Mobile app development – week 7

No class on March 23 (Easter)

March 30 (again i 5A 14-16) Guest lecture from ZIP-Q

Issues related to workplan 7

Barcode and implicit intents

Git

Threads: singletons and databases

Exercises

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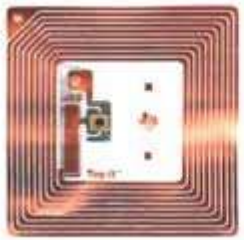
Barcodes



unique id

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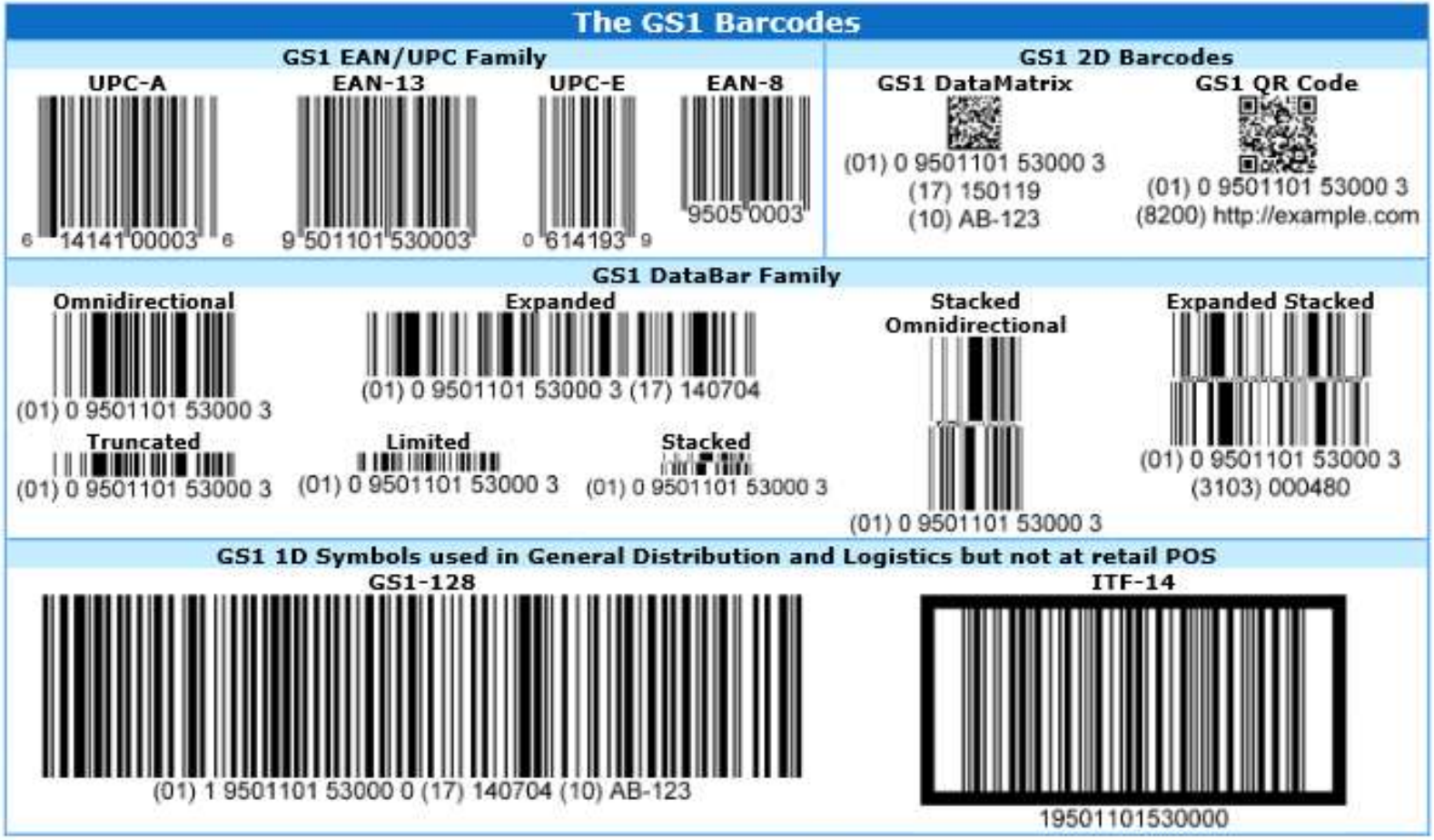
Barcode standards -- GS1



http://www.gs1.org/docs/barcodes/GS1_Barcodes_Fact_Sheet-overview_of_all_GS1_barcodes.pdf

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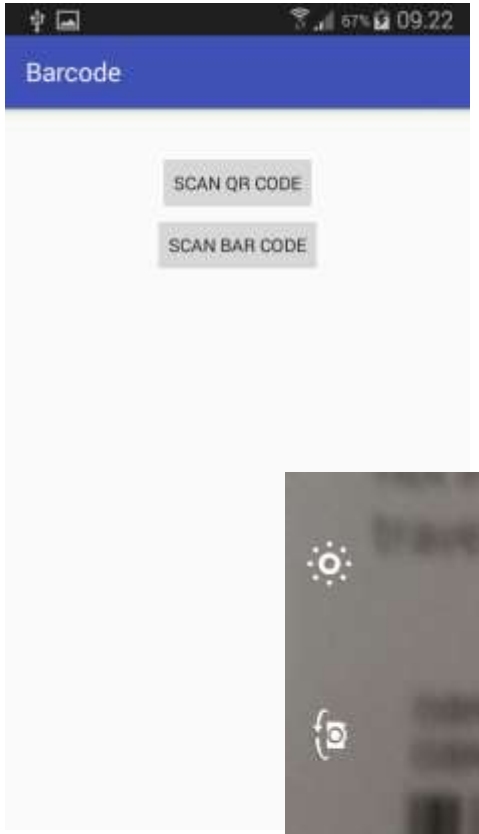
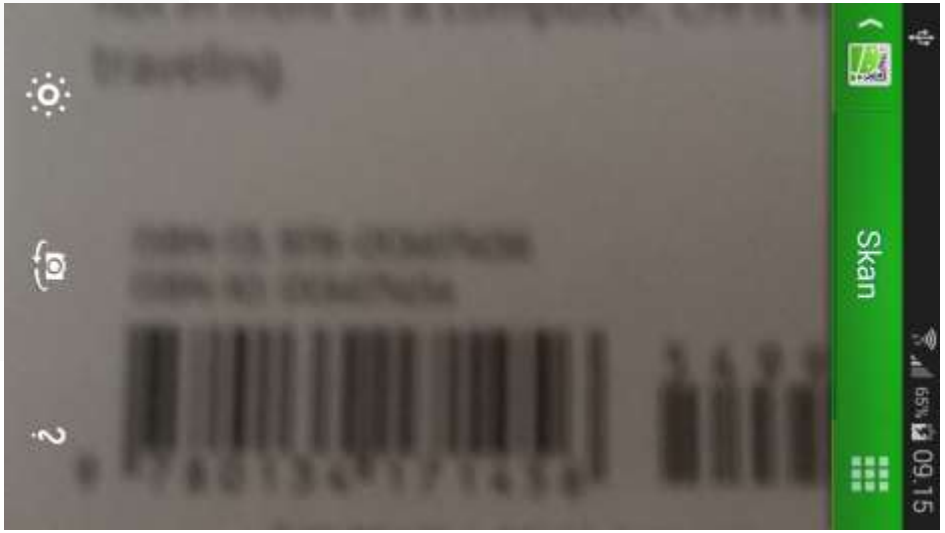
Barcode App





Code available in learnIT

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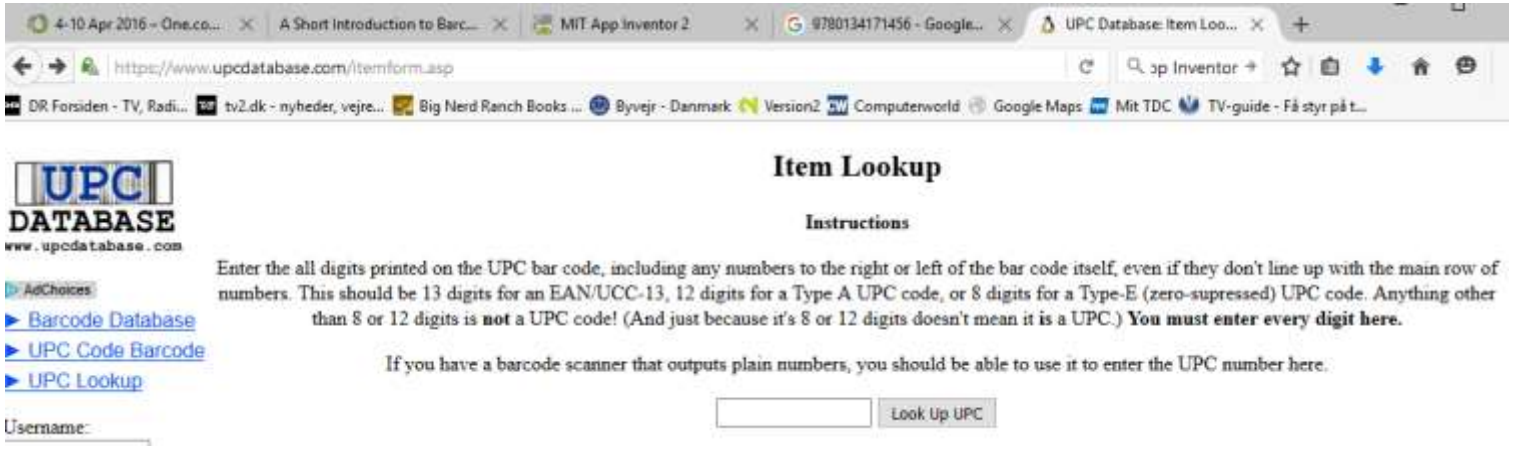
Looking up a barcode

https://www.upcdatabase.com/itemform.asp



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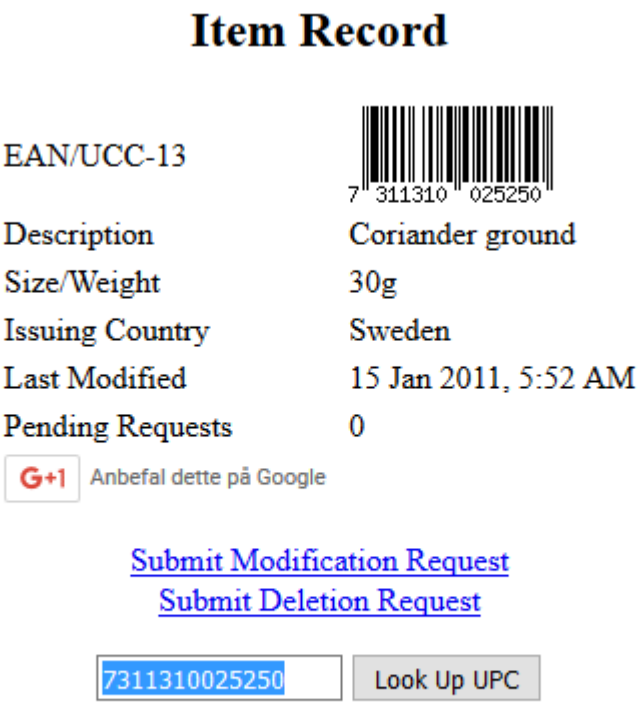
Getting product info with the barcode



Item Record

EAN/UCC-13	7 311310 025250
Description	Coriander ground
Size/Weight	30g
Issuing Country	Sweden
Last Modified	15 Jan 2011, 5:52 AM
Pending Requests	0

G+1 Anbefal dette på Google

Submit Modification Request
Submit Deletion Request

7311310025250 Look Up UPC

Shortcut:

https://www.upcdatabase.com/item/7311310025250

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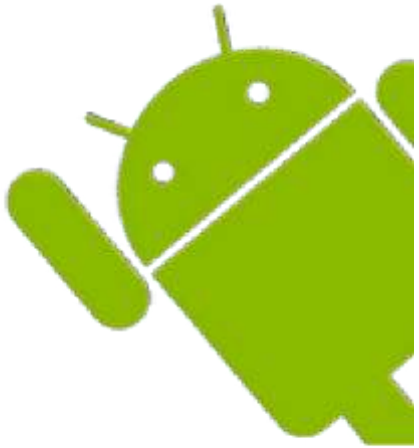
Zebra crossing – zxing library



See example (Barcode.zip) in learnIT (week8)

https://github.com/zxing/zxing/wiki/Getting-Started-Developing

Alternative:

http://android-developers.blogspot.dk/2015/08/barcode-detection-in-google-play.html

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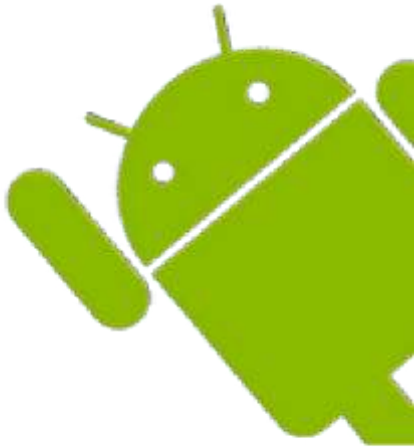
Implicit and explicit intents



Explicit (class name of activity to be started)

```
public void onClick(View view) {
    // Start ListActivity
    Intent i = new Intent(getActivity(), ListActivity.class);
    startActivity(i);
}
```

Implicit (search for functionality)

```
Intent i = new Intent(Intent.ACTION_VIEW,
                      Uri.parse("http://www.itu.dk"));
startActivity(i);
```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Intent resolution

Intent resolution by the Android system

One activity is started

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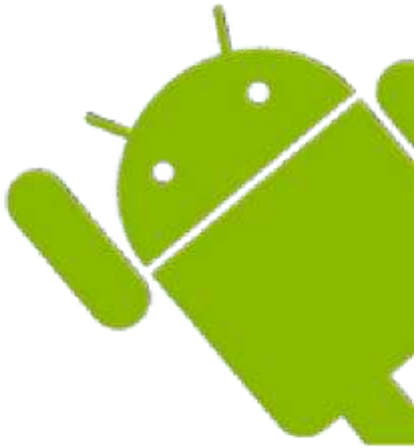
Intent filters



Goes in manifest.xml file

```
<activity android:name=".BrowserActivitiy”
          android:label="@string/app_name">

<intent-filter>
   <action android:name="android.intent.action.VIEW" />
   <category android:name="android.intent.category.DEFAULT" />
   <data android:scheme="http"/>
</intent-filter>
</activity>
```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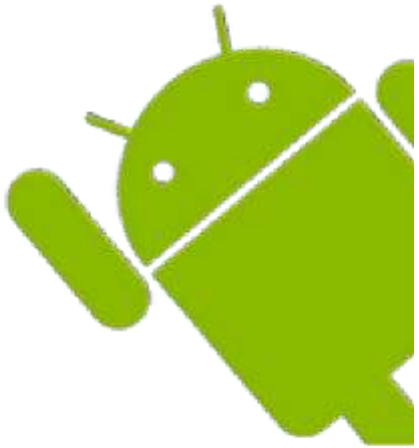
Barcode app



```
Intent intent = new Intent("com.google.zxing.client.android.SCAN");
intent.putExtra("SCAN_MODE", "PRODUCT_MODE");
startActivityForResult(intent, 0);

….


public void onActivityResult(int requestCode,
                             int resultCode, Intent intent) {
 if (requestCode == 0) {
    if (resultCode == RESULT_OK) {
       String contents = intent.getStringExtra("SCAN_RESULT");
       String format = intent.getStringExtra("SCAN_RESULT_FORMAT");
…
```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TingleV5

TingleV4 (+ feedback changes) + barcode reader

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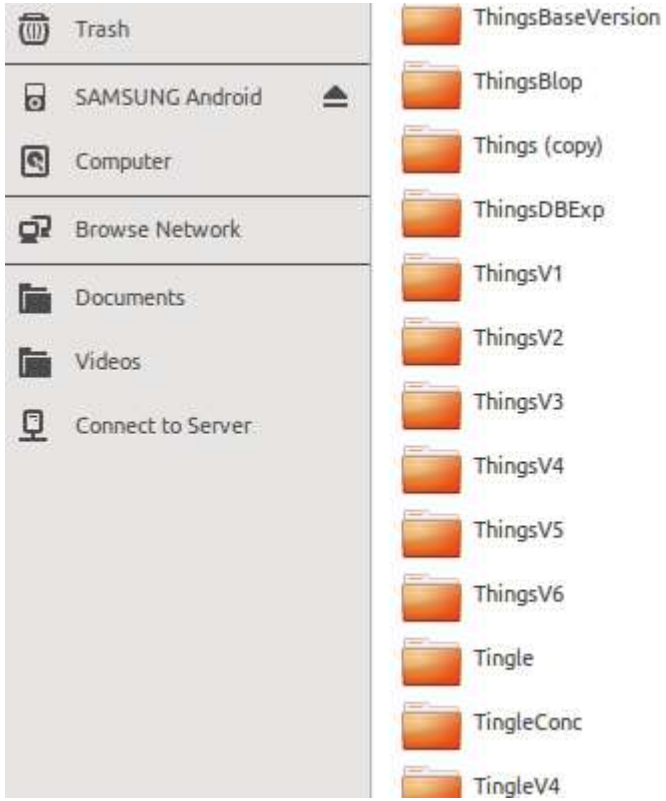
Git

Thingle	15-01-2016 09:49	File folder
Thingle V2	14-01-2016 10:17	File folder
Things	10-01-2016 15:18	File folder
ThingsBaseVersion	10-01-2016 16:19	File folder
ThingsV1	04-02-2016 20:25	File folder
ThingsV2	08-02-2016 16:43	File folder
ThingsV3	15-01-2016 09:12	File folder
ThingsV4	10-01-2016 15:27	File folder
Tingle	07-03-2016 08:17	File folder
Tingle262	26-02-2016 10:23	File folder



https://www.git-tower.com/learn/git/videos/what-is-version-control?channel=cli

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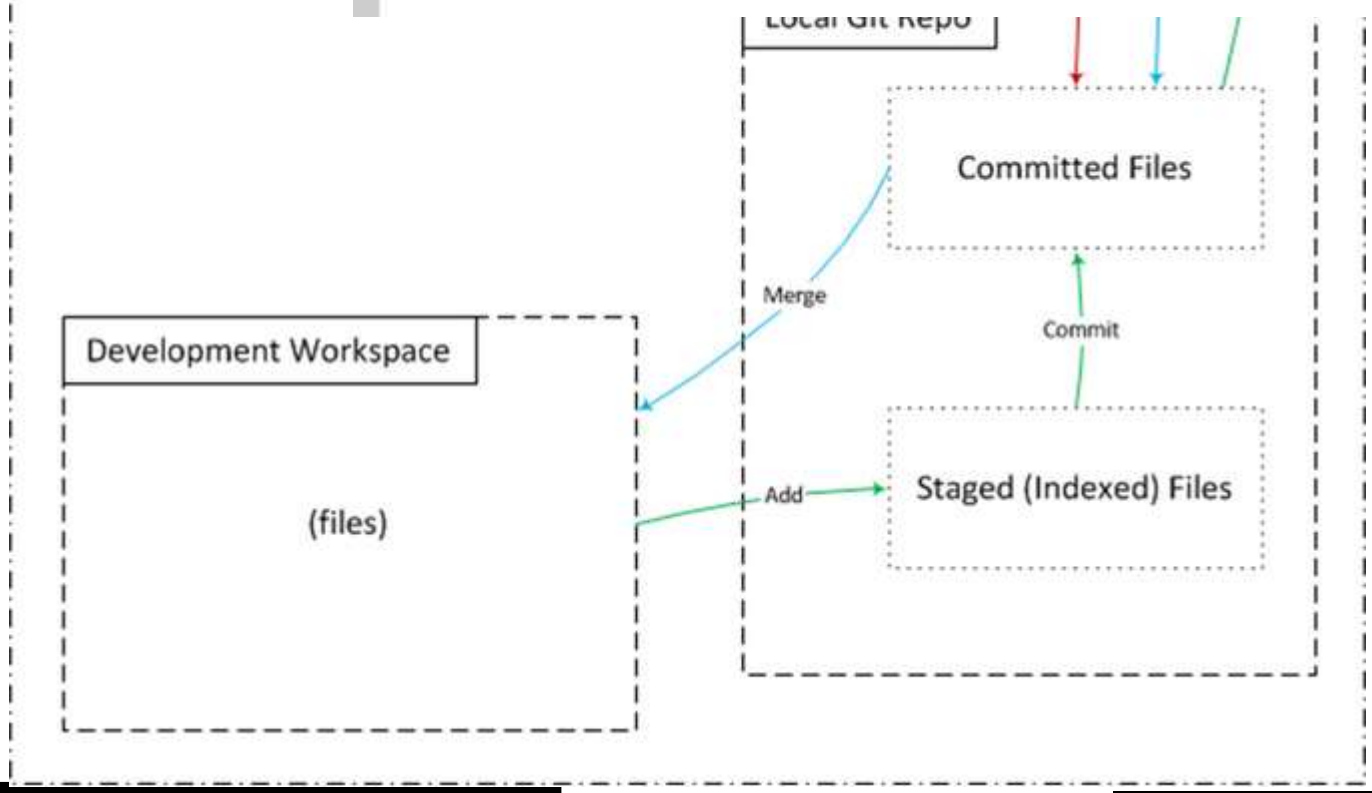
Repositories

Name	Date modified	Type
.git	13-03-2016 14:31	File folder
.gradle	13-03-2016 14:03	File folder
.idea	13-03-2016 14:03	File folder
app	13-03-2016 14:03	File folder
gradle	13-03-2016 13:59	File folder
build.gradle	13-03-2016 13:59	GRADLE File
gradle.properties	13-03-2016 13:59	PROPERTIES File
gradlew	13-03-2016 13:59	File
gradlew.bat	13-03-2016 13:59	Windows Batch File
local.properties	13-03-2016 14:02	PROPERTIES File
settings.gradle	13-03-2016 13:59	GRADLE File
Tingle.iml	13-03-2016 14:03	IML File



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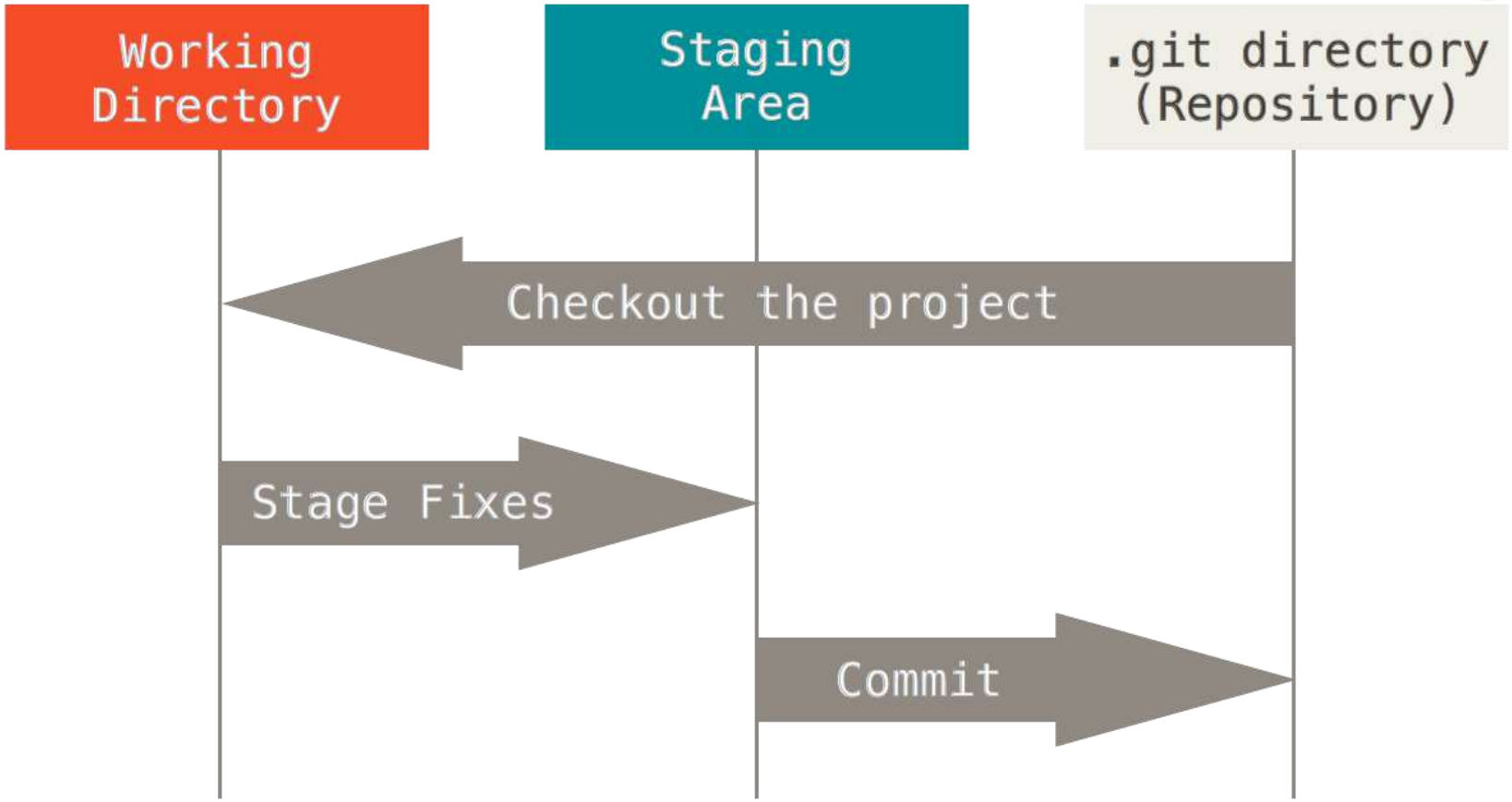
Committing



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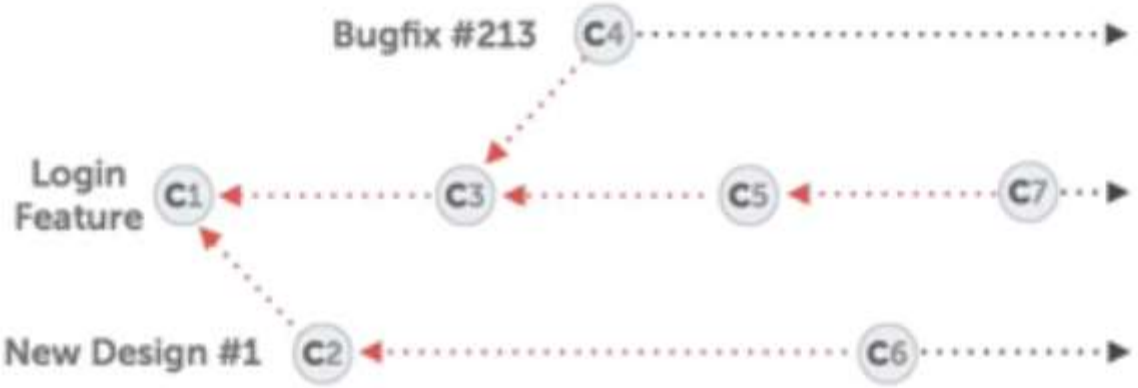
Clone and merge



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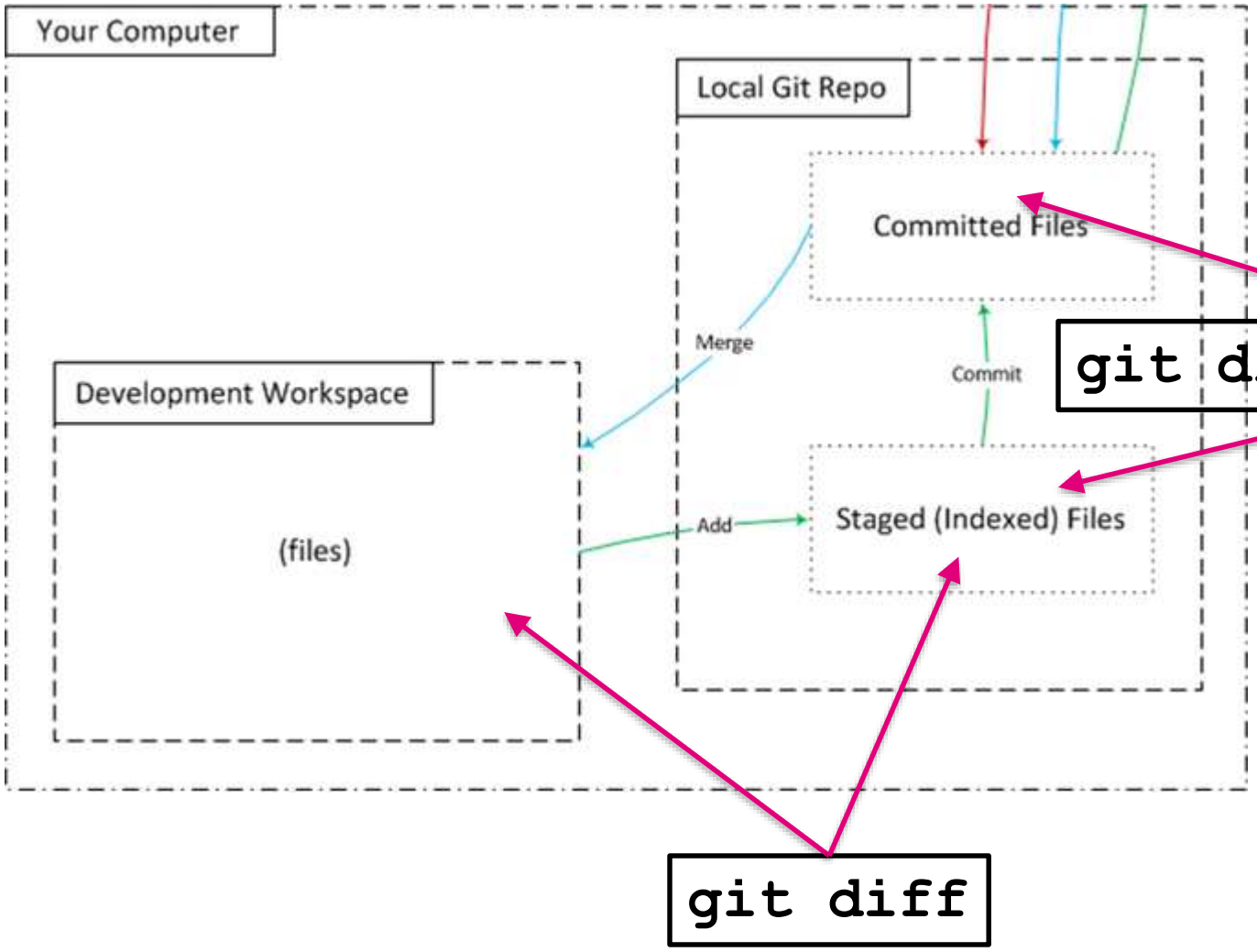
File diffs



`git diff --staged`

`git diff`

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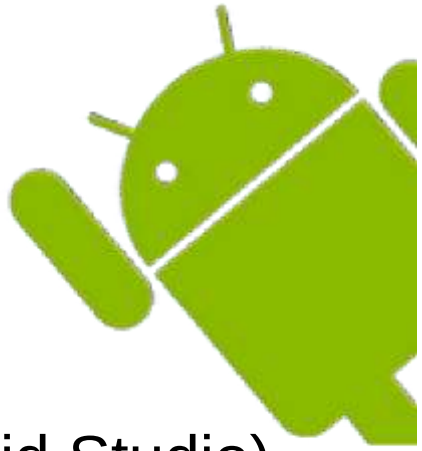
Git



Two decisions:

- Use Git with command line tools or IDE (Android Studio)
- Use Git locally or with an external repository

- More GIT videos

  https://www.git-tower.com/learn/git/videos#episodes

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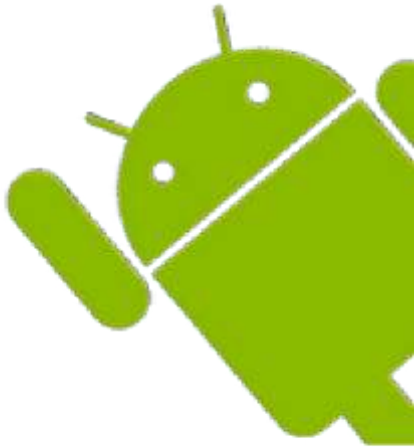
Getting Git



Download Git from here (Windows, Linux, Mac)

http://git-scm.com/

Learn Git in 20 Minutes (including download)

https://www.youtube.com/watch?v=Y9XZQO1n_7c

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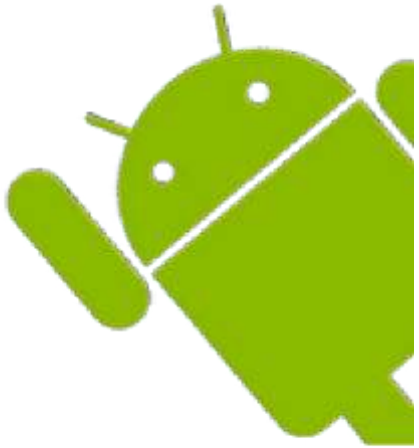
Threads: singletons and databases



```
threadA:  {
     acc1= acc1-amount;
     acc2= acc2+amount;
}

 threadB:  {
      sum= acc1+acc2;
 }
```

```
public class Shared {
    private static Shared sShared;
    public static Shared get() {
       if (sShared == null) { sShared= new Shared(); }
       return sShared;
    }
    private …
    private Shared() {…}
    public void xxx (…) { …}
}
```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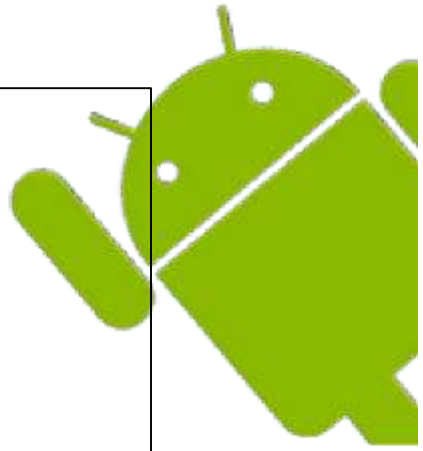
Safe singleton



```
public class Shared {
    private static Shared sShared;
    public static synchronized Shared get() {
       if (sShared == null) { sShared= new Shared(); }
       return sShared;
    }
    private Shared() {…}
    public void synchronized xxx (…) { …}
}
```

lazy instantiation

```
public class Shared {
   private static class SharedHolder { private static Shared sShared= new Shared(); }
   private Shared() {…}

   public static Shared get() {    return SharedHolder.sShared;   }

   private …
   public void synchronized xxx (…) { …}
}
```

inner class

http://www.novicehacks.info/2014/02/singleton-pattern.html

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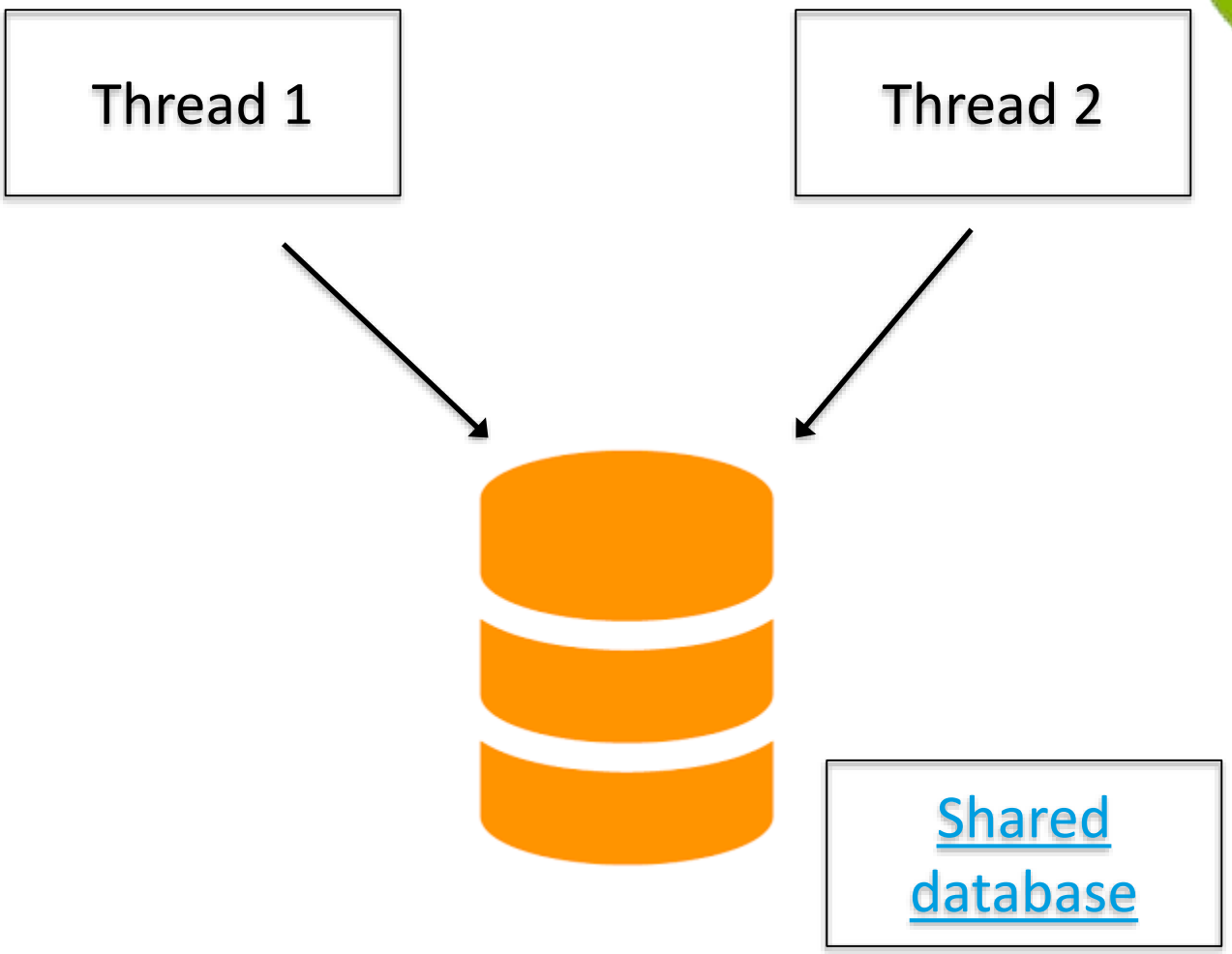
Shared databases



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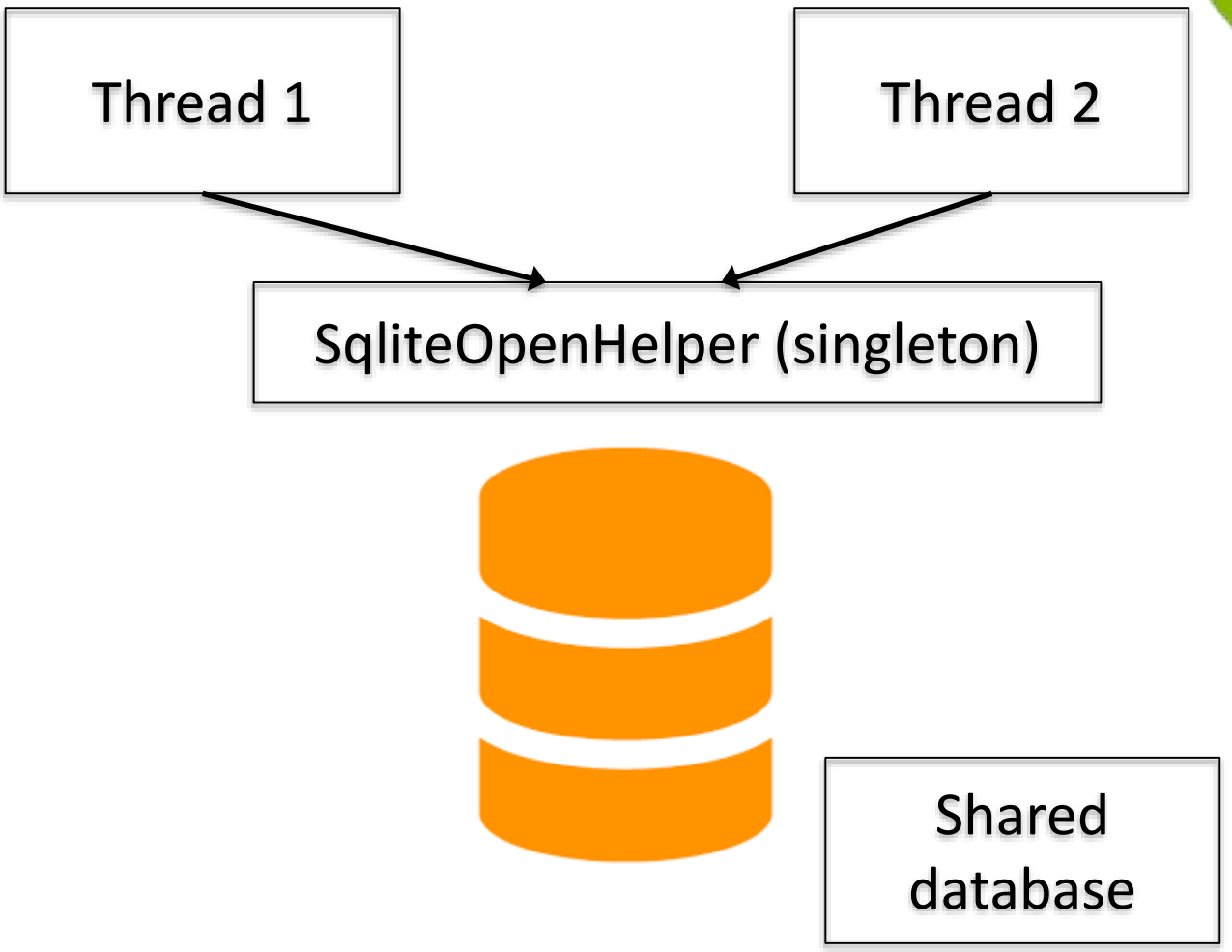
Shared databases



http://www.dmytrodanylyk.com/concurrent-database-access/

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