

Android Workshop Day 3



Implementing Business Logic

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Get it!

- <http://mhalka.com/>

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Goal of Day 3

- To have a functional application

Event handlers

- Object of a certain interface
- Anonymous or named class
- More than one object

Event handlers

```
// Create an anonymous implementation of OnClickListener
private OnClickListener mCorkyListener = new OnClickListener() {
    public void onClick(View v) {
        // do something when the button is clicked
    }
};
```

Event handlers

```
protected void onCreate(Bundle savedInstanceState) {  
    ...  
    // Capture our button from layout  
    Button button = (Button)findViewById(R.id.corky);  
    // Register the onClick listener with the implementation above  
    button.setOnClickListener(mCorkyListener);  
    ...  
}
```

Threads

- All UI operations are in single thread (main)
- UI elements are not thread safe

Threads

- Do not block the UI thread
- Do not access the Android UI toolkit from outside the UI thread

Threads - AsyncTask

```
private class DownloadImageTask extends AsyncTask<String, Void, Bitmap> {  
    /** The system calls this to perform work in a worker thread and  
        * delivers it the parameters given to AsyncTask.execute() */  
    protected Bitmap doInBackground(String... urls) {  
        return loadImageFromNetwork(urls[0]);  
    }  
  
    /** The system calls this to perform work in the UI thread and delivers  
        * the result from doInBackground() */  
    protected void onPostExecute(Bitmap result) {  
        mImageView.setImageBitmap(result);  
    }  
}
```

Threads - AsyncTask

```
public void onClick(View v) {  
    new DownloadImageTask().execute("http://example.com/image.png");  
}
```

Security model

- Apps sandboxed
- App private data
- Permissions
- “Rooting”

Security model – AppManifest.xml

```
<uses-permission  
    android:name="android.permission.WRITE_EXTERNAL_STORAGE"  
    android:maxSdkVersion="18" />
```

Storage options

- Shared Preferences
- Internal Storage
- External Storage
- SQLite Databases
- Network Connection