**Mortgage GUI Documentation**

**By:**

**Broderick Clapper**

**Craig Curry**

**Andrew Tillotson**

**Jacob Frollo**

**Project Overview**

Our project is a mortgage calculator that is aimed to help make it easier for a realtor working at Keller Williams Reality to show a client what their mortgage payment will look like. The payment is based on home cost, downpayment, and qualification class based on credit score. The system was built using python’s tkinter GUI framework as well as an SQLite database for data storage. The data is then saved on a JSON file and stored in the local database. The GUI provides an interface for users to manage their loan information.

**Features:**

• Login screen – a secure login interface for use access

• Main interface- this is where the mortgage calculator is:

• Home cost

• Credit score

• Loan term

• Down payment

• Also an area for an updated table

**Collections used:**

• Dictionaries – Used to parse user.json where each user has a username and an associated table of mortgage data

• List – used to manage rows in the GUI treeview

• Tuples – used for inserting the data into SQLite

**Credit classes are used to determine tax rate**

• Well Qualified (700+)

• Moderately Qualified (600-700)

• Minimally Qualified (600-0)

**Sample input and output**

**After opening the code:**

**• Login / signup screen:**

**•**

**• Accounted created: Ricky, Flame**

•

**• Sample inputs and outputs**

**•**

**• Inputs 1:**

**• Username – Ricky**

**• Password (not shown)- Flame**

**• Price- 500000**

**• Down Payment- 50000**

**• Loan term (months)- 360**

**• Credit score- 720**

**• After the information is added, the save inputs button is used for a .json file that is saved to the same folder that the document is running in.**

**• From here, you can update the table and see YOUR past entries to the database but no one else’s show up. If you wished to pull up a previous running, it is saved in the JSON file.**

**•**

**• Input 2:**

**• Username- Ricky**

**• Password(not shown)- Flame**

**• Price- 250000**

**• Down payment- 150000**

**• Loan term- 360**

**• Credit score- 630**

**• Click calculate payment to get mortgage payment**

**• Update table to see the interest rate and credit class**

**Results and Reflection**

The mortgage calculator system was developed and met all the requirements. The system uses a graphical user interface, classes, dictionaries, and a saved JSON file in order to get a user from a login to find out their projected mortgage payment. We used programming to design multiple classes that helped keep the code clean but efficient. Data handling was a struggle but we managed to get the database to save the information needed as well as having the data saved to a JSON file. The GUI works effectively to prompt the user to add the information that is needed for the mortgage calculation. Although not fancy, it completes the goal of the project. The results from above prove to be an affective way to calculate mortgage payments for different home prices, down payments, and credit scores.