**Technical Requirements Specification**

**Project Name:** Mortgage Banking Application

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**Project Description**

The mortgage banking team will have an easy-to-use application to visualize loans in bulk to determine whether certain loans will be able to be kept in a portfolio or not.

**Service Need**

The mortgage banking team has a need for a better and more efficient way to visualize the loans that they are going to be analyzing. Excel has been an effective tool up to this point, but there are certain limitations with Excel that an application can be better suited for. It offers a more selective way of visualizing what is asked, and it is an easier to use program than using Excel for the “first-time-user”.

**Project Purpose & Scope**

The purpose of this project is to deliver an application that will eliminate the need to go into Excel each time and download .zip files from a web server and streamlining the process by using a single URL to achieve the same purpose.

**Technical Challenges & Issues**

The current system that they are using is only consisting of Excel using detailed macros to generate a report. Data has to be scrubbed every time a new data file is downloaded, which causes down time for the team. The current system is a bit slow compared to the technologies that are available.

Tweaking the current system will include the introduction of a remote database and an application server that will serve as a backbone for the system. The application will eliminate the need for using Excel for the most part and serve as a very easy to access tool that will be reachable over Wi-Fi.

**Requirements**

**Functional Requirements**

Primary:

1. Users can visual loans of certain years
2. Users can filter loans
3. Users can download data that they visualize

Secondary:

1. Users can email visualizes to one another

**Technical Requirements**

Primary:

1. Cross-browser / platform support (IE, Firefox, Chrome, Safari – PC and Mac)
2. Mobile support (for advanced smartphones / tablets). I will have to determine the needs / criteria that is needed for the mobile system requirements
3. System will allow changes via the interface fluidly, with little lag time between visualizations

Secondary:

1. Visualizations and reporting
2. The system is going to be built on open source software that will be hosted in the AWS cloud
3. The system is going to be built with an R Shiny app that will be hosted on a web server and backed by a database hosted in the cloud

**Usability Requirements:**

Primary:

1. The system will be fully functional in major browsers
2. The system should support mobile users in some way
3. The system is going to be open to the entire world, so anyone at any time can access it, not just a specific static IP or IP range

Secondary:

1. Beta usability testing should be possible to test if the system meets the feasibility that the team requires

**Project Constraints**:

**Time Constraints:** The system should be up and running in a state by the end of the day on July 5th, 2019 for testing. The system will continued to be worked on to improve visualizations and meet the needs of the mortgage banking team.

**Cost Constraints:** The system is going to be cost free, but there are going to be performance constraints since they are free resources from AWS. The more expensive the assets cost from AWS, the better the performance.

**Scope Constraints:** This project will be dealing with server installation, web application installation, R scripting, R Shiny scripting, and database monitoring/configuration.

**Documentation**

This section will be periodically updated as documents are put together and available online through GitHub.