

# CS5551 Advanced Software Engineering

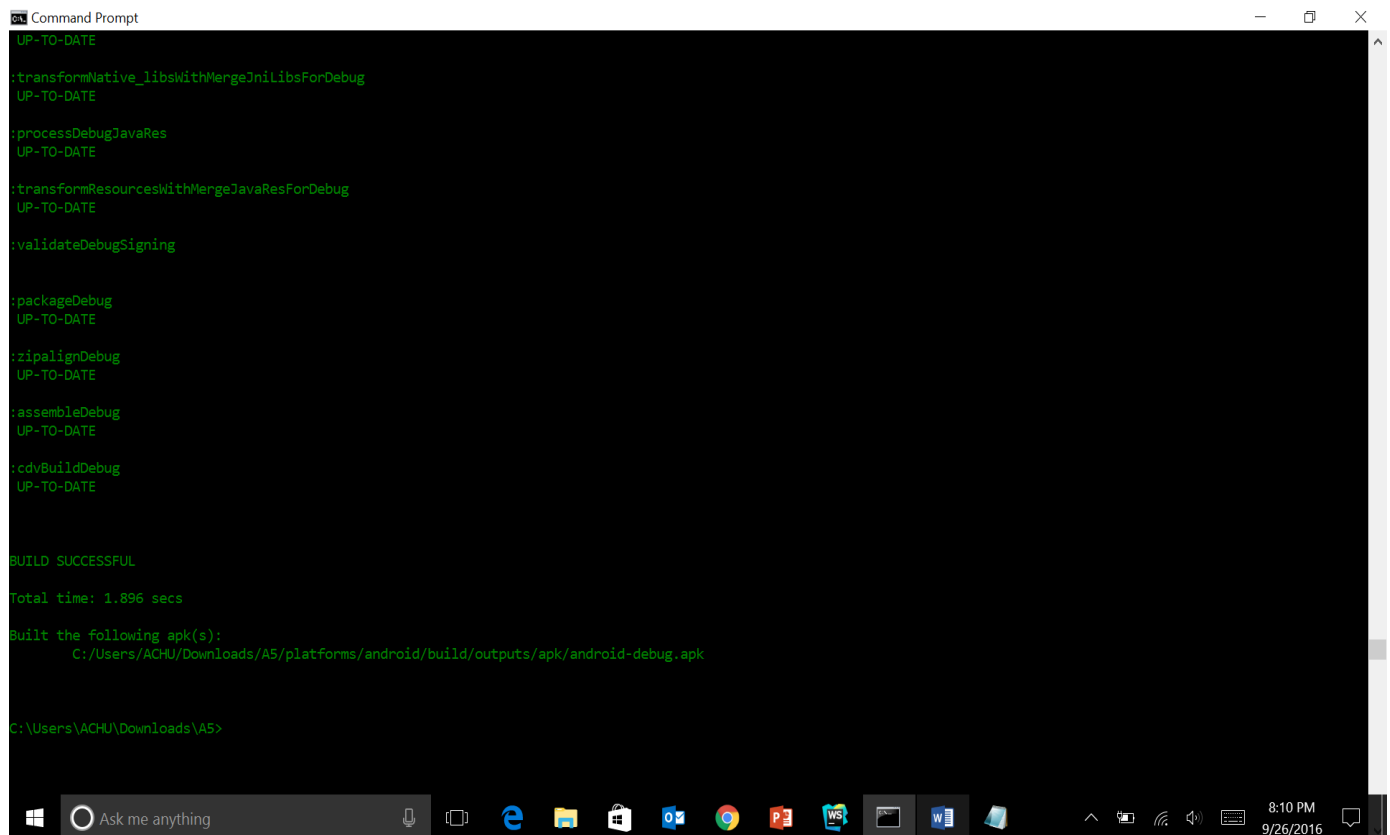
## Lab Assignment #7

***Mashup of Google Maps and Flickr API in Ionic framework which emulates on web and mobile***

***Technology used:*** Angular JS, HTML/CSS, JavaScript

This is the extension of Assignment five and the Plugin used here is ngCardova Barcode scanner.

Building the app from command prompt through ionic frame work

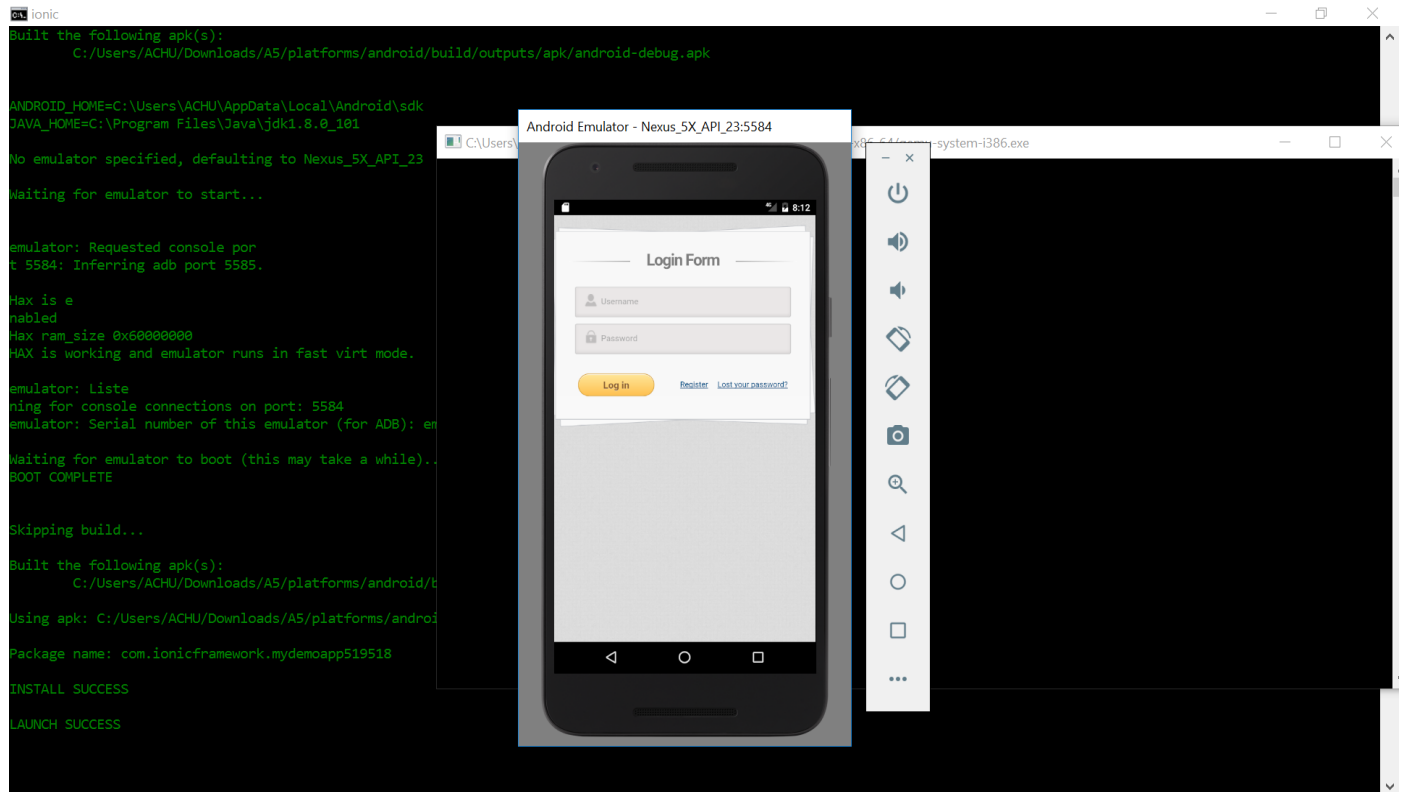


```
Command Prompt
UP-TO-DATE
:transformNative_libsWithMergeJniLibsForDebug
UP-TO-DATE
:processDebugJavaRes
UP-TO-DATE
:transformResourcesWithMergeJavaResForDebug
UP-TO-DATE
:validateDebugSigning
UP-TO-DATE
:packageDebug
UP-TO-DATE
:zipalignDebug
UP-TO-DATE
:assembleDebug
UP-TO-DATE
:cdvBuildDebug
UP-TO-DATE

BUILD SUCCESSFUL
Total time: 1.896 secs
Built the following apk(s):
   C:/Users/ACHU/Downloads/A5/platforms/android/build/outputs/apk/android-debug.apk

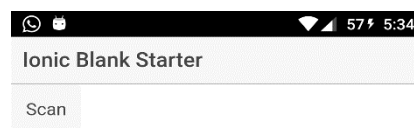
C:\Users\ACHU\Downloads\A5>
```

Building the app and launching it on the Android emulator

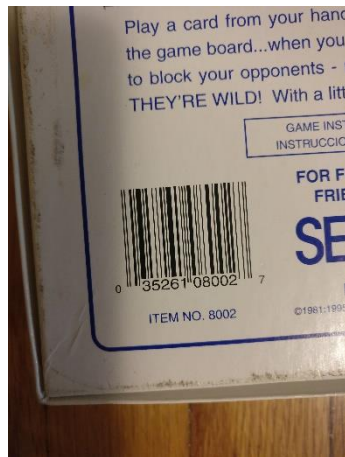


### Cordova Barcode scanner plugin:

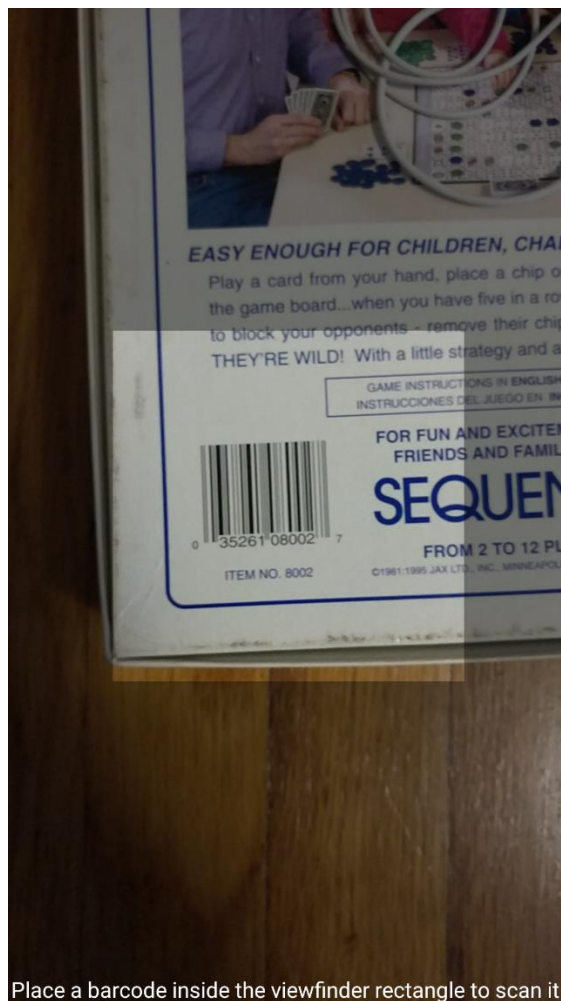
After launching the app the barcode scanner page opens and the screen shots are shown below:



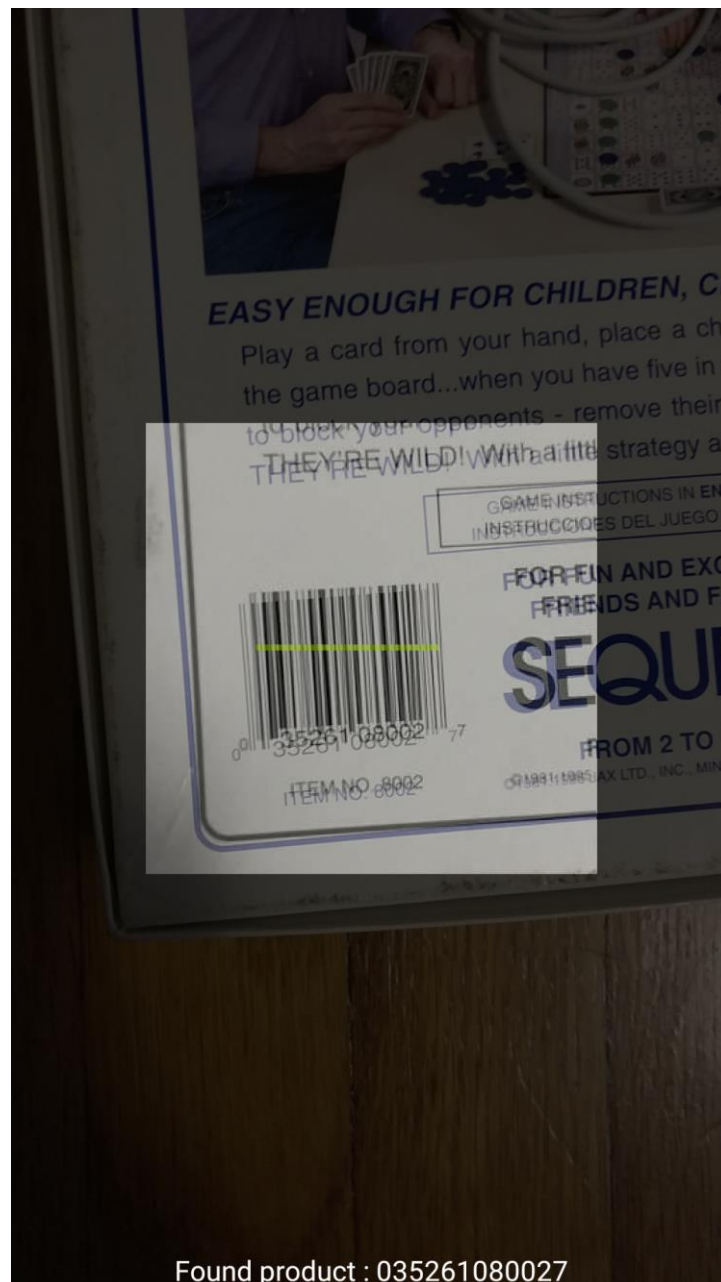
The barcode image we need to scan is:



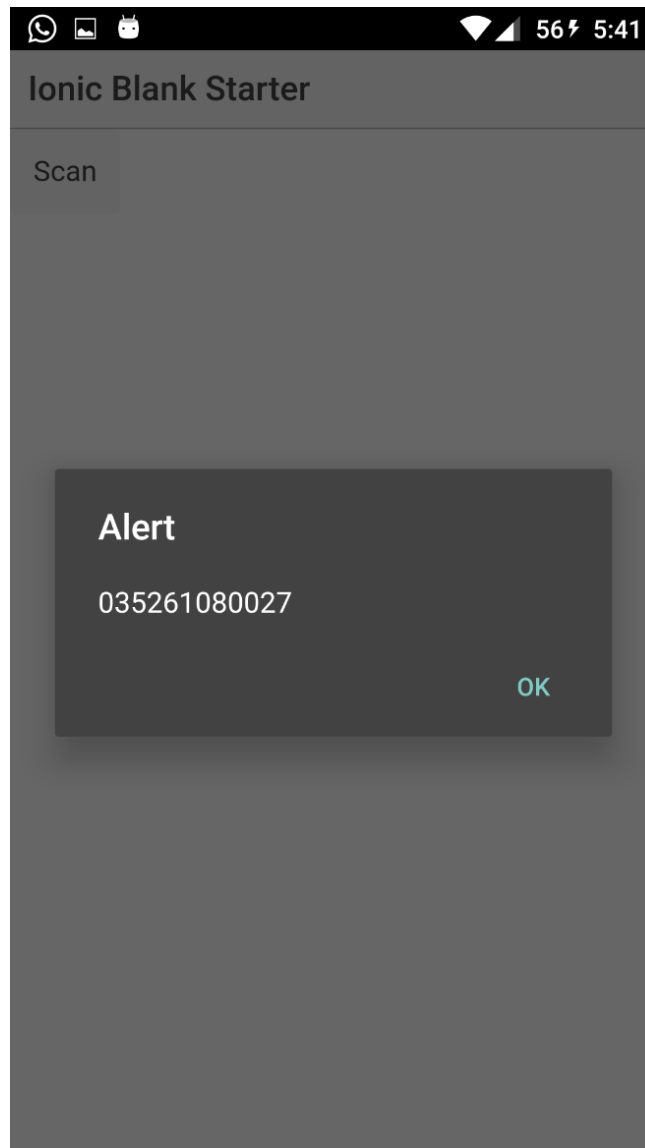
On click of scan button, camera access the barcode image as shown below



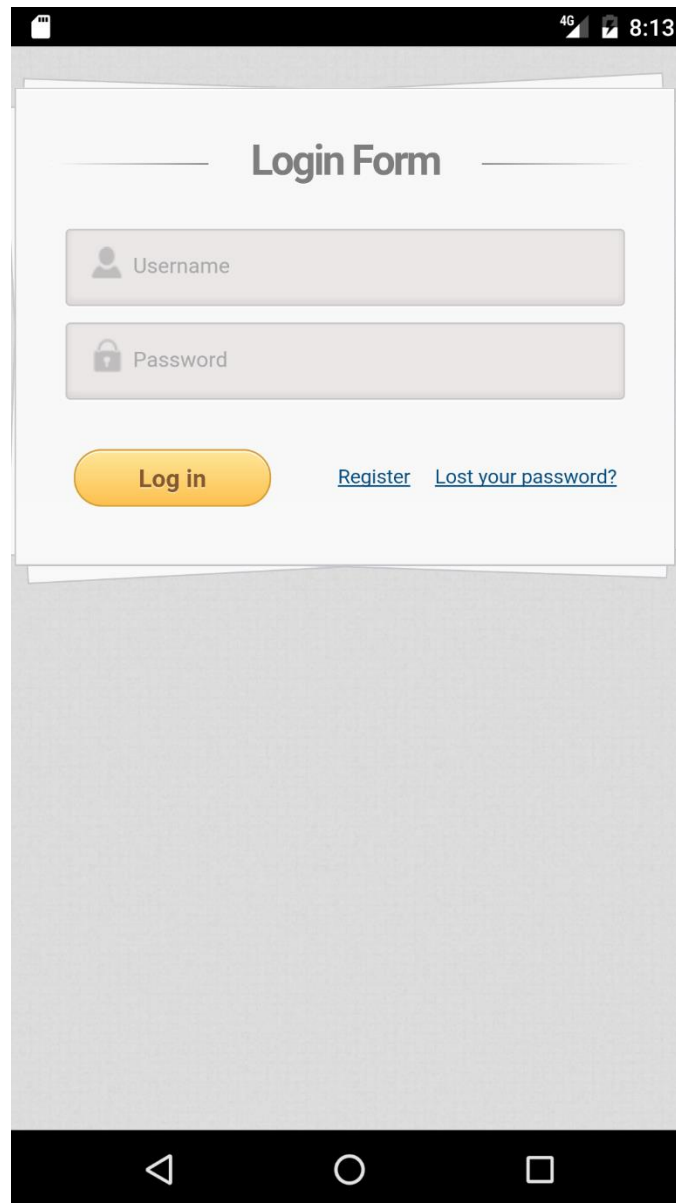
Result after reading the barcode image



Retrieves the barcode image decoded text shown in the alert



**Screenshots:** Here the screen shots on both mobile emulator device and web browser



**Firestore storage:**

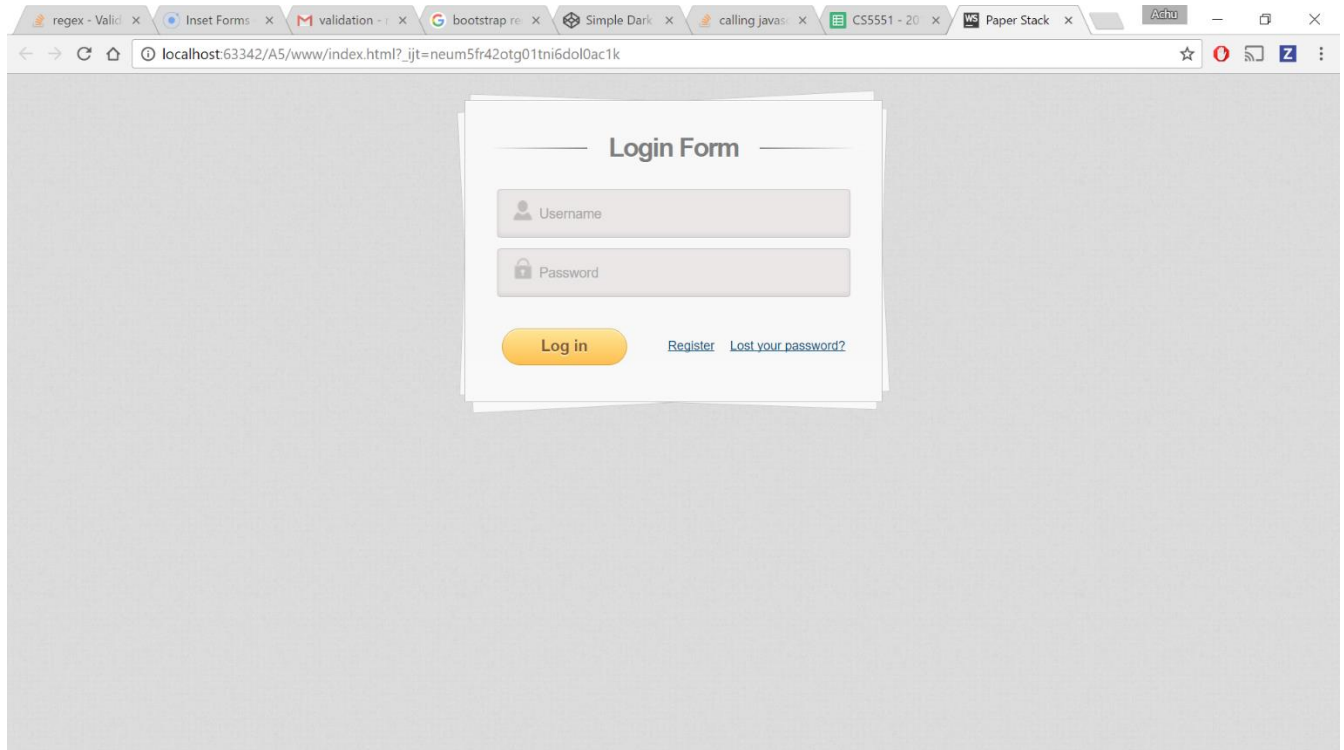
The screenshot shows the Firebase Realtime Database console for the project 'ase-lab7'. The left sidebar contains navigation links for Analytics, Auth, Database, Storage, Hosting, Test Lab, Crash Reporting, Notifications, Remote Config, Dynamic Links, and Spark Free. The main panel displays the 'Realtime Database' with tabs for DATA, RULES, and USAGE. The 'DATA' tab is active, showing a tree view of the database structure. The root node is 'ase-lab7', which has a child node 'users'. The 'users' node has a child node 'Achyuth: "Achu0015"', which in turn has a child node 'LGfQpEom4PMVFAIM8w4r55TB0D83'. This node has a child node 'images', which has a child node '-KTRGtGRqFXNmvqFeRI7'. This node has a child node 'image: "/9j/4AAQSkZJRgABAQAAQABAAD/2wBDAAgGBgcGBQgHBwc...

**Firestore rules:**

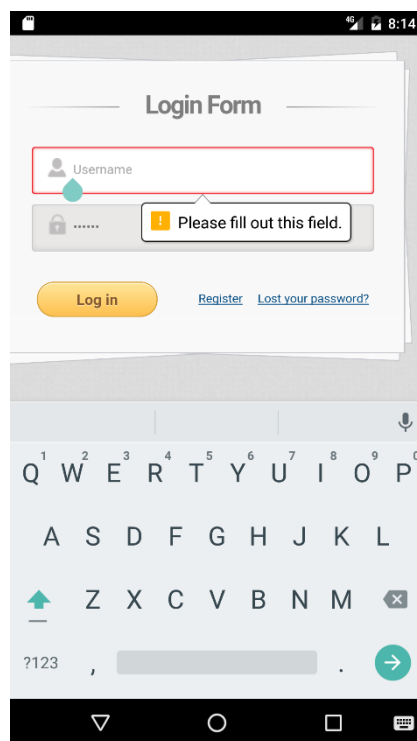
The screenshot shows the Firebase Realtime Database console for the project 'ase-lab7', specifically the 'RULES' tab. The left sidebar is the same as in the previous screenshot. The main panel displays the 'Realtime Database' with tabs for DATA, RULES, and USAGE. The 'RULES' tab is active, showing a text editor with the following security rules:

```
1 {  
2   "rules": {  
3     ".read": "auth != null",  
4     ".write": "auth != null"  
5   }  
6 }
```

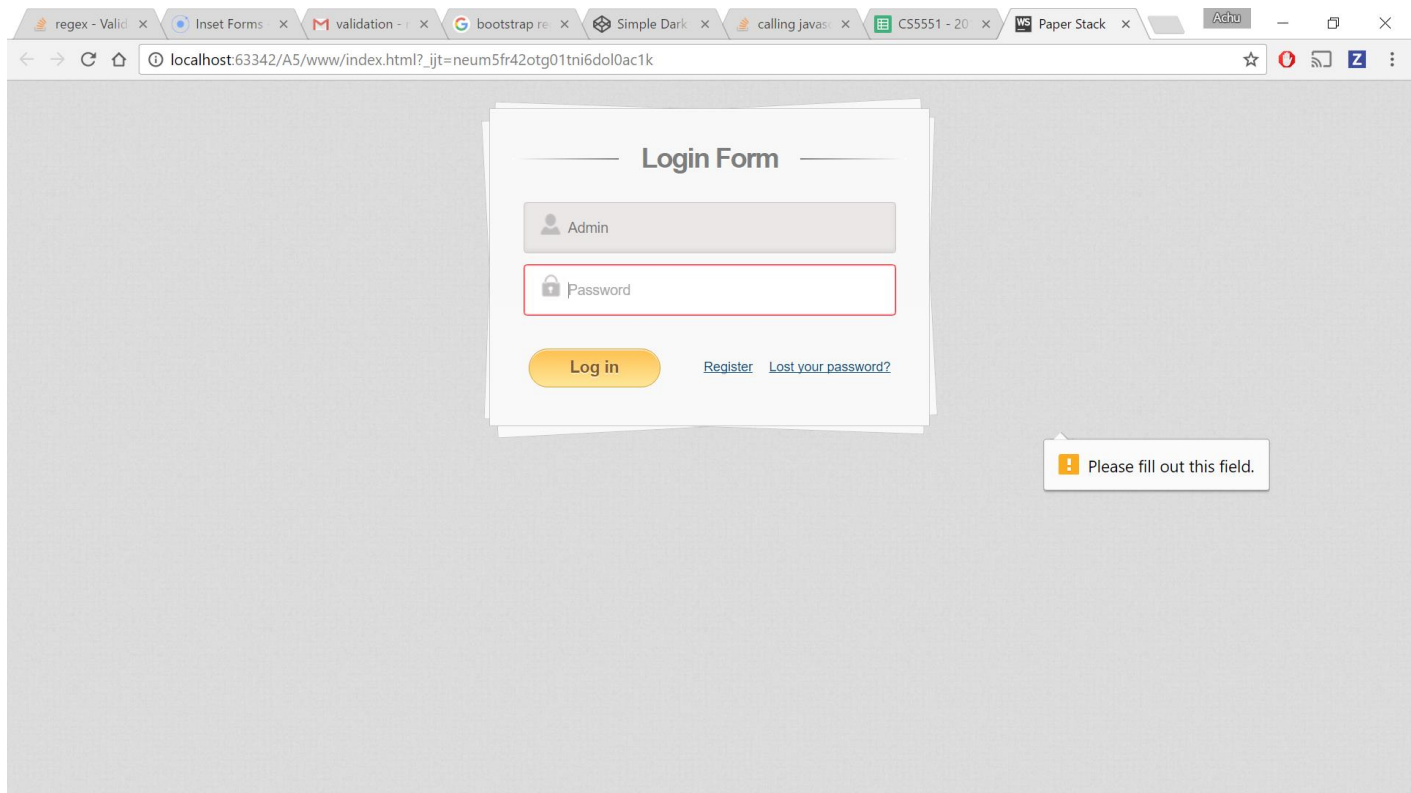
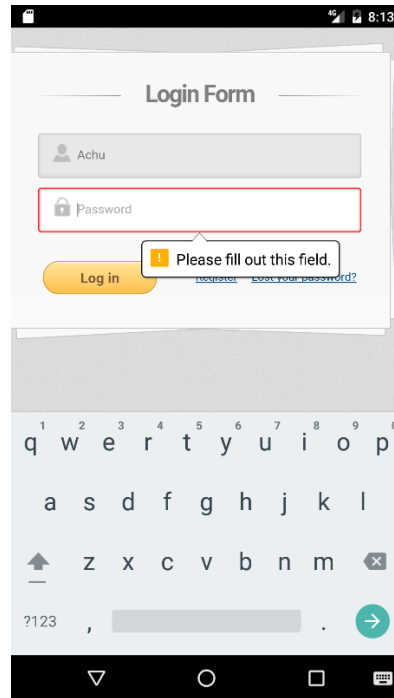
A 'SIMULATOR' button is visible in the top right corner of the rules editor. A notification banner at the top of the rules editor states: 'Default security rules require users to be authenticated' with 'LEARN MORE' and 'DISMISS' links.



Below screen shots show the input validation of username and password.

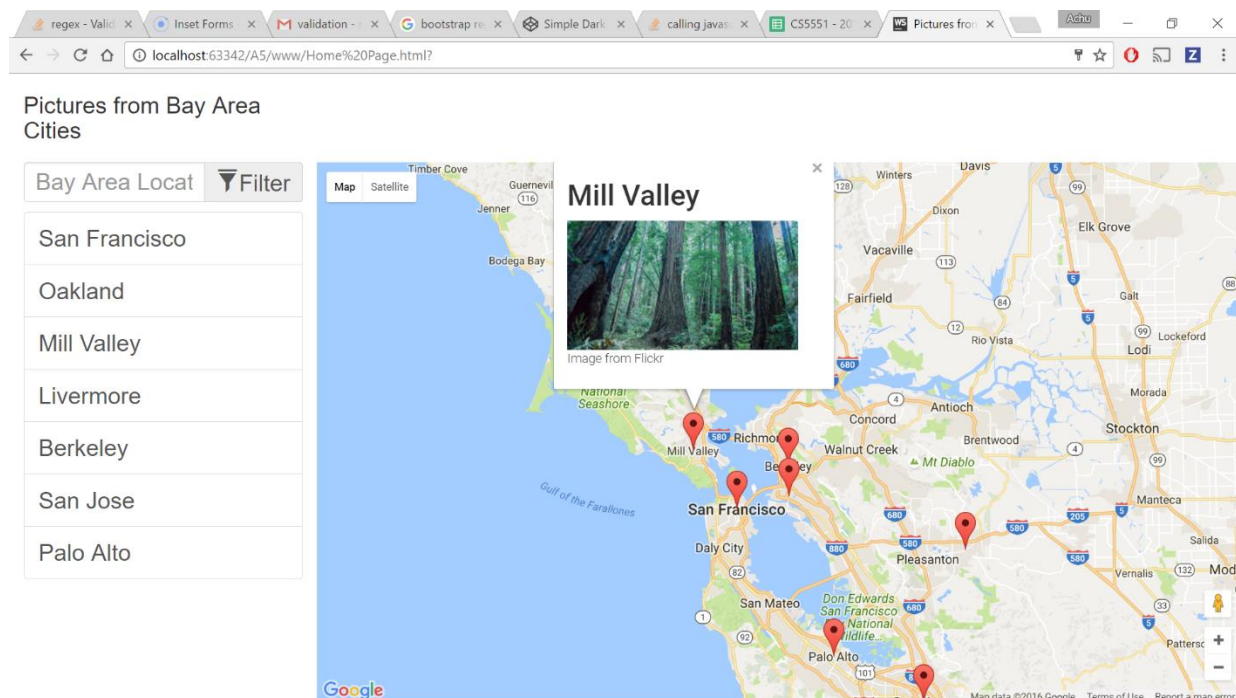
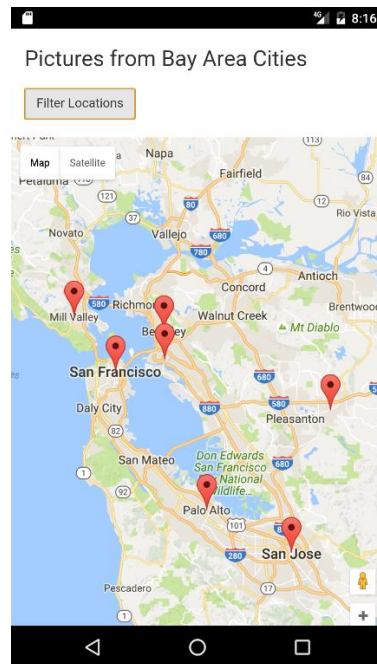




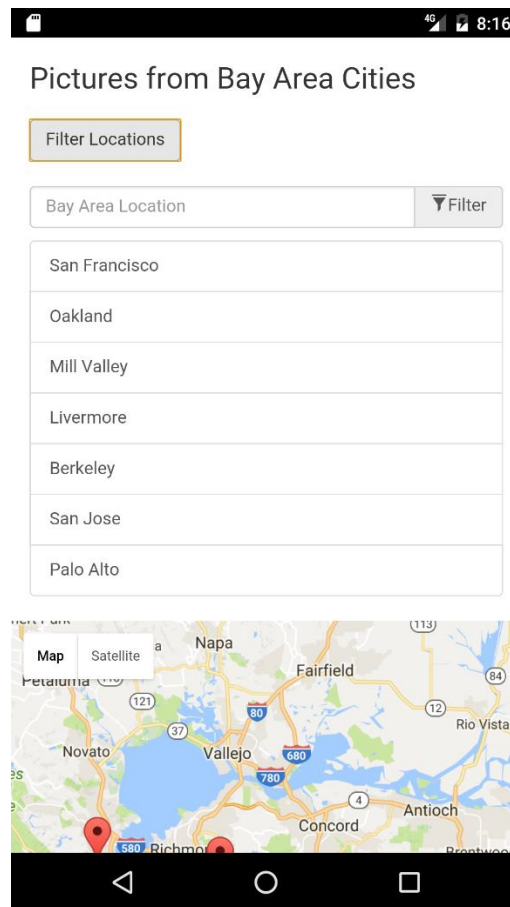


Once the input credentials are correct it redirects to home page:

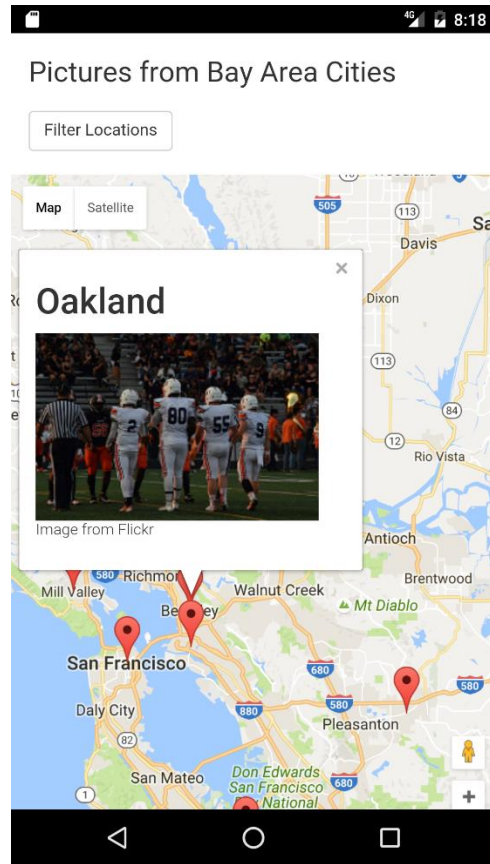
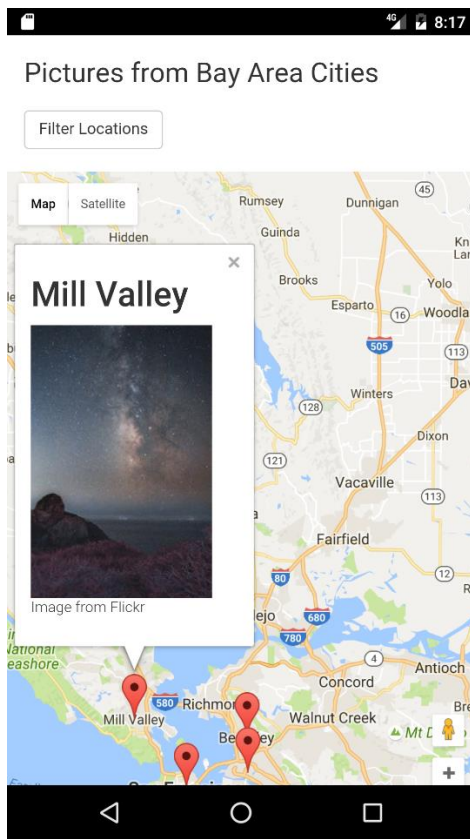
Here two mashups of both Google maps and Flickr which retrieves popular (trending) images on the selected cities.



Below shows the drop down list of cities populated from google maps



Below images shows trending photos of various cities like Mill valley, Sanfrancisco, Sanjose, Palo Alto etc.



regex - Valid x Inset Forms x validation - x bootstrap re x Simple Dark x calling java x CS551 - 20 x Pictures from x Achu

localhost:63342/A5/www/Home%20Page.html?

### Pictures from Bay Area Cities

Bay Area Locat Filter

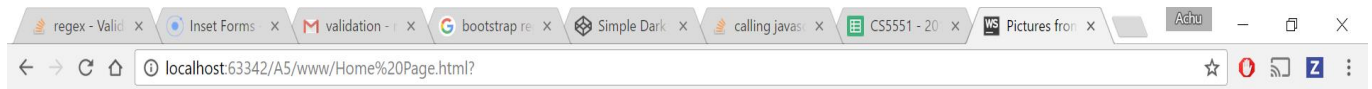
- San Francisco
- Oakland
- Mill Valley
- Livermore
- Berkeley
- San Jose
- Palo Alto

Map Satellite

San Jose

Image from Flickr





## Pictures from Bay Area Cities

Bay Area Locat

Filter

San Francisco

Oakland

Mill Valley

Livermore

Berkeley

San Jose

Palo Alto

Map

Satellite

San Francisco

Image from Flickr

San Francisco

Google

Map data ©2016 Google Terms of Use Report a map error

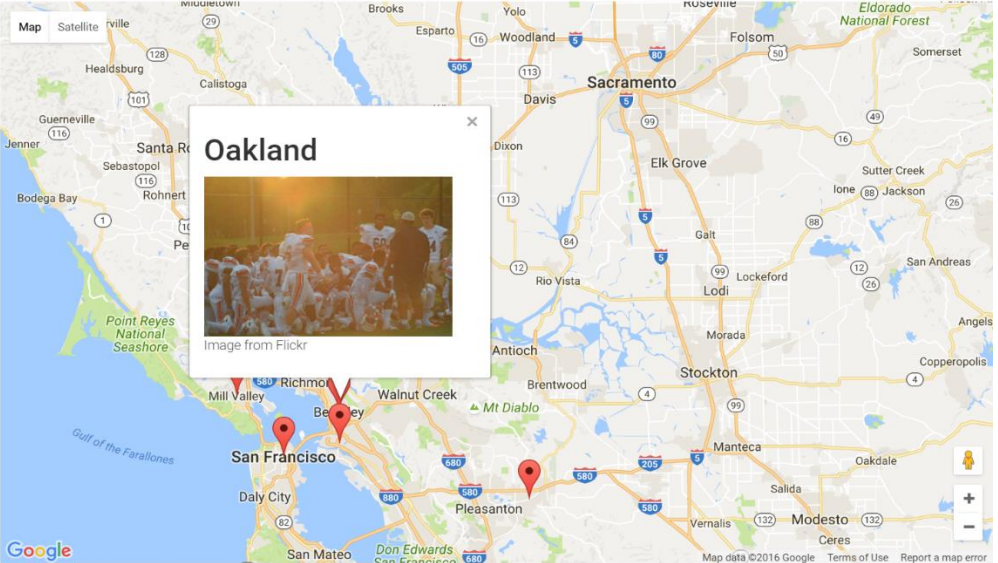
regex - Valid x Inset Forms x validation - x bootstrap re x Simple Dark x calling javas x CS5551 - 20 x Pictures from x Achy

localhost:63342/A5/www/Home%20Page.html?

### Pictures from Bay Area Cities

Bay Area Locat Filter

- San Francisco
- Oakland
- Mill Valley
- Livermore
- Berkeley
- San Jose
- Palo Alto



The map shows the San Francisco Bay Area with various cities labeled. A popup window titled "Oakland" is displayed over the city, showing a group of people in white shirts and dark pants, possibly a sports team or a group photo. The popup also includes the text "Image from Flickr".

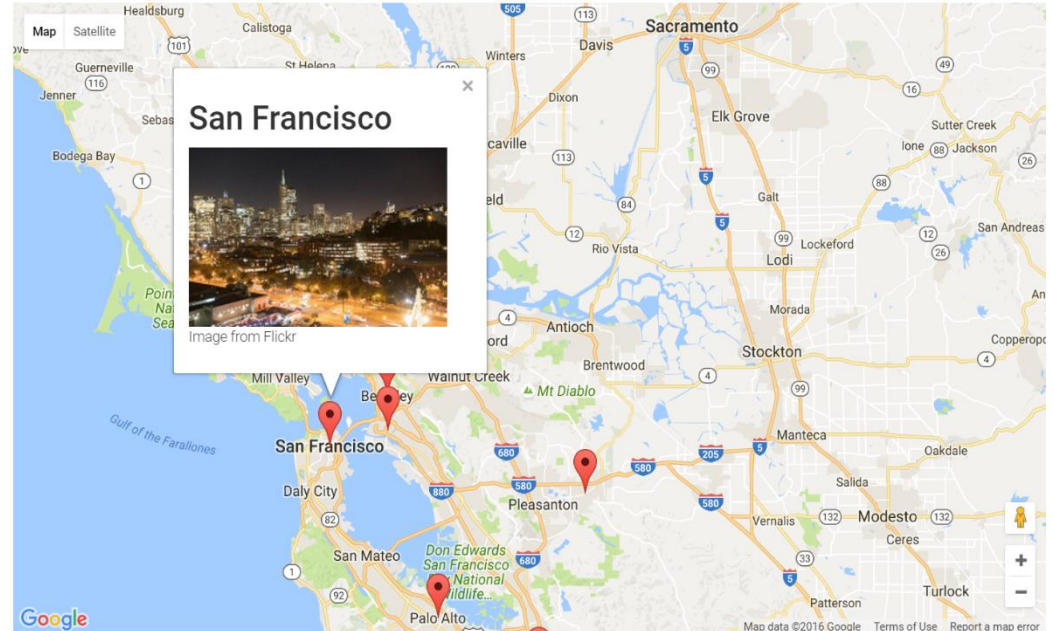
regex - Valid x Inset Forms x validation - x bootstrap re x Simple Dark x calling javas x CS5551 - 20 x Pictures from x Achy

localhost:63342/A5/www/Home%20Page.html?

### Pictures from Bay Area Cities

Bay Area Locat Filter

- San Francisco
- Oakland
- Mill Valley
- Livermore
- Berkeley
- San Jose
- Palo Alto



The map shows the San Francisco Bay Area with various cities labeled. A popup window titled "San Francisco" is displayed over the city, showing a night view of the city skyline with the Golden Gate Bridge and the city lights. The popup also includes the text "Image from Flickr".

## Using YSlow to test performance on browsers

The screenshot shows a web browser window with several tabs: Google, CS5551 - 2016 Fall - Go..., CS5551 Journal Club Rep..., and Paper Stack. The address bar shows the URL `localhost:8100`. The main content area displays a "Login Form" with fields for "Username" and "Password", a "Log in" button, and links for "Register" and "Lost your password?".

Overlaid on the bottom of the browser window is the YSlow performance tool interface. The top bar shows the URL `chrome-extension://ninejcohidippngpapiilnmkgllmakhy/yslow.html#1`. The "Rulesets" dropdown is set to "YSlow(V2)". The "Grade" tab is selected, showing an overall performance score of 92. The URL being tested is `http://localhost:8100/`.

The "Components" section lists various performance metrics with their grades:

- A Make fewer HTTP requests
- B Use a Content Delivery Network (CDN)
- A Avoid empty src or href
- D Add Expires headers
- D Compress components with gzip
- A Put CSS at top
- A Put JavaScript at bottom
- A Avoid CSS expressions

The "Make fewer HTTP requests" section is expanded, showing a "Grade A" and a detailed explanation: "Decreasing the number of components on a page reduces the number of HTTP requests required to render the page, resulting in faster page loads. Some ways to reduce the number of components include: combine files, combine multiple scripts into one script, combine multiple CSS files into one style sheet, and use CSS Sprites and image maps." A link to "»Read More" is provided.



The screenshot shows a web browser with several tabs open: 'ngCordova - Docu...', 'Implement A Barcod...', 'GitHub', 'cordova.js is missing', 'Lab7 - nar.achualt@', 'Pictures from Bay A...', and 'Achu'. The address bar shows 'localhost:8100/Home%20Page.html?'. The page title is 'Pictures from Bay Area Cities'. Below the title is a search bar with 'Bay Area Locat' and a 'Filter' button. A list of cities is shown: 'San Francisco', 'Oakland', and 'Mill Valley'. To the right of the list is a map of the San Francisco Bay Area. Below the map is a photo of three people standing in front of a Google logo. To the right of the photo is a map of Sacramento, California. Below the browser window is the Chrome DevTools Performance tab, showing the 'Grade' section. The 'Grade' section shows an overall performance score of 74 and a ruleset applied of 'YSlow(V2)'. The URL is 'http://localhost:8100/Home%20Page.html?'. The 'Grade' section lists several performance issues: 'F Make fewer HTTP requests', 'F Use a Content Delivery Network (CDN)', 'A Avoid empty src or href', 'F Add Expires headers', 'F Compress components with gzip', 'A Put CSS at top', and 'A Put JavaScript at bottom'. The 'F Make fewer HTTP requests' section is expanded, showing a 'Grade F on Make fewer HTTP requests' and a description: 'This page has 17 external Javascript scripts. Try combining them into one. This page has 4 external stylesheets. Try combining them into one. Decreasing the number of components on a page reduces the number of HTTP requests required to render the page, resulting in faster page loads. Some ways to reduce the number of components include: combine files, combine multiple scripts into one script, combine multiple CSS files into one style sheet, and use CSS Sprites and image maps. >>Read More'.

## References:

- <http://www.flickr.com/services/api/flickr.photos.search.html>
- <http://ionicframework.com/docs/components/#inset-forms>
- <http://ngcordova.com/docs/plugins/>
- <https://developers.google.com/maps/>
- Class Tutorial