

CMPE 277

Lab 3 - Mortgage Calculator

Introduction

This is a group project. You must use the same group formation as the term project. Your group is going to implement a mortgage calculator.

UI: 2 Tabs

1. Tab1: A Calculation View allow user to input data, do the calculation and a button to save the calculation.
2. Tab2: A MapView shows all saved mortgage calculation on the Map.

Mortgage monthly payment calculation:

1. Input:
 - a. Property Info
 - i. Property Type: House / Apartment (Require to use: **UIActionsheet**)
 - ii. Street Address (**Support multiple lines**)
 - iii. City
 - iv. State (**Provide a list of States for user to select**)
 - v. Zipcode
 - b. Loan Info
 - i. Loan amount
 - ii. Down payment
 - iii. Annual Percentage Rate (APR)
 - iv. Terms(number of years to pay)

The property info is optional unless the user wants to save the calculation.

2. Output:
 - a. Monthly payment
3. Formula:
 - a. <http://www.wikihow.com/Calculate-Mortgage-Payments>
 - b. Google has built a mortgage calculator into the search engine, you can simply google “**mortgage calculator**” to verify the answer against your calculator’s answer.
<https://www.google.com/webhp?sourceid=chrome-instant&ion=1&espv=2&ie=UTF-8#q=mortgage+calculator>

Start a new mortgage calculation:

1. When the user presses the New button, the current input content will be cleared so that the user can start a new calculation.

Save a mortgage:

1. User must have an option to save a mortgage calculation. The APP must validate the address, and persist all the input and the output from feature 1. If the address is invalid, the user cannot save the calculation.
2. Saved data must be stored in CoreData **or** SQLite database locally

Browse mortgage:

1. App must render all saved mortgage calculations as Pins on the Mapview.
2. User must be able to navigate through the map and browse mortgage Pins.
3. A popover view with following information must show up when user tap on a specific pin. The popover view (reference [here](#)) is non-editable, pops on top of the Mapview, and must not cover the whole Mapview. The view contains the following:
 - a. Property Type: House / Apartment
 - b. Street Address
 - c. City
 - d. Loan amount
 - e. APR
 - f. Monthly payment
 - g. A **Delete** button allow user to remove this mortgage calculation, it must be removed from both **Map** and the local **database**.
 - h. A **Edit** button to bring the user to the Calculation view to make changes.

Street View (Bonus Feature for 2 Points):

Add a **Street View** button in the popover view above to open the street view for this address. You must integrate with Google's Street View (instructions [here](#)) for this feature. You must provide a back button to close this view and go back to the MapView.

Device & screen size

We are going to check the assignments on iPhone 6. In the case you do not have access to an iPhone 6, you want to check in the simulator to make sure the image and text look properly sized and aligned.

Error handling

Your APP must have proper error handling for missing **required** fields or **invalid data type**. **Example:** **APR** is mandatory for calculation, and **Address** is mandatory for showing up on the Map.

Apple Developer Account

Each team can have one developer's account. You are welcome to provision your app for distribution, but it is not required. More details about how to acquire a developer account will be provided in a separate announcement.

Grading

The project is worth 10 points, with 2 extra bonus points available. The distribution is:

- (1) Basic feature correctness: 8 points
- (2) User interface and experience design: 2 points
- (3) Street View: 2 bonus points

Submission instruction: You will get a **PENALTY** for failing to follow the instruction

1. Submit **1 zip** file contains:
 - a. README.txt with team member information
 - b. Screenshots for each views.
 - c. Whole Xcode Project folder(The default folder structure must be retained)
2. Submission of the iPhone app
3. Submission comment:
 - a. Write your team member information at the comments field on canvas.

