

CSCI 571: Web Technologies

Assignment 4: Product Search Android App

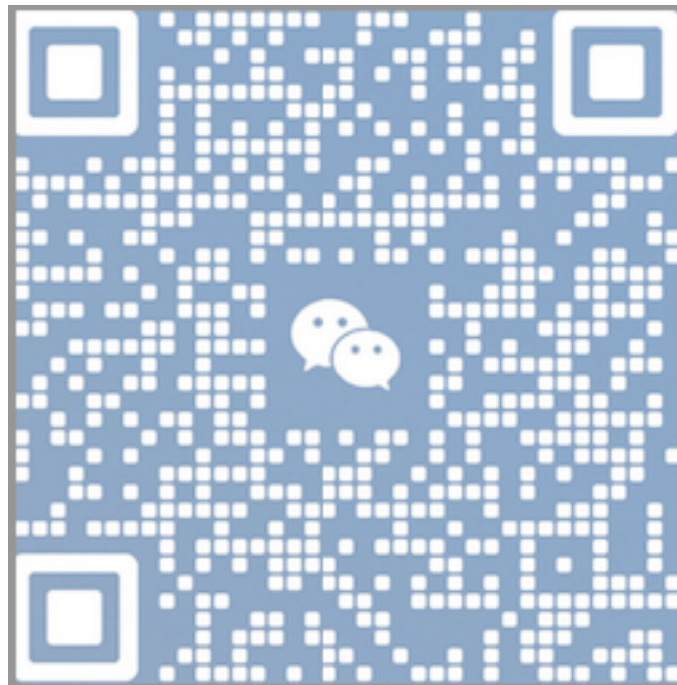
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1. Objectives

- Become familiar with Java, JSON, Android Lifecycle and Android Studio for Android app development.
- Build a good-looking Android app.
- Learn the essentials of Google's Material design rules for designing Android apps
- Learn to use the Google Maps APIs and Android SDK.
- Get familiar with third party libraries like Picasso, Glide and Volley.



2. Background

2.1 Android Studio

[Android Studio](#) is the official Integrated Development Environment (IDE) for Android application development, based on [IntelliJ IDEA](#) - a powerful Java IDE. On top of the capabilities you expect from IntelliJ, Android Studio offers:

- Flexible Gradle - based build system.
- Build variants and multiple apk file generation.
- Code templates to help you build common app features.
- Rich layout editor with support for drag and drop theme editing.
- Lint tools to catch performance, usability, version compatibility, and other problems.
- ProGuard and app signing.
- Built-in support for Firebase, Google Cloud Messaging and AdMob.

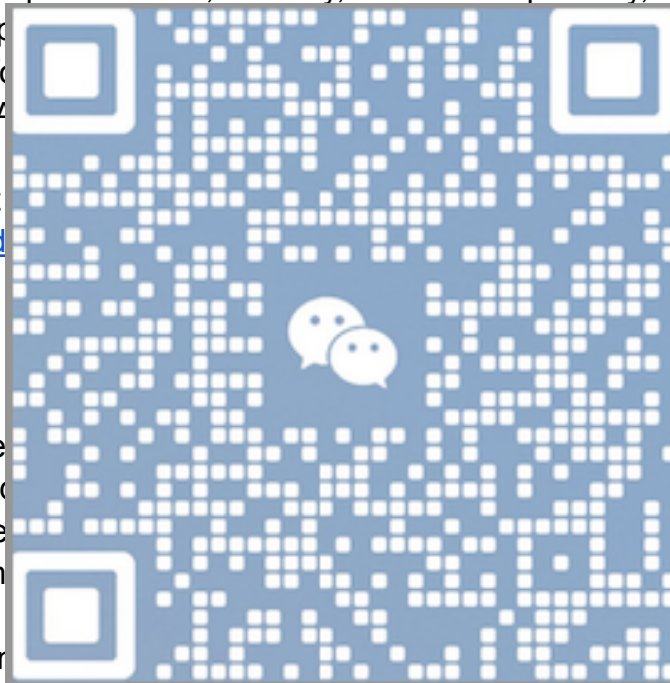
More information about
<http://developer.android.com/>

2.2 Android

Android is a mobile operating system developed by Google in 2005. Android was the number one most profitable platform

The Official Android home page is located at:
<http://www.android.com/>

The Official Android Developer home page is located at:
<http://developer.android.com/>



, a firm purchased by
kernel. As of Nov 2018,
ile iOS was still the

3. Prerequisites

This Assignment requires the use of the following components:

- Download and install [Android Studio](#). Technically, you may use any other IDE other than Android Studio such as Eclipse, but the latest SDKs may not be supported with Eclipse.

We will not be providing any help on problems arising due to your choice of alternate IDEs.

- You must use the **emulator**. Everything should just work out of the box.
- If you are new to Android Development, please refer to the hints section at the bottom.

4. High Level Design

This Assignment is a mobile app version of Assignment 3. In this exercise, you will develop an Android application, which allows users to search for the products on eBay, look at information about them, save some to Wishlist and post on Facebook about the same. You should reuse the Node.js backend service you developed in Assignment 3 and follow the same API call requirements.



5. Implementation

5.1 App Icon and Splash Screen

In order to get this icon/image of the size of your choice, go to the icons web page specified in the section 6.1 and search for an item called “Shopping”. Using the advanced export option, set the colors and a correct size to download the PNG icon.

The app begins with a welcome screen (**Figure 2**) which displays the icon downloaded above. This screen is called a splash screen. This screen can be implemented using many different methods. The simplest is to create a resource file for the launcher screen and add it as a style to AppTheme.Launcher

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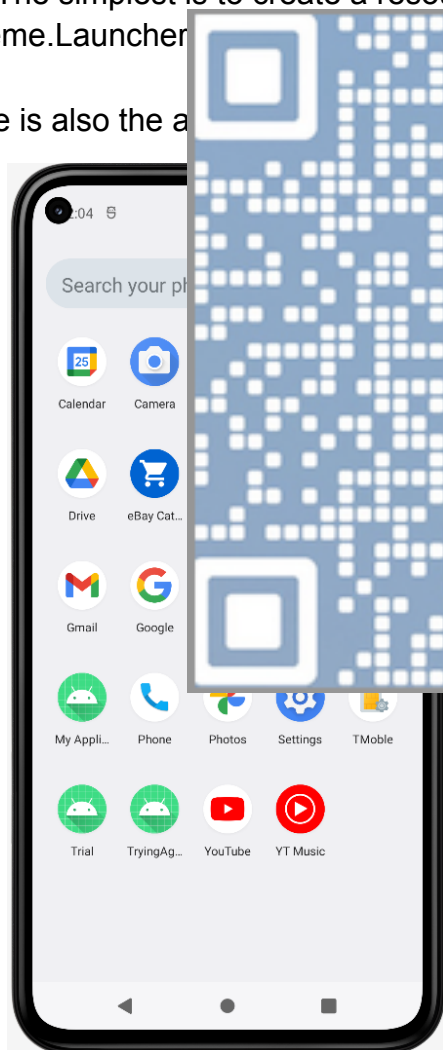


Figure 1: App Icon

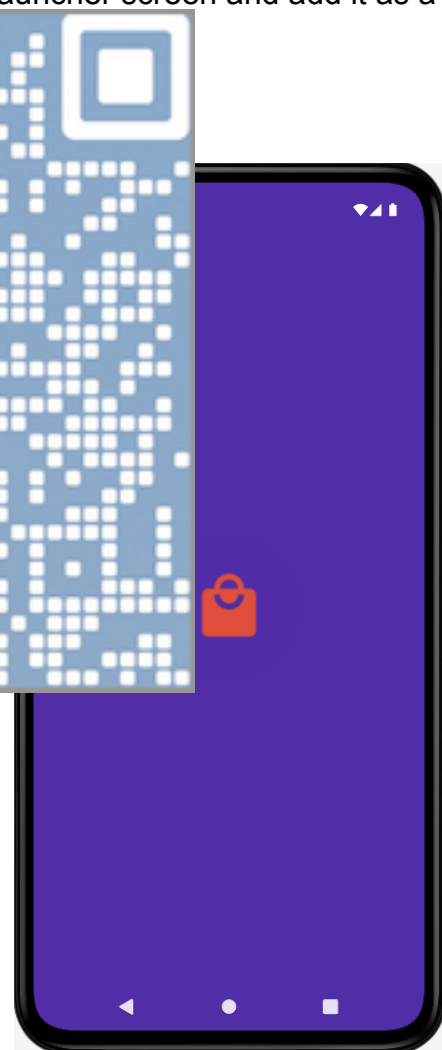


Figure 2: Splash Screen

5.2 Search Form

The initial interface is shown in **Figure 3**. There are two tabs in this interface: search and WishList.



For the search tab, it has

- **Keyword:** An EditText field for entering the keyword.
- **Category:** A Spinner view allowing the user to choose a category. When the user taps on this field, a dropdown list should display for selecting a category, as shown in **Figure 5**. Make sure you include all the categories in Assignment 3.
- **Condition:** It is a set of checkboxes indicating the condition of the item the user wants to buy – new/used/unspecified.
- **Shipping Options** –A set of checkboxes indicating the shipping options the user is interested in - Local pickup/Free shipping.
- **Enable Nearby search:** A checkbox – selecting this will open further distance-based options as shown in **Figure 4** (which are initially hidden as in **Figure 3**) at the bottom. The values of distance-based search considered for eBay query only when this checkbox is selected. The options are as follows: