**EPICS Spring 2015**
27 April 2015
Anou
Team A1
Gayle Ocampo and Melanie Gaston

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# Team Members & Roles

### Gayle Ocampo (Team Lead)

Gayle is junior Computer Science major with a minor in Spanish. She was the team lead and took control of coding the application. She chose this client because she liked the concept of helping artisans in Morocco.

Android Studio was a completely new environment and it was a huge learning curve. However, she was able to do a lot of research and create a simple email app with an attachment feature.

### Melanie Gaston (Client Liaison)

Melanie is a junior Computer Science major. Melanie Gaston is a junior Computer Science major from Chicago, Illinois. At home, she lives with her mother and three year old brother. While at school, she is a Resident Assistant in ResCo. Additionally, she is also a very active participant in the basketball band and has also served as a co-chair of SGA Program Board's Concerts Committee for the past two years. This summer, Melanie will be traveling to Shanghai to intern with One Connection Health Ltd., where she will be working on website design and maintenance. She took on the role as client liaison and was responsible for making sure they were kept up to date.

# Anou

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"Anou is a community of artisans working together to establish equal access to the free market."

**About the Company**

Anou was a new client for EPICS this semester. The company helps Moroccan artisans gain access to the free market in order to sell their goods. Unlike other fair-trade companies, Anou works directly with the artisans to help them sell their products while teaching them valuable skills. The community of artisans is trained on who to use technology to ship their products and on how to take proper photos of their products. Overall, the company works to help teach artisans skills that will help enrich their lives.

**Contact**

Our main contact was Tom Counsell, co-founder of the company. After an initial meeting, we were unable to meet with him again because he was in Thailand for the duration of the semester. However, we were able to conduct a Skype meeting with Dan and Tifawt, other members of Anou.

**Project**

Initially, Tom wanted to us to create something that analyzed the marketplace, however, after the skype meeting, we changed directions. After consulting Dan and Tifawt, they told us that they needed a simple app that artisans could use to send updates on custom orders. The artisans use Android phones to conduct their business, therefore, we were tasked with creating an Android app.

# Research & Tools Used

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     The team was asked to create a simple, user-friendly android application that sent an email to a general account. After researching the different integrated development environments (IDE), we decided to use the fairly new-released Android Studio.

**Android Studio**
     https://developer.android.com/sdk/index.html


**Reference Pages**

Getting Started with Android Studio:
     http://developer.android.com/training/index.html

Understanding basic Android Studio application:
     http://www.techotopia.com/index.php/The_Anatomy_of_an_Android_Studio_Android_Application

First Application tutorial:
     http://www.i-programmer.info/programming/android/5887-android-adventures-getting-started-with-android-studio.html

Android Studio + SendGrid Email Client:
     https://sendgrid.com/blog/send-email-from-android-applications/

# Prototypes

Since the clients work with artisans who have limited technological knowledge, they wanted an app that was simple to use. After an initial Skype session with Tom and Tifawt, they sent us a few prototype sketches as to what their vision for the app would look like.
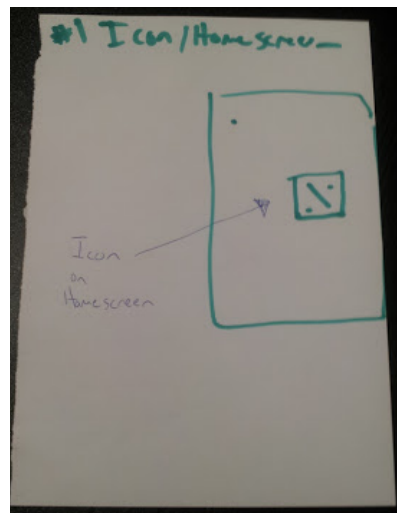


*Image 1: This image shows the icon located on a phone's home screen*



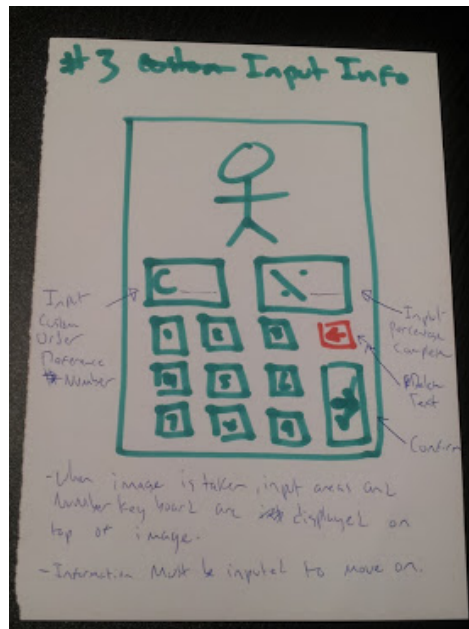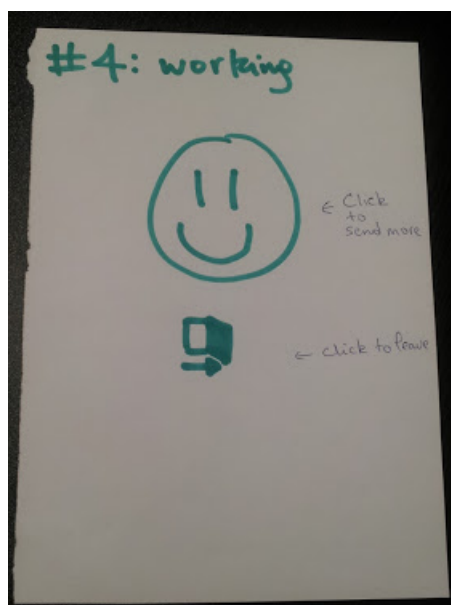*Image 2: The app would open the phone's camera when tapped with only a single "Capture" button*

*Image 3: The user is prompted to enter numerical data into two text fields- an order number and the completion percentage*



*Images 4 & 5: Once the email is sent, the user will be presented with a successful or unsuccessful sent message on the screen*

# Design & Implementation

The following is the code created for this project:

**AndroidManifest.xml**

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.gayle.newanou" >

    <uses-permission android:name="android.permission.INTERNET" />
    <uses-permission android:name="android.permission.READ_EXTERNAL_STORAGE" />
    <uses-permission android:name="android.permission.READ_INTERNAL_STORAGE" />
    <uses-permission android:name="android.permission.ACCESS_NETWORK_STATE" />

    <application
        android:allowBackup="true"
        android:icon="@drawable/ic_launcher"
        android:label="@string/app_name"
        android:theme="@style/AppTheme" >
        <activity
            android:name=".MainActivity"
            android:label="@string/app_name" >
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
        <activity
            android:name=".MainActivity2"
            android:label="@string/title_activity_main_activity2" >
        </activity>
    </application>

</manifest>
```

**activity_mail.xml**

```xml
<ScrollView xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:padding="5dp"
    tools:context=".MainActivity" >

    <RelativeLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_margin="5dp"
        android:padding="5dp" >

        <EditText
            android:id="@+id/editTextTo"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:hint="gocampo@butler.edu"
            android:inputType="textEmailAddress"
            android:singleLine="true"
            android:layout_alignParentTop="true"
            android:layout_alignParentLeft="true"
            android:layout_alignParentStart="true"
            android:editable="false" />

        <EditText
            android:id="@+id/editTextSubject"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_below="@id/editTextTo"
            android:layout_margin="5dp"
            android:hint="Subject"
            android:singleLine="true" />

        <EditText
            android:id="@+id/editTextMessage"
            android:layout_width="match_parent"
```

```xml
            android:layout_height="200dp"
            android:layout_below="@id/editTextSubject"
            android:layout_margin="5dp"
            android:gravity="top|left"
            android:hint="type message here!"
            android:inputType="textMultiLine" />

        <Button
            android:id="@+id/buttonSend"
            android:layout_width="80dp"
            android:layout_height="50dp"
            android:layout_below="@id/editTextMessage"
            android:layout_margin="5dp"
            android:text="Send" />

        <Button
            android:id="@+id/buttonAttachment"
            android:layout_width="wrap_content"
            android:layout_height="50dp"
            android:layout_alignParentRight="true"
            android:layout_alignParentTop="true"
            android:text="attachment" />
    </RelativeLayout>

</ScrollView>
```

**MainActivity.java**

```java
package com.example.gayle.newanou;

import android.app.Activity;
import android.content.Intent;
import android.database.Cursor;
import android.net.Uri;
import android.os.Bundle;
import android.provider.MediaStore;
import android.util.Log;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends Activity implements OnClickListener {

    EditText editTextEmail, editTextSubject, editTextMessage;
    Button btnSend, btnAttachment;
    String email, subject, message, attachmentFile;
    Uri URI = null;
    private static final int PICK_FROM_GALLERY = 101;
    int columnIndex;
    private static final String TAG = "MyActivity";

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        editTextEmail = (EditText) findViewById(R.id.editTextTo);
        editTextSubject = (EditText) findViewById(R.id.editTextSubject);
        editTextMessage = (EditText) findViewById(R.id.editTextMessage);
        btnAttachment = (Button) findViewById(R.id.buttonAttachment);
        btnSend = (Button) findViewById(R.id.buttonSend);

        btnSend.setOnClickListener(this);
        btnAttachment.setOnClickListener(this);
```

```java
    }

    protected void onActivityResult(int requestCode, int resultCode, Intent data) {
        if (requestCode == PICK_FROM_GALLERY && resultCode == RESULT_OK) {
            /**
             * Get Path
             */
            Uri selectedImage = data.getData();
            String[] filePathColumn = { MediaStore.Images.Media.DATA };

            Cursor cursor = getContentResolver().query(selectedImage,filePathColumn, null, null,
null);
            cursor.moveToFirst();
            columnIndex = cursor.getColumnIndex(filePathColumn[0]);
            attachmentFile = cursor.getString(columnIndex);
            Log.e("Attachment Path:", attachmentFile);
            URI = Uri.parse("file://" + attachmentFile);
            cursor.close();
        }
    }

    @Override
    public void onClick(View v) {

        if (v == btnAttachment) {
            openGallery();

        }
        if (v == btnSend) {
            try {
                email = "gocampo@butler.edu"; //editTextEmail.getText().toString();    //tested with
my email address
                subject = editTextSubject.getText().toString();
                message = editTextMessage.getText().toString();

                Log.v(TAG, "Message Received: "+message);    //Test for message input

                final Intent emailIntent = new Intent(
                        android.content.Intent.ACTION_SEND);
```

```java
            emailIntent.setType("plain/text");
            emailIntent.putExtra(android.content.Intent.EXTRA_EMAIL,
                    new String[] { email });
            emailIntent.putExtra(android.content.Intent.EXTRA_SUBJECT,
                    subject);
            if (URI != null) {
                emailIntent.putExtra(Intent.EXTRA_STREAM, URI);
            }
            emailIntent
                    .putExtra(android.content.Intent.EXTRA_TEXT, message);
            this.startActivity(Intent.createChooser(emailIntent,
                    "Sending email..."));

        } catch (Throwable t) {
            Toast.makeText(this,
                    "Request failed try again: " + t.toString(),
                    Toast.LENGTH_LONG).show();
        }
    }

}

public void openGallery() {
    Intent intent = new Intent();
    intent.setType("image/*");
    intent.setAction(Intent.ACTION_GET_CONTENT);
    intent.putExtra("return-data", true);
    startActivityForResult(
            Intent.createChooser(intent, "Complete action using"),
            PICK_FROM_GALLERY);

}

}
```

# Future Work

This semester the team initially focused on learning how to use the new environment, Android Studio. It was a huge learning curve and the team was able to produce an application to send an email. For the future, the team hopes that the application will be able to integrate the company's mail client, SendGrid.

As well as incorporating SendGrid, the number of steps for the application can be reduced. The client initially wanted the camera to open with the application, however, the team did not have the knowledge or time to implement that feature. Another feature left out of this first phase included the photo sent indicator. There should be photo indicators to alert the user whether or not the email successfully sent.

# WSR

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**WEEKLY STATUS REPORT (WSR)**
01/26/2015

**TO:**        Dr. Linos and Melanie Gaston
**FROM:**    Gayle Ocampo
**SUBJECT:**    Status report for week 01/18/15-01/24/2015

I.        **RED FLAGS:** So far, there have not been any red flags with this project

II.        **ISSUES:**  The language barrier is a bit of an issue, because neither myself or Melanie have used JavaScript, but we are willing to learn.

III.        **ACCOMPLISHMENTS (dates):**

01/21/2015
· Chose our client- ANOU
· Designated team roles

01/23/2015
· Met with client
· Decided on different tasks that need to be completed
· Client instructed us to get familiar with JavaScript/ jQuery

IV.        **ACTION ITEMS FOR FOLLOWING WEEK 01/25/2015-01/31/2015**

· Complete tutorials of JavaScript and jQuery (Gayle & Melanie)

**WEEKLY STATUS REPORT (WSR)**

2/1/2015

**TO:**        Dr. Linos and Melanie Gaston
**FROM:**      Gayle Ocampo
**SUBJECT:**   Status report for week 1/25/2015-1/31/2015


**I.**      **RED FLAGS:** Currently, there are no red flags


**II.**      **ISSUES:**  The time difference is a small issue; we are having a difficult time scheduling a time to Skype Tifawt, also working with Anou, to discuss projects she might need.


**III.**      **ACCOMPLISHMENTS (**1/25/2015-1/31/2015**):**


1/26/2015
· Met with Dr. Linos to discuss our project
· Completed JavaScript tutorials


1/28/2015
· Completed more JavaScript tutorials
· Emailed Tom and Tifawt to discuss the project
· Tom gave us options of projects to work on


**IV.**      **ACTION ITEMS FOR FOLLOWING WEEK (2/1/2015-2/7/2015):**


· Set up meeting with Tifawt (Melanie)
· Start working on one of the projects (Gayle & Melanie)
· Keep Tom updated about or progress (Gayle)

**WEEKLY STATUS REPORT (WSR)**
02/8/2015

**TO:**         Panos Linos and Melanie Gaston
**FROM:**     Gayle Ocampo
**SUBJECT:**  Status report for week 02/01/2015-02/07/2015

   **I.**         **RED FLAGS:** Up until Friday, we hadn't really landed on a concrete project for the entire semester

   **II.**        **ISSUES:**  Neither of us have created an app

  **III.**       **ACCOMPLISHMENTS (dates):**

        02/02/2015
- Started figuring out how to implement encryption using javascript

        02/04/2015
- Worked on a possible plan for the encryption project
- Figured out a time to Skype Tifawt

        02/06/2015
- Skyped Tifawt & Dan from Anou
- Talked about potential projects
- Gave a possible project – an Android app for Artisans to use

  **IV.**       **ACTION ITEMS FOR FOLLOWING WEEK (dates):**

- Understand how to create an Android application (Gayle & Melanie)
- Maintain communication with Tom/Tifawt (Gayle & Melanie)

**WEEKLY STATUS REPORT (WSR)**

2/15/2015

**TO:**        Dr. Linos and Melanie Gaston
**FROM:**    Gayle Ocampo
**SUBJECT:**  Status report for week 2/8/2015-2/14/2015

    I.       **RED FLAGS:** We have no red flags right now

    II.      **ISSUES:**  As of right now, there is are no issues

    III.     **ACCOMPLISHMENTS (dates):**

2/9/2015
· Talked through the possible phases

2/11/2015
· Emailed Anou crew about the project
· Started some rough sketches

2/12/2015
· Received an email from Anou detailing
· Started working on the app

    IV.     **ACTION ITEMS FOR FOLLOWING WEEK 2/16/15-2/21/2015:**

· Work on Phase 1 (Gayle & Melanie)
    o Add functionality
· Email Anou about progress (Gayle & Melanie)

**WEEKLY STATUS REPORT (WSR)**

02/22/2015

**TO:**          Dr. Linos and Melanie Gaston

**FROM:**        Gayle Ocampo

**SUBJECT:**     Status report for week 02/15/2015-02/21/2015


I.      **RED FLAGS:** There are no red flags at the moment


II.     **ISSUES:**  Problem understanding how it will all work together


III.    **ACCOMPLISHMENTS 02/15/2015-02/21/2015:**


02/16/2015

·   Decided more phases for the project


02/18/2015

·   Met and went over more resources


02/21/2015

·   Created a simple calculator app


IV.     **ACTION ITEMS FOR FOLLOWING WEEK 02/22/2015-02/28/2015):**


·   Keep the Anou team updated (Gayle)

·   Create app to send text email (Gayle & Melanie)

    o   Integrate photo into email application (Gayle & Melanie)

**WEEKLY STATUS REPORT (WSR)**
03/01/2015

**TO:**        Dr. Linos and Melanie Gaston
**FROM:**    Gayle Ocampo
**SUBJECT:**  Status report for week 02/22/2015-02/28/2015

**I.**      **RED FLAGS:** Right now there are no red flags.


**II.**      **ISSUES:**  This week has been pretty busy for the both of us, so we have not gotten the chance to do much for the project.


**III.**      **ACCOMPLISHMENTS** 02/22/2015-02/28/2015**:**


        02/23/2015
·    Created a GUI for the email app


        02/25/2015
·    Started working on the code for sending emails



**IV.**      **ACTION ITEMS FOR FOLLOWING WEEK (dates):**


·    Keep the Anou team updated (Gayle & Melanie)
·    Create app to send text email (Gayle & Melanie)
        Integrate photo into email application (Gayle & Melanie)

**WEEKLY STATUS REPORT (WSR)**
03/15/2015

**TO:**      Dr. Linos and Melanie Gaston
**FROM:**    Gayle Ocampo
**SUBJECT:**  Status report for week 03/01/2015-03/07/2015 + Spring Break

   **I.**      **RED FLAGS:** Having difficulties importing necessary libraries to integrate the e-mail servicer

   **II.**      **ISSUES:**  I have emailed Tom a few times, he has not responded

   **III.**      **ACCOMPLISHMENTS (**03/01/2015-03/07/2015 + Spring Break**):**

<u>03/02/2015</u>
·   Did more research on how to integrate their mail servicer to the app

<u>03/05/2015</u>
·   Worked separately to see what would could come up with on our own

<u>03/08/2015</u>
·   Emailed Tom to let him know that it was our Spring Break week and that we would have less organized time together to work on the app

<u>03/14/2015</u>
·   Tried importing a Send Grid library to the project, was unable to
·   Send Tom an email asking for help and how to approach our issue

   **IV.**      **ACTION ITEMS FOR FOLLOWING WEEK (03/15/2015-03/21/2015):**

·   Keep the Anou team updated (Gayle & Melanie)
Get Send Grid library imported in the project files (Gayle & Melanie)

**WEEKLY STATUS REPORT (WSR)**
03/22/2015

**TO:**          Dr. Linos and Melanie Gaston
**FROM:**      Gayle Ocampo
**SUBJECT:**  Status report for week 03/15/2015-03/21/2015

   **I.**          **RED FLAGS:** None


   **II.**          **ISSUES:**  Having difficulties integrating Send Grid with application. Unsure about using emulators only to test the application


   **III.**          **ACCOMPLISHMENTS (dates):**


      <u>03/16/2015</u>
·   Tried using the Send Grid library with Android Studio

      <u>03/21/2015</u>
·   Decided to take a step back, and simply create an app to send an email


   **IV.**          **ACTION ITEMS FOR FOLLOWING WEEK (dates):**


·   Keep the Anou team updated (Gayle
Send Email with attachment without using Send Grid library

**WEEKLY STATUS REPORT (WSR)**

03/29/2015

**TO:**        Dr. Linos and Melanie Gaston
**FROM:**    Gayle Ocampo
**SUBJECT:**  Status report for week 03/22/2015-03/29/2015

**I.        RED FLAGS:**

**II.       ISSUES:**  Having issues getting the phone to work

**III.      ACCOMPLISHMENTS (3/22/2015-3/29/2015):**

03/22/2015
· Added console output to test functionality

03/25/2015
· Tried sending email through emulator, again
· Sent Tom an email asking about his availability
· Ordered Android phone

03/28/2015
· Phone arrived
· Tom replied, unable to attend the presentation

**IV.       ACTION ITEMS FOR FOLLOWING WEEK (dates):**

· Keep the Anou team updated (Gayle)
     Test app using an actual phone (Gayle & Melanie)

**WEEKLY STATUS REPORT (WSR)**
04/04/2015

**TO:**        Dr. Linos and Melanie Gaston
**FROM:**    Gayle Ocampo
**SUBJECT:**    Status report for week 03/29/2015-04/04/2015

**I.**        **RED FLAGS:** None at this time.

**II.**        **ISSUES:**  None.

**III.**        **ACCOMPLISHMENTS (**03/29/2015-04/04/2015**):**

<u>03/30/2015</u>
·    Tried testing on phone

<u>04/01/2015</u>
·    Started working on the final dossier
·    Started working on final PowerPoint

**IV.**        **ACTION ITEMS FOR FOLLOWING WEEK (**04/04/2015-04/11/2015**):**

·    Keep the Anou team updated (Gayle)
Work on final dossier & presentation (Gayle & Melanie)

**WEEKLY STATUS REPORT (WSR)**
04/12/2015

**TO:**       Dr. Linos and Melanie Gaston
**FROM:**     Gayle Ocampo
**SUBJECT:**  Status report for week 04/05/2015-04/11/2015

**I.**       **RED FLAGS:** There are no red flags.

**II.**      **ISSUES:**  Trying to find an android phone for testing.

**III.**     **ACCOMPLISHMENTS (**04/05/2015-04/11/2015**):**

04/06/2015
·   Worked on the final dossier

04/08/2015
·   Worked on the final dossier

**IV.**      **ACTION ITEMS FOR FOLLOWING WEEK (dates):**

·   Keep the Anou team updated (Gayle)
·   Find an android phone to use (Melanie)
Continue working on Final Dossier

**WEEKLY STATUS REPORT (WSR)**
04/20/2015

**TO:**        Dr. Linos and Melanie Gaston
**FROM:**    Gayle Ocampo
**SUBJECT:**  Status report for week 04/12/2015-04/18/2015

  **I.**        **RED FLAGS:** There are no red flags.

 **II.**        **ISSUES:**  Trying to find an android phone for testing.

**III.**        **ACCOMPLISHMENTS (**04/12/2015-04/18/2015**):**

    04/13/2015
·   Worked on the final dossier

    04/15/2015
·   Worked on the final dossier
·   Ran more tests on emulator

**IV.**        **ACTION ITEMS FOR FOLLOWING WEEK (**04/12/2015-04/18/2015**):**

·   Keep the Anou team updated (Melanie)
·   Find an android phone to use (Gayle)
·   Continue working on Final Dossier (Gayle & Melanie)

# Appendix

Presentation Slides
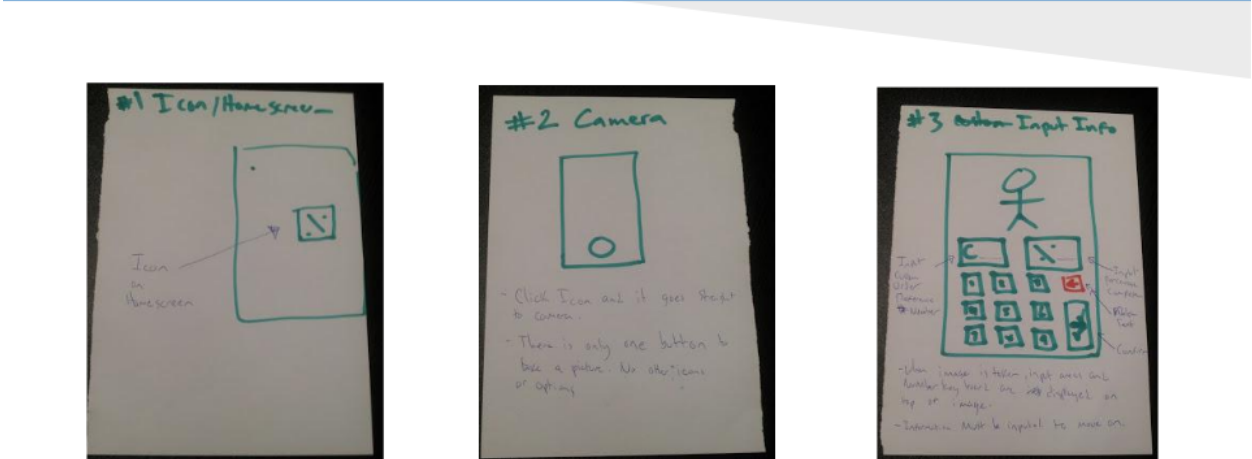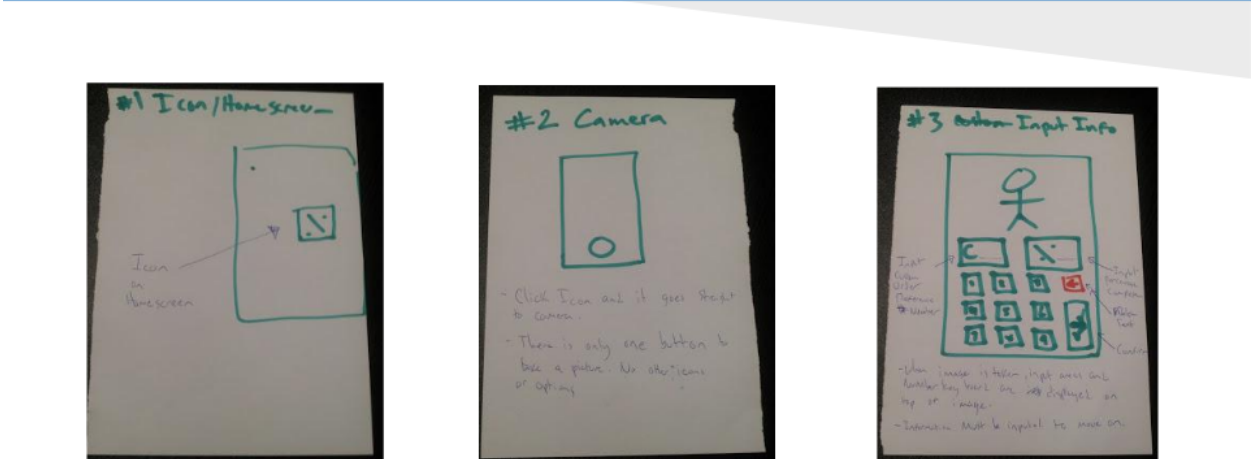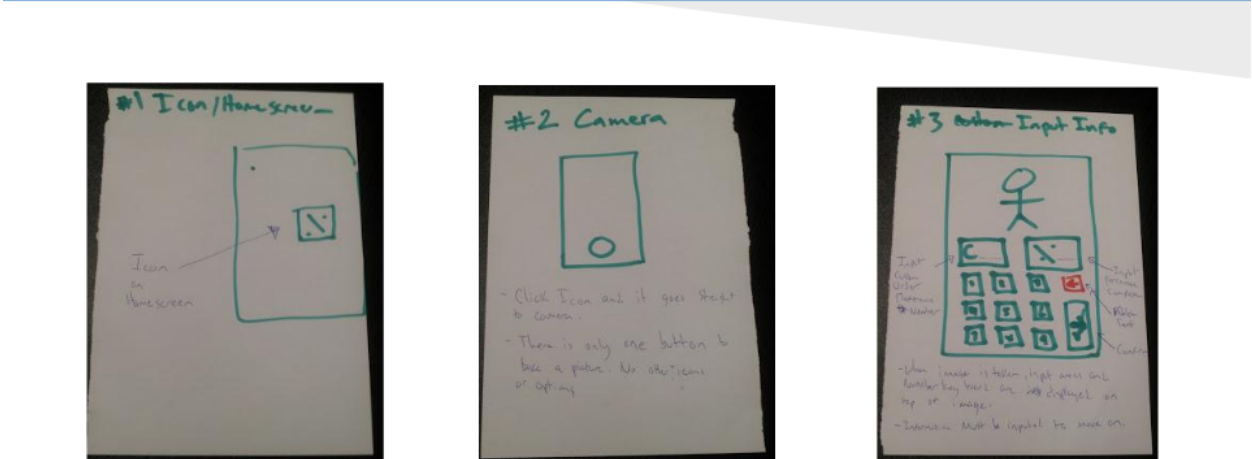


EPICS - ANOU

Gayle Ocampo & Melanie Gaston



## Introduction

- Prior experience
  - Neither had experience making an app

- Roles
  - Gayle - Team Lead/Technical Lead
  - Melanie - Client Liaison

# Project

- Client: Anou
  - Works with Moroccan Artisans to help sell their products
  - Simplifies the fair trade aspect

- Project
  - Create an application for Artisans
  - Android Environment
  - Send email about custom order progresss

# Prototype Photos

# Prototype Photos



# Phases

**Phase 1:** Learn the Android Studio Environment

**Phase 2:** Create simple AS application

**Phase 3:** Send "text" email application

**Phase 4:** Send email with attachment

**Phase 5:** Incorporate Send Grid client

# Calculator app

- Simple Addition Calculator
  - First Android Studio application
  - Tested on emulator



# E-mail app

- Email application created using Android Studio
- Three inputs
  - To
  - Subject
  - Message
- Attachment feature
- Tutorial

# Future Work

- Integrate the company's email client
  - SendGrid
- Reduce number of steps
  - Open camera application, initially
  - Photo indicator
    - Successfully Sent
    - Failed to Send