Software Requirements Specification (SRS) for Reverse Budgeting App

**Version 1.0** **Date: March 6, 2025**

Contents

[Introduction 2](#_Toc192163799)

[Purpose 2](#_Toc192163800)

[Document Conventions 2](#_Toc192163801)

[Intended Audience and Reading Suggestions 2](#_Toc192163802)

[Project Scope 2](#_Toc192163803)

[References 2](#_Toc192163804)

[Overall Description 2](#_Toc192163805)

[Product Perspective 2](#_Toc192163806)

[Product Features 3](#_Toc192163807)

[User Classes and Characteristics 3](#_Toc192163808)

[Operating Environment 3](#_Toc192163809)

[Design and Implementation Constraints 3](#_Toc192163810)

[User Documentation 3](#_Toc192163811)

[Assumptions and Dependencies 3](#_Toc192163812)

[System Features 3](#_Toc192163813)

[System Feature 1: User Authentication 3](#_Toc192163814)

[System Feature 2: Transaction Synchronization 3](#_Toc192163815)

[System Feature 3: Budget Recommendation 4](#_Toc192163816)

[System Feature 4: Investment Suggestions 4](#_Toc192163817)

[External Interface Requirements 4](#_Toc192163818)

[User Interfaces 4](#_Toc192163819)

[Hardware Interfaces 4](#_Toc192163820)

[Software Interfaces 5](#_Toc192163821)

[Communications Interfaces 5](#_Toc192163822)

[Other Non-Functional Requirements 5](#_Toc192163823)

[Performance Requirements 5](#_Toc192163824)

[Security Requirements 5](#_Toc192163825)

[Other Requirements 5](#_Toc192163826)

[Legal Requirements 5](#_Toc192163827)

# Introduction

### Purpose

The purpose of this document is to provide a detailed description of the Reverse Budgeting App. This document will lay out the functionality, interfaces, and requirements for the system, which integrates with HDFC Bank’s API to facilitate automatic budget management based on user transactions.

### Document Conventions

This document follows the standard SRS outline as prescribed by IEEE SRS format.

### Intended Audience and Reading Suggestions

This document is intended for the development team, the project manager, and the client who is sponsoring the software project. It is also a reference for anyone who wants to understand the Reverse Budgeting App’s technical specifications.

### Project Scope

The app will allow users to automatically manage their budgets by linking directly to their HDFC Bank accounts, fetching transaction data, and using this data to make financial recommendations.

### References

* HDFC Bank API Documentation
* IEEE SRS Format Guidelines

# Overall Description

### Product Perspective

The app is a standalone system that serves as a financial management tool for individuals. It interfaces with HDFC Bank’s APIs to retrieve transaction data and uses proprietary algorithms to suggest budgets and investments.

### Product Features

* Secure user authentication
* Real-time transaction updates
* Automated budget suggestions based on spending habits
* Investment recommendations

### User Classes and Characteristics

* Regular users who need assistance in managing their personal finances.
* Users ranging from young adults to elderly who have a bank account with HDFC.

### Operating Environment

The app will operate on both Android and iOS devices. It requires internet connectivity to access HDFC Bank’s APIs.

### Design and Implementation Constraints

* The app is dependent on the availability and responsiveness of HDFC Bank’s API.
* Must comply with data protection laws and financial regulations.

### User Documentation

* Online help documentation
* FAQs on the website

### Assumptions and Dependencies

* Users have an active internet connection.
* HDFC API is fully functional and available.

# System Features

### System Feature 1: User Authentication

Description: The app will provide a secure authentication system for users to access their accounts. This feature will support single sign-on (SSO) capabilities with popular services such as Google to facilitate easy and secure logins.

#### Functional Requirements:

1. The system shall allow users to register using their email address.
2. The system shall allow users to log in using their registered email and password.
3. The system shall support authentication via Google SSO.
4. The system shall implement password recovery mechanisms for users who forget their password.

### System Feature 2: Transaction Synchronization

Description: This feature involves the integration with HDFC Bank’s API to fetch real-time transaction data. This data will be used to analyze user spending and provide budgeting insights.

#### Functional Requirements:

1. The system shall securely connect to HDFC Bank’s API using OAuth 2.0 for user authorization.
2. The system shall fetch transaction data every 24 hours.
3. The system shall categorize transactions into predefined categories such as groceries, entertainment, and utilities.
4. The system shall provide users with the ability to manually categorize transactions that have not been automatically categorized.

### System Feature 3: Budget Recommendation

Description: Based on the transaction data, the app will automatically suggest monthly budgets for various categories. It will use historical data to forecast future spending and suggest adjustments.

#### Functional Requirements:

1. The system shall analyze past transaction data to suggest monthly budgets for each category.
2. The system shall allow users to set budget limits for any category.
3. The system shall alert users when they are nearing or exceeding their budget limits.
4. The system shall provide visual representations of budget usage (e.g., graphs and charts).

### System Feature 4: Investment Suggestions

Description: The app will suggest potential investment opportunities based on the user’s savings and financial goals. This feature will integrate data from various financial sources to provide personalized investment advice.

#### Functional Requirements:

1. The system shall analyze the user's financial profile to suggest suitable investment opportunities.
2. The system shall provide details on mutual funds, stocks, and other investment options.
3. The system shall allow users to set preferences for risk tolerance and investment types.
4. The system shall update investment recommendations based on market changes.

# External Interface Requirements

### User Interfaces

1. The app shall provide a user-friendly interface compatible with both Android and iOS platforms.
2. The app shall display notifications for budget alerts and investment updates.

### Hardware Interfaces

1. The app requires no specific hardware interfaces but must run on devices capable of supporting iOS and Android operating systems.

### Software Interfaces

1. The app shall interface with HDFC Bank’s API for transaction data.
2. The app may integrate with third-party services like Yahoo Finance for accessing investment data.

### Communications Interfaces

1. The app shall use HTTPS for all communications to ensure data security.

# Other Non-Functional Requirements

### Performance Requirements

1. The app shall complete most operations within 4 seconds under typical conditions.

### Security Requirements

1. All data transmitted and stored by the app shall be encrypted using industry-standard

# Other Requirements

### Legal Requirements

1. The app shall comply with all local data protection laws including GDPR where applicable.
2. The app shall comply with