User Required Specification

Home Loan Monitor

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ITPR7.508 Business Application Programming

Document Approvals

We are pleased to present this document for the approval of the mortgage calculator software project. The client has agreed to the scope of work for customizing and implementing the mortgage calculator software.

**Sign-Off: Project Client**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
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# Section 1. Introduction

## Objective

This document outlines the requirements and expectations for the development of a system to manage mortgages, from initial setup to ongoing maintenance and reporting.

## Purpose

The purpose of this user requirement is to define the functionality, behaviour, and data management of the home loan monitor, providing a clear understanding of the system’s capabilities and user interactions.

The home loan monitor is designed for users to track their mortgages, update existing ones, and create transaction reports. The ultimate goal is for users to track how much they will be able to save on interest by making extra payments and to see the difference between each transaction.

## Background information

The home loan monitor is a project created for learning purposes as part of our course. The goal is to get hands-on experience with building software and managing projects. Our lecture will be on the role of the project client for the home loan monitor.

## Subject Scope

The home loan monitor will contain the following key functionalities:

1. *Initial set-up:*

* Users can input principal amounts, interest rates, term years, additional costs, and deposits to initiate a mortgage.

**Scope:** This functionality covers the setup process for creating a new mortgage with all the necessary details required for calculation and management.

* Make sure that users can easily navigate through this setup process and that it accommodates various types of mortgages and inputs.

1. *Update mortgage:*

* Users have the ability to modify existing mortgage details, including changing dates, principals, interest rates, terms, overriding payments, and adding comments to transactions.

**Scope:** This functionality allows users to make changes to existing mortgages, providing flexibility to accommodate changes in financial circumstances or terms of the loan.

* Make sure that the system accurately reflects any changes made by users.

1. *Transaction reporting: the system:*

* The system will generate transaction reports, providing users with their mortgage activities and financial obligations.

**Scope:** This functionality involves generating detailed reports that summarize mortgage transactions, helping users track their payment history, outstanding balances, and other relevant financial information.

* Make sure the reports are easy to understand and allow users to insight into their mortgage transactions.

1. *Mortgage editing:*

* Users can edit mortgage details, such as adjusting dates to accommodate extra payments or deleting payments as needed.

**Scope:** This functionality enables users to make adjustments to specific aspects of their mortgage agreements, such as payment schedules or loan terms, to better suit their needs or preferences.

* Make sure proper validation to prevent erroneous changes and maintain data accuracy and consistency.

1. *Authentication:*

* Users can create an account to store their transactions as well as change their username and password.

**Scope:** This functionality involves implementing user authentication and account management features.

* Make sure that users can easily manage their accounts without encountering any usability issues.

1. *Visualization chart:*

* Provide a graphical chart to visually represent key mortgage data and changes.

**Scope:** Implement a graphical chart feature within the system interface to display important metrics such as the amortization schedule, loan balance over time, or payment breakdown (principal vs. interest).

## Project Excludes

1. *Complex mortgage type:*

* Adjustable-rate mortgages (ARMs) with various index rates and margins, will be excluded for simplicity.

**Scope:** The project will focus on standard mortgage types and will exclude complex mortgage variations for simplicity and clarity.

1. *Deployment:*

* The actual deployment of the website onto designated servers.

**Scope:** The project will focus on developing the website and its functionalities but will not involve the deployment process onto live servers.

1. *SEO services:*

* Extensive SEO services such as keyword research, on-page optimization, or link building.

**Scope:** The project will not include SEO services beyond basic considerations for website visibility. Specific SEO tasks will be excluded from the scope.

1. *Maintenance and updates:*

* The necessary maintenance and updates for the software post-project completion.

**Scope:** Post-project maintenance and updates will not be covered under this project. This includes ongoing software support and updates.

1. *Advanced financial analysis:*

* Advanced financial analysis beyond basic mortgage calculations, such as investment analysis, risk assessment, or portfolio management.

**Scope:** The project will focus solely on basic mortgage calculations and will not include advanced financial analysis features.

1. *Legal advice:*

* Legal advice related to mortgages, including contract terms, legal obligations, or regulatory compliance.

**Scope:** Users will need to seek legal advice from professionals for any legal matters related to mortgages.

1. *Tax advice:*

* Tax advice or calculations of property taxes.

**Scope:** Users will need to consult with tax professionals or refer to relevant tax regulations for any tax-related matters.

1. *Integration with external systems:*

* Integration with banking systems, financial institutions, or real estate databases.

**Scope:** The project will not include integration with external systems beyond the scope of basic mortgage functionalities.

# Section 2. Analysis/ Reflection of Business Issues

## 2.1 Overview of Business Issues

The main purpose of this software is to develop a mortgage calculator capable of tracking multiple transactions and providing insights into mortgage maturity. We have decided to use a programming language to develop this software throughout the entire project.

We will provide software design description documentation to provide more in-depth technical information. From the users' views and expectations, the ultimate goal is to be able to track multiple mortgages and figure out how much actual savings can be achieved by making extra payments.

For each functionality:

1. The first stage of initial set-up:

* Analysis: The initial setup process is crucial as it sets the foundation for the entire mortgage management system. Users need to input key details accurately to ensure the calculations and management of their mortgage are done correctly.
* Reflection: To address this business issue the system must prioritize simplicity and straightforwardness in the setup process. Providing clear guidance and validation checks can help mitigate errors and ensure users start their mortgage journey smoothly.

1. Update mortgage:

* Analysis: Changes in financial circumstances or loan terms are common occurrences for mortgage holders. Users need the flexibility to update their mortgage details easily and accurately within the system.
* Reflection: The system needs to empower users with the ability to make these updates. Ensuring that changes are reflected accurately.

1. Transaction reporting:

* Analysis: Transaction reports provide users with insights into their payment history and remaining balances.
* Reflection: Generating detailed and comprehensible transaction reports is important for users to track their historical data and they will be able to get insights from the reports.

1. Mortgage editing:

* Analysis: Mortgage agreements may need adjustments over time to accommodate changes in circumstances or preferences. Users require the ability to edit specific details of their mortgage while maintaining data accuracy and consistency.
* Reflection: Implementing editing features is essential to meet users' needs.

1. Visualization chart:

* Analysis: Visual representations of mortgage data can enhance users' understanding of their financial status and payment trends. Users require graphical charts that provide clear insights into their mortgage details.
* Reflection: Implementing visual charts can enhance user experience and engagement.

1. Authentication:

* Analysis: Users need a process to create and manage their accounts.
* Reflection: Building an authentication system that allows users to log in, log out, change passwords, and delete accounts is essential.

1. Personalization:

* Analysis: Users should have the flexibility to edit or delete historical transactions to ensure the accuracy of their financial records.
* Reflection: Users with full control over their dashboard and mortgage details and implement user-friendly editing and deletion options for historical transactions, allowing users to easily make changes as needed.

1. Intuitive interface:

* Analysis: An intuitive interface is important for ensuring that users can easily navigate the mortgage management system and access its features without confusion.
* Reflection: We need to conduct usability testing and gather feedback from users to identify any pain points or areas of confusion. Based on this feedback, we can refine the interface design to ensure that it meets users' needs and expectations. Regular usability evaluations and updates are essential to maintain the system's usability over time.

# Section 3. Program Specifications

# Section 4. Conclusion