LAPA

(Los Angeles Photo Archive / Sidewalk Repair Project)

By: Brian Kan, Kaila Mayho, Phillip Han, Sharon Lake, Araceli Lopez, Patricia Luz, Daniel Bollinger

Introduction

- Project Purpose
- Project Goal

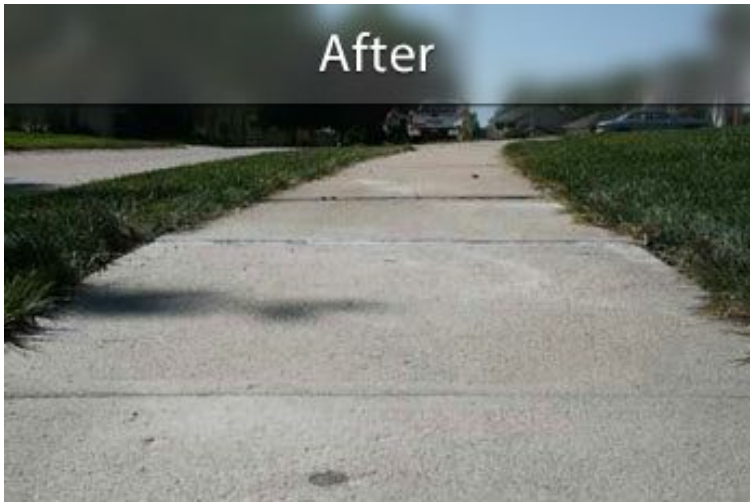
Areas

- Requirements
- Android
- Azure Database
- Testing Framework

Todo

Project Purpose

- **BEFORE_0014AX_20170801...jpg**



- **AFTER_0014AX_20171101....jpg**

Presented by:
Brian Kan

LAPA v.1.0

- **Tag and Upload Photos**
  - Category, Fields, Latitude, Longitude
- **Database**
  - Microsoft Azure
  - BLOB Storage Container
- **History**
- **Settings**

PROJECT GOALS

- **Modify**
  - Android Application
  - Azure Backend
- **Testing**
  - Testing and Bugfixes
- **Overhaul**
  - UI
- **Implement Real Categories**
  - Specified list of metadata categories

Requirements

- Tagging Before/After Photos
- Mark a primary image
- Categories and Fields

- Launch LAPA from a Link
  - boephotoarchive://WebApplication/RepairTaskID/ABCD-1234

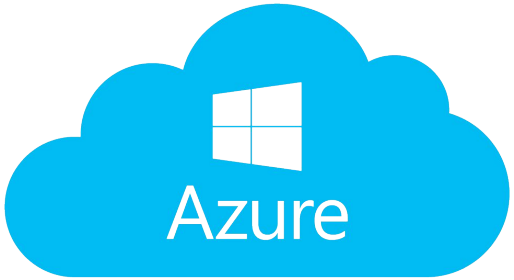
Presented by:
Kaila Mayho

Category	Field	Value
Sidewalk Repair	Permit No.	#5678
Sidewalk Repair	Work Order No.	#AB123
Sidewalk Repair	Comments	Initial Assessment
Sidewalk Repair	Coordinates/Lat	34.068438
Sidewalk Repair	Coordinates/Lon	-118.362771

Category	Field	Value
U-Permits	Ref No.	#5645
U-Permits	Permit No.	#U5698
U-Permits	Work Status	Pending
U-Permits	Coordinates/Lat	34.064404
U-Permits	Coordinates/Lon	-118.173100

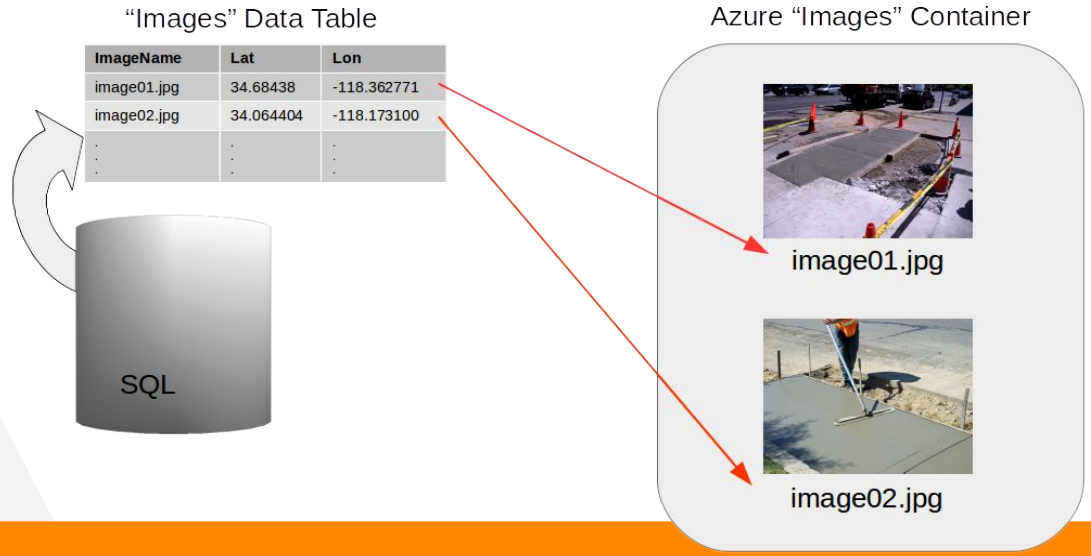
Azure Backend

- BoE uses Microsoft Azure Cloud services for its backend storage needs
- The LAPA Android application functions within the existing BoE storage framework.



Azure Backend

- The LAPA application has two different but related storage requirements,
  - Data in structured tables provided by an Azure Database, and
  - Containerized Azure Blob storage



Azure Backend

- The inherited backend data structure allowed for each and every image to record multiple associated meta information.

Category	Field	Value
Sidewalk Repair	Permit No.	#5678
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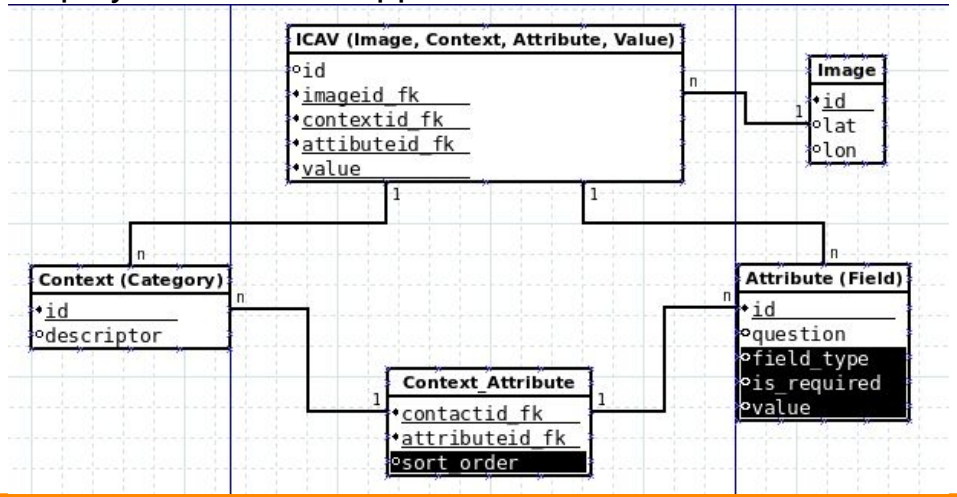
U-Permits	Work Status	Pending
U-Permits	Coordinates/Lat	34.064404
U-Permits	Coordinates/Lon	-118.173100

Azure Backend

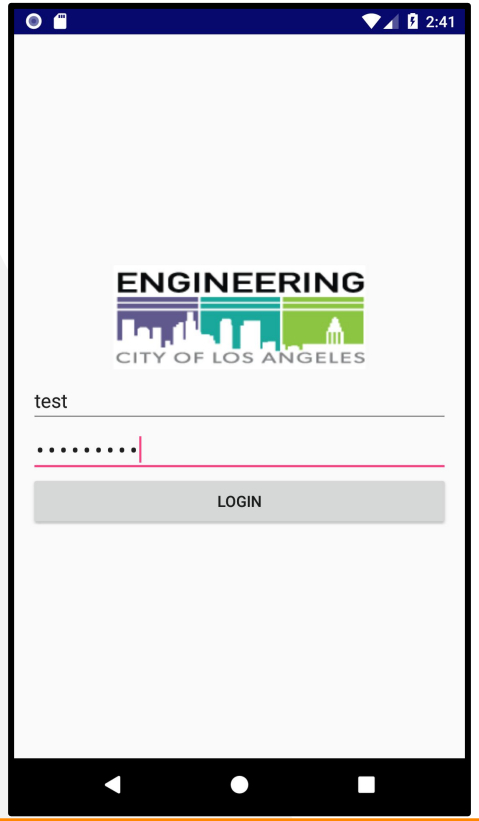
- However, several changes to the schema were required to reflect new data requirements
  - Sort order display of fields in Android app
  - Whether a field was required to be completed by the field engineer
  - Type of field to be displayed in Android app

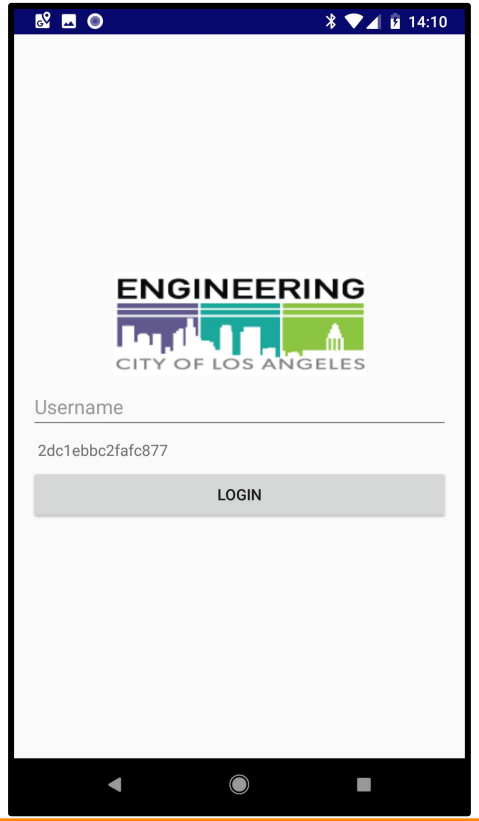


Android UI

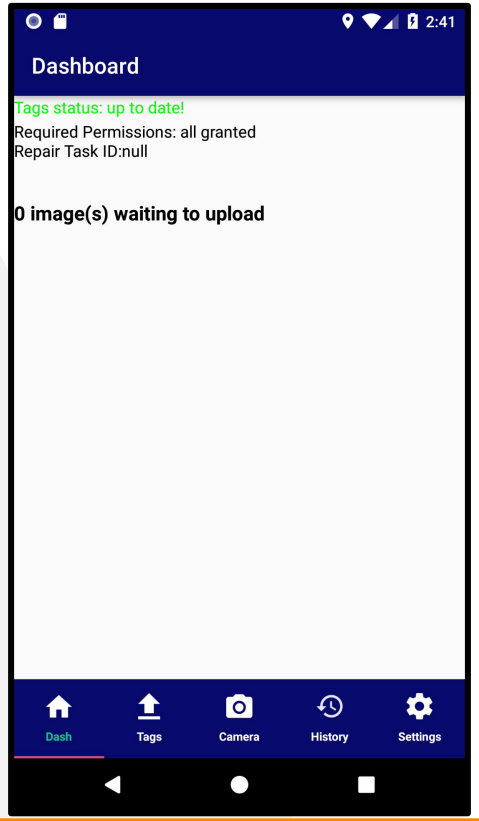
- User interface changes to make UI less opaque to user
- Changes to backend reflected in frontend
- Reduce number of Activities

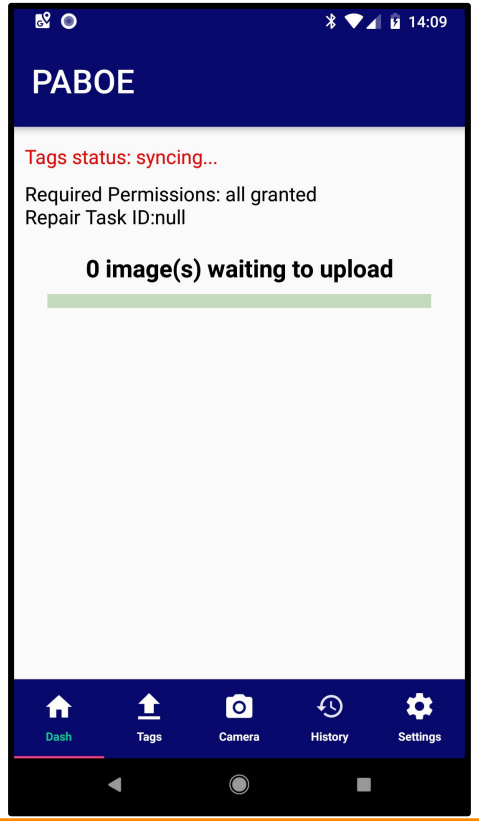
Android UI


2:41
ENGINEERING
CITY OF LOS ANGELES
test
LOGIN

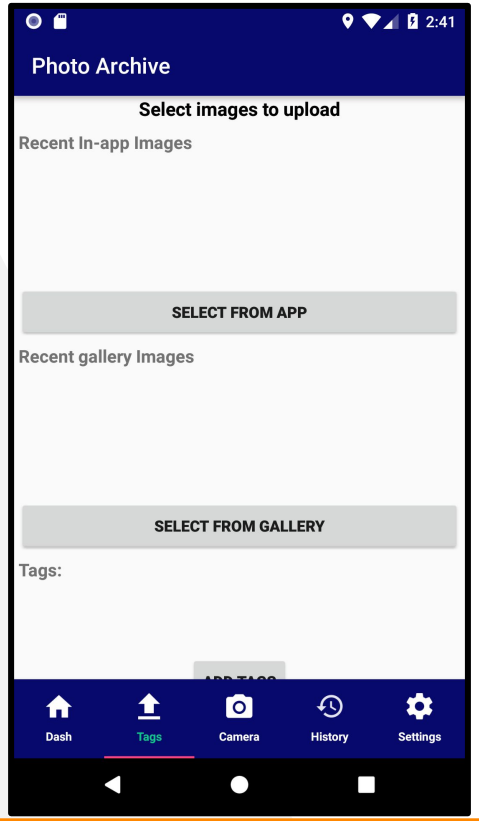

14:10
ENGINEERING
CITY OF LOS ANGELES
Username
2dc1ebbc2fafc877
LOGIN

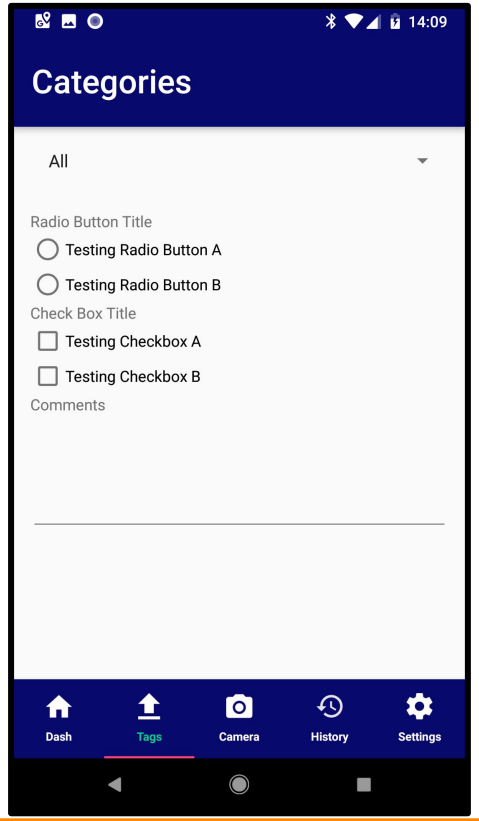
Android UI


2:41
Dashboard
Tags status: up to date!
Required Permissions: all granted
Repair Task ID:null
0 image(s) waiting to upload
Dash
Tags
Camera
History
Settings

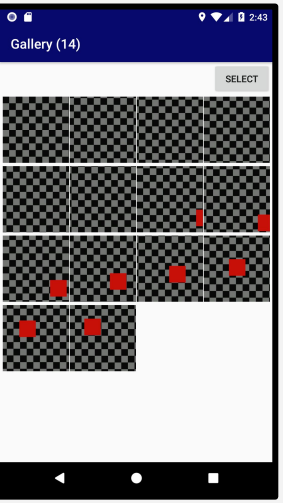

14:09
PABOE
Tags status: syncing...
Required Permissions: all granted
Repair Task ID:null
0 image(s) waiting to upload
Dash
Tags
Camera
History
Settings

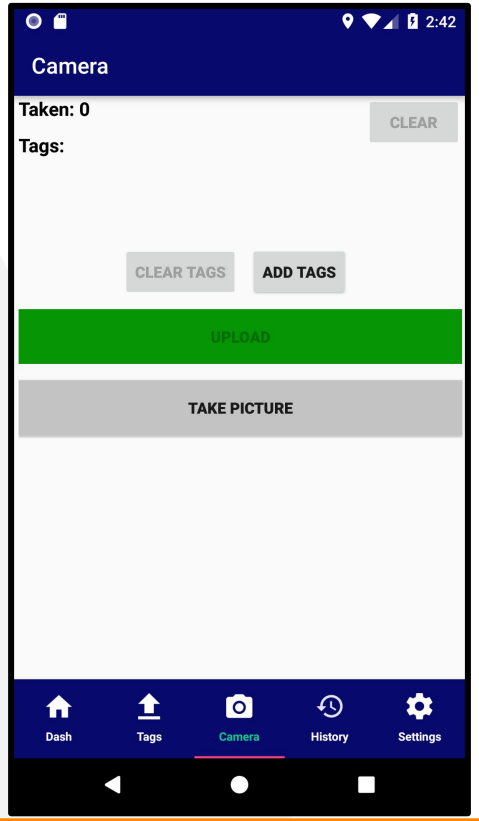
Android UI

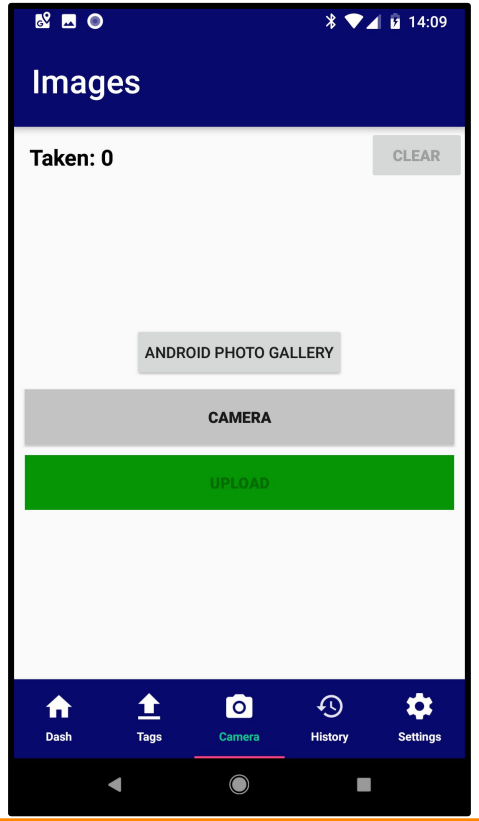

2:41
Photo Archive
Select images to upload
Recent In-app Images
SELECT FROM APP
Recent gallery Images
SELECT FROM GALLERY
Tags:
Dash
Tags
Camera
History
Settings


14:09
Categories
All
Radio Button Title
Testing Radio Button A
Testing Radio Button B
Check Box Title
Testing Checkbox A
Testing Checkbox B
Comments
Dash
Tags
Camera
History
Settings

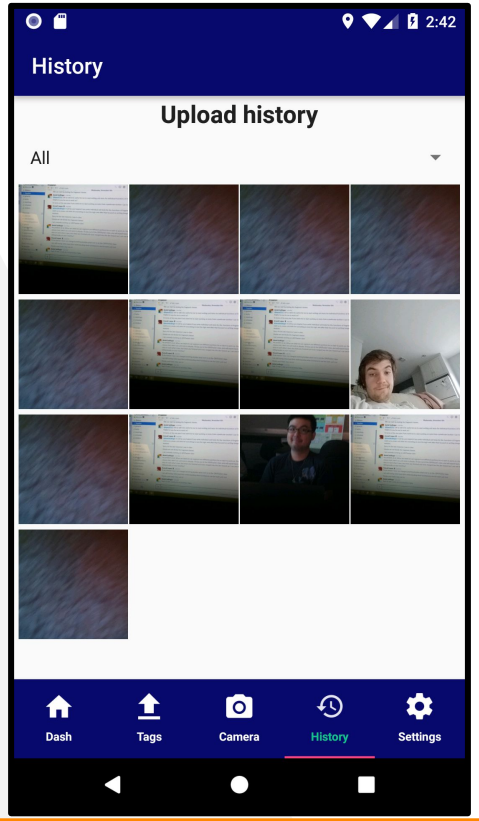
Android UI

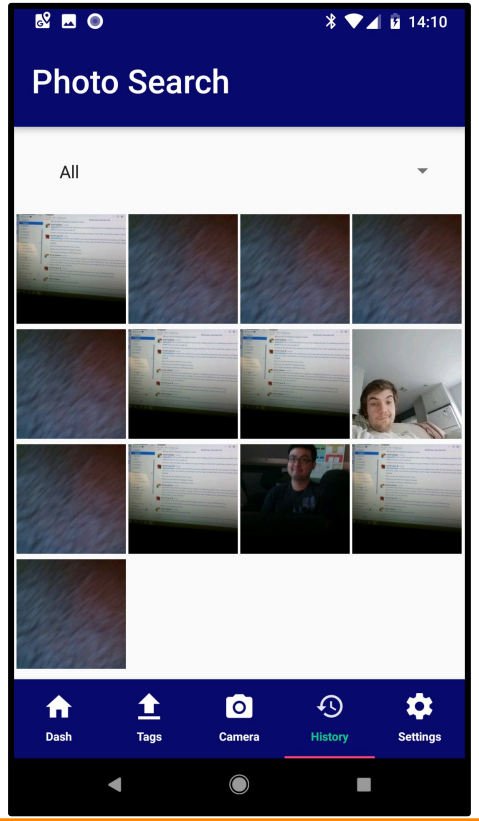

2:43
Gallery (14)
SELECT


2:42
Camera
Taken: 0
CLEAR
Tags:
CLEAR TAGS
ADD TAGS
UPLOAD
TAKE PICTURE
Dash
Tags
Camera
History
Settings

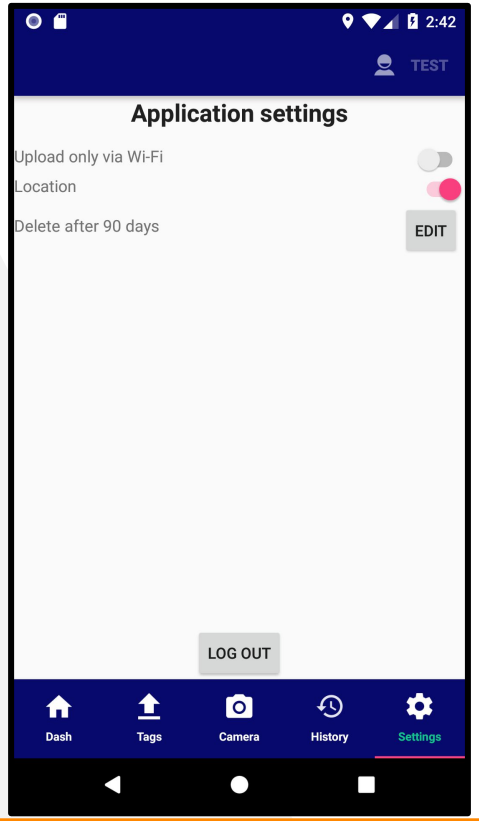

14:09
Images
Taken: 0
CLEAR
ANDROID PHOTO GALLERY
CAMERA
UPLOAD
Dash
Tags
Camera
History
Settings

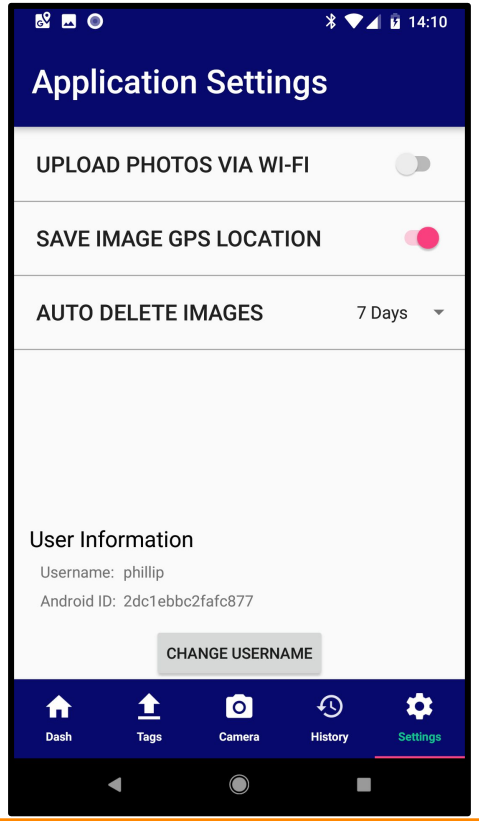
Android UI


2:42
History
Upload history
All
Dash
Tags
Camera
History
Settings

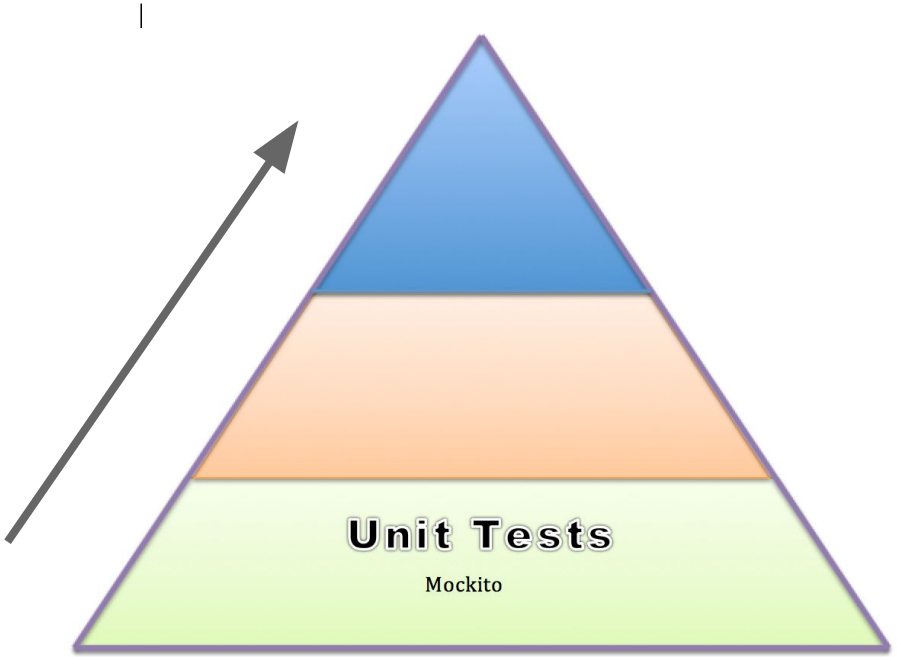

14:10
Photo Search
All
Dash
Tags
Camera
History
Settings

Android UI


2:42
TEST
Application settings
Upload only via Wi-Fi
Location
Delete after 90 days
EDIT
LOG OUT
Dash
Tags
Camera
History
Settings


14:10
Application Settings
UPLOAD PHOTOS VIA WI-FI
SAVE IMAGE GPS LOCATION
AUTO DELETE IMAGES
7 Days
User Information
Username: phillip
Android ID: 2dc1ebbc2fafc877
CHANGE USERNAME
Dash
Tags
Camera
History
Settings

Unit Tests

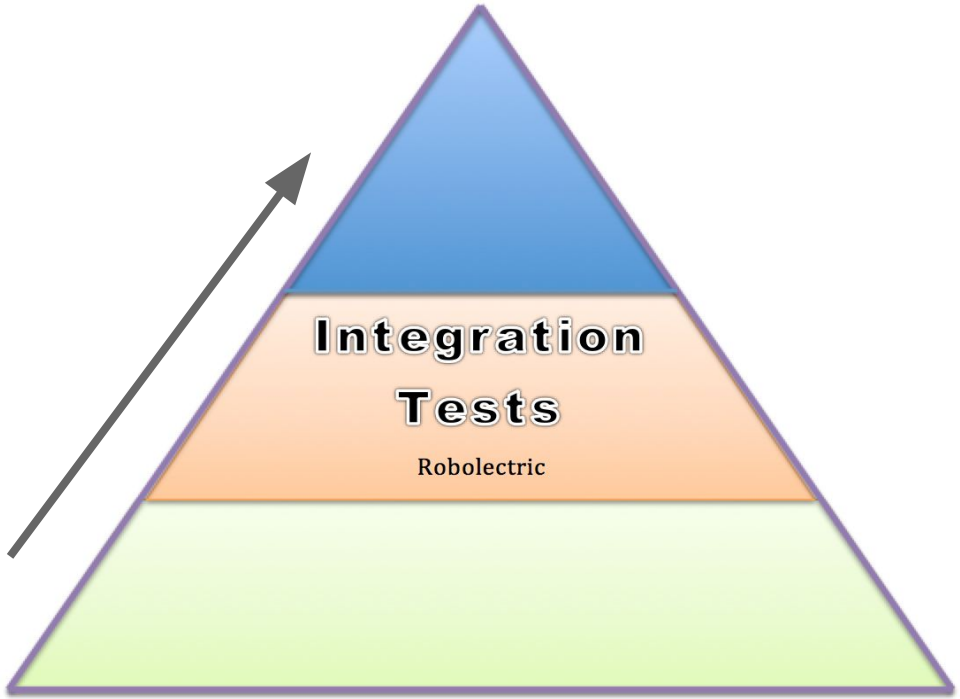


Presented by:
Araceli Lopez

Mockito

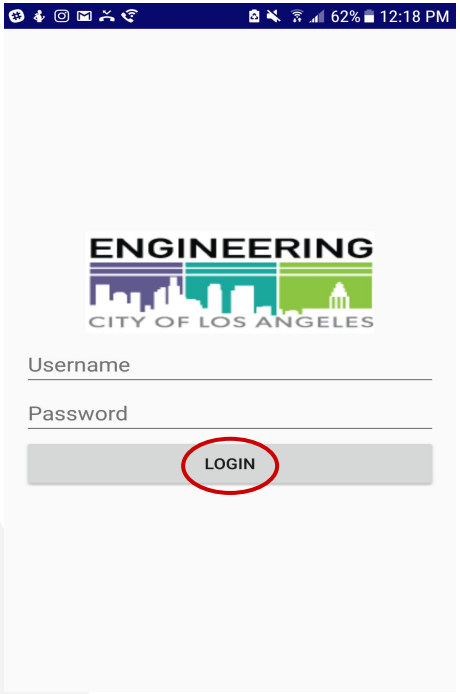
Presented by:
Araceli Lopez

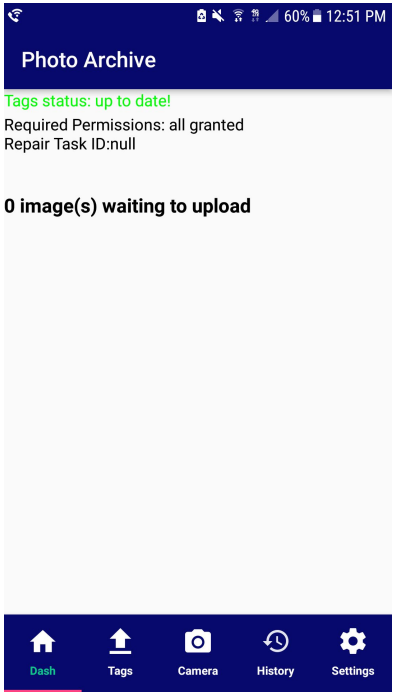
Integration Test



Presented by:
Araceli Lopez

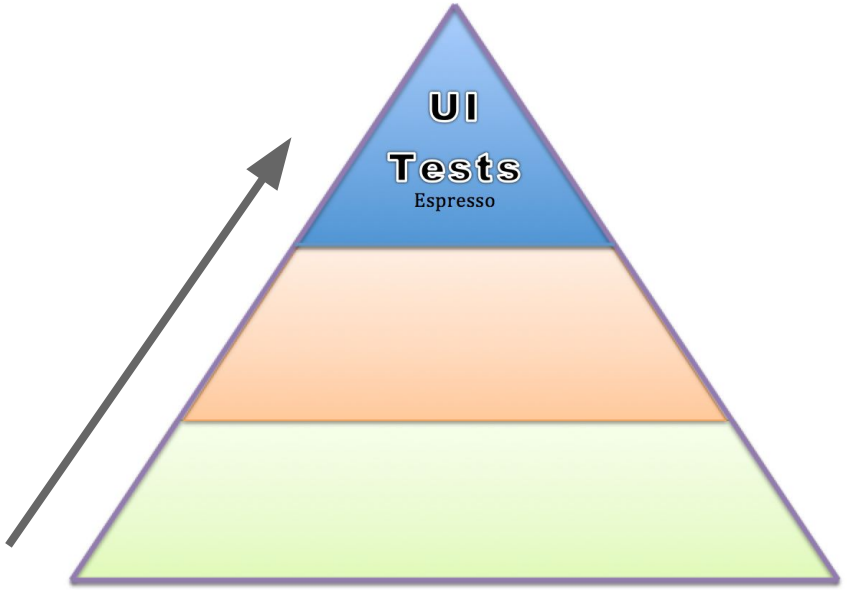
Robolectric





Presented by:
Patricia Luz

User Interface Tests



Espresso


MainActivityTest
mainActivityTest()
ViewInteraction appCompatEditText =
allOf(withId(R.id.etValue),
appCompatEditText.perform(replaceTex
ViewInteraction appCompatButton2 =
allOf(withId(R.id.btnOk),
appCompatButton2.perform(click());
ViewInteraction appCompatButton3 =
allOf(withId(R.id.run_button
withParent(allOf(wit
withParent(w
isDisplayed())));
appCompatButton3.perform(click());
ViewInteraction editText = onView(
Google
Success

Tablet Compatibility

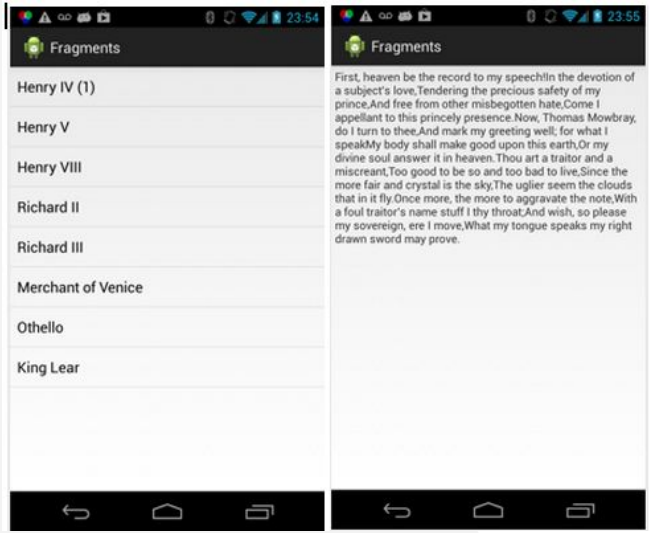
- A large portion of expected usage of the app will be on tablets
- Android applications designed on phone-sized screens are not always perfectly scaled to tablet dimensions
- Separate layouts can be designed to better fit the dimensions of larger devices

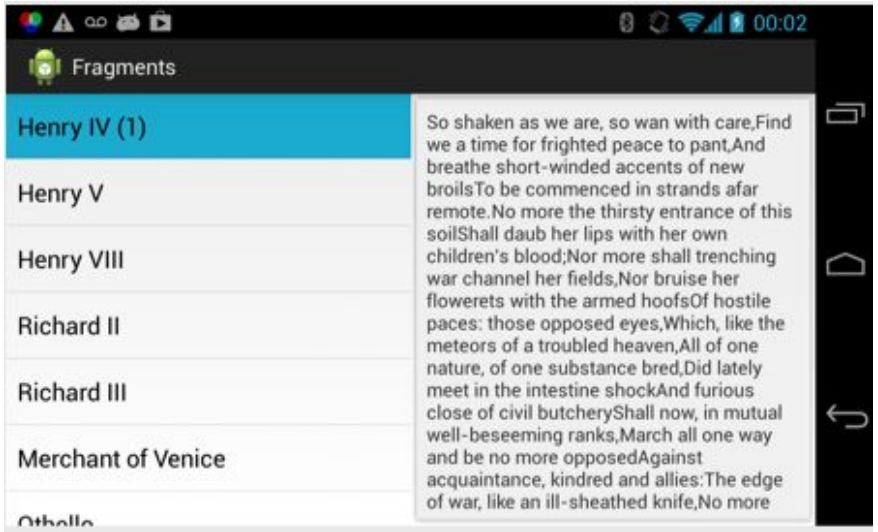
Presented by:
Daniel Bollinger

Tablet Compatibility

Taking advantage of the larger screen size

- Allow the user to see a launched fragment without discarding the current fragment





Project Timeline

Plans for Spring

1. Finalize Android UI Changes
2. Complete Testing Suite
3. Testing and Bug Fixing

Thank you!