT

On

EXPENSE TRACKER

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Batch Code: ANP-D2406

Course Code: ITPR

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Certificate

We, **Drishty** and **Teeksha**, hereby declare that this project titled **Expense Tracker System** is a result of our own shared efforts and dedication.

Working on this project together has been a journey of learning and collaboration. Every part of this report—from the initial research to the final conclusion—has been developed by us. We have ensured that all the information included is authentic and, where we have used external references, we have given due credit.

This project is a true reflection of our hard work and our teamwork.

Acknowledgement

We would like to express our sincere gratitude to our respected guide and teachers for their continuous support and guidance during the development of this project. We are also thankful to our friends and family for their encouragement and motivation throughout this work.

Abstract

The Expense Tracker System is a mini project developed to help users record, manage, and analyze their daily financial activities efficiently. This system allows users to store income, expenses, categories, payment methods, budgets, and reminders in a structured database and provides easy tracking of financial data. The application reduces manual record-keeping, minimizes errors, and offers a reliable solution for personal financial management.

Introduction

In today's fast-paced life, managing personal expenses manually is difficult and time-consuming. Many individuals fail to track their spending properly, which results in poor financial planning. The Expense Tracker System is designed to provide an automated solution for maintaining financial records in an organized and secure manner.

Problem Statement

Manual expense tracking is inefficient, error-prone, and difficult to maintain. There is a need for a computerized system that allows users to store, retrieve, and analyze financial data accurately and easily

Objectives of the Project

- To develop a system for recording income and expenses
- To categorize financial transactions
- To manage budgets and set reminders
- To provide better financial planning and control
- To maintain data securely in a database

Proposed System

The proposed system is a command-line-based application that allows users to manage financial records digitally. Users can add, view, update, and delete financial transactions. The system stores data in a MySQL database and retrieves it whenever required.

Advantages:

- Reduces paperwork
- Improves accuracy
- Saves time
- Easy data retrieval
- Secure and reliable storage

Tools & Technologies Used

- Programming Language: **Java**
- Database: **MySQL**
- Development Tool: **Eclipse IDE**
- Build Tool: **Maven**
- Operating System: Windows

System Design

Entities:

- User
- Income
- Expense
- Category
- Payment Method
- Budget
- Reminder

User Table :

Field Name	Data Type	Description
UserID	INT (PK)	Unique user ID
Name	VARCHAR(100)	Full name of user
Email	VARCHAR(100)	User email
Password	VARCHAR(50)	Encrypted password

Categories Table

Field Name	Data Type	Description
CategoryID	INT (PK)	Unique category ID
CategoryName	VARCHAR(100)	Name of the category

Expenses Table

Field Name	Data Type	Description
ExpenseID	INT (PK)	Unique expense entry ID
UserID	INT (FK)	References Users table
CategoryID	INT (FK)	References Categories table
Amount	DOUBLE	Expense amount
Date	DATE	Expense date
Description	VARCHAR(255)	Expense details

Payment Table

Attribute Name	Data Type	Constraints	Description
payment_mode_id	INT	PK, AUTO_INCREMENT	Unique identifier for payment mode
mode_name	VARCHAR(50)	NOT NULL, UNIQUE	Payment method (Cash, UPI, Card)
details	VARCHAR(200)	-----	Additional details

Income Table

Attribute Name	Data Type	Constraints	Description
income_id	INT	PK, AUTO_INCREMENT	Unique identifier for each income record
user_id	INT	FK to users(user_id)	Reference to the user
source	VARCHAR(100)	NOT NULL	Income source (Salary, Bonus, etc.)
amount	DECIMAL(10,2)	NOT NULL	Income amount
date	DATE	NOT NULL	Date of income
notes	VARCHAR(255)	-----	Additional notes

Reminder Table

Attribute Name	Data Type	Constraints	Description
reminder_id	INT	PK, AUTO_INCREMENT	Unique identifier for reminder
user_id	INT	FK to users(user_id)	Reference to user
type	VARCHAR(50)	NOT NULL	Type of reminder (e.g., BUDGET_ALERT)
message	VARCHAR(255)	NOT NULL	Reminder message
created_at	DATETIME	DEFAULT CURRENT_TIMESTAMP	Reminder creation timestamp
status	VARCHAR(20)	DEFAULT 'PENDING'	Reminder status

Budget Table

Attribute Name	Data Type	Constraints	Description
budget_id	INT	PK, AUTO_INCREMENT	Unique identifier for budget
user_id	INT	FK to users(user_id)	Reference to user
month	TINYINT	NOT NULL	Month (1 to 12)
year	INT	NOT NULL	Year
category_id	INT	FK to categories(category_id), optional	Budget category (optional)
limit_amount	DECIMAL(10,2)	NOT NULL	Budget limit amount

Module Description

- **User Module:** Handles user details and authentication
- **Income Module:** Stores income records
- **Expense Module:** Stores expense records
- **Category Module:** Manages transaction categories
- **Payment Module:** Stores payment methods
- **Budget Module:** Tracks monthly budget limits
- **Reminder Module:** Stores reminders for payments and bills

Implementation

The project is implemented using Java as the backend language. The database is connected using JDBC. SQL queries are used to insert, update, delete, and retrieve records from the MySQL database. Maven is used for dependency management and project building.

Testing

Various test cases were performed to verify system functionality such as data insertion, update, deletion, and retrieval. The system produced correct outputs for all valid inputs.

Results & Output

Expense added successfully via CLI

Category-wise expense display

Payment method selection

Data stored persistently in MySQL

```
<terminated> Main (2) [Java Application] C:\Program Files\Java\jdk-25\bin\javaw.exe (12-Jan-2026, 10:49:33 pm - 10:50:03 pm elapsed: 0.000s)
Enter your name: Demo

=====
EXPENSE TRACKER FOR Demo
=====

1. Add Expense
2. View All Expenses
3. Exit
Choose an option: 1
Enter Amount: 4520
Database Connected Successfully!

Expense Categories:
ID | Name
3 | Food
4 | Shopping
5 | Bills
Choose Category ID: 5
Database Connected Successfully!

Select Payment Method:
1. Cash
2. Card
3. UPI
Choose Payment Method ID: 3
Enter Description: travel
Database Connected Successfully!
₹4520.0 added for Demo ✓

=====
EXPENSE TRACKER FOR Demo
=====

1. Add Expense
2. View All Expenses
3. Exit
Choose an option: 2
```

```
<terminated> Main (2) [Java Application] C:\Program Files\Java\jdk-25\bin\javaw.exe (12-Jan-2026, 10:49:33 pm - 10:50:03 pm elapsed: 0.000s)
ID | Name
3 | Food
4 | Shopping
5 | Bills
Choose Category ID: 5
Database Connected Successfully!

Select Payment Method:
1. Cash
2. Card
3. UPI
Choose Payment Method ID: 3
Enter Description: travel
Database Connected Successfully!
₹4520.0 added for Demo ✓

=====
EXPENSE TRACKER FOR Demo
=====

1. Add Expense
2. View All Expenses
3. Exit
Choose an option: 2
Database Connected Successfully!

--- Expenses for Demo ---
Bills | ₹4520.0 | travel | 2026-01-12

=====
EXPENSE TRACKER FOR Demo
=====

1. Add Expense
2. View All Expenses
3. Exit
Choose an option: 3
Goodbye!
```


Individual Contribution

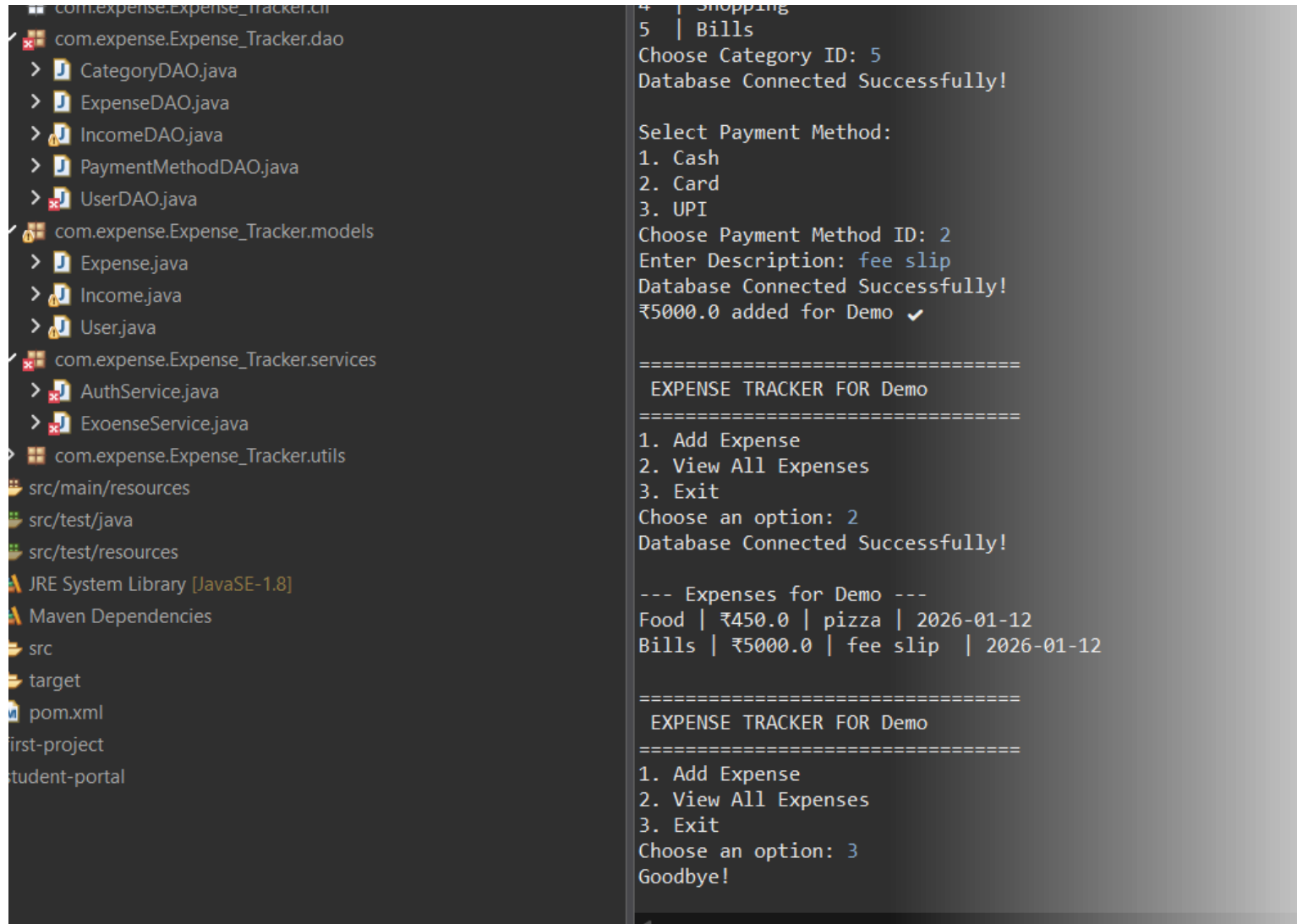
Drishty Garg

- Database design
- Entity identification
- SQL table creation
- Database testing
- Integration planning

Teeksha Sharma

- Java programming
- Maven project setup
- Backend logic development
- Database connectivity
- Application testing

Conclusion



```
com.expense.Expense_Tracker.dao
> CategoryDAO.java
> ExpenseDAO.java
> IncomeDAO.java
> PaymentMethodDAO.java
> UserDAO.java
com.expense.Expense_Tracker.models
> Expense.java
> Income.java
> User.java
com.expense.Expense_Tracker.services
> AuthService.java
> ExoenseService.java
com.expense.Expense_Tracker.utils
src/main/resources
src/test/java
src/test/resources
JRE System Library [JavaSE-1.8]
Maven Dependencies
src
target
pom.xml
first-project
student-portal

4 | Shopping
5 | Bills
Choose Category ID: 5
Database Connected Successfully!

Select Payment Method:
1. Cash
2. Card
3. UPI
Choose Payment Method ID: 2
Enter Description: fee slip
Database Connected Successfully!
₹5000.0 added for Demo ✓

=====
EXPENSE TRACKER FOR Demo
=====
1. Add Expense
2. View All Expenses
3. Exit
Choose an option: 2
Database Connected Successfully!

--- Expenses for Demo ---
Food | ₹450.0 | pizza | 2026-01-12
Bills | ₹5000.0 | fee slip | 2026-01-12

=====
EXPENSE TRACKER FOR Demo
=====
1. Add Expense
2. View All Expenses
3. Exit
Choose an option: 3
Goodbye!
```

The Expense Tracker System is a reliable and efficient tool for managing personal finances. It simplifies financial tracking, improves accuracy, and supports better financial planning.

Future Scope

- Graphical user interface development
- Mobile application integration
- Data analytics and reports
- Cloud database storage
- Multi-user support

References

- Java Documentation
- MySQL Documentation
- Oracle JDBC Guide
- Software Engineering Textbooks
- Online Resources