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FutureNav – navigating your children's future

Description

United States has the best education in the world. Now a day there are more and more parents especially from third world countries want to send their kids to United States for study as early as high school. Currently there is not an easy way for those parents to find good schools that would meet their requirements such as location, tuition, school ranking. There is also a need for high schools in United States to market their education services to the world but their marketing work mainly done through the school websites.

This app ultimate goal is to help parents find high schools for their children and for schools to find their potential students.

The initial phase of the app is to build a simple tool to search for school at certain location.

Intended User

Parents and their children looking for schools in United States

Features

User can search for schools by zip code, school type (private or public), school level (high school, college, university). Search result showed on map for easy navigation.

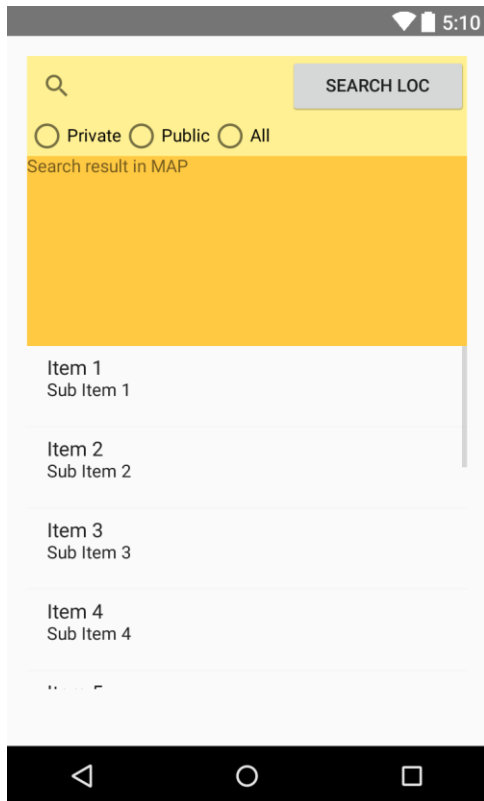
User can view detail of the school and go to its website.

This mimic the functionality of this website: <https://code.org/learn/local>

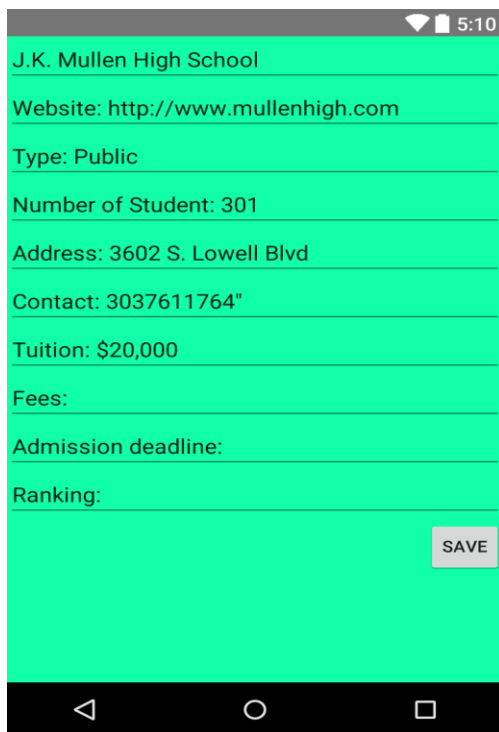
The website provides data in JSON format that the app will use.

User Interface Mocks

Screen 1 - Search



Screen 2 - School detail



A screenshot of a mobile application screen titled "Screen 2 - School detail". The screen has a white background with a light gray header bar at the top containing a Wi-Fi icon, a battery icon, and the time "5:10". Below the header, the screen displays a form for "J.K. Mullen High School". The form consists of several text input fields, each with a label and a value: "Website: http://www.mullenhigh.com", "Type: Public", "Number of Student: 301", "Address: 3602 S. Lowell Blvd", "Contact: 3037611764", "Tuition: \$20,000", "Fees:", "Admission deadline:", and "Ranking:". A "SAVE" button is located at the bottom right of the form. The bottom of the screen features a black navigation bar with three white icons: a back arrow, a circle, and a square.

J.K. Mullen High School

Website: http://www.mullenhigh.com

Type: Public

Number of Student: 301

Address: 3602 S. Lowell Blvd

Contact: 3037611764

Tuition: \$20,000

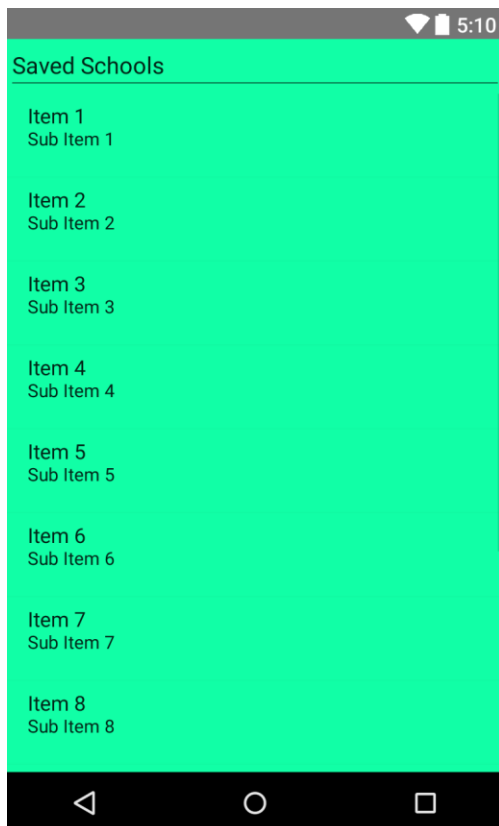
Fees:

Admission deadline:

Ranking:

SAVE

Screen 3 - Saved List



A screenshot of a mobile application screen titled "Screen 3 - Saved List". The screen has a white background with a light gray header bar at the top containing a Wi-Fi icon, a battery icon, and the time "5:10". Below the header, the screen displays a list of "Saved Schools". The list contains eight items, each with a main title and a subtitle: "Item 1 Sub Item 1", "Item 2 Sub Item 2", "Item 3 Sub Item 3", "Item 4 Sub Item 4", "Item 5 Sub Item 5", "Item 6 Sub Item 6", "Item 7 Sub Item 7", and "Item 8 Sub Item 8". The bottom of the screen features a black navigation bar with three white icons: a back arrow, a circle, and a square.

Saved Schools

Item 1
Sub Item 1

Item 2
Sub Item 2

Item 3
Sub Item 3

Item 4
Sub Item 4

Item 5
Sub Item 5

Item 6
Sub Item 6

Item 7
Sub Item 7

Item 8
Sub Item 8

Key Considerations

How will your app handle data persistence?

App gets data from code.org as json format which contains a list of 11,000 schools. Json will be converted to java object. Search for school will be done on this list. User can save a school to his favorite list. Favorite list is stored in SQLite.

Describe any corner cases in the UX.

User will be navigating through 3 screens by tabs on action bar, which is a toolbar.

Search textbox and other filters are on toolbar. Toolbar should collapsed when user scroll search result down.

Save button on School Detail screen is FAB. It is visible if the school is not on the saved list.

Map will be full screen when phone on landscape mode. Touching map marker will open school detail screen.

Describe any libraries you'll be using and share your reasoning for including them.

GSON to convert json string to java object.

Next Steps: Required Tasks

Task 1: Project Setup

- Create a GoogleMap Android project.
- Follow instruction to acquire the API key to make google map work.
- Add GSON library.

Task 2: Implement UI for Each Activity and Fragment

Create 3 activities with 3 fragments for 3 screens.

- Main Activity fragment has toolbar, Map, and ListView.
- Saved School fragment has recycle view and adapter to get data from SQLite
- School Detail fragment has FAB button to add school to saved list. Also the website link should open default web browser on the phone.

Create another fragment for phone screen on landscape. This should have google map full screen.

For Tablet, there will be 2 panes. Search result on left, map and school detail on right pane.

Task 3: Implement backend classes

- Create a service class:
 - This class should send http request to code.org to get json result and parse this json into java object. This should be done only once when service create. Need

to create a java class that has the same structure as the json and use GSON library to convert json string to object.

- Class should have a method that will return list of schools based on user search criteria such as zip code, school type. It is done by looping over the list of the schools in the object
 - Class should have a method that returns detail information about a school.
 - Create SQLite Helper and Content provider to create table and save and retrieve data.
 - Main activity class:
 - Check if the layout is 2-pane or not and either start an intent or add new fragment.
 - Populate schools on google map. Implement listener so that when user touch a marker, school detail screen will be opened.
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Submission Instructions

1. After you've completed all the sections, download this document as a PDF [File → Download as PDF]
2. Create a new GitHub repo for the capstone. Name it "**Capstone Project**"
3. Add this document to your repo. Make sure it's named "**Capstone_Stage1.pdf**"