Android 101:

Build an app from start to finish

Saving and Displaying Data

Image Model

Class with getters and setters

For saving the images and retrieving them later

What data do we want to know?

- The Image itself
- Title
- Description
- Date Created
- Username

ImageModel

```
private String title;
private String username;
private String description;
private long dateCreated;
private String pathToImage;
```

ImageModel

```
public void setTitle(String t){
    title = t;
}
public String getTitle(){
    return title;
}
```

Build a getter and setter for each private variable

```
public void setDateCreated(long date){
    dateCreated = date;
}
public long getDateCreated(){
    return dateCreated;
}
```

ImageModel

Build the constructor.
Used when we create a new Image

```
public ImageModel(String title, String username,
String description, String pathToImage, long
dateCreated){

    setTitle(title);
    setUsername(username);
    setDescription(description);
    setPathToImage(pathToImage);
    setDateCreated(dateCreated);

}
```

TakePictureActivity

save(View v)

```
String imageTitle = titleField.getText().toString();
String imageDescription = descriptionField.getText().toString();

if(imageTitle.equals("") || imageDescription.equals("") ||
pathToImage.equals("")){
    AlertDialog.Builder builder = new AlertDialog.Builder(this);
    builder.setMessage("Sorry, all fields are required")
           .setCancelable(false)
           .setNegativeButton("OK", new
      DialogInterface.OnClickListener() {
           public void onClick(DialogInterface dialog, int id) {
                dialog.cancel();
           }
    });
    AlertDialog alert = builder.create();
    alert.show();
}
```

TakePictureActivity

save(View v)

```
else{

    ImageModel imageModel = new ImageModel(imageTitle,
app.getUsername(), imageDescription, pathToImage,
new Date().getTime());

  ArrayList<ImageModel> imageList = app.getImages();
   imageList.add(0, imageModel);
   app.setImages(imageList);

  Intent intent = new Intent(TakePictureActivity.this,
  GalleryActivity.class);
   startActivity(intent);
   finish();

}
```

AndroidManifest

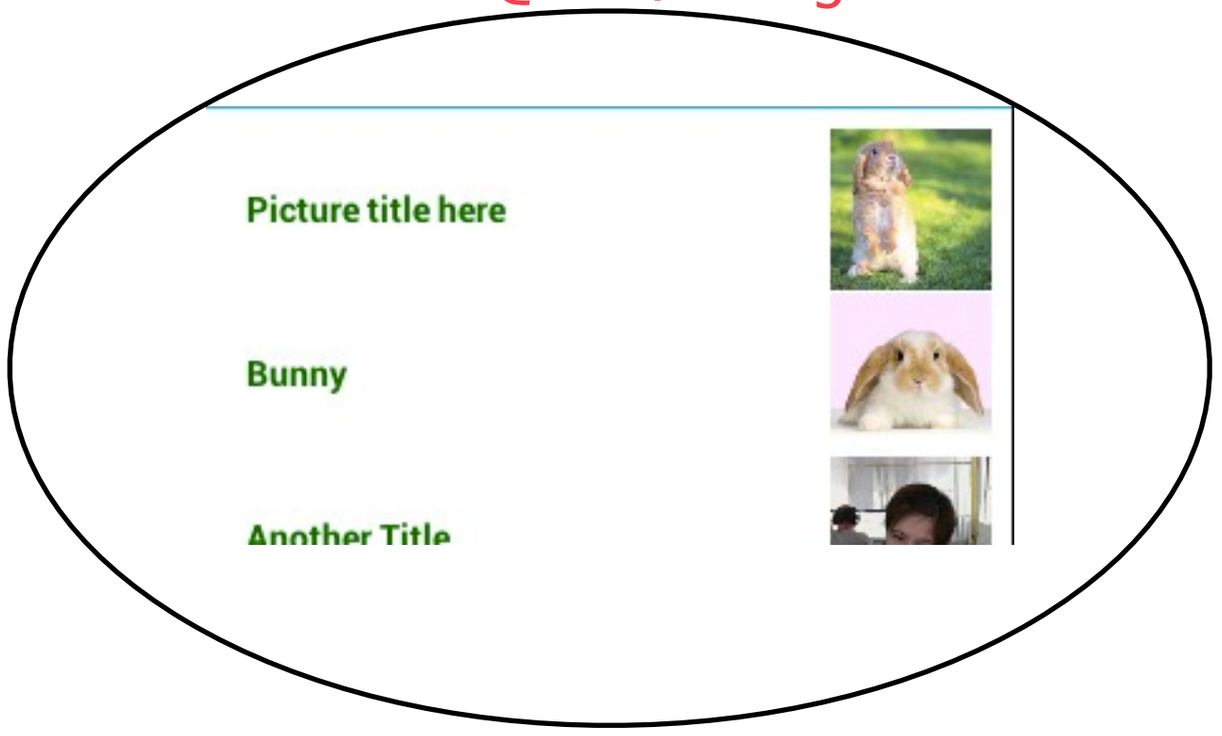
Preparing for GalleryActivity

```
<activity
  android:name=".views.GalleryActivity"
  android:configChanges="keyboardHidden|orientation"
  android:screenOrientation="portrait"/>
```

gallery.xml

Add a ListView container

```
<ListView android:layout_height="fill_parent"
          android:layout_width="fill_parent"
          android:id="@+id/imageListView"/>
```



image_list_cell.xml

Build the layout for each item

TextView that is centered vertically

ImageView that shrinks and crops the image to size

image_list_cell.xml

Build the layout for each item

```
<TextView
  android:layout_width="wrap_content"
  android:layout_height="wrap_content"
  android:textSize="14dip"
  android:text="Image Title Here"
  android:textStyle="bold"
  android:ellipsize="end"
  android:id="@+id/imageTitle"
  android:gravity="left|center_vertical"
  android:textColor="@color/GREEN"
  android:layout_weight="1" />
```

image_list_cell.xml

Build the layout for each item

```
<ImageView
    android:id="@+id/imageThumbnail"
    android:layout_width="64dip"
    android:layout_height="64dip"
    android:scaleType="centerCrop" />
```

ImageListAdapter

Adapter that builds each row in our list

```
private ArrayList<ImageModel> listItems;
private final Context context;
private LayoutInflater inflater;
```

```
public ImageListAdapter(Context context,
ArrayList<ImageModel> listItems, LayoutInflater
inflater) {
    this.context = context;
    this.listItems = listItems;
    this.inflater = inflater;
}
```

ImageListAdapter

Adapter that builds each row in our list

```
@Override
public int getCount() {
   return listItems.size();
}

@Override
public Object getItem(int position) {
    return listItems.get(position);
}

@Override
public long getItemId(int position) {
    return position;
}
```

ImageListAdapter

Adapter that builds each row in our list

```
@Override
public View getView(int position, View convertView, ViewGroup
parent) {

  ImageModel imageModel = listItems.get(position);

  View newView = inflater.inflate(R.layout.image_list_cell,
null);

ImageView imageThumbnail = (ImageView)
      newView.findViewById(R.id.imageThumbnail);

TextView imageTitle = (TextView)
    newView.findViewById(R.id.imageTitle);
```

ImageListAdapter

Adapter that builds each row in our list

```
String pathToImage = imageModel.getPathToImage();
File selFile=new File(pathToImage);
Bitmap thumbnailBmp = Utils.decodeFile(selFile);
imageThumbnail.setImageBitmap(thumbnailBmp);
imageThumbnail.setScaleType(ImageView.ScaleType.
CENTER_CROP);

imageTitle.setText(imageModel.getTitle());

return newView;
}
```

GalleryActivity

onCreate()

```
super.onCreate(savedInstanceState);

setContentView(R.layout.gallery);

this.app = (GirlDevelopIt)getApplicationContext();

initElements();

populateImagesList();
```

GalleryActivity

initElements()

```
imageListView = (ListView)
this.findViewById(R.id.imageListView);
```

GalleryActivity

populateImagesList()

```
LayoutInflater mLInflater = (LayoutInflater)
this.getSystemService(Context.LAYOUT_INFLATER_SERVICE);

ImageListAdapter listAdapter = new ImageListAdapter(this,
app.getImages(), mLInflater);

imageListView.setAdapter(listAdapter);

imageListView.invalidateViews();

((BaseAdapter)imageListView.getAdapter()).notifyDataSetChange
d();
```

Next Week!

Adding the last Activity

Explaining the mystery of the app variable

Next steps

Questions?