Android 101:

Build an app from start to finish

Android Views and Using the Camera



Review - Declaring

```
int i = 0;
String hello = "Hi, there";
Button login = (Button)
this.findViewById(R.id.login);
Giraffe geoff = new Giraffe("Geoff", 10, "brown");
```



Review - using methods

```
float random = Math.random()
int length = hello.length();
login.setText("Login!");
geoff.walk(3);
```



Welcome Activity

```
public void login(View view){
 if(usernameField.getText().toString().equals("")){
   AlertDialog.Builder builder = new AlertDialog.Builder(this);
   builder.setMessage("Please enter your username")
        setCancelable(false)
        .setNegativeButton("OK", new
        DialogInterface.OnClickListener() {
          public void onClick(DialogInterface dialog, int id) {
             dialog.cancel();
   AlertDialog alert = builder.create();
   alert.show();
```



Opening a new page WelcomeActivity.java

```
public void openPictureActivity(View view){
   Intent intent = new Intent(WelcomeActivity.this,
   TakePictureActivity.class);
   startActivity(intent);
}
```



Opening a new page AndroidManifest.xml

```
<activity
android:name=".views.GalleryActivity"

android:configChanges="keyboardHidden|orientation"
android:screenOrientation="portrait"/>
```



We need:

TextView that says "Upload an image"

EditText with id titleField

EditText with id descriptionField

Button with onClick takePicture

Button with onClick choosePicture

ImageView with id pictureFromCamera

Button with onClick savePicture

android:layout_height="wrap_content"

android:textColor="@color/GREEN"/>

android:text="Upload an image!"

```
<EditText android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:inputType="textCapSentences"
    android:hint="Add title"
    android:id="@+id/titleField"
    android:textColor="@color/PURPLE"/>
```

<TextView android:layout_width="fill_parent"



```
<LinearLayout</pre>
   android:layout_width="fill_parent"
   android: layout_height="48dip"
   android:orientation="horizontal">
   <Button android:layout_width="fill_parent"
           android:layout_height="fill_parent"
           android:text="Take Picture"
           android:onClick="takePicture"
           android: layout_weight="1"
           />
  <Button android:layout_width="fill_parent"
           android:layout_height="fill_parent"
           android:text="Choose Picture"
           android:onClick="choosePicture"
           android: layout_weight="1"/>
```







Getting ready for the camera Creating a sdcard for an emulator

In your terminal, navigate to where you saved the Android sdk

Go into the folder "tools"

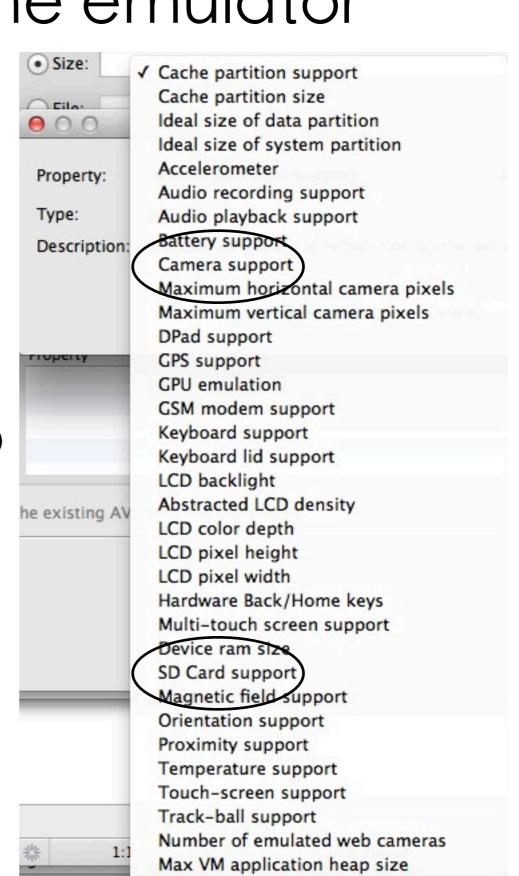
Run this script

mksdcard -1 mySdCard 1024M mySdCardFile.img



Getting ready for the camera Setting up the emulator

0.0 Edit Android Virtual Device (AVD) 4_0 Name: Android 4.0.3 - API Level 15 Target: ARM (armeabi-v7a) CPU/ABI: SD Card: File: /Users/izzyjohnston/mySdCardFile.img Browse... Snapshot: Skin: **HVGA** Built-in: Resolution: Hardware: Value Property New... SD Card support ves Abstracted LCD density 160 Cache partition supportyes Keyboard lid support no Vanhaard connact Override the existing AVD with the same name Edit AVD Cancel





Getting ready for the camera Setting up the emulator

Android Target Common Select a preferred Android Virtual Device for deployn AVD Name Target Name Platform	Network Speed: Full \$ Network Latency: None \$ Wipe user data
☐ IzzysAVD Android 2.2 2.2 ☐ Maps Android 2.2 2.2 ☐ newemulator Android 2.2 2.2	✓ Disable boot animation Additional command line options:
testing Android 2.2 2.2 GoogleApi Google APIs (Google In 2.2	-sdcard "/Users/izzyjohnston/mySdCardFile.img"
FastAndroid Android 2.3.1 2.3.1 titanium_34_W(Android 2.3.3 2.3.3 3-2 Android 3.2 3.2 4_0 Android 4.0.3 4.0.3	9 ARM (arn 10 ARM (arn 13 ARM (arn 15 ARM (arn Manager
Emulator launch parameters:	
Network Speed: Full \$ Network Latency: None \$ Wipe User Data Disable Boot Animation Additional Emulator Command Line Options	
-sdcard "/Users/izzyjohnston/mySdCardFile.img"	



Getting ready for the camera AndroidManifest.xml

```
<uses-permission
android:name="android.permission.CAMERA"/>

<uses-permission
android:name="android.permission.WRITE_EXTERNAL_STORAGE"/>
```



TakePictureActivityyy

Declare variables

```
private GirlDevelopIt app;

private final int ACTIVITY_TAKE_PHOTO = 1;
private final int ACTIVITY_SELECT_PHOTO = 2;

private ImageView pictureFromCamera;
private EditText titleField;
private EditText descriptionField;
private Button savePicture;
private String pathToImage ="";
```



TakePictureActivityyy onCreate

```
super.onCreate(savedInstanceState);
setContentView(R.layout.takepicture);
this.app = (GirlDevelopIt)getApplicationContext();
initElements();
```



TakePictureActivityyy initElements()

```
pictureFromCamera=
    (ImageView)this.findViewById(R.id.pictureFromCamera);

titleField = (EditText)this.findViewById(R.id.titleField);

descriptionField = (EditText)this.findViewById(R.id.descriptionField);

savePicture = (Button) this.findViewById(R.id.savePicture);

if(app.getUsername()==null || app.getUsername().equals("")){
    savePicture.setEnabled(false);
}
```



TakePictureActivityyy takePicture(View v)

```
final Intent intent =
   new Intent(android.provider.MediaStore.ACTION_IMAGE_CAPTURE);
intent.putExtra(MediaStore.EXTRA_OUTPUT,
   Uri.fromFile(Utils.getTempFile(getApplicationContext())));
startActivityForResult(intent, ACTIVITY_TAKE_PHOTO);
```



TakePictureActivityyy

choosePicture(View v)



TakePictureActivityyy

onActivityResult(int requestCode, int resultCode, Intent data)

```
super.onActivityResult(requestCode, resultCode, data);
if(resultCode == RESULT_CANCELED){
   return;
}
```



TakePictureActivity

```
onActivityResult(int requestCode, int resultCode, Intent data)
if(requestCode == ACTIVITY_TAKE_PHOTO){
 try{
     pathToImage=Utils.getTempFile(getApplicationContext()).get
            AbsolutePath();
     File takenFile=
              Utils getTempFile(getApplicationContext());
     Bitmap thumbnailBmp = Utils.decodeFile(takenFile);
     pictureFromCamera.setImageBitmap(thumbnailBmp);
     pictureFromCamera.setScaleType(ImageView.ScaleType.CENTER)
            _INSIDE);
```



TakePictureActivity

```
onActivityResult(int requestCode, int resultCode, Intent data)
 try
   FileOutputStream ostream =
       new FileOutputStream(takenFile);
   thumbnailBmp.compress(Bitmap.CompressFormat.JPEG, 100,
            ostream):
   ostream.close();
  catch (Exception exp){
    Log.e("TakePhoto", exp.getMessage());
  System.gc();
catch(Exception exp){
  Log.e("TakePhoto", exp.getMessage());
```



TakePictureActivity

onActivityResult(int requestCode, int resultCode, Intent data)

```
if(requestCode == ACTIVITY_SELECT_PH0T0){
 try{
   System.gc();
   pathToImage = Utils.getPath(data.getData(),
      getContentResolver());
   File selFile=new File(pathToImage);
   Bitmap thumbnailBmp = Utils.decodeFile(selFile);
   pictureFromCamera.setImageBitmap(thumbnailBmp);
   pictureFromCamera.setScaleType(ImageView.ScaleType.CENTER_IN
   SIDE);
 catch(Exception exp){
     Log.e("SelectPhoto", exp.getMessage());
```



Next Week!

Building an Image class with getters and setters

Saving images and their data Showing the saved images in a list





