

# ExpenseTracker Project Report

## Introduction

The ExpenseTracker is a modern iOS application designed to assist users in managing their personal finances by tracking and analysing their expenses. Built with SwiftUI, the application offers a seamless and intuitive user experience.

## Objectives

The primary goal of ExpenseTracker is to enable users to easily monitor their financial habits, categorise transactions, and access financial insights through visually appealing charts and summaries.

## Technologies Used

- **SwiftUI**: Used for building the user interface with a focus on declarative syntax and state-driven design.
- **SwiftUICharts**: Leveraged for generating interactive and responsive charts to visualise financial data.
- **Combine**: Utilised for managing asynchronous events and data streams within the application.

## Implementation Details

ExpenseTracker includes features such as a comprehensive transaction list, categorized views of expenses, and dynamic charts that represent spending patterns over time. Key components include the `ContentView`, which serves as the hub for navigation and visualisation, and the `TransactionListViewModel` for managing state and business logic.

## Challenges Faced

Challenges included handling asynchronous data fetching and state management efficiently within SwiftUI's reactive framework. Ensuring smooth UI updates without performance degradation was a critical focus.

## Results and Testing

The application was rigorously tested to ensure accuracy in financial calculations and responsiveness in user interactions. User feedback was instrumental in iterating on design and functionality, enhancing the overall user experience.

## Future Improvements

Plans for future updates include:

- Implementing real-time synchronisation with bank accounts.
- Expanding analytical features to project future spending trends.

- Enhancing the UI for even more intuitive navigation.

## **Conclusion**

ExpenseTracker successfully simplifies personal finance management through a combination of powerful technology and user-centred design, providing a robust tool for financial tracking and analysis.