

# Eagle Credit Union

## Dataset:

<https://github.com/ReydenHarrisPy/CSCE-5300-Project>

## Detail Feature design

- Automation script to run table updates on a weekly basis.
- Robust distributed storage architecture for increased reliability for customer data.
- Relational database to house customer personal and financial information.
- Simplistic UI for customer use.
- Email notification script for enhancing customer awareness.

## Analysis

- All of that information is utilized to build an image of a consumer. We can learn about the customer's behavior from this image.
- The US Mortgage corporation was created to help others to know their account information and loan eligibility.
- I analyzed its 100 customer's dataset and below are the findings.
- Upon the completion of analysis, our team began designing and email alerts to customers with the details of their outstanding balance and last transaction date.
- According to the data, 21 % of the customers have an outstanding balance of above 1 million each, 33% of customers have an outstanding balance of below 0.1 M and 46% of customers have an outstanding balance between 0 M and 1 M.

## **Implementation**

To implement our solution our team members will use big data technologies such as Hue, CassandraDB, HDFS, and Spark.

## **Project Management.**

We are meeting weekly in order to have a stand-up meeting on members' progress. Discussion topics include

## **Status Report**

Work Completed:

Implemented the mail-sending service:

1. The mail-sending service benefits the end user by reducing the stress of updating the mortgage data.
2. The mail notifies the user about the outstanding balance and the last transaction he made.

Implemented the pre-processing:

We are using pyspark to pre process the data and generate csv files that can be used to update the databases.

## **Description:**

- We have created our database schema in the hive and loaded our datasets into the respective tables.
- Our team has also created a login feature for our UI, this will allow our users to check their balance at any time they wish.
- We also have an email push notification script that updates the users with their outstanding balance and last transaction data.

## **Responsibilities:**

**Mohammad** has created the UI by using HTML5 boilerplate, JS, CSS, bootstrap4-5, and other libraries.

where the user inserts the data which are saved into the databases.

And then all the executed data (credit score, transaction details, amount, balance, ledger...etc) will be available for the user.

**Sahas :**

1. Developed a script that would take the information from the CSV file generated from querying the customer data and send an email to the end user which contains their account ID, outstanding balance, and their last transaction date.
2. Developed a Script that uses pyspark to preprocess the data and produce a csv file that can be used to update the databases.

**Reyden:**

1. created the Cassandra schema containing source data
2. hive tables to utilize Hue for visualization of our data.
3. Created directories within HDFS to house customer datasets.

**Mujtaba** has prepared a Data Analysis report which provides the findings of the data that a mortgage firm conducted on its customers.

**Contributions:**

Mohammad:

Reyden:

Minhaj:

Sahas:

## **Work to be Completed**

- We need to develop a custom script to email clients about changes within their accounts.
- We need to refine UI to allow for greater visibility into one account and create different roles between users
- Create ML algorithm to affect credit scores based on total debt.
- Greater integration of all aspects to ensure seamless functionality

## **Responsibilities:**

## **Issues/Concerns:**

We want to be able to accurately display and update customer data along with ensuring their creditworthiness is up to date.

## **Related work:**

## **References**

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Sahas Pasya