CSc 317
Intents

Benjamin Dicken

Announcements

- Quiz 4

Tap to Remove

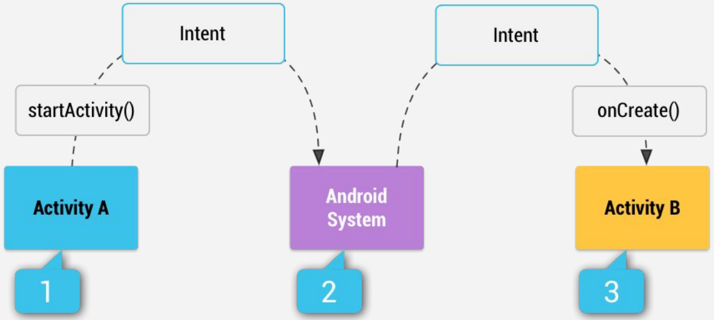
- Modify the Tasks app so that an item is removed when it is tapped on
- If you can’t think of how to accomplish this, brainstorm with your classmates!

Intents

- A specification to accomplish a particular job
- Can be used to
  - Start an **Activity**
  - Start a **Service**
  - Deliver a **Broadcast**

Intents

- Used to start up an activity
- Fall into two main categories
  - **Explicit intent -** Specifying the intention to start a specific activity
  - **Implicit Intent** - Specifying an intention to complete a generic task, and the system searches for activities that can accomplish the task



Explicit Intents

- Have actually already implemented these!
- Fairly straight-forward to do
- Must specify **Component Name**

```
// Like this
Intent intent = new Intent(this, QuizActivity.class);
startActivity(intent);
// Or this
Intent intent = new Intent(this, SummaryActivity.class);
intent.putExtra(TEMPERAMENT_STRING, "choleric");
intent.putExtra(TEMPERAMENT_SCORES_STRING, "9,2,4,7");
startActivity(intent);
```

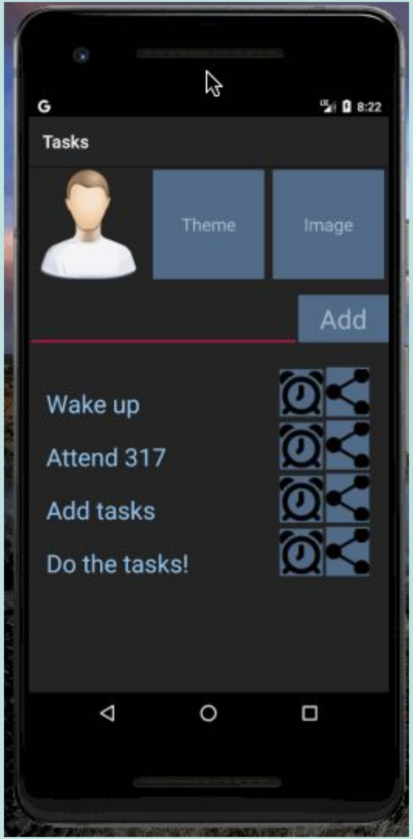
Implicit Intents

- Don’t necessarily know what activity, from what application, will handle the desired action
- Unspecified **Component Name**
- Specify generic information about the desired action

```
// Like this
Intent intent = new Intent(MediaStore.INTENT_ACTION_VIDEO_CAMERA);
if (intent.resolveActivity(getPackageManager()) != null) {
    startActivityForResult(intent, REQUEST_IMAGE_CAPTURE);
}
```

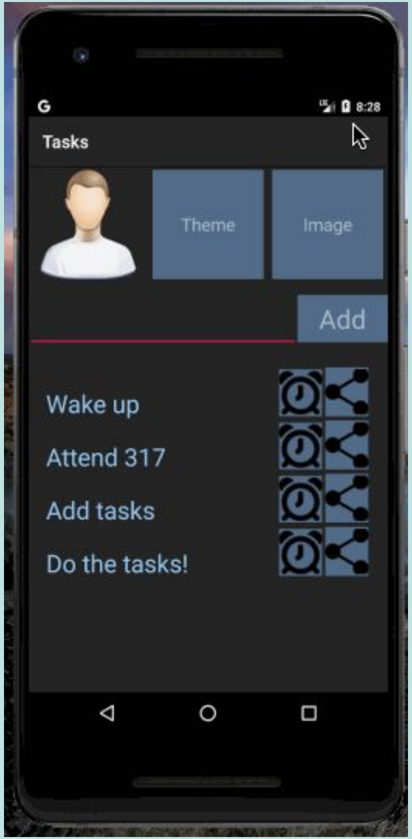
Adding a Share Intent

```
public void shareTask(View v) {
    LinearLayout ll = (LinearLayout) v.getParent();
    TextView tv = ll.findViewById(R.id.task_item);
    String shareBody = tv.getText().toString();

    Intent sharingIntent = new
            Intent(android.content.Intent.ACTION_SEND);
    sharingIntent.setType("text/plain");
    sharingIntent.putExtra(
            android.content.Intent.EXTRA_SUBJECT, "A task");
    sharingIntent.putExtra(
            android.content.Intent.EXTRA_TEXT, shareBody);
    startActivity(sharingIntent);
}
```



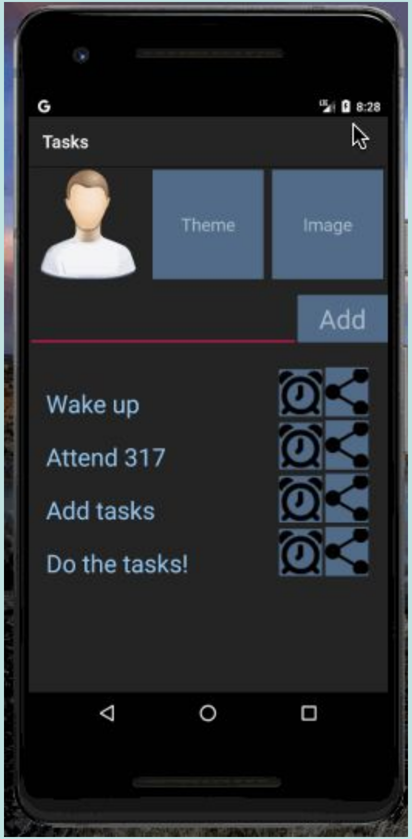
Adding an Alarm Intent

```
public void setAlarmForTask(View v) {
    LinearLayout ll = (LinearLayout) v.getParent();
    TextView tv = ll.findViewById(R.id.task_item);

    Calendar rightNow = Calendar.getInstance();
    int hour = // ???
    int minute = // ???

    Intent intent = new Intent(AlarmClock.ACTION_SET_ALARM)
          .putExtra(AlarmClock.EXTRA_MESSAGE, tv.getText().toString())
          .putExtra(AlarmClock.EXTRA_HOUR, hour)
          .putExtra(AlarmClock.EXTRA_MINUTES, minute + 1);

    startActivity(intent);
}
```



Adding an Alarm Intent

```
public void setAlarmForTask(View v) {
    LinearLayout ll = (LinearLayout) v.getParent();
    TextView tv = ll.findViewById(R.id.task_item);

    Calendar rightNow = Calendar.getInstance();
    int hour = rightNow.get(Calendar.HOUR_OF_DAY);
    int minute = rightNow.get(Calendar.MINUTE);

    Intent intent = new Intent(AlarmClock.ACTION_SET_ALARM)
            .putExtra(AlarmClock.EXTRA_MESSAGE, tv.getText().toString())
            .putExtra(AlarmClock.EXTRA_HOUR, hour)
            .putExtra(AlarmClock.EXTRA_MINUTES, minute + 1);

    startActivity(intent);
}
```



Wake up

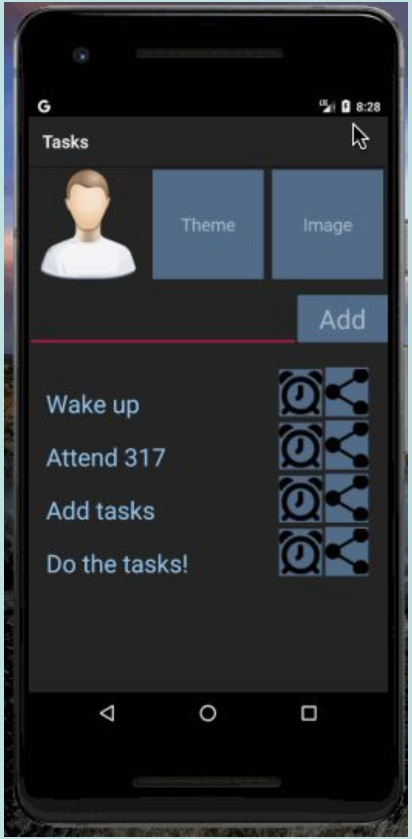
Attend 317

Add tasks

Do the tasks!

Adding an Alarm Intent

```
<!-- Add to manifest -->
<uses-permission
    android:name=
        "com.android.alarm.permission.SET_ALARM" />
```



Wake up

Attend 317

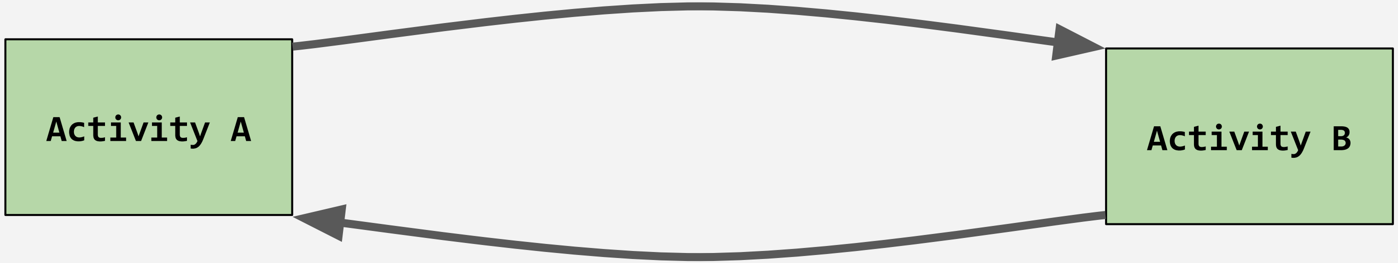
Add tasks

Do the tasks!

Responding to an Intent completing

- Use **`startActivityforResult`** instead of **`startActivity`**
- Take action upon completion with **`onActivityResult`** callback

`startActivityForResult(intent, responseCode);`



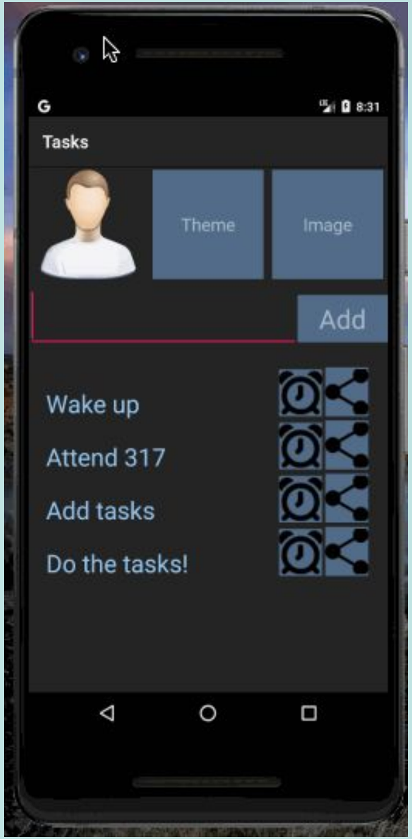
Activity A

Activity B

`onActivityResult(responseCode, resCode, intent);`

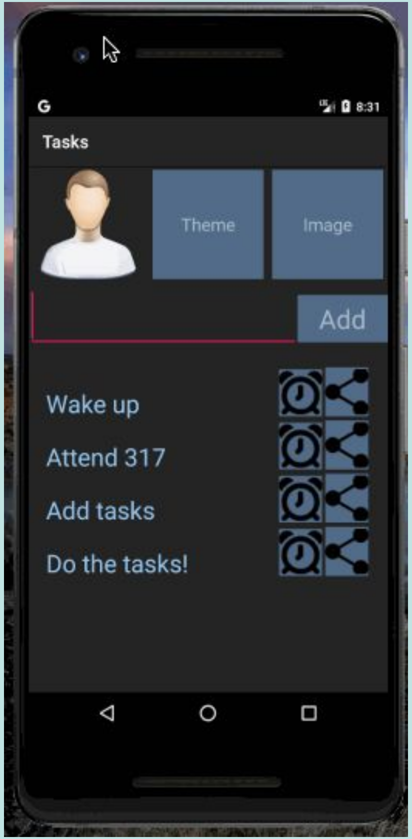
Adding a Camera Intent

```java
static final int REQUEST_IMAGE_CAPTURE = 1;

public void dispatchTakePictureIntent(View v) {
    Intent takePictureIntent = new
            Intent(MediaStore.ACTION_IMAGE_CAPTURE);
    startActivityForResult(
            takePictureIntent, REQUEST_IMAGE_CAPTURE);
}
@Override
protected void onActivityResult(int requestCode,
                                int resultCode,
                                Intent data) {

    if (requestCode == REQUEST_IMAGE_CAPTURE &&
            resultCode == RESULT_OK) {
        Bundle extras = data.getExtras();
        Bitmap imageBitmap = (Bitmap) extras.get("data");
        ImageView imageView = findViewById(R.id.profile_image);
        imageView.setImageBitmap(imageBitmap);
    }

}
```



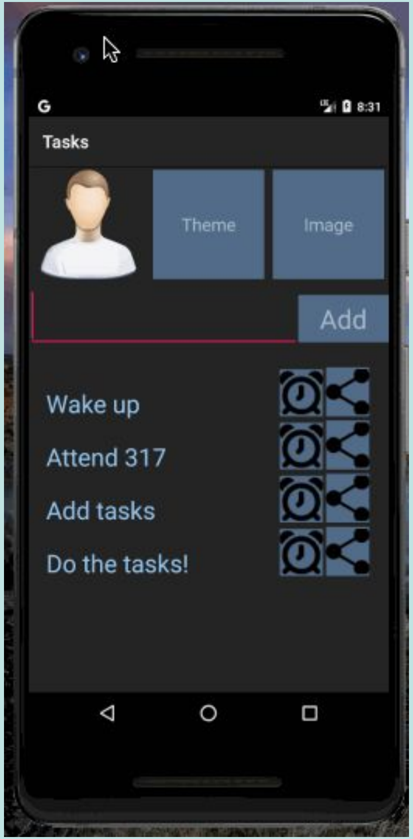
Adding a Camera Intent

```
@Override
// Just a small icon, how to save file, full size?
protected void onActivityResult(int requestCode,
                                int resultCode,
                                Intent data) {

    if (requestCode == REQUEST_IMAGE_CAPTURE &&
            resultCode == RESULT_OK) {
        Bundle extras = data.getExtras();
        Bitmap imageBitmap = (Bitmap) extras.get("data");
        ImageView imageView = findViewById(R.id.profile_image);
        imageView.setImageBitmap(imageBitmap);
    }

}
```



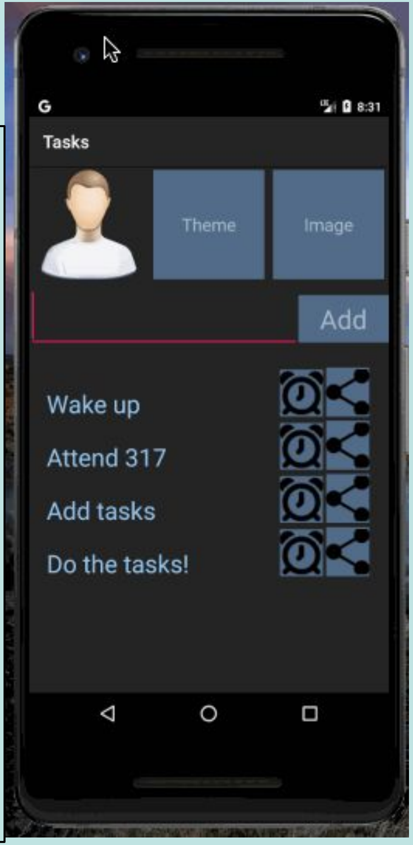
Adding a Camera Intent

```
public void dispatchTakePictureIntent(View v) {
     Intent takePictureIntent =
             new Intent(MediaStore.ACTION_IMAGE_CAPTURE);

    //StrictMode.VmPolicy.Builder builder =
    //    new StrictMode.VmPolicy.Builder();
    //StrictMode.setVmPolicy(builder.build());
    File file = new File(Environment.getExternalStorageDirectory(),
                                (currentPhotoPath));
    Uri currentPhotoUri = Uri.fromFile(file);

     takePictureIntent.putExtra(
             MediaStore.EXTRA_OUTPUT, currentPhotoUri);
     startActivityForResult(
             takePictureIntent, REQUEST_IMAGE_CAPTURE);
}
```



Adding a Camera Intent

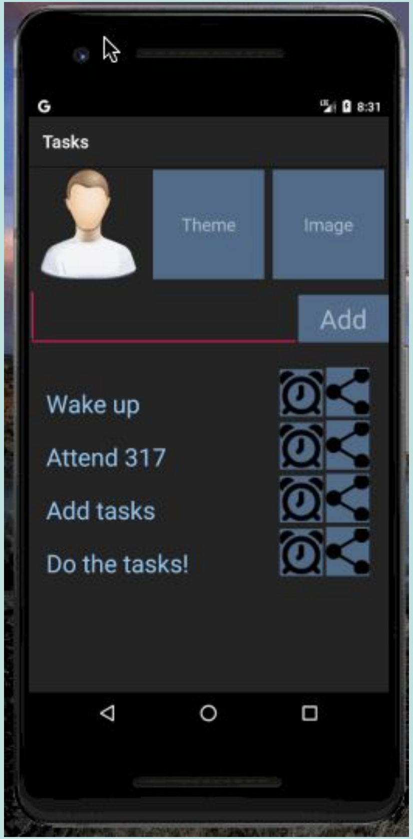
```
if (requestCode == REQUEST_IMAGE_CAPTURE &&
    resultCode == RESULT_OK) {

    BitmapFactory.Options bmOptions =
            new BitmapFactory.Options();
    Bitmap bitmap = BitmapFactory.decodeFile(
            currentPhotoPath, bmOptions);
    currentImageView.setImageBitmap(bitmap);

}
```



ICA

Permissions!

```
<!-- Add to manifest -->
<uses-permission
    android:name=
        "android.permission.READ_EXTERNAL_STORAGE" />
<uses-permission
    android:name=
        "android.permission.WRITE_EXTERNAL_STORAGE" />
```


G
8:31
Tasks
Theme
Image
Add
Wake up
Attend 317
Add tasks
Do the tasks!