Computer Science E-76
Building Mobile Applications
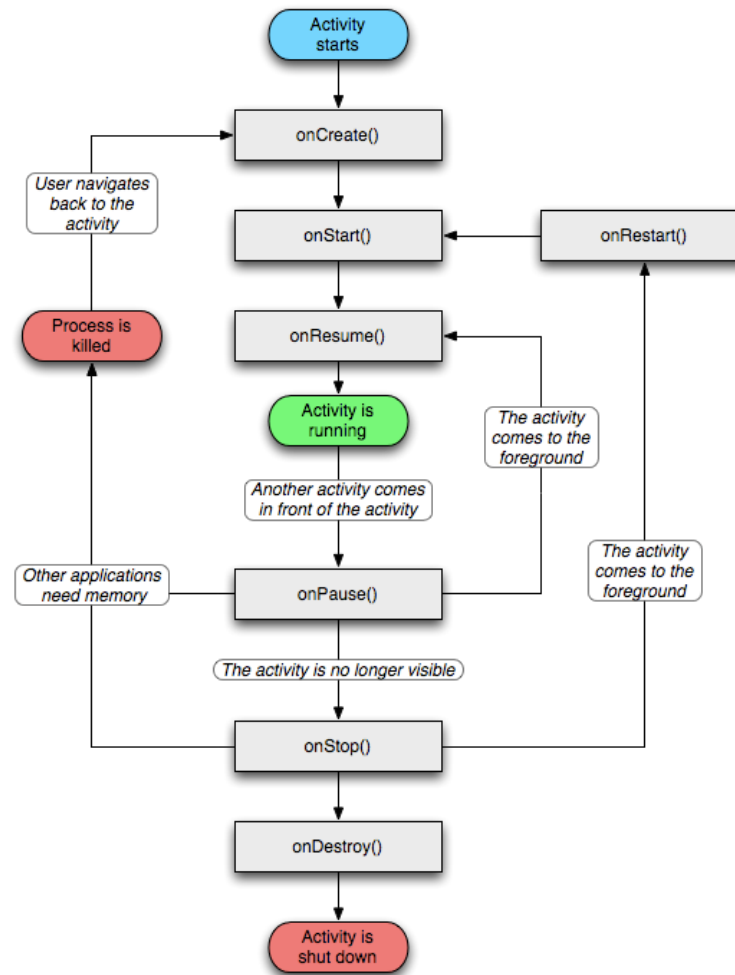
Lecture 6: [Android] Storage and Threads
March 5, 2012

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

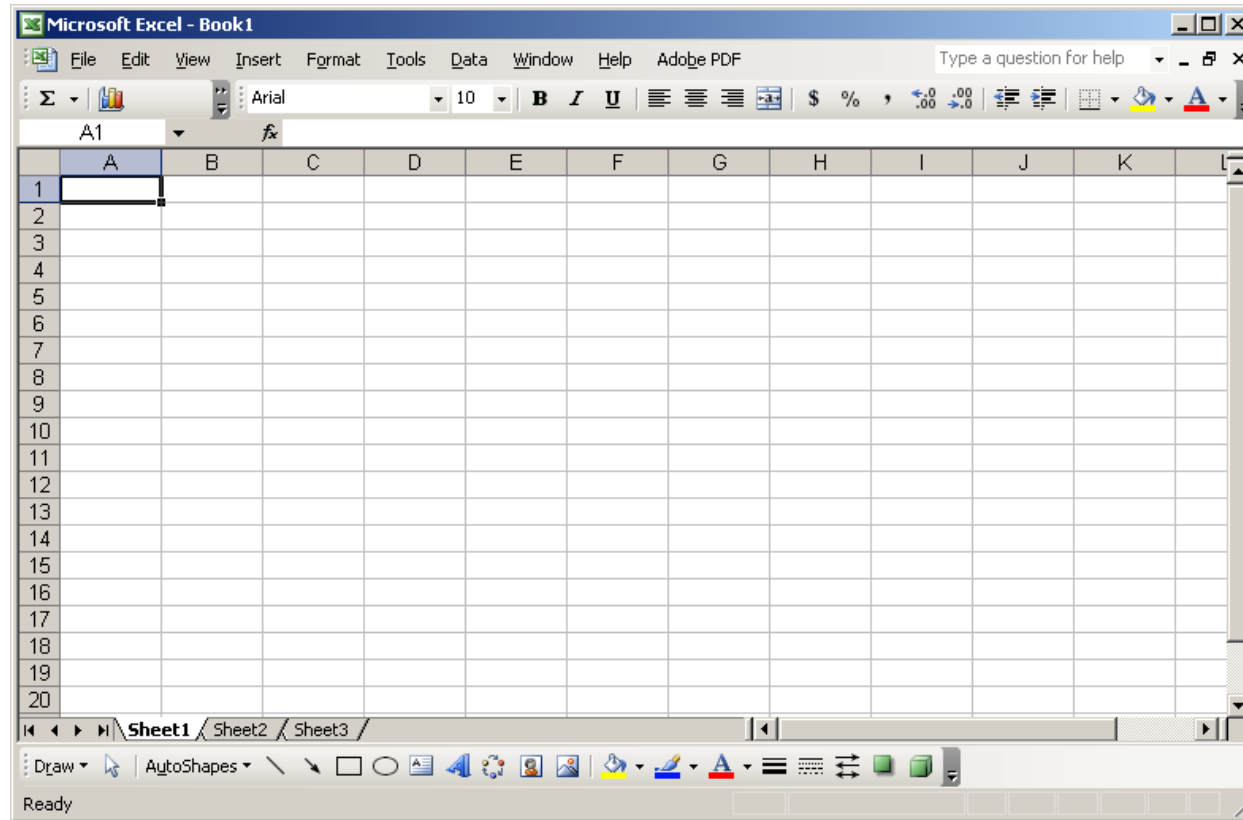|	
Read	`Context.openFileInput()` **returns** `FileInputStream`
Write	`Context.openFileOutput()` **returns** `FileOutputStream`

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;
```

SQL | Statement Syntax

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 "BLOG", 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

Computer Science E-76
Building Mobile Applications

Lecture 6: [Android] Storage and Threads
March 5, 2012

Dan Armendariz
danallan@mit.edu