成都理工大学中英合作办学
CDUT Sino-British Collaborative Education

OXFORD BROOKES UNIVERSITY

UNDERGRADUATE PROJECT PROPOSAL

Project Title:	**Comprehensive Personal Expenses Tracking System**
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Module Code:	**CHC 6096**
Module Name:	**Project**
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1 Introduction

1.1 Background

As people's lives continue to enrich, effective management of personal finances is a common concern. Many people struggle with the complexity of tracking their expenses and income. This challenge stems from the diversity of income sources, expenditure diversity, and the necessity of maintaining financial stability (Gupta et al., 2020). In order to address these common financial difficulties and enable individuals to timely view their income and expenditure status and control their financial situation, I hope to develop a web-based database management system (DBMS) aimed at simplifying personal expenditure and income tracking.

1.2 Aim

The purpose of this project is to create an efficient and user-friendly web-based DBMS to simplify personal expense and income tracking, enabling users to easily manage and monitor their financial transactions.

1.3 Objectives

The objectives are as follows:

(1) Complete a background check on personal expenditure and income tracking websites.
(2) Understand the technology required for the website and determine project requirements.
(3) Design an intuitive interface for users to access and use easily.
(4) Implement login and registration functions.
(5) Implement cost recording function.
(6) Implement expense classification function and customize expense categories.
(7) Implement user fee suggestion function to help users spend within a reasonable range.
(8) Carry out test.
(9) Present the work to the audience.

1.4 Project Overview

1.4.1 Scope

This project aims to create a web-based DBMS that will serve as a comprehensive platform for individual expense and income tracking. The software will facilitate expense recording, categorization and provide user consumption suggestions. It will simplify the process of tracking and managing finances, enabling people to achieve financial stability and timely control of personal expenses as a tool.

1.4.2 Audience

This product is suitable for those seeking convenient and efficient solutions to track and manage personal finances, including company, students, working professionals, entrepreneurs, and anyone who hope to have a clear understanding of their own expenses and have a clear plan for their consumption.

2 Background Review

The Comprehensive Personal Expenses Tracking System helps to manage our income and expenses on a daily or regular basis, or to remind us at any time (Gomathy, 2022).

From the comparison, it can be seen that various accounting websites have developed relatively complete functions in add bill, view bill, modification of bill information, and bill report, indicating that these functions are basic functions at the same level as login and registration. However, the

import bill data and account information management functions do not cover all platforms, indicating that these functions are secondary. Most platforms do not implement the bill data analysis and synchronize bank card information function, which means that this function is a subsidiary function with low importance. The comparison is shown in Table 1.

Website name / Website Features	Zoho Expense	Sui shouji	Wa cai	Ai jizhang
Add bill	√	√	√	√
View bill	√	√	√	√
Modification of bill information	√	√	√	√
Bill data analysis	√	N/A	N/A	N/A
Import bill data	√	N/A	N/A	√
Bill Report	√	N/A	√	√
Account Information Management	N/A	√	N/A	√
Synchronize bank card information	√	N/A	N/A	N/A

Table 1:Features Comparation

3 Methodology

3.1 Approach

Software development model:

With Waterfall Model, the logical implementation is separated from the physical implementation with structured analysis and design methods. In this project, the software life cycle is divided into seven basic activities: requirements gathering, design, implementation, testing, deployment, evaluation, operation maintenance. As shown in the figure 1.

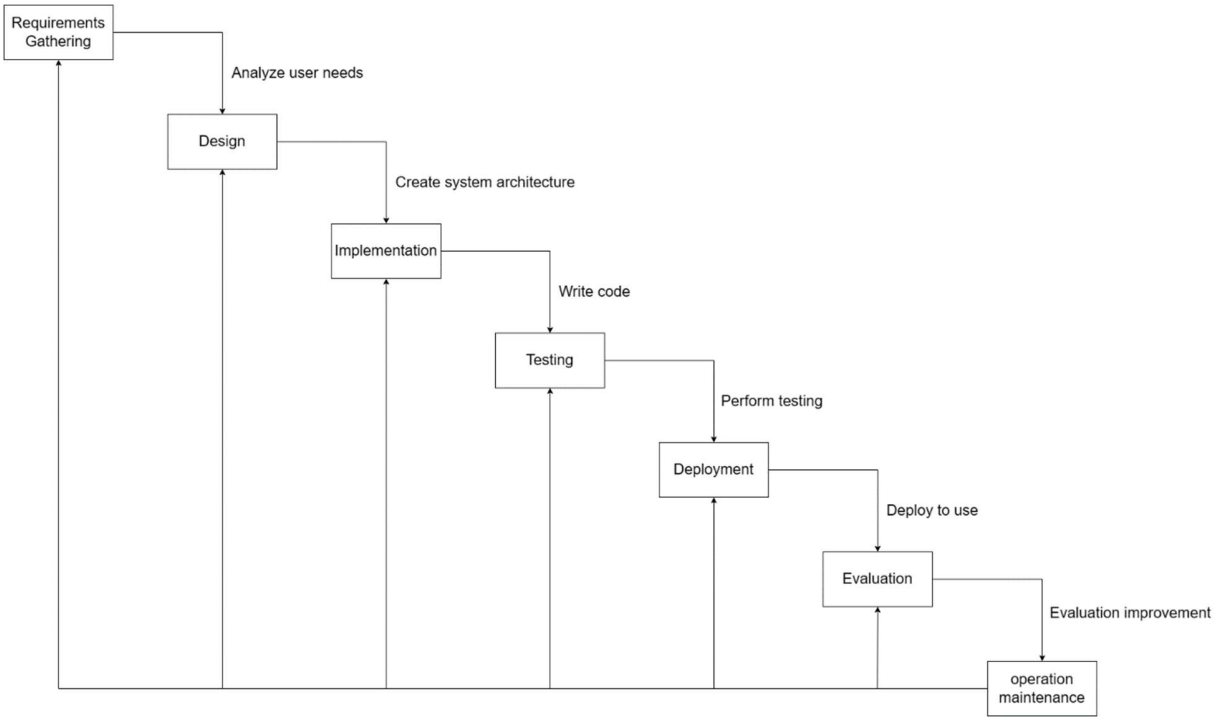

Figure 1. Software Development - Waterfall Mode

Our approach will involve the following key steps:

1) Requirement Gathering: We will conduct interviews and surveys with potential users to collect their input and preferences.
2) Design: Create wireframes and mockups to visualize the user interface and overall system architecture.
3) Development: Implement features according to user stories and iterative sprints.
4) Testing: Conduct regular testing, including unit testing, integration testing, and user acceptance testing.
5) Deployment: Regularly deploy updates to a test environment for user feedback and then to a production environment.
6) Evaluation: Collect user feedback, measure system performance.
7) Operation maintenance: Make system changes and maintenance based on user feedback.

Requirement Gathering Method:

1) User survey: Conduct a survey to gather valuable insights from potential users. These surveys aim to understand their specific needs, preferences, and difficulties related to tracking personal expenses and income.
2) User Interviews: Engage in one-on-one or group interviews with representative users to gain a deeper understanding of their requirements.

Testing:

1) Unit Testing: Individual components and modules will undergo unit testing to verify their correctness and functionality.
2) Integration Testing: Test the interaction between different system components to ensure they work consistently.

Evaluation Process:

1) User Feedback Collection: We will actively collect user feedback through the system's user interface. Users can report issues, provide suggestions, and express their overall experience.
2) Performance Metrics: We will gather performance metrics such as system response times, error rates, and system uptime to assess the system's reliability and efficiency.

3.2 Technology

The technology used in this project are as follows:

1) Hardware: Lenovo y7000p.
2) Software: PyCharm, MySQL, Navicat, Microsoft Edge.
3) Operating system: Windows 10.
4) Visualization technology: ElementUI, Canvas, Excel.
5) Background frame：Spring, SpringMVC, MyBatis.

3.3 Version management plan

Use Git repository to manage version.

The URL: https://github.com/Duinnn/202018020316_Project.git

4 Project Management

4.1 Activities

Objective	Task
Complete a background check on personal expenditure and income tracking websites	1) Research and review existing personal finance tracking websites. 2) Document key features and shortcomings.
Understand the technology required for the website and determine project requirements	1) Identify the technology stack for front-end and back-end development. 2) Gather and document project requirements based on user feedback and research.
Design an intuitive interface for users to access and use easily	1) Create wireframes and mockups for the user interface.
Implement login and registration functions	1) Develop user registration functionality. 2) Create a secure login system.
Implement cost recording function	1) Develop the functionality for users to record their expenses and income.
Implement expense classification function and customize expense categories	1) Create a system for categorizing expenses and allow users to customize categories.
Implement user fee suggestion function to help users spend within a reasonable range	1) Develop a feature that provides spending suggestions to users based on their financial situation.
Carry out test	1) Conduct various testing types, including unit testing, integration testing, and user acceptance testing.
Present the work to the audience	1) Organize presentations to showcase the project to the target audience.

Table 2.Activities

4.2 Schedule

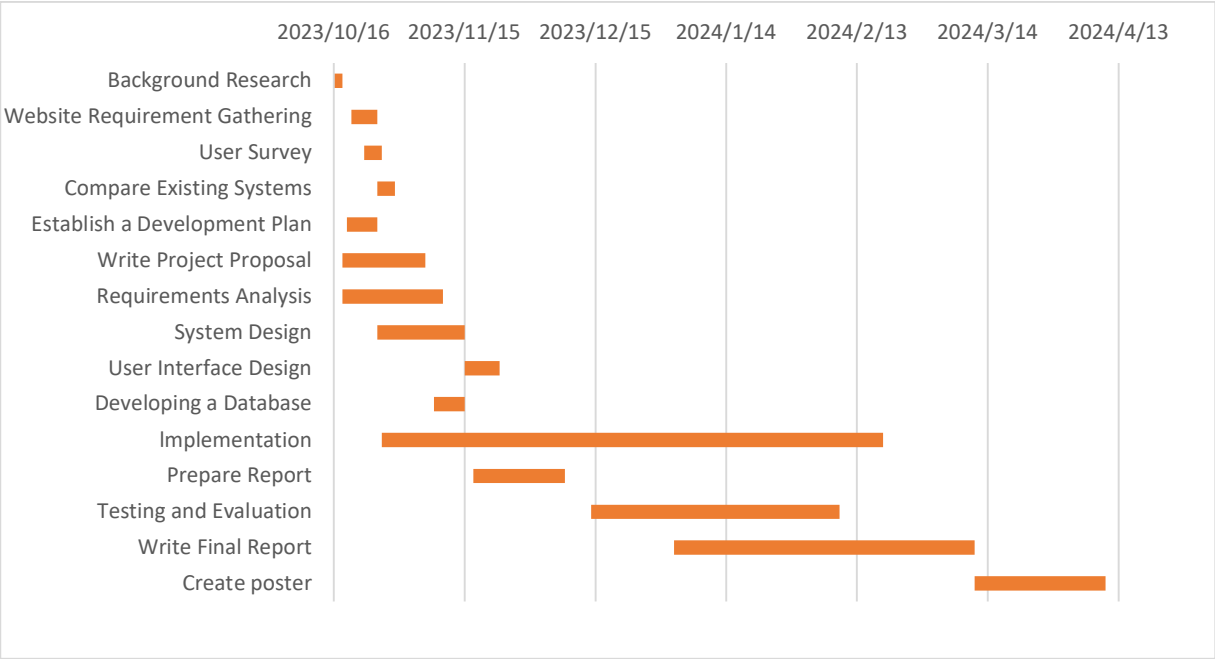

Figure 2. Project Gantt Chart

4.3 Data management plan

I will describe how I use Git to manage my project files according to Table 3:

1) Upload the project code to the Code folder
2) Upload the Final report material to the Final report folder
3) Upload the used literature to the Literature folder
4) Upload the other materials such as videos, voice, websites to the Other folder
5) Upload the presentation material to the Presentation folder
6) Upload the weekly report to the Weekly report folder

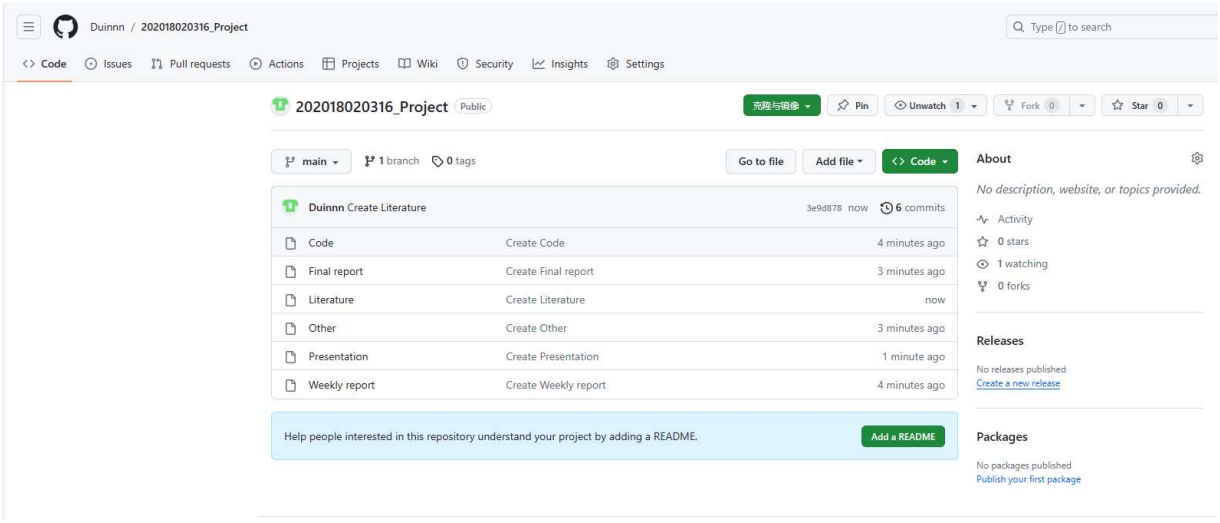

Figure 3.Data Management with Git

4.4 Project Deliverables

The following files would be submitted for assessment:

1) Project proposal
2) Progress Report
3) Weekly Reports
4) Final Project Report
5) Project Code
6) Presentation: slide, poster and video

5 References

Gomathy, C K. (2022) 'EXPENDITURE MANAGEMENT SYSTEM', *ENGINEERING, COMPUTING & ARCHITECTURE*, pp.182-184. Available at: https://www.researchgate.net/publication/360620084_EXPENDITURE_MANAGEMENT_SYSTEM, (Accessed: 27 October 2023).

Gupta, Hrithik. et.al. (2020) 'Expense Tracker : A Smart Approach to Track Everyday Expense', Available at: https://easychair.org/publications/preprint/73S7, (Accessed: 27 October 2023).