

# Building Mobile Apps with **Ionic 2** and **Angular 2**

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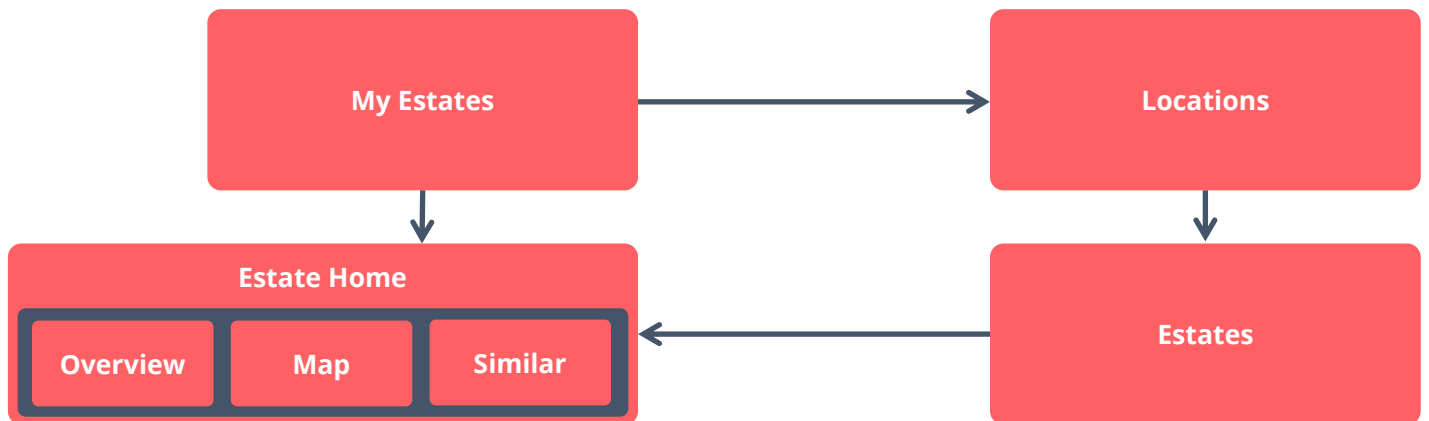
## PROJECT ASSIGNMENT

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

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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

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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

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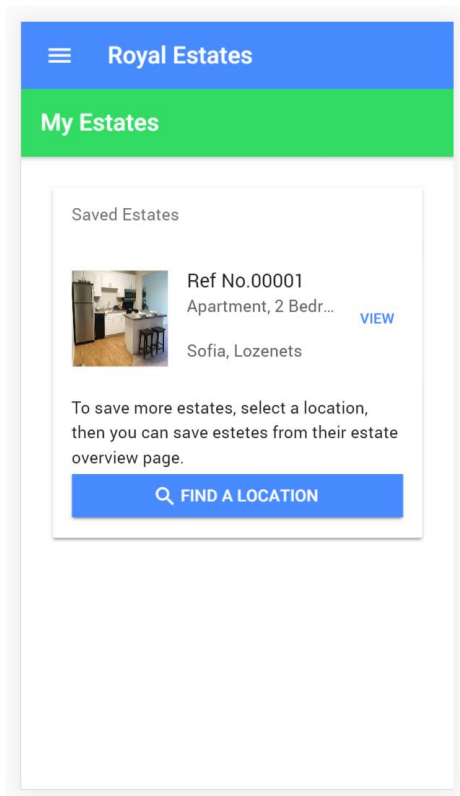
The data for the application is provided in the **royal-estates-firebase-data.json** file.

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.

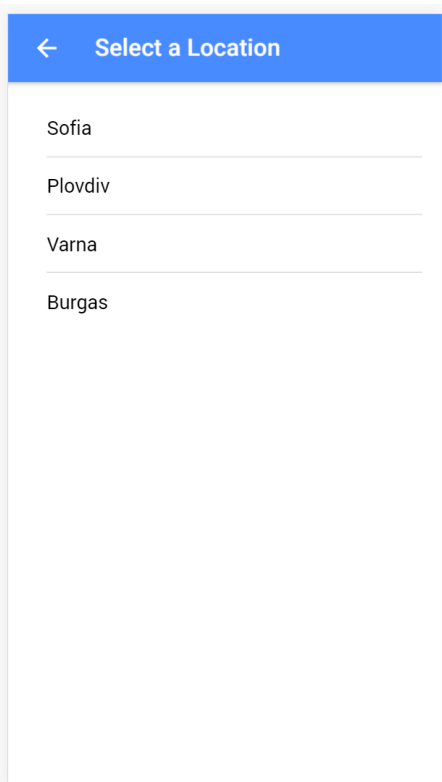
## IV. Part Four: Pages Details



### 1. My Estates Page

My Estate page has:

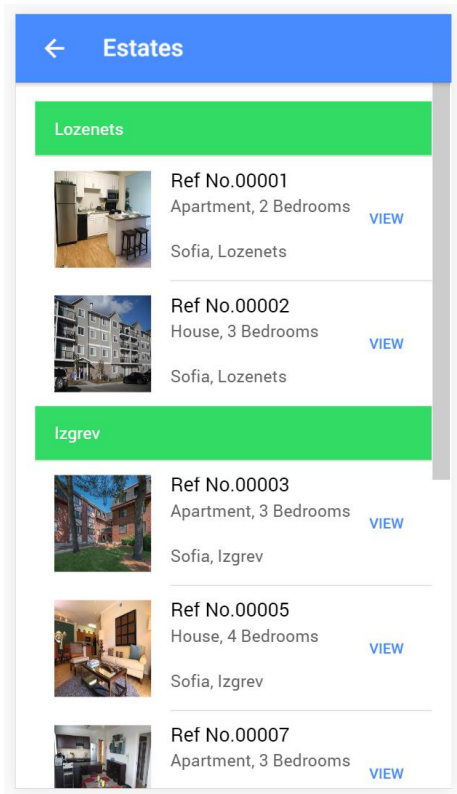
- **Navbar** with the name of the App and button to open/close the side menu
- **Toolbar** with the title of the page My Estates
- **List** of all saved estates: The list should be wrapped in a **Card**. Use **Thumbnail List** for the estates list (<https://ionicframework.com/docs/components/#thumbnail-list>)
- **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

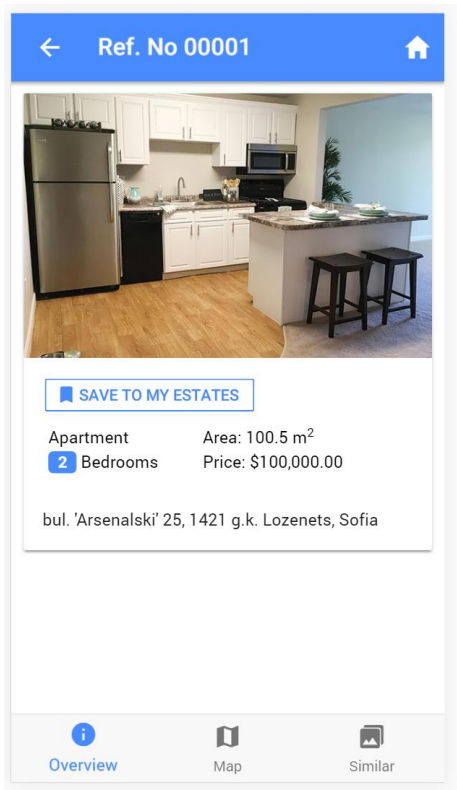
Estates page has:

- 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

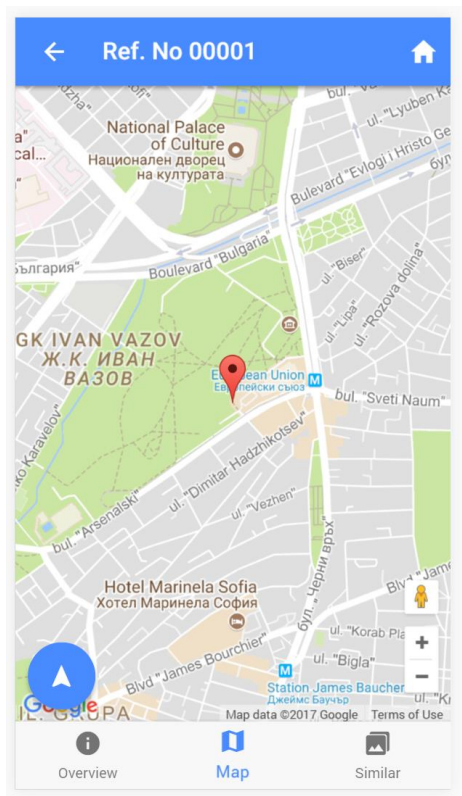


## 5. Estate Overview page

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<sup>2</sup>)
  - 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

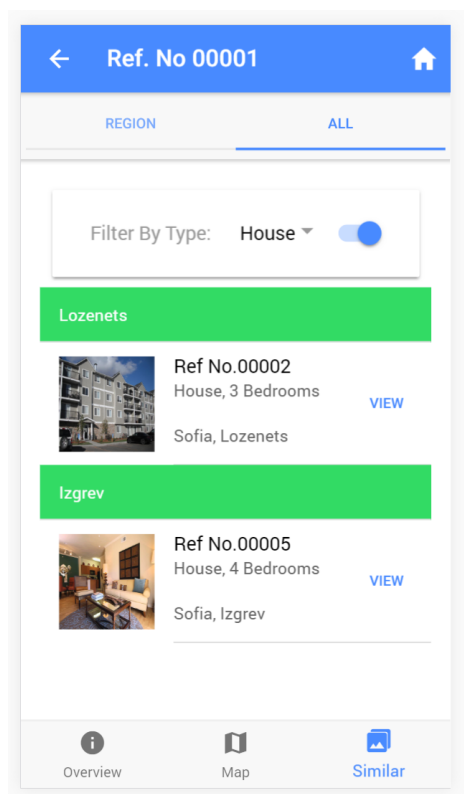
- **Save to My Estates** button – clicking the button should save the estate to the saved estates and the button should change to remove from saved estates button
- Remove from saved estates button – when click on the button a **Confirmation Alert** should appear on the screen with the message “Are you 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)



## 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

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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

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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

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In order to be graded for this assignment you should prepare and send by e-mail (to [eslavchev.edu@gmail.com](mailto:eslavchev.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 <ul style="list-style-type: none"><li>▪ navbar - open/close sidemenu</li><li>▪ toolbar</li><li>▪ list of saved estates</li><li>▪ cards</li><li>▪ find a location button</li></ul>	10 points
Locations <ul style="list-style-type: none"><li>▪ list of locations</li><li>▪ loading component</li></ul>	5 points
Estates <ul style="list-style-type: none"><li>▪ loading component</li><li>▪ list dividers</li><li>▪ thumbnail list</li><li>▪ correct item format</li></ul>	10 points
Estate Overview <ul style="list-style-type: none"><li>▪ image card component</li><li>▪ grid</li><li>▪ badge</li><li>▪ formatted price</li><li>▪ save to my estates button</li><li>▪ confirmation alert</li><li>▪ toast component</li><li>▪ refresher component</li></ul>	15 points
Map <ul style="list-style-type: none"><li>▪ angular 2 google maps component</li><li>▪ shop map on the entire page</li><li>▪ fab button component</li></ul>	5 points
Similar <ul style="list-style-type: none"><li>▪ segment component</li><li>▪ virtualScroll</li><li>▪ ion-select</li><li>▪ toggle component</li></ul>	10 points
Ionic Storage Module <ul style="list-style-type: none"><li>▪ Install the Storage Module</li><li>▪ Create the service provider for managing saved estates</li></ul>	10 points



<ul style="list-style-type: none"> <li>▪ Publish and subscribe for the saving and removing events</li> </ul>	
<b>Finish your app (prepare for deployment)</b> <ul style="list-style-type: none"> <li>▪ Change default colors</li> <li>▪ Add Android platform</li> <li>▪ Change config.xml</li> <li>▪ Create splash and icon</li> </ul>	10 points
<b>TOTAL:</b>	<b>100 points</b>

## 12. Deadlines

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

- For the term assignment is: **26.01.2018**
- For the exam: **the day on the exam**