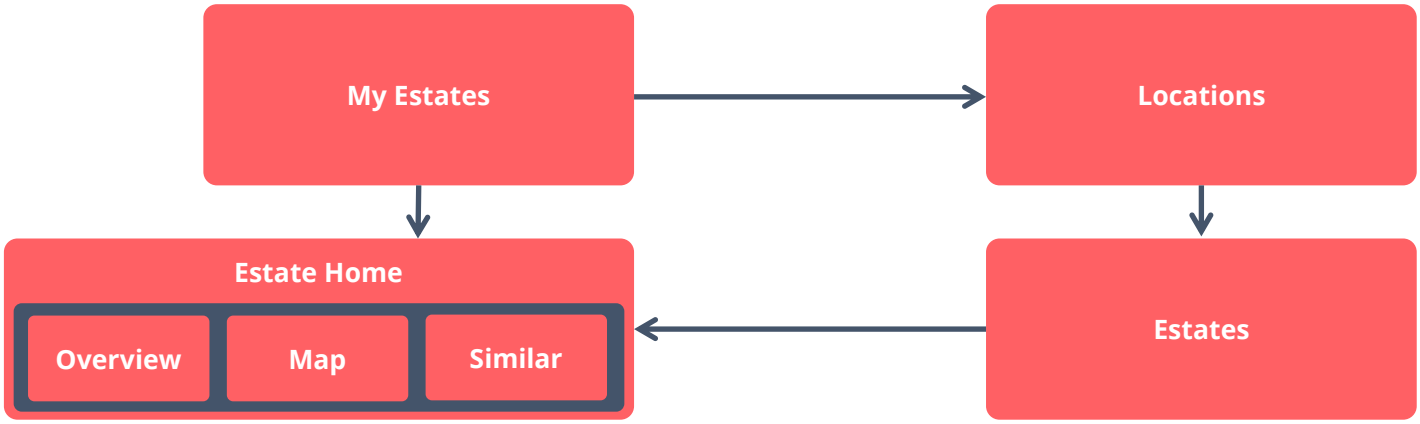
Building Mobile Apps with **Ionic** and **Angular**

PROJECT ASSIGNMENT

Create an Ionic mobile application **royal-estates** which should enables users to easily search, preview and save, estates organized in different locations and regions and having different properties.

I. Part One: Create the application and the pages

The application has the following screens:



1. My Estates: the index screen of your application. This screen appears first when your application loads. On the screen there is a Find a Location button which navigates to the Locations screen
2. Locations: list of all the locations from a database
3. Estates: list of all estates in the selected location
4. Estate Home: has 3 tabs:
    - Overview: provides details about the selected estate
    - Map: shows a map with a marker of the estate
    - Similar: list similar estates to the selected.

II. Part Two: Navigation

The application has the following navigation components:

- On the index page (My Estates) there is a **side menu** which is opened from a **hamburger icon** in the navbar of the page. The side menu should contain the following links:
  - Find a Location – link to the Locations page
  - List of all saved estates – link to each estate home page
- Each inner page has a **back button** in the navbar to provide backwards navigation
- On the Estate Home page there is a **button** (home icon) in the navbar to go straight to the home page
- On the Estate Home page there are 3 **tabs**:
  - Overview
  - Map
  - Similar

Navigation flow of the application should follow the arrows from the image above:

- Flow 1:
  - My Estates is the root page
  - Clicking on the Find a Location navigates forward to the Locations page
  - Clicking on a selected location navigates forward to the Estates page
  - Clicking on a selected Estate navigates forward to the Estate Home page
  - Clicking on the Home button go backwards to the Root Page

- Flow 2:
  - Clicking on a saved estate on the My Estates page navigates forward to the Estate Home page
  - Clicking on the Home button go backwards to the Root Page

For the headers and titles use **Navbars** and **Toolbars** wherever needed and use one of the **predefined ionic colors** to style them.

III. Part Three: Loading the Data

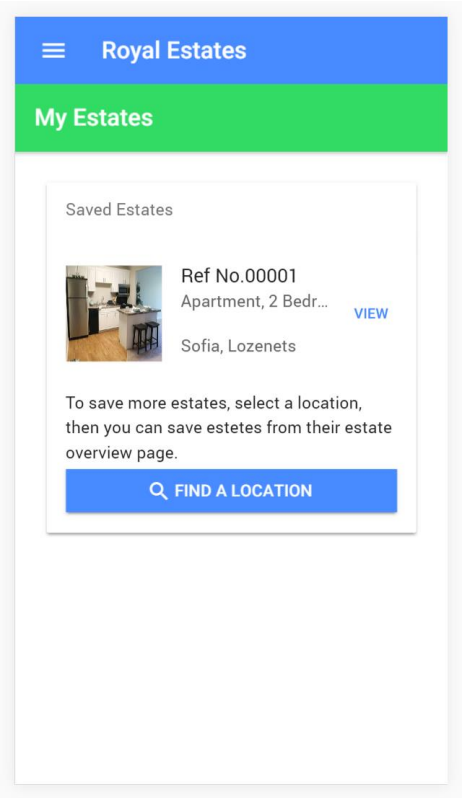
The data for the application is provided in the **royal-estates-firebase-data.json** file.

Create a **Firebase database** and import the file to load the data.

To manipulate the data in the application you can use the **Lodash** library.

Create a **service provider** to implement the functionality to load and manipulate the data from the database.

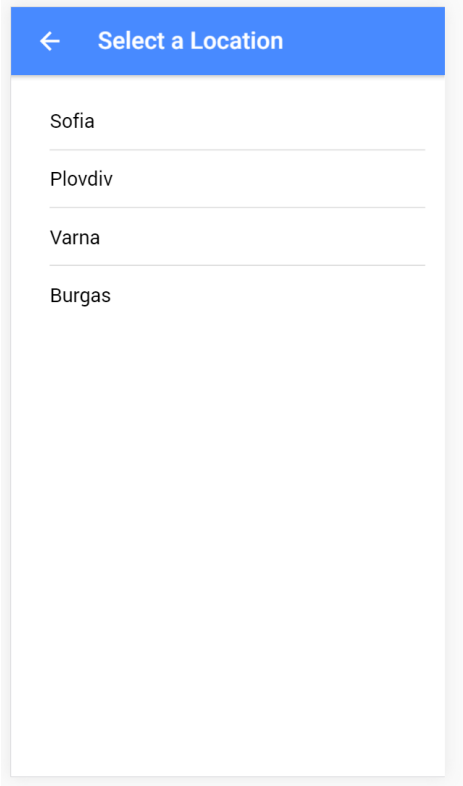
IV. Part Four: Pages Details



1. My Estates Page

My Estate page has:

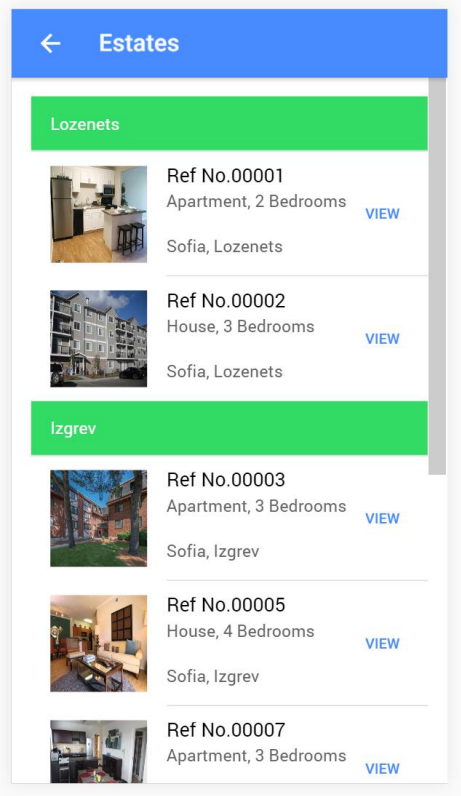
- **Navbar** with the name of the App and button to open/close the side menu
- **Toolbar** with the title of the page My Estates
- **List** of all saved estates: The list should be wrapped in a **Card.** Use **Thumbnail List** for the estates list (https://ionicframework.com/docs/components/ #thumbnail-list)
- **Find a Location button** which navigates to the Locations page
- If there are no selected teams show another card with a text message and the same Find a Location button.



2. Locations Page

Locations page has:

- **List** of all locations from the database (use **Basic List** component)
- While loading the data from the database a **LoadingController** should be presented on the screen
- Clicking on a location navigates to the Estates page



3. Estates Page

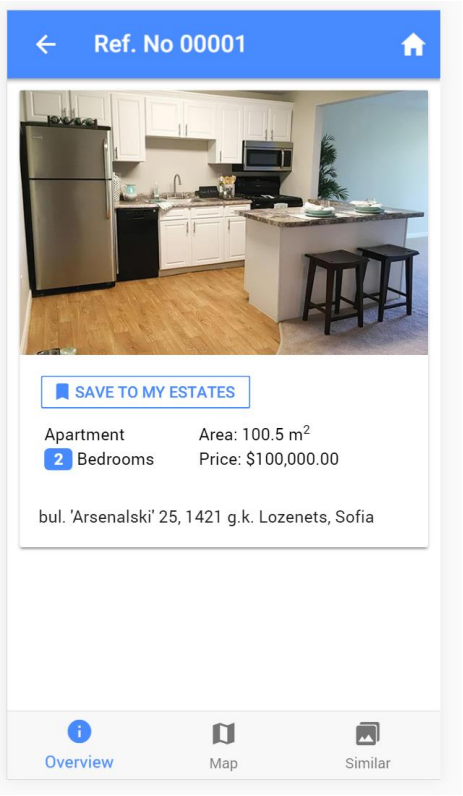
Estates page has:

- of all estates from the database for the selected Location
- While loading the data from the database a **LoadingController** should be presented on the screen.
- Estates should be grouped by **Region** (Use **list dividers** for the region groups)
- For the estates listing should be used the **Thumbnail List** (https://ionicframework.com/docs/components/ #thumbnail-list
- Each estate should be presented with: image thumbnail, title (ref number), The type of the estate, Number of the bedrooms, Location and Region

4. Estate Home Page

Estate Home page has:

- The title of the estate (Ref number) in the **Navbar**
- **Icon button** in the navbar that navigates back to the Root Page (My Estate Page)
- **3 Tabs**: Overview, Map, Similar

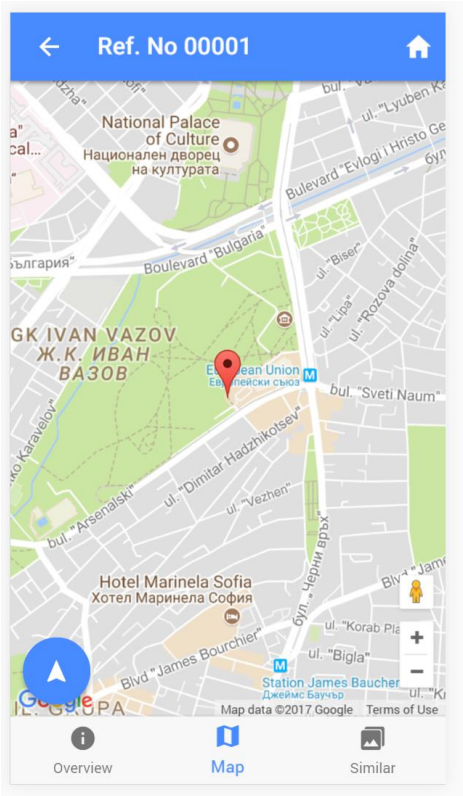


5. Estate Overview page

Estate Overview page has:

- **Card component** with the image and the details of the estate (user the image card - https://ionicframework.com/docs/components/#card-image)
- The estate details are presented using grid component in 2 columns:
  - Type of the estate (e.g. House)
  - Number of bedrooms (e.g. 3 Bedrooms) – put the bedrooms number in a **badge**
  - Area (e.g. 100m^2)
  - Price (e.g. $ 100, 000) – format the price as follow: $ XX.XX (currency sign at least one digit before the floating point and exactly 2 digits after the floating point – use **Currency Pipe**
- Address

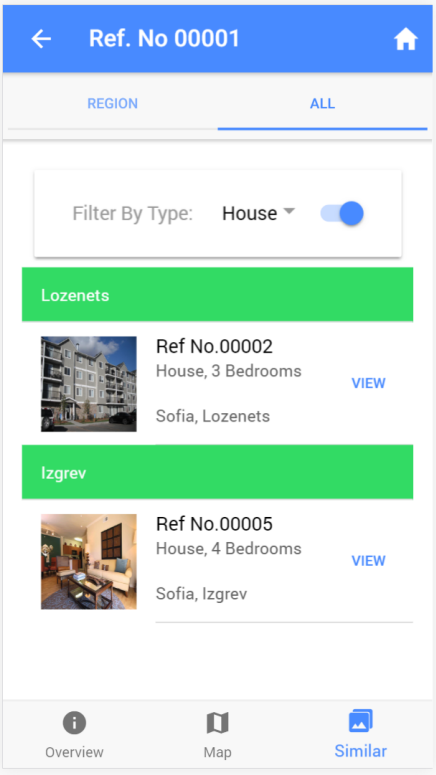
- **Save to My Estates** button – clicking the button should save the estate to the saved estates and the button should change to remove from saved estates button
- Remove from saved estates button – when click on the button a **Confirmation Alert** should appear on the screen with the message "Are you sure you want to remove from saved estates?" with two buttons **"NO"** and **"YES"**. Clicking on the **"NO"** button should do nothing, just close the alert. Clicking on the "YES" button should remove the estate from the saved estates and show a **Toast Controller** with a success message on the bottom of the screen.
- Implement Pull to Refresh using the **Refresher component**



6.Map page

Map page has:

- Install **Angular 2 Google Maps** Component (https://angular-maps.com/)
- Show a **map** on the whole page with a marker set to the location (latitude and longitude) of the estate
- Add a direction button using a **FabButton Component** clicking on which should provide driving directions (in a native app installed on the device)
- If you cannot create a Google Maps ApiKey, you can use the following:
`AIzaSyAi91xerL_8t_7tnCR7GstQ2W0uxUT6ILk`



7. Similar page

Similar page has:

- List of estates similar to the one selected – similar are all estates in the same location – Use **VirtualScroll** Component
- Filter the estates using a **Segment component** to estates in the same regions and all estates
- Implement a select filter by type – use **ion-select** component. The type options are:
  - Apartment
  - House
  - Studio
- Use a **toggle component** to turn on and off the by type filter

8. Part Five: Ionic Storage

In order to save and persist the selected estates use the **IonicStorageModule** - https://ionicframework.com/docs/storage/

Implement a service to provide the storage capabilities of the application. When saving and removing an estate from the storage publish an **ionic event** and then subscribe for the event to refresh the saved estates listing in the side menu (https://ionicframework.com/docs/api/util/Events/)

9. Part Six: Finish your application

Tasks to finish your application and prepare it for deployment on a real device:

- Change the **colors** of the default classes used in the application (choose colors by your preference as long they are different from the default once)
- Add the **android platform** using the cordova tools
- Change the name of the app, the description and the author properties in the **config.xml**
- Create the **splash screen** and the **icon** from the provided image assets:
  - icon.png
  - splash.png

10. IMPORTANT FOR GRADING PURPOSES

In order to be graded for this assignment you should prepare and send by e-mail (to eslavcheva.edu@gmail.com):

- Link to Github repository with your project with all the necessary files and folders so it can be installed and run in the browser
- **Or** zip of the project

The project should compile and run in the browser

11. GRADING

You can find below the tasks and their respective points. The total number of points is 100. These points will make the 70% of the final grade. The other 30% of the final grade is formed by the Test.

TASK	POINTS
Create the application and the pages	5 points
Navigation, side menu, tabs and home button	10 points
Service Provider	10 points
My Estates Page ▪ navbar - open/close sidemenu ▪ toolbar ▪ list of saved estates ▪ cards ▪ find a location button	10 points
Locations ▪ list of locations ▪ loading component	5 points
Estates ▪ loading component ▪ list dividers ▪ thumnail list ▪ correct item format	10 points
Estate Overview ▪ image card component ▪ grid ▪ badge ▪ formated price ▪ save to my estates button ▪ confirmation alert ▪ toast component ▪ refresher component	15 points
Map ▪ angular 2 google maps component ▪ shop map on the entire page ▪ fab button component	5 points
Similar ▪ segment component ▪ virtualScroll ▪ ion-select ▪ toggle component	10 points
Ionic Storage Module ▪ Install the Storage Module	10 points

▪ Create the service provider for managing saved estates ▪ Publish and subscribe for the saving and removing events	
Finish your app (prepare for deployment) ▪ Change default colors ▪ Add Android platform ▪ Change config.xml ▪ Create splash and icon	10 points
TOTAL:	**100 points**

12. Deadlines

The deadlines to turn your projects (send the e-mail) are:

- For the term assignment is: 26.01.2019
- For the exam: the day on the exam