Project Plan: Expense Tracker Software

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# Document Information

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## Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| Version | Date | Author | Notes |
| 0.1 | 01.12.2024 | Charles | First Draft |

# Introduction

This project plan outlines the tasks and milestones for coding the Expense Tracker Software. The tasks are divided into manageable milestones, ensuring a step-by-step implementation of the system's functionality.

## Glossary

The following abbreviations and domain-specific terms are used throughout the document.

|  |  |  |  |
| --- | --- | --- | --- |
| Abbreviation | Term | Description | Reference |
| KW | Calendar Week | Week count in a year | N/A |

# Milestones and Tasks

## Milestone 1: Core Functionality (Transaction Management)

### Week 1 (KW 49 – 2024)

* Implement addTransaction(), editTransaction(), deleteTransaction(), getTotalBalance() and getRecentTransactions() methods in **TransactionManager**.
* Create basic transaction filtering logic using the Strategy Pattern (filter by date, amount, source and category.
* Unit test transaction-related methods to ensure correctness.

## Milestone 2: Authentication and User Management

### Week 2 (KW 50 – 2024)

* Implement createUserAccount(), login(), logout(), and resetPassword() in **AuthManager**.
* Ensure secure password storage using hashing.
* Unit test all authentication processes.
* Integrate database functionality for storing, modifying and retrieving user account data through **UserAccountManager**.

## Milestone 3: Transaction Viewing and Reporting

### Week 3 (KW 51 – 2024)

* Implement **TransactionHistory** to display all transactions and integrate Singleton and Observer patterns.
* Implement **ReportSummary** to generate reports and integrate Singleton, Observer and Strategy patterns.
* Implement **ExpenseSummary** to display categorized expenses and integrate Singleton and Observer patterns.
* Test various strategies for filtering and report generation.
* Test the Observer pattern.

## Milestone 4: User Interface Integration

### Week 4 (KW 52 – 2024)

* Implement a console-based UI to test functionality.
* Add menu options for adding transactions, filtering, generating reports, and managing accounts.
* Display feedback for errors (e.g., failed login attempts, invalid input).
* Test UI interactions with the backend.

## Milestone 5: Settings and Data Persistence

### Week 5 (KW 1 – 2025)

* Implement **Settings.**
* Implement saveData() and loadData() methods in **DataStorage**.
* Integrate the Singleton Database for managing transactions and user accounts.
* Test persistence functionality by saving and reloading transactions and user settings.

## Milestone 6: Final Testing and Optimization

### Week 5 (KW 2 – 2025)

* Perform integration testing to verify that all components work together.
* Optimize database queries for efficiency.
* Identify and fix any bugs.
* Testing user experience and usability.
* Document the codebase for easier maintenance.