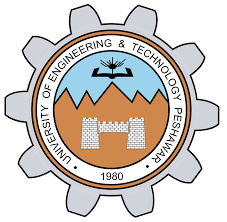
****

**Project Title: Dynamic Personal Budget Simulator**

**Team Members:**

Shajia Amjad (23PWBCS1028, 23pwbcs1028@uetpeshawar.edu.pk)

Maryam Israr (23PWBCS0993, 23pwbcs0993@uetpeshawar.edu.pk)

Anas Ahmad (23PWBCS0980, 23pwbcs0980@uetpeshawar.edu.pk)

Sherjeel Ali (23PWBCS1008, 23pwbcs1008@uetpeshawar.edu.pk)

**Supervisor:** Ms. Kanwal Aneeq

Department of CS & IT, UET, Peshawar

**Semester:** Fall 2025

**Abstract:**

This project aims to develop a Dynamic Personal Budget Simulation system that helps individuals plan, track, and analyze their daily, monthly, and long-term financial goals. Many people face challenges in managing their money due to lack of structured budgeting, unforeseen expenses, and limited financial literacy. The proposed solution allows users to set up a monthly budget, record daily expenses, and dynamically update their finances when unexpected income or expenses occur. The system will also provide statistical insights, gamification features, and long-term savings goals to keep users motivated. The expected outcome is a functional web-based application that offers a user-friendly dashboard, calendar-based expense tracking, and intelligent budget simulations that can adjust dynamically.

**Introduction:**

Managing personal finances is a common challenge for students and professionals alike. Individuals often fail to track daily expenses or plan savings for long-term goals, resulting in financial instability. While there are existing finance management applications, many are complex, lack personalization, or fail to adapt dynamically to changing financial situations. The importance of financial literacy and planning has grown globally as individuals are increasingly responsible for managing their income, expenses, and savings. Current tools often act as static calculators, but do not simulate real-life scenarios such as unexpected income or emergency expenses. Therefore, there is a need for a simple yet intelligent budgeting system that not only tracks money but also simulates how financial decisions impact long-term goals.

**Problem Statement:**

Individuals lack effective tools for simulating personal finance in real-world conditions. Current systems either focus only on expense logging or act as rigid calculators, which do not adapt when sudden income or expenses occur. This gap results in poor financial awareness and missed opportunities for savings. There is a need for a dynamic personal budget simulation system that models financial behavior over time, integrates daily expenses with long-term savings goals, and adapts automatically to changes.

**Objectives:**

* To design and implement a dynamic personal budget simulation system.
* To allow users to set up monthly budgets and categorize expenses (food, transport, shopping, etc.).
* To provide a calendar-based dashboard showing daily spending and monthly trends.
* To include a “quick action” dynamic feature for handling unexpected income or expenses.
* To integrate long-term savings goals and track progress.
* (Optional/Planned) To explore the use of AI/ML for expense prediction and personalized suggestions.

**Scope of the Project:**

The project will deliver a prototype personal finance management system within the semester timeline. It will allow users to set a budget, track daily expenses through a calendar view, use quick actions for unexpected income/expenses, and monitor savings goals. Basic statistics will be included, with AI planned for future integration. The system will be developed using Python and related libraries, requiring only standard hardware (laptops/PCs) and available software tools. Large-scale deployment and real-time bank integrations are not included.

**Proposed Solution/ Methodology:**

The system will be developed as a web application with the following modules:

1. User Setup – Collects monthly budget, categories, and long-term goals.

2. Dashboard – Displays total budget, calendar with daily expenses, and quick access to statistics.

3. Quick Actions – Enables users to add unexpected income/expenses dynamically.

4. Goal Tracking & Gamification – Shows user progress toward long-term savings goals.

The project will use the following tools:

Frontend: HTML, CSS, JavaScript (for UI and calendar).

Backend: Python (Django framework).

Database: MySQL (for storing users, expenses, goals).

Version Control: GitHub (for collaboration).

(Optional) AI/ML with Python libraries for predictive analysis (if time permits).

**Stakeholders:**

* Primary Stakeholders: End users (students, individuals managing personal finances).
* Secondary Stakeholders: Project team (developers), Supervisor/Department.

**Expected Outcomes:**

* A working prototype of the Dynamic Personal Budget Simulation system.
* A functional dashboard with calendar-based financial tracking.
* Ability to simulate budget changes dynamically with quick actions.
* Progress tracking toward long-term goals.
* Improved user awareness of financial planning and savings habits.

**References:**

[1] M. I. R. Uyanahewa, G. V. H. D. Jayawardana, M. B. D. N. Bandara, H. A. V. V. Hapugala, B. Attanayaka, and D. Nawinna, “WONGA: The Future of Personal Finance Management – A Machine Learning-Driven Approach for Predictive Analysis and Efficient Expense Tracking.