

Team 4 (PennyPal)

1. Tasneem Iqbal

- o **Student ID:** 033181614
- o **CSULB Email:** tasneem.iqbal01@student.csulb.edu

2. Allison Adoum

- o **Student ID:** 033465755
- o **CSULB Email:** allison.adoum01@student.csulb.edu

3. Kent Do

- o **Student ID:** 031089810
- o **CSULB Email:** kent.do01@student.csulb.edu

4. Jean Guedes Sobreira

- o **Student ID:** 030840561
- o **CSULB Email:** jeanguedessobreira01@student.csulb.edu

5. Frankie Guzman

- o **Student ID:** 032919664
- o **CSULB Email:** frankie.guzman01@student.csulb.edu

Preface

Version	Date	Changes
1.0	3/18/2025	Initial Version
1.1	3/18/2025	Added Glossary
2.0	5/9/2025	Final version

Purpose

This document serves as a comprehensive guide for the development and understanding of the software project titled "PennyPal".

Audience

The intended audience of this document includes project stakeholders, developers, testers, and anyone involved in the project lifecycle.

Introduction

Project Overview

PennyPal is a web-based **Personal Budget Management System** that helps users track expenses, set budgets, and achieve financial goals. It offers real-time insights and alerts to ensure better control over spending.

Project Goals

- **Simplify Budget Management** – Provide an intuitive web interface for users to easily track income, expenses, and savings goals.
- **Enhance Financial Awareness** – Offer detailed insights and visual reports to help users analyze spending patterns and make informed decisions.
- **Promote Financial Discipline** – Enable budget alerts and notifications to prevent overspending and encourage consistent savings habits.

Glossary

- **Budget:** A financial plan that helps users allocate their income towards expenses and savings.

User Requirements and Use Cases

User Stories

1. As a business owner, I want to securely log in so that my financial data remains protected.
2. As a freelance bartender, I want to add income and expenses so that I can keep track of my financial activities.
3. As a recently married man, I want to categorize my transactions so that I can better understand where my money is going.
4. As a travel influencer, I want to set a budget so that I can control my spending.
5. As a treasure hunter, I want to receive notifications when I am close to exceeding my budget so that I can adjust my spending habits.
6. As a future homeowner, I want to set and track savings goals so that I can stay motivated and work toward achieving them.
7. As a statistics professor, I want to view visual reports and analytics so that I can analyze my spending trends over time.
8. As a busy student, I want to sign in with google to save time.
9. As a film reviewer, I want to be able to delete my income as it keeps fluctuating.
10. As an elderly man, I want an alert to show if I have an account or not since I forget when I have signed up for different websites.

Use Case: Adding a New Product

Identifier	Add Expense
Goal	Allow the user to add a new expense entry to their budget.
Requirements	The system must update the budget balance accordingly.
Initiating Actor	User
Participating Actor(s)	System
Pre-conditions	User is logged in
Post-conditions	Notifications or warnings are issued if a budget limit is exceeded.
Included Use Case(s)	Validate expense input
Extension(s)	Edit expense

Table 1: Typical Course of Action

Seq#	Actor's Action	System's Response
1	Enter expense description	
2	Enter value	
3	Submit	
4		Checks submitted information
5		Determines if information is valid
6		Commits user information to user database
7		Displays confirmation message stating "Expense logged successfully"

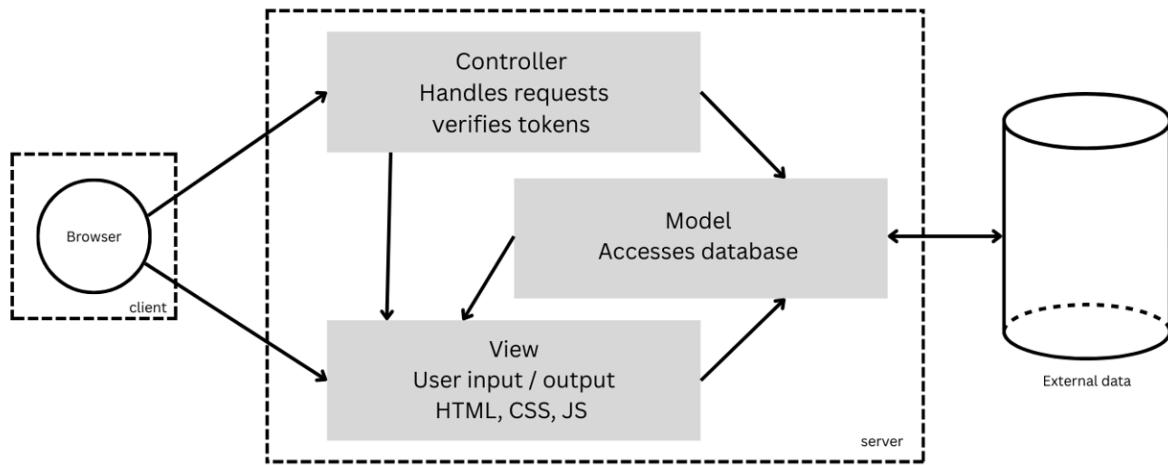
Table 2: Alternate Course of Action

Seq#	Actor's Action	System's Response
1	Enter expense description	
2	(Did not enter value)	
3	Click Submit	
4		Checks submitted information
5		Determines if information is missing
6		Information missing, prompts to enter the required value
7	Enter missing value	
8		Repeat steps 4, 5, and display a success message

Table 3: Exceptional Course of Action

Seq#	Actor's Action	System's Response
1	Enter expense description	
2	Enter values	
3	Does not send (click submit) / Closes app	
4		Waits a time for submission
5		Times out! / Logged out!
6	Reopens app	
7		Display message: "Information was not submitted, please restart."

System Architecture



Components

1. User Management: Handles registration, login, profile settings, and authenticates users.
2. Expense Tracker: Adds, edits, and deletes expenses.
3. Income Manager: Records income sources and updates budget balance accordingly.
4. Budget Planner: Tracks usage and alerts on overspending.
5. Reports & Visualization: Displays charts and summaries of spending.
6. Notifications: Sends alerts for overspending or due dates.
7. Database: Stores user, expense, income, and budget data.

Deployment Diagram

