

Computer Science E-76

Building Mobile Applications

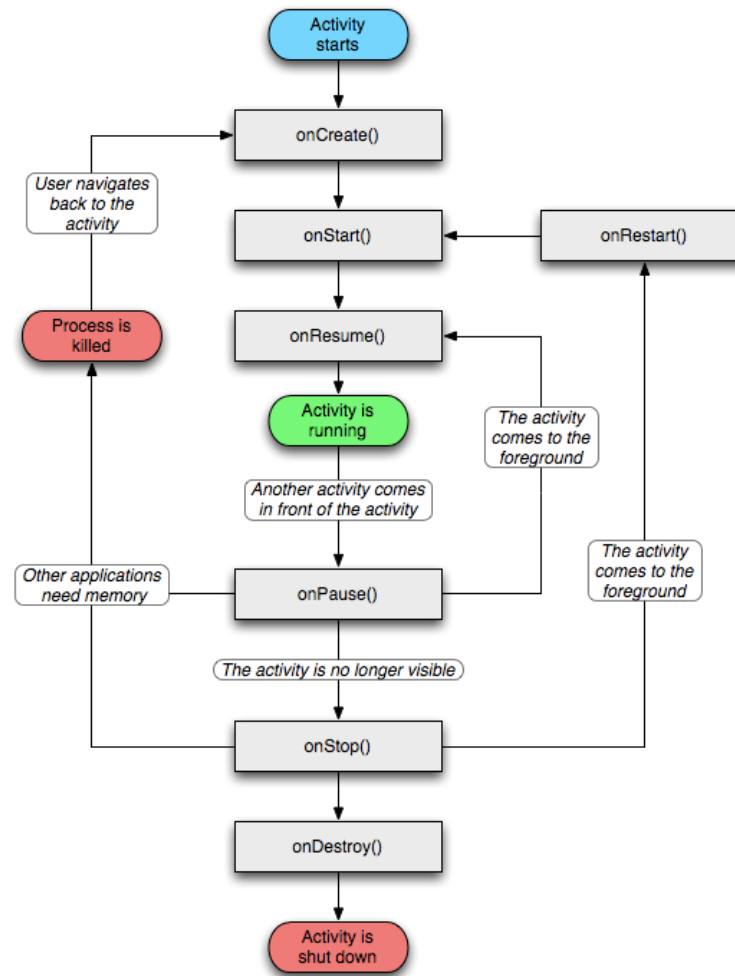
Lecture 6: [Android] Storage and Threads
March 8, 2011

Dan Armendariz
danallan@mit.edu

Preferences	Lightweight key-value pair store
Files	Read/write files dynamically
Databases	SQLite

Data Storage

Methods



<http://developer.android.com/reference/android/app/Activity.html>

Activity

Lifecycle

Read	<code>Context.openFileInput()</code> returns <code>FileInputStream</code>
Write	<code>Context.openFileOutput()</code> returns <code>FileOutputStream</code>

Data Storage

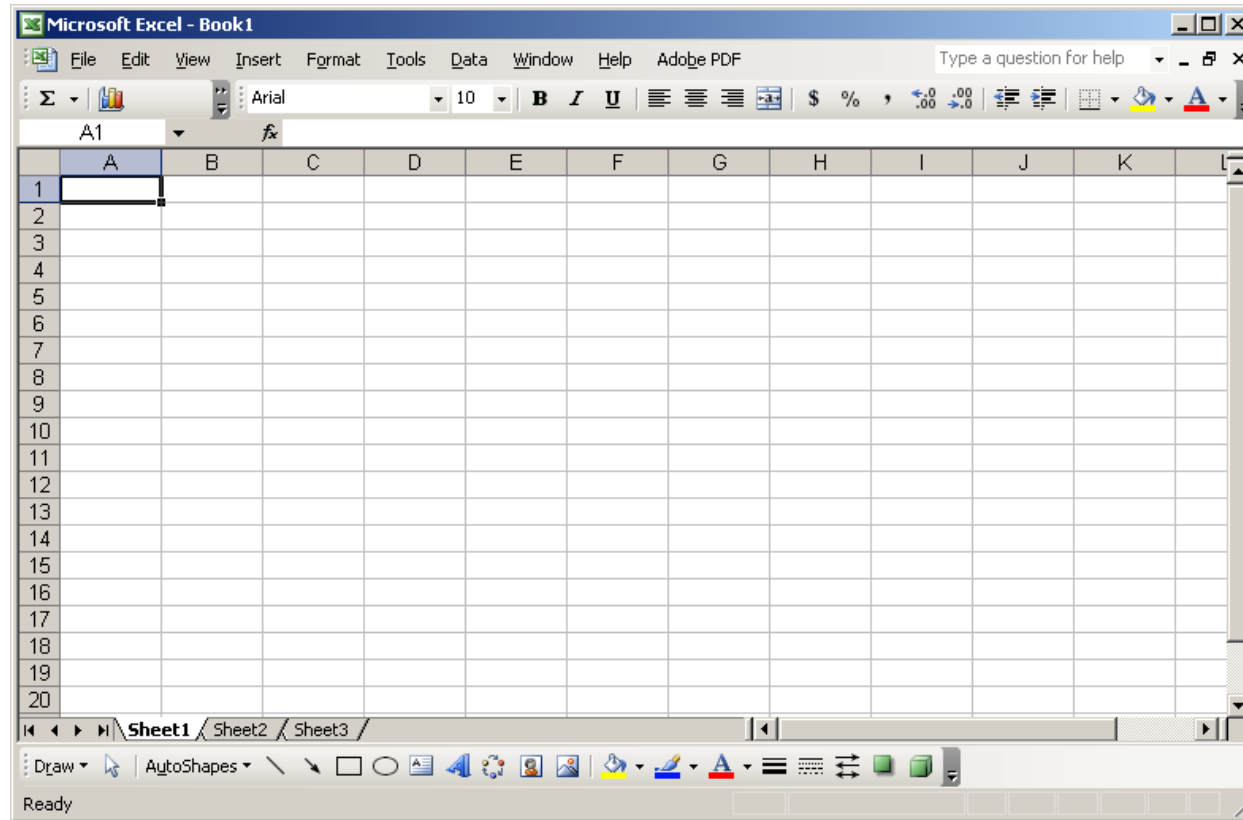
Files

```
adb shell
```

```
sqlite3 /data/data/<pkg>/databases/<db>
```

Data Storage

SQLite



SQLite

Relational Database

TABLES

CREATE
ALTER
DROP

ROWS

SELECT
INSERT
UPDATE
DELETE

SQL

Statements

```
UPDATE users  
SET email = "help@cs76.net"  
WHERE user_id = 4;
```


<http://www.sqlite.org/docs.html>

SQLite

Documentation

NULL	the null value
INTEGER	signed integer
REAL	8-byte IEEE floating point value
TEXT	Text string
BLOB	data stored exactly as input

SQLite

Storage Classes

TEXT	stores NULL, TEXT, or BLOB
NUMERIC	any of the 5 classes
INTEGER	same as above*
REAL	same as numeric, but forces float
NONE	no storage class preferred

* - Except when converting a float to an integer

SQLite

Type Affinities

1. If type contains "INT", assigned INTEGER affinity.
2. If type contains "CHAR", "CLOB", "TEXT", then column is given TEXT affinity.
3. If type contains "BLOB", column is given affinity NONE.
4. Type containing "REAL", "FLOA", "DOUB", given an affinity of REAL.
5. Otherwise, affinity is NUMERIC.

From: <http://www.sqlite.org/datatype3.html>

SQLite

Column Affinities

By default, an app is
single-threaded
& single-process

As a result, heavy computation
will cause the UI to lock!



Threads

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