mobile application design

week 3: Lights! Camera! Canvas!

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Stats of the Week

- **No stats this week**
- ***sigh***
- **Anyone got anything?**

Review: Homework / Setup

Forms-A-Go-Go

More applications

Games
Pang
The Sims2

Mapping
Google Maps
mGmaps
uLocate

Photos
Mobup
Shozu
Geosnapper

Web
Opera Mini
GCalSync

Mapping
Wayfinder

Art
Balldroppings

Social
Sensor
BEDD
Flirtomatic

RSS
Widsets
MobileGlu

Hybrids
MogiMogi
Socialight
AOTKV

モギ
アイテムハント

Mogi, item hunt
A new collection game

A game where players move outside, pick-up virtual items through their mobile phone interface then trade with other players to complete collections. The goal is to get the maximum points completing collections.

It is based on players' location. From the Web interface, players see in real time, on a 3D map, the positions of connected players as well as collection items. From both interfaces, players trade the items picked-up with the mobile.

Mogi is a community game, featuring a complete IM system. A web player might help a mobile player by clicking on its character on the map and sending "Lucky you! North, close to you, lies a rare item. Get it, get it ! :)" which will pop on the screen of the mobile player.

page 1

Let's play !

au

An Ezplus game

INTERNET No. 53577

Java アプリ

Supported types: GPS, J2ME AU Phones (KDDI, JAPAN)
Supported terminals : A5401, A5402, A5305, A5303, A5302, A5301, A3015, A3014,

LOGIN
PASSWORD
undefined

?

http://www.mogimogi.com/

http://www.wayfinder.com/

http://www.wayfinder.com/

GCALSYNC

SYNCHRONIZE YOUR PHONE WITH GOOGLE CALENDAR

Carry your Google Calendar in your pocket! GCalSync is an open source application that lets you do a two-way synchronization between Google Calendar and your phone's built-in calendar. Download events to your phone, or add an event on your phone and upload it to Google Calendar.

To install, visit http://wap.gcalsync.com with your phone's browser

You can also download the files here if you prefer to install via USB, Bluetooth or infrared (see your phone's manual for how to do this).

gcalsync.jad gcalsync.jar signed version - for most phones
gcalsync.jad gcalsync.jar unsigned version - try this if your phone will not let you install the signed version
gcalsync.jad gcalsync.cod for Blackberry

NEW: Version 1.1.1 released, a bug fix to the first version after I open sourced GCalSync. Source code is available on SourceForge. New in version 1.1:

- Time zone options: you can specify an offest if you have problems with events being a couple of hours off.
- Download/upload options: choose if you want to just download events from GCal, just upload evnets from the phone, or both.

http://www.gcalsync.com

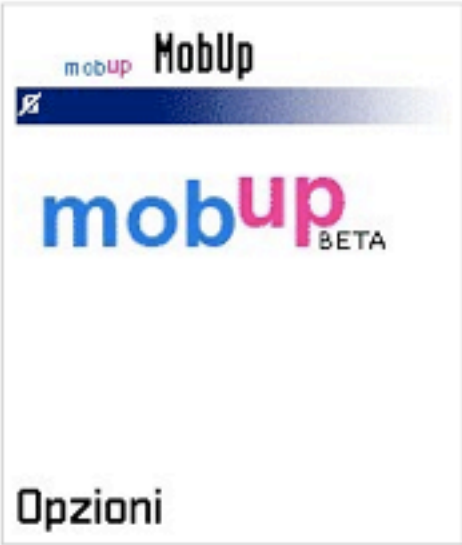
Known problems:

- Changes and deleteions on the phone are not uploaded. I am getting error messages from GCal when I do this so it is disabled for now.

mobup beta

http://www.mobup.org

Installing Mobup | Supported devices | Licensing | Version history | Developers | Blog



Flickr from your mobile device built using the Flickr APIs. Once installed it gives you the possibility to shoot your photo and add **title**, **tags** and **description**, manage **sets** and groups from the same applications with optimal user experience and **to post the shooted photo on your blog**.

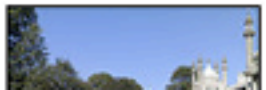
Mobup is being developed as by the **CT|DND team** and a **bunch of other programmers**;
Mobup is actually in public beta: thanks to the group of volunteers that
daily apply for testing (if you want to be included just send us an email
specifying your Java phone model).

Download mobup for FREE

Download source code

Mobup **source code is now available for free** under GNU General Public License and is **hosted on Sourceforge**, the world's largest Open Source software development web site. (Visit developer section for more infos)

Latest Mobupped shots



Installing Mobup

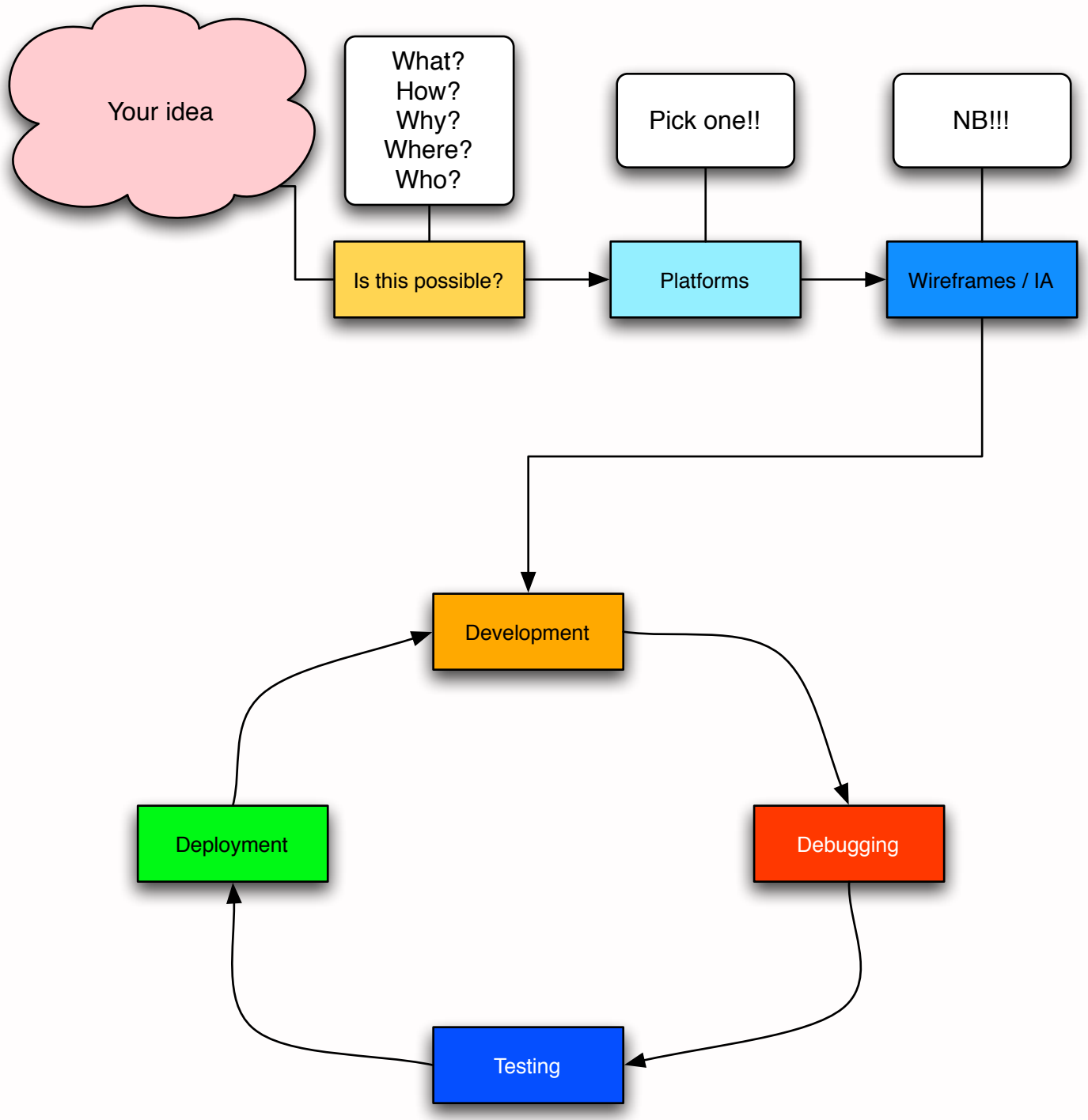
Mobup activation on Flickr

1. Go to the activation page
    1. If necessary log in
    2. Click *OK,I'LL ALLOW IT*
    3. Write down the 9 numbers code xxx-xxx-xxx (Token) .
2. End of this procedure

Mobup phone configuration

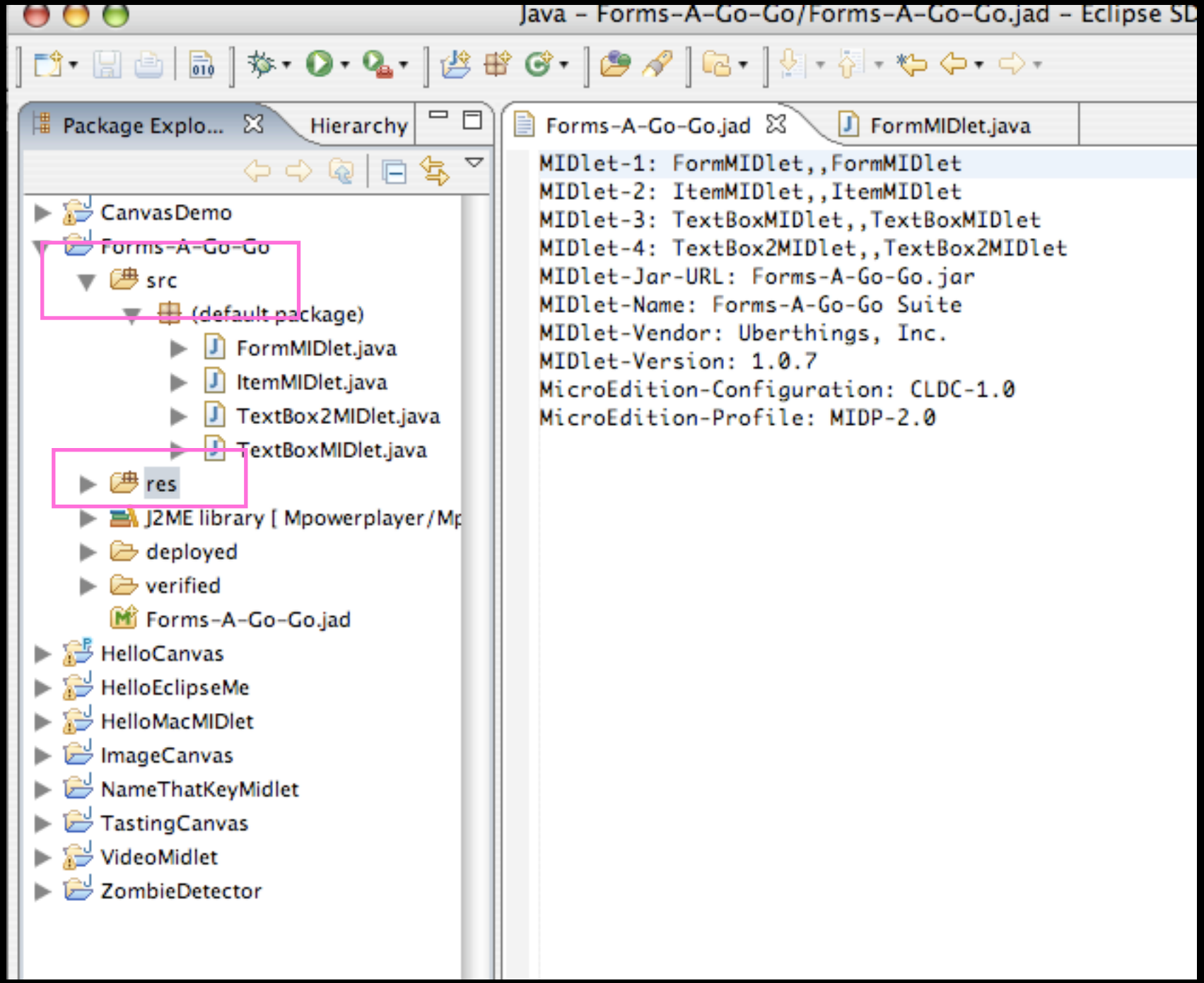
Flashback!

Sample Mobile Development Process



Debugging

Directory Structure


Java - Forms-A-Go-Go/Forms-A-Go-Go.jad - Eclipse SD
Package Explo...
Hierarchy
CanvasDemo
Forms-A-Go-Go
src
(default package)
FormMIDlet.java
ItemMIDlet.java
TextBox2MIDlet.java
TextBoxMIDlet.java
res
J2ME library [Mpowerplayer/Mp
deployed
verified
Forms-A-Go-Go.jad
HelloCanvas
HelloEclipseMe
HelloMacMIDlet
ImageCanvas
NameThatKeyMidlet
TastingCanvas
VideoMidlet
ZombieDetector
Forms-A-Go-Go.jad
FormMIDlet.java
MIDlet-1: FormMIDlet,,FormMIDlet
MIDlet-2: ItemMIDlet,,ItemMIDlet
MIDlet-3: TextBoxMIDlet,,TextBoxMIDlet
MIDlet-4: TextBox2MIDlet,,TextBox2MIDlet
MIDlet-Jar-URL: Forms-A-Go-Go.jar
MIDlet-Name: Forms-A-Go-Go Suite
MIDlet-Vendor: Uberthings, Inc.
MIDlet-Version: 1.0.7
MicroEdition-Configuration: CLDC-1.0
MicroEdition-Profile: MIDP-2.0

Compilation

Tips

- Use **System.out.println** to print out to console
- What works in the emulator MAY NOT work identically on phone
- Emulator runs code **much** faster than device

Deployment!!!!

Package your MIDlets

JADs and JARS
- Java Application Descriptor (JAD)
- Java Archives (JArs)

JAD
- describes MIDlet suite
- specifies name, icon, MIDlets, permissions

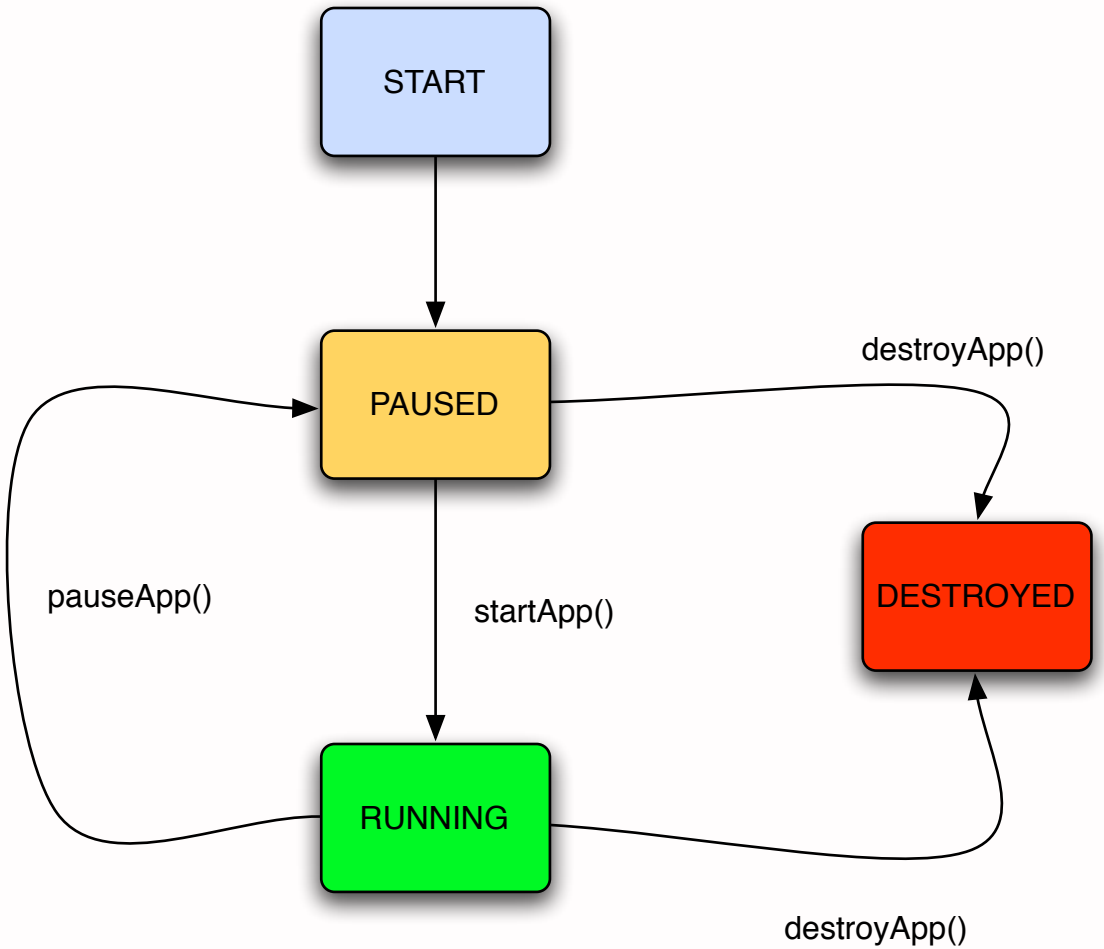
JAR
- contains class files, resources

AMS
- application management software

Deploy

- OTA
  - .htaccess
  - MIME-Types
- Bluetooth (OS X, Windows)
- MPowerPlayer Webstart

The Not-So-Secret Lives of MIDlets



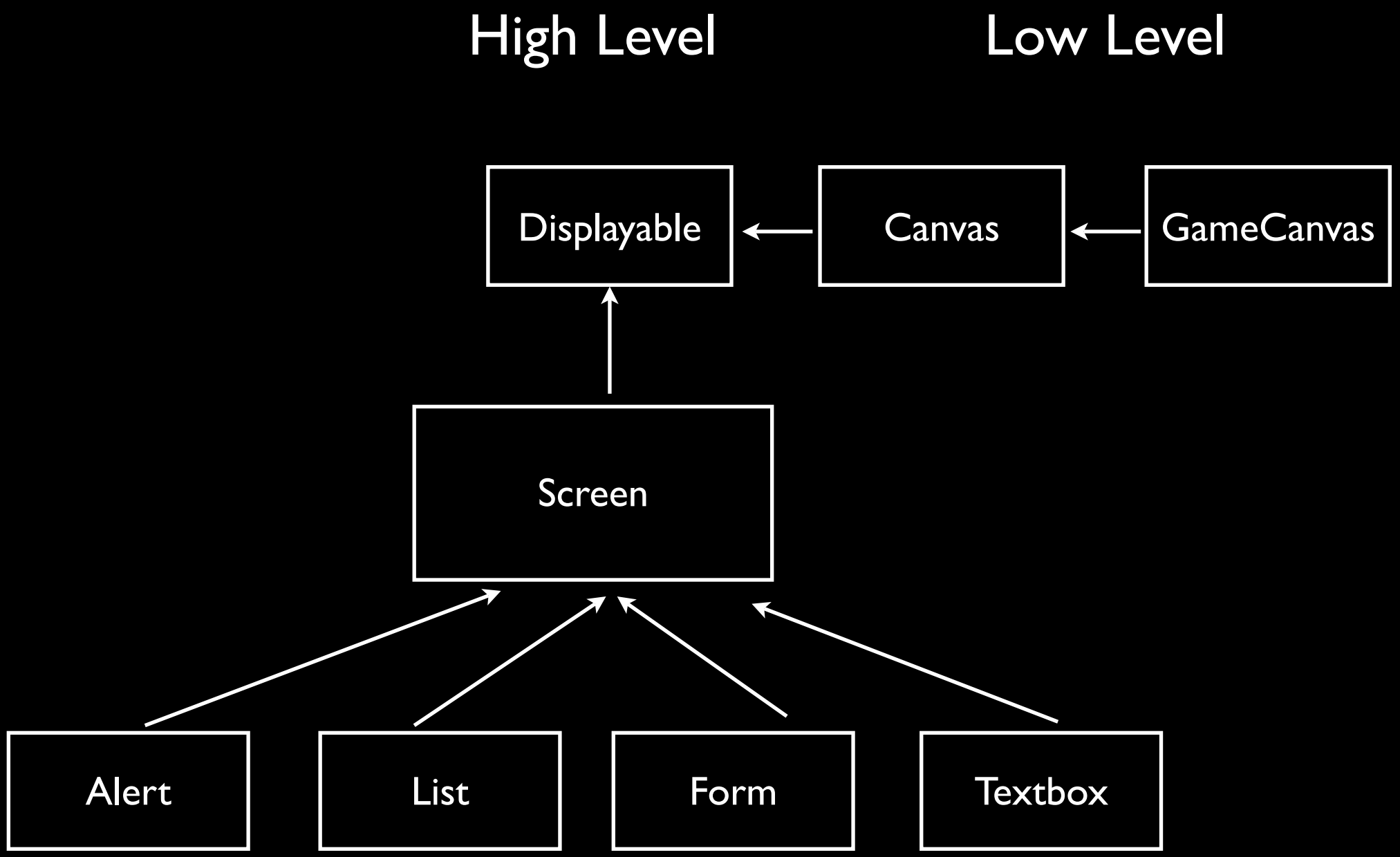
OR

A MIDlet's Life

1. Show a Displayable
2. Wait for input
3. Do something, then show next screen
4. Repeat. Or exit.

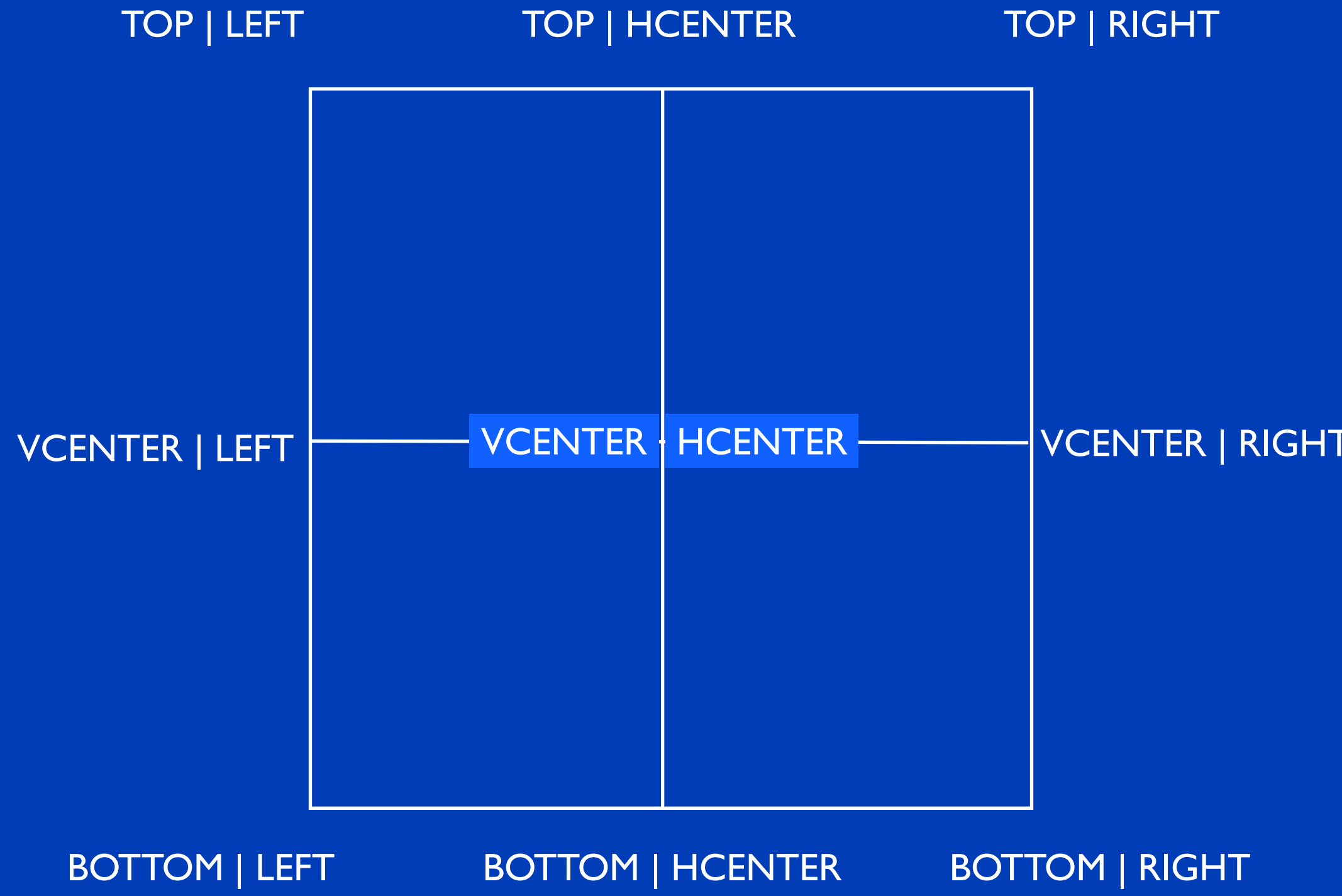
MIDlet UI

- 2 main options
- Abstraction
  - High level classes, Screens (Alert, List, Form, Textbox)
- Discovery
  - Low level classes - Canvas, GameCanvas
- javax.microedition.lcdui + .game


High Level
Low Level
Displayable
Canvas
GameCanvas
Screen
Alert
List
Form
Textbox

Canvases

- Low-level
- Discovery
- Event handling
- More control over UI
- Animation


TOP | LEFT
TOP | HCENTER
TOP | RIGHT
VCENTER | LEFT
VCENTER
HCENTER
VCENTER | RIGHT
BOTTOM | LEFT
BOTTOM | HCENTER
BOTTOM | RIGHT

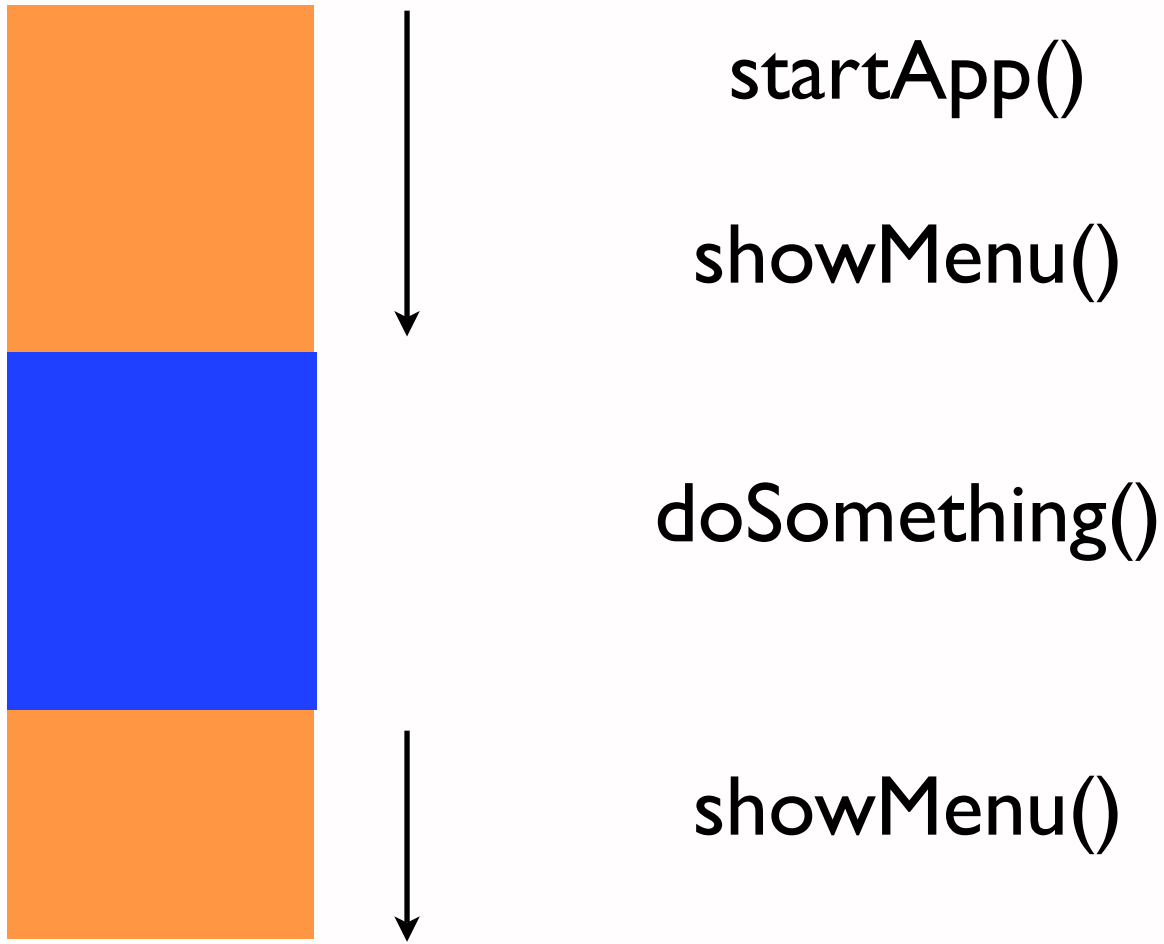
Threads

- What are threads?
  - "Single sequential flow of control"
- AKA sub processes which will do things for you
- Application = System thread + other threads
- J2ME is **multithreaded**

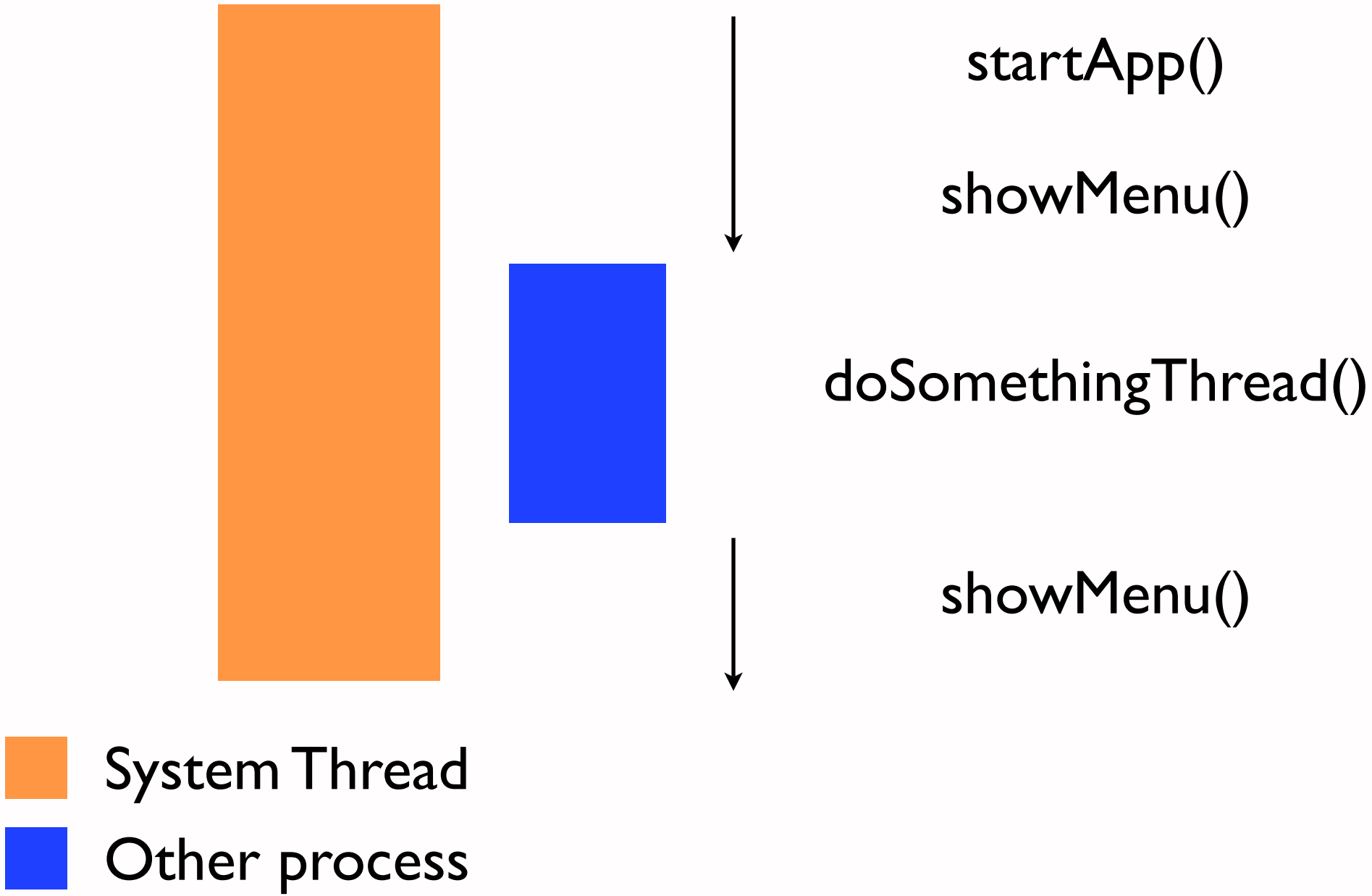
Threads (2)

- Every thread has a context
  - **Running** thread is executing code
  - **Ready** thread is ready to execute code
  - **Suspended** thread is waiting on an external event.
  - **Terminated** thread has finished executing code.
- Threads are scheduled (usually by OS)

Unthreaded MIDlet



Threaded MIDlet



Threads (3)

- To use threads you need:

1. an instance of java.lang.Thread
2. an object that implements java.lang.Runnable

Using Threads

```
public class DoSomething implements Runnable {
    public void run(){
        // here is where you do something
    }
}
```

```
DoSomething doIt = new DoSomething();
Thread myThread = new Thread( doIt );
myThread.start();
```