Loan App

TECHNICAL DESIGN DOCUMENT

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# SECTION 1: INTRODUCTION

## Purpose

This application will give users the ability to track their financial goals by planning payments on outstanding loans. Users can input all loan information including: interest, length of loan, and principle. The result will show what their projected monthly payment is and how much interest they will have paid by making only that minimum payment each month. There will also be pages for the users to learn about House Hufflepuff, the creators of the Loan App, and a page they can use to contact us too!

## Terminology

|  |  |
| --- | --- |
| **Name** | **Comments** |
| *MEAN Stack* | *MongoDB, Express, Angular, and Node.js* |
| *VS Code* | *Development IDE* |
| *SoapUI* | *API testing tool* |
| *MongoDB Compass* | *Database development IDE* |
| *Angular Material* | *https://material.angular.io/* |
| *Flex-layout* | *https://github.com/angular/flex-layout* |

Logo

Description automatically generatedDeveloped by House Hufflepuff. We strive for excellence, resiliency, and a look that’ll make all the competitors jealous. We are quite serious about the apps we build but we also like to have fun when doing it and it shows in our creations. The color schemes and layout match that love and playfulness that we have been known for. Keep an eye out for our logo!

## User Personas

A person in a suit and tie

Description automatically generated with low confidence

**Name:** Eric Snyder  
**Persona type:** User  
**DOB:** 02/17/1998  
**Gender:** Male  
**Occupation:** Accountant  
**Skill level:** Intermediate

**Important Features:** Payment/Interest  
Calculation

**Unimportant Features:** About/Contact  
Pages

**Biography:** Eric is a self-employed full-time accountant and would like a simple calculator to show his clients how they can manage their finances better. Being able to calculate payments and total interest quickly are important to him. Eric has no need for the About and Contact pages of the application but when he communicates with clients, he’d make sure they have all available resources in case they would like to learn more about the company and possibly contact them. Eric lives alone in his condo in South Miami and does local one-on-ones with clients (either at their house or the local coffee shop) and for clients out of his area he does conference calls (from his home office).

**Goals:** To open his own storefront where clients can come to him for all their accounting needs.

**Likes:** Sci-fi, Anime, and long walks on the beach

**Dislikes:** large groups of people, reality TV, pets (more specifically pet hair from couches at clients homes that clings to his suit)

**Comments:** Eric is somewhat of a narcissist and loaner but takes great pride in his work. He likes the simplicity presented by the proposed Loan App. This simplicity will make it easy for his clients to use when he is unavailable or anytime they may need.

**User Personas**

A person using a computer

Description automatically generated with medium confidence

**Name:** Jennavicia Morales  
**Persona type:** UI Designer  
**DOB:** 10/08/2004  
**Gender:** Female  
**Occupation:** Full Stack Developer  
**Skill level:** Advanced

**Important Features:** User Interface,  
Functionality

**Unimportant Features:** Contact Page

**Biography:** Jennavicia goes by Jenna and is the youngest staff member at House Hufflepuff. Her bubbly attitude and general sense of curiosity of makes her a great developer. She’s constantly learning and makes and effort to put her personal style into everything she does. She exemplifies everything this company does and would make a great spokesperson if she desired it. Jenna lives in her own apartment just outside the greater Miami area. She chose the area to give herself some space from the busy highways while still close enough to visit her friends and family. She has a small Dachshund named Groot who she absolutely loves.

**Goals:** To be the best developer there ever was.

**Likes:** Family sitcoms, taking Groot out, going out with friends and family at least once a week

**Dislikes:** Being alone, small laptops, computer updates that take forever

**Comments:** Jenna may only be 18 but she has shown great talent with her online portfolio. That’s the exact reason she was hired to be on this team. She is eager to work and learn and we have decided to grant her 100% tuition paid for her online college courses at Bellevue University.

**User Personas**



**Name:** Walter White  
**Persona type:** Product Owner  
**DOB:** 09/07/1958  
**Gender:** Male  
**Occupation:** Loan App Owner  
**Skill level:** Amateur

**Important Features:** All pages and  
all features

**Unimportant Features:** Colors and  
Design Aspects

**Biography:** Walter is a former chemistry teacher and cancer survivor. He would also operate a car wash but that was not his real passion. While his most recent endeavors were a bit of a mystery, he founded House Hufflepuff to facilitate his passion for teaching and learning. Since it’s inception, House Hufflepuff has become more of a software development company funded in cash by very generous anonymous donors. The funding has been so great that Walter has even agreed to provide additional tools, resources, and education for his employees.

**Goals:** To be the man behind the scenes that provides 100% pure products for his clients.

**Likes:** Chemistry, his family, and hanging out with his best friend Jesse

**Dislikes:** Law Enforcement, Airplanes, and his Prius

**Comments:** Walter may be somewhat of a mystery, but he has made great strides in being a better man, both for his family and the greater Miami community since he moved here. Even more impressive is how he is able to fund House Hufflepuff through local donors. The company teaches new developers and builds applications that are free to the general public. Only Walter could have made this possible.

## User Stories

|  |  |  |
| --- | --- | --- |
| User: Eric Snyder | | |
| Story Card | **Work Estimation** | **Time Estimation** |
| As a user, I want a payment calculator, so that I can show my clients how much they are paying each month and overall interest. | 8 | 3 Days |
| As a user, I want a simple form, so my clients are not easily confused. | 3 | 1 Day |
| As a user, I want to be able to alter my monthly payment by changing the length of the loan, so I can show my clients how much money they’d save on interest. | 2 | Hours |

|  |  |  |
| --- | --- | --- |
| UI Designer: Jennavicia Morales | | |
| Story Card | **Work Estimation** | **Time Estimation** |
| As a UI designer, I want pretty colors, so users have a better and accessible interface. | 2 | Hours |
| As a UI designer, I want pretty a functional form, so users are able to get the data they want. | 3 | 1 Day |
| As a UI designer, I want consistency between pages, so users feel like they are still using our service. | 5 | 2 Days |

**User Stories**

|  |  |  |
| --- | --- | --- |
| Product Owner: Walter White | | |
| Story Card | **Work Estimation** | **Time Estimation** |
| As a product owner, I want a loan calculator, so I can show clients how much they must donate. | 8 | 3 Days |
| As a product owner, I want an easy to use interface, so even I can use it. | 3 | 1 Day |
| As a product owner, I want an about and contact page, so anyone can contact us to make their donations. | 8 | 3 Days |

## Time Estimations

Our goal from start to finish is to complete the application within 30 days. While 18 days is certainly under 30 days, it does not account for weekends. Should there be any unexpected issues, we will still be able to complete the Loan App Project ahead of schedule.

|  |  |
| --- | --- |
| Description of work | Time Estimation |
| Story Card 1 | 3 Days |
| Story Card 2 | 1 Day |
| Story Card 3 | Hours |
| Story Card 4 | Hours |
| Story Card 5 | 1 Day |
| Story Card 6 | 2 Days |
| Story Card 7 | 3 Days |
| Story Card 8 | 1 Day |
| Story Card 9 | 3 Days |
| Subtotal | 14 Days |
| Testing | 1 Day |
| Corrections if necessary | 1 Day |
| Testing | 1 Day |
| Finalization/Deployment | 1 Day |
| Total | **18 Days** |

# SECTION 2: PROCESS DESIGN

## 2.1. Prototypes

Graphical user interface, website

Description automatically generated

Graphical user interface, text

Description automatically generated

**Prototypes**

Graphical user interface

Description automatically generated

Prototype can be accessed via:

https://marvelapp.com/prototype/bd4d2a3

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

Diagram

Description automatically generated

## 2.3. NoSQL Document Diagram

*[Covert the above ORD into a NoSQL Document Diagram]*

## 2.4. NoSQL Data Structure

*[Covert the above NoSQL Document Diagram into a NoSQL Data Structure (JSON data)]*

# SECTION 3: QA TESTING

## 3.1. QA Test Plan

*[Weekly Test Cases]*

## 3.2. Unit Tests

*[Images of SoapUI Unit Tests]*

# SECTION 4: REFERENCES

*[APA Reference List]*