H79.2580.1
mobile application design

michael sharon

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Stats of the Week

- ★ **2.8bn** mobile users
- ★ **2.3bn** GSM
- ★ **114.7m** 3GSM
- ★ **18m** CDMA
- ★ **290m** CDMA 1X
- ★ **57m** CDMA 1X EV-DO
- ★ **26.5m** iDEN

Global GSM & 3GSM mobile connections*

2,5 15,9 12,439

News

Global Mobile Communication is 20 years old

Twenty years ago an historic agreement was signed in Copenhagen by 15 telecommunications operators from 13 countries* that led to the development of the Global System for Mobile Communications (GSM), and a mobile communications industry that today serves more than 2.5 billion people across 218 countries and territories.

The 'Memorandum of Understanding' agreement of 7th September 1987 laid the foundation for the first Europe-wide digital cellular system, which soon became the world's first global mobile system as used by more than 700 mobile operators and served by thousands of suppliers today. The agreement also triggered a technology evolution path that continues today with the roll-out of more than 120 mobile broadband networks in 61 countries. Download Factsheet (PDF)

GSMA To Tackle Mobile Innovation Bottleneck
The GSMA has launched an ongoing programme to help the thousands of small and medium-sized companies developing innovative mobile products and services reach mobile operators...

Asia's Entertainment Capital Macau To Host New Asia Mobile Awards
The GSMA today launched the Asia Mobile Awards 2007, a new awards programme for companies...

HSPA Mobile Broadband - Today
HSPA technology is enabling the delivery of high speed mobile broadband today. Get the latest networks, devices and news information from our website.

Personal Instant Messaging
The GSMA has updated the Personal IM website and operator portal to reflect the latest developments on the initiative world-wide.

GSMA Development Fund
In one year, the GSMA Development Fund has established 16 pilot projects in 9 countries and is beginning to bridge the digital divide.

Pay-Buy-Mobile Initiative
KTF has launched a pilot commercial service of USIM-based (Universal SIM card) 'contactless' credit card...

Intitatives

Global Certification Forum Seminar
Global Certification Forum contributes to the global interoperability of handsets and networks, this Seminar is about a unique aspect of the GCF, the Field Trials which enable a manufacturer to test terminals across 5 different operator networks.
Please download the registration form (PDF)

Recent Press Releases

- GSMA Speeds Up The Transfer O Roaming Call Records
- Telecoms Reform In Bangladesh Yield Major Benefits
- 3GSM World Congresses Rebran Mobile Industry Approaches 3 Bi Milestone
- Winning 3G For All Handset Avail Now
- GSMA and MMA Collaborate to Accelerate Global Development Mobile Advertising

View all press releases

GLOBAL MOBILE AWARDS 2008

ASIA MOBILE AWARDS 07

Mobile Innovation Programme & Awar

MOBIL WORLD CONGR

GSM ASSOCIATION

Review: Homework / Setup

Hello World

Your phone

Nokia N80

FileConnection and PIM API (JSR-75)

Security and Trust Services API (JSR-177)

Wireless Messaging API (JSR-205)

JTWI (JSR-185)

Mobile Media API (JSR-135)

Web Services API (JSR-172)

Nokia UI API

CLDC 1.1

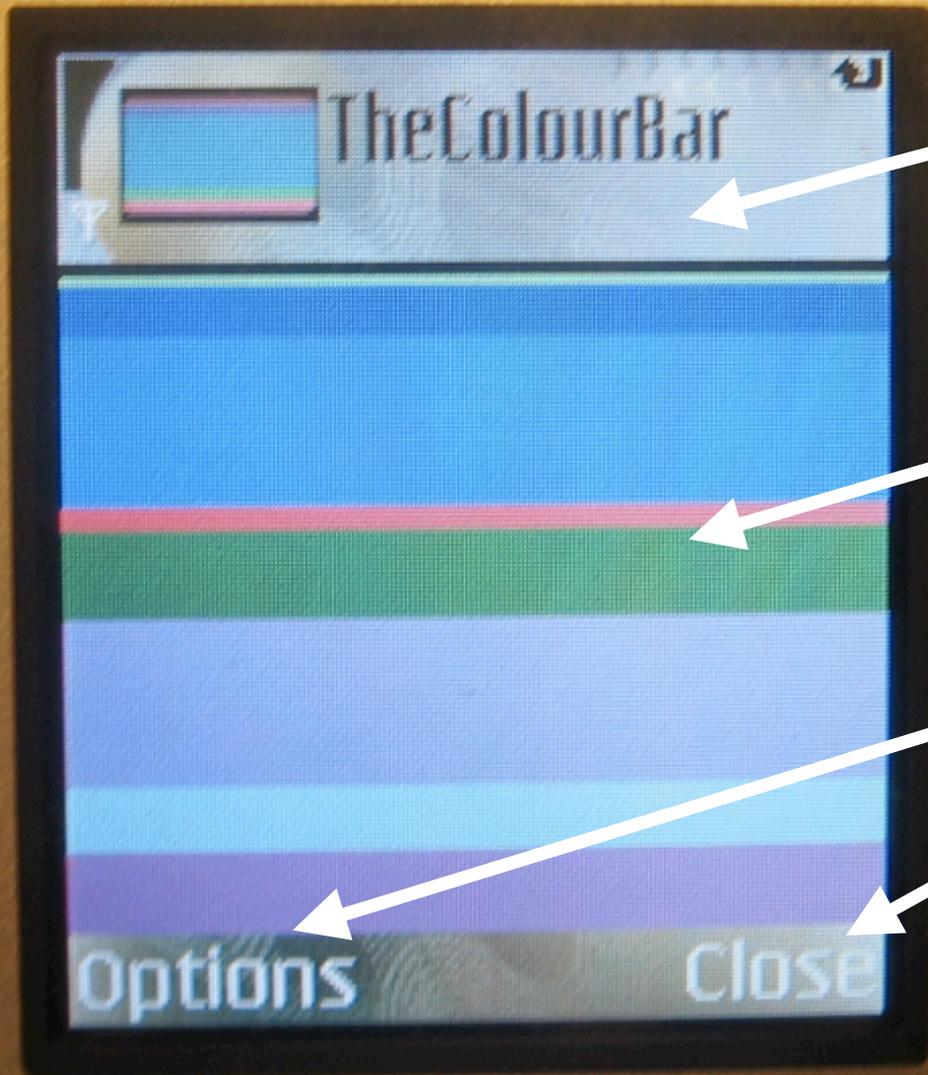Location API (JSR-179)

SIP API (JSR-180)

Mobile 3D Graphics API (JSR-184)
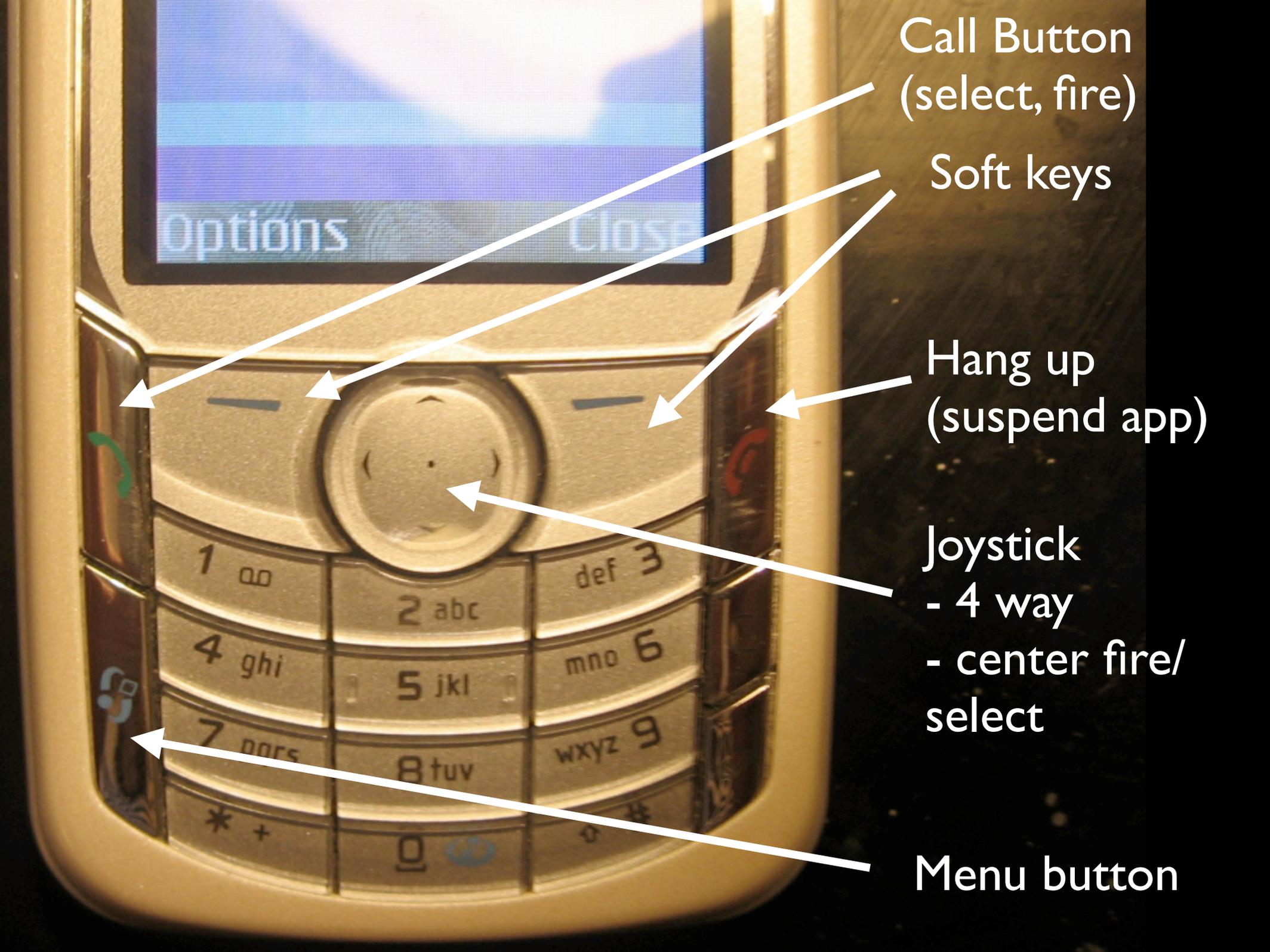
Bluetooth API (JSR-82)

MIDP 2.0

http://www.forum.nokia.com/devices/N80

Status Bar

Viewport

Soft key labels

Call Button
(select, fire)

Soft keys

Hang up
(suspend app)

Joystick
- 4 way
- center fire/
select

Menu button

Options   Close

Lightning tour of Java ME

* NOT TO BE CONFUSED WITH AN ACTUAL PROGRAMMING COURSE

Java ME, classes, objects

- Object oriented language

- Multi-threaded

- Object is an instance of a class

- Object inherits/extends/implements from single class

- Methods accessed using dot notation

- Reveal the MIDP Reference docs

Sample Mobile Development Process

Quick recap

The Not-So-Secret Lives of MIDlets
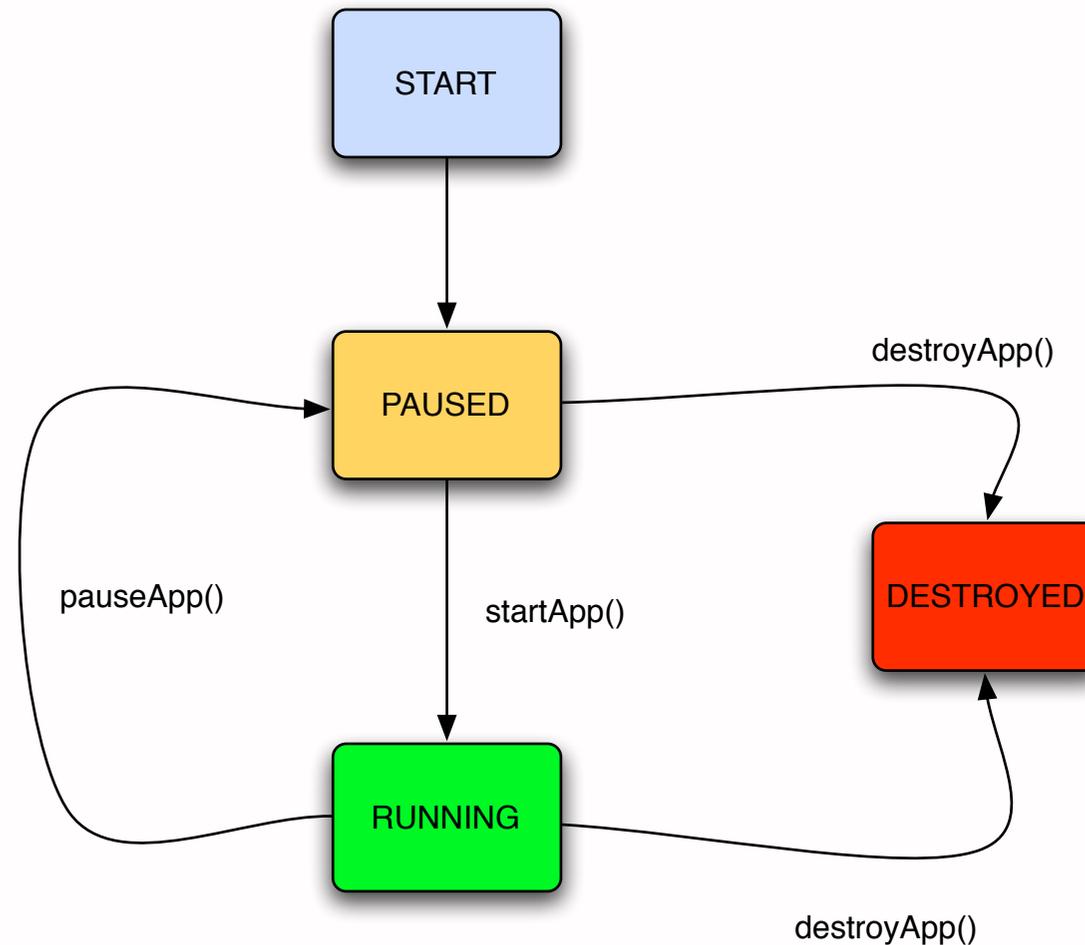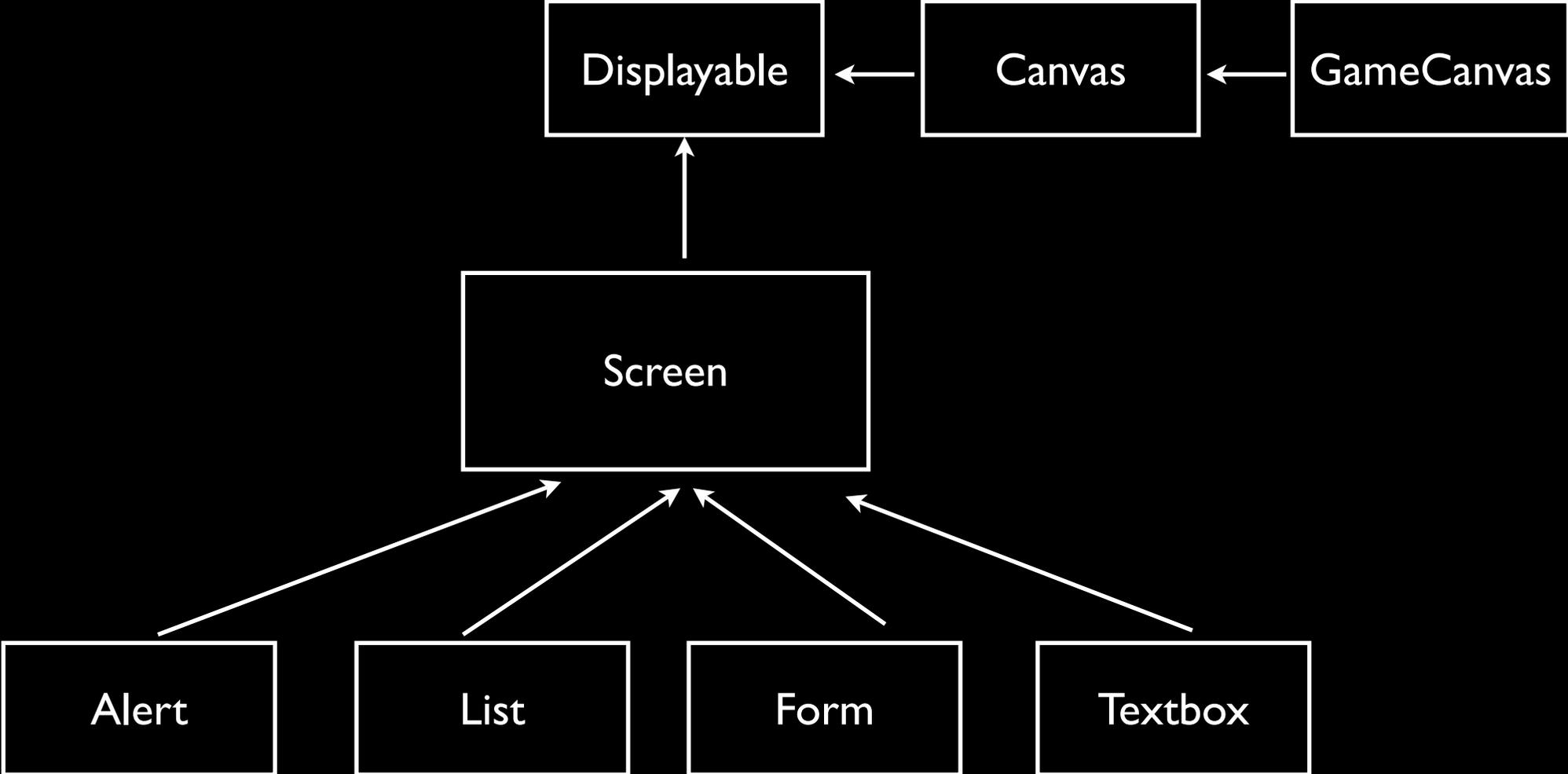
OR

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
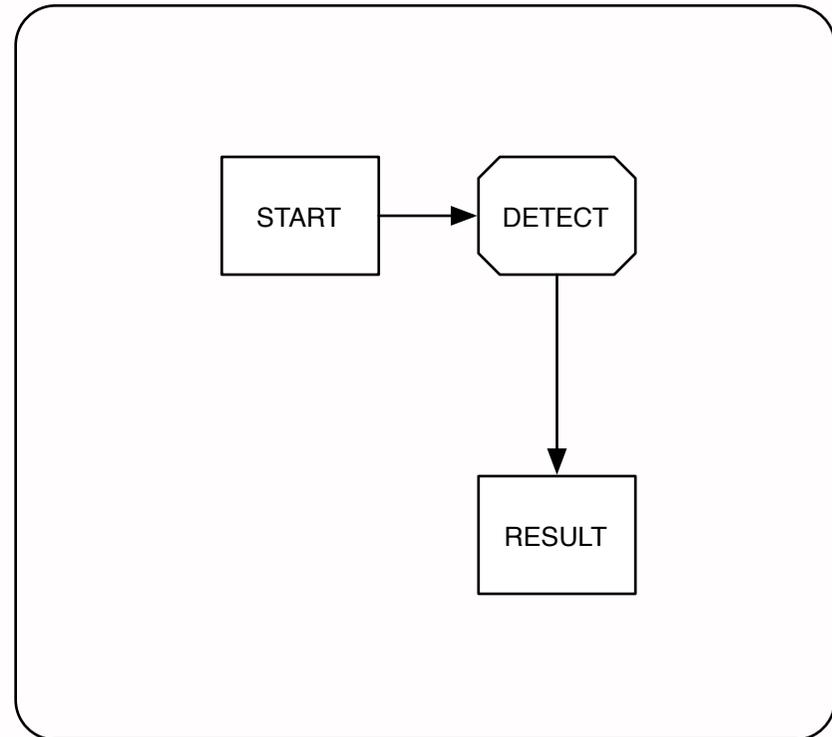
- javax.microedition.lcdui + .game

High Level   Low Level

```
┌──────────────┐      ┌──────────────┐      ┌──────────────┐
│  Displayable │ ◄─── │    Canvas    │ ◄─── │  GameCanvas  │
└──────────────┘      └──────────────┘      └──────────────┘
        ▲
        │
┌──────────────────┐
│                  │
│      Screen      │
│                  │
└──────────────────┘
   ▲    ▲   ▲      ▲
┌───────┐ ┌───────┐ ┌───────┐ ┌───────┐
│ Alert │ │ List  │ │ Form  │ │Textbox│
└───────┘ └───────┘ └───────┘ └───────┘
```

Development

- Idea = Zombie Detector

- Platform = Nokia N80

- Wireframes / IA / Screens

Zombie Detector Screens v0.1

Debugging

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

Testing

Tips

- Do a quick check for known issues in MIDP on device

- Test in the emulator & device

- Multimedia applications which use camera, video etc, MUST be tested on 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 (Over the Air)

- Bluetooth

- USB Cable

User Experiences

the ways in which people perceive, understand, learn and interact with (mobile) technology

see also...

- interaction design

- user-centered design

- interface design

- information architecture

- user research

- usability

process

(understand) (analyze) (ideate) (define) (model) (evaluate) (iterate)

who it's for ----------------- what it does ----------------- what it's like

understand

- business objectives

- user goals

- product / service landscape

user goals - research

- observation

- interviews

- surveys

- focus groups

- personas

analyze

- context

- user needs

- opportunities

ideate

- brainstorming
- concepting
- storyboarding

define

- scope

- features

- platform

model

- sketches

- workflows

- screen ui

evaluate

just enough prototyping, as often as possible

iterate

- build on learnings

- go back to the users' goals

- trim the fat

two of my favorites

1.

Design the *right* thing
Design the thing *right*

Designing the *right* thing

- know the users

- understand their context

- address their needs and goals

- be relevant- how does it fit into their lives?
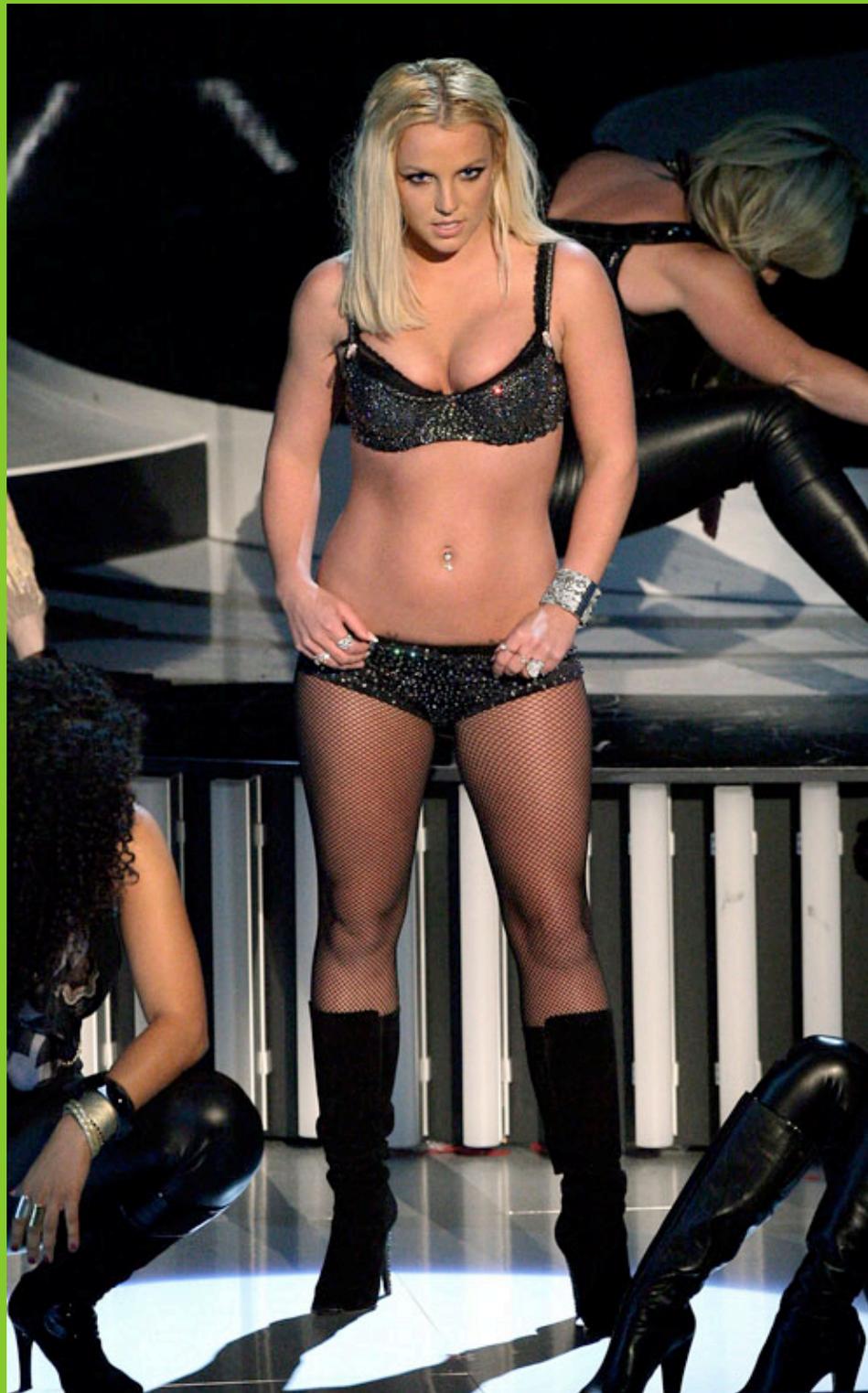
Designing the thing *right*

- simple

- consistent

- learnable

- provide feedback

considerations

- duration

- intensity

- familiarity

- simplicity

2.

Just because you can, doesn't mean you should.

mobile experiences

- personal

- immediate

- out and about

- small screen, limited input

- online and offline

designing the user experience

who - why

exercise 1 - 10 min

who

- personas
- user scenarios

why

- context

- needs

assignment -

- groups of 3-4

- choose primary user group

- create persona(s) - who is this person?

- develop scenarios - work, home, day in the life

- identify challenges, goals, context, needs

what - how

exercise 2 - 20 min

what

- concept
- features

how

- storyboard

- workflow

assignment -

- back into groups

- brainstorm concepts for a mobile service that would address identified needs

- describe features that work in identified context

- storyboard how a user would interact with the application/service

- bonus - wireframes/workflow diagrams

what would be next...

- wireframes - illustrate interface elements

- specifications - describe interface behaviors

Thanks