DIGT2107: Practice of Software Development

Project Iteration 1.1: Initial Vision and Planning
Course: DIGT2107 – Fall Term 2025
Instructor: Dr. May Haidar
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1. Introduction

Project Name: SmartBudget – Personal Finance Tracker
Team Number: Team #3
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Document Overview:
This document presents the initial vision for our team project. It introduces the problem being solved, the target users, and the high-level goals of the proposed software system. It also provides a broad outline of feature categories and an initial plan for upcoming iterations. The details of user stories, use cases, and requirements will be addressed in the next deliverable.

2. Project Vision

Vision Statement:
Our project seeks to develop a **desktop-based personal finance tracker** that addresses the challenges individuals face when managing and understanding their expenses. By providing a user-friendly interface, automated insights, and clear reporting, the system will help users build better financial habits and gain more control over their budgets. The application will be designed with an **offline-first approach**, ensuring reliability and usability without internet connectivity, while leaving the option for **future integration with AI-powered services** to enhance categorization and financial advice.

Problem Statement:
Many individuals struggle to keep track of their daily expenses and often rely on manual spreadsheets or mobile banking apps that lack customization. This makes it difficult to identify overspending, maintain budgets, or understand long-term financial patterns. A lightweight desktop solution that provides personalized expense tracking and analysis can empower users to make informed financial decisions.

Target Users:

- University students who want to track personal expenses on a tight budget.
- Young professionals who wish to monitor spending and build savings habits.
- General users who prefer an **offline, privacy-focused finance tool** rather than cloud-based trackers.

Project Goals:

- Develop a **desktop application with a simple, intuitive interface** using JavaFX.
- Provide **core expense tracking features**, including adding, editing, and categorizing transactions.
- Generate **visual reports and summaries** (charts, monthly breakdowns, budget progress).
- Implement **rule-based smart features** (e.g., category suggestions, alerts for overspending).
- Design the architecture to support **optional AI integration** in later iterations, enabling features such as AI-driven categorization and personalized financial recommendations.

3. High-Level Features

1. **Core Functionality**
    - Expense and income entry with categories, dates, and amounts.
    - Storage of financial data locally (SQLite or JSON).
    - Search and filter functionality for past transactions.
2. **User Experience and Interface**
    - Clean and intuitive desktop GUI built with JavaFX.
    - Simple navigation with forms, tables, and charts.
    - Accessibility considerations (clear fonts, colours, and layouts).

3. **Reporting and Analytics**
    - Generation of summary reports (monthly/weekly).
    - Data visualizations (pie charts, bar charts for spending categories).
    - Budget tracking with alerts for overspending.
4. **Future Enhancements (Optional AI Integration)**
    - AI-based auto-categorization of expenses.
    - Personalized financial insights (e.g., “Your dining expenses increased by 20% this month”).
    - Budget recommendations generated from historical data.

4. Iteration Plan

Iteration 1 (Weeks 1–2: Initial Vision and Planning)

- Define project vision and goals
- Establish high-level feature categories
- Set up a GitHub repository and initial branching structure

Iteration 2 (Weeks 3–5: Requirements and User Stories)

- Develop detailed user stories
- Document functional and non-functional requirements
- Create use case diagrams
- Update backlog and refine scope

Iteration 3 (Weeks 6–9: Initial Development and Testing)

- Implement core data model for transactions and budgets
- Set up initial unit tests
- Develop initial prototype (command-line or minimal GUI)

5. Initial Setup and Repository Structure

GitHub Repository Link:
https://github.com/Hercules-Hawk/smart-budget-personal-finance-tracker

Repository Structure:

- `main` branch: Stable release code.
- `development`: Active development branch.
  `feature` branches: Individual features (e.g., `feature/expense-entry`, `feature/reporting`).