Gryffinbank - Loan App

TECHNICAL DESIGN DOCUMENT

|  |  |
| --- | --- |
| **Author** | Zadkiel Rodriguez Alvarado |
| **Last Updated** | 5/5/2024 3:37 PM |
| **Version Number** | 1.0.0 |

**Version History**

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Date | Reason for Change | Version |
| Zadkiel | 05/04/2024 | New document format | 1.0.0 |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

Table of Contents

[SECTION 1: INTRODUCTION 3](#_Toc32226123)

[1.1. Purpose 3](#_Toc32226124)

[1.2. Terminology 3](#_Toc32226125)

[1.3. User Personas 3](#_Toc32226126)

[1.4. User Stories 3](#_Toc32226127)

[1.5. Time Estimations 3](#_Toc32226128)

[SECTION 2: PROCESS DESIGN 4](#_Toc32226129)

[2.1. Prototypes 4](#_Toc32226130)

[2.2. ORD (Object Relational Diagram(s) 4](#_Toc32226131)

[2.3. NoSQL Document Diagram 4](#_Toc32226132)

[2.4. NoSQL Data Structure 4](#_Toc32226133)

[SECTION 3: QA TESTING 4](#_Toc32226134)

[3.1. QA Test Plan 4](#_Toc32226135)

[3.2. Unit Tests 4](#_Toc32226136)

[SECTION 4: REFERENCES 5](#_Toc32226137)

# SECTION 1: INTRODUCTION

## Purpose

Loan app is an application Gryffinbank offers their customers to verify their monthly payments with the total interest they will pay on the loan. The customers just need to input their loan amount, interest rate, and the number of years. Then the loan app will calculate and show them the results.

## Terminology

|  |  |
| --- | --- |
| **Name** | **Comments** |
| MEAN Stack | MongoDB and Angular |
| VS Code | Development IDE |
| MongoDB Compass | Database development IDE |
| Angular Material | <https://material.angular.io/> |
| Flex-layout | <https://github.com/angular/flex-layout> |
| Font-Awesome Icons | <https://fontawesome.com/icons> |

## User Personas

Persona 1:

A person standing in front of a white card

Description automatically generated

Persona 2:

A screenshot of a computer

Description automatically generated

Persona 3:

A person with a beard and mustache

Description automatically generated

## User Stories

|  |  |
| --- | --- |
| Name | User Stories |
| Grace Porter | As a young professional managing my finances, I want to compare different loan options in the app to choose the most suitable one based on monthly payments and total interest. |
| As a recent graduate with student loans, I want to adjust my budget in the app to see how different loan terms affect my finances so that I can make informed borrowing decisions. |
| As a responsible borrower, I want to view a detailed payment schedule in the app to stay on track with my loan repayments and avoid missing deadlines. |
| Connor Smith | As a college student with limited time, I want to easily input loan details into the app and receive quick calculations of monthly payments and total interest to make decisions on the go. |
| As a part-time worker with irregular income, I want to explore flexible repayment options in the app, such as adjusting the loan term or making extra payments, to manage my finances more effectively. |
| As a young adult learning financial management, I want the app to provide educational resources on loans and interest rates to improve my financial literacy and make informed borrowing decisions. |
| Victor Ortiz | As a small business owner planning for expansion, I want to analyze different loan scenarios for my business in the app so that I can assess the financial implications and choose the most suitable option. |
| As a business owner seeking professional advice, I want the app to facilitate collaboration with my accountant or financial advisor so that I can receive expert guidance on loan decisions and financial planning. |
| As a business owner applying for a loan, I want the app to streamline the approval process by providing guidance on required documents and submitting applications electronically so that I can access financing quickly and efficiently. |

## Time Estimations

|  |  |  |
| --- | --- | --- |
| **Name** | **Work Estimation** | **Work Effort Estimate** |
| Grace Porter | This story involves implementing a loan comparison feature, allowing users to input multiple loan scenarios, and displaying the differences in monthly payments and total interest. | 8 Points |
| This story involves integrating a budget adjustment feature into the app, enabling users to simulate changes in loan terms and visualize the impact on their monthly expenses. | 5 Points |
| This story involves developing a payment schedule feature, generating a timeline of loan payments based on user input, and providing reminders for upcoming payments. | 3 Points |
| Connor Smith | This story involves optimizing the loan input process for efficiency and implementing fast calculations to provide instant results to users. | 3 Points |
| This story involves integrating flexible repayment features into the app, allowing users to customize their loan terms and payment schedules according to their financial situation. | 8 Points |
| This story involves developing a financial education section within the app, curating informative articles or tutorials on loan concepts, and ensuring easy access for users. | 5 Points |
| Victor Ortiz | This story involves adapting the loan analysis features to meet the needs of small businesses, including factors such as revenue projections and tax implications. | 13 Points |
| This story involves implementing collaboration tools within the app, such as secure messaging or document sharing, to facilitate communication between users and their financial advisors. | 8 Points |
| This story involves developing a loan application feature within the app, guiding users through the required steps, and automating document submission to lenders. | 13 Points |
|  |  | 66 Total Points |

# SECTION 2: PROCESS DESIGN

## 2.1. Prototypes

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

A screenshot of a browser

Description automatically generated

A screenshot of a contact us page

Description automatically generated

## 2.2. ORD (Object Relational Diagram(s)

A black background with a black square

Description automatically generated with medium confidence

## 2.3. NoSQL Document Diagram

## 2.4. NoSQL Data Structure

# SECTION 3: QA TESTING

## 3.1. QA Test Plan

## 3.2. Unit Tests

# SECTION 4: REFERENCES

Ninjamock. (2024) Ninjamock: Online Wireframe and Prototyping Tool. <https://ninjamock.com/home/index>

Canva. (2024) Canva: Graphic Desing & Video Editing Tool. <https://www.canva.com/>