



mobile application design

week 4: Networking! +MMAPI

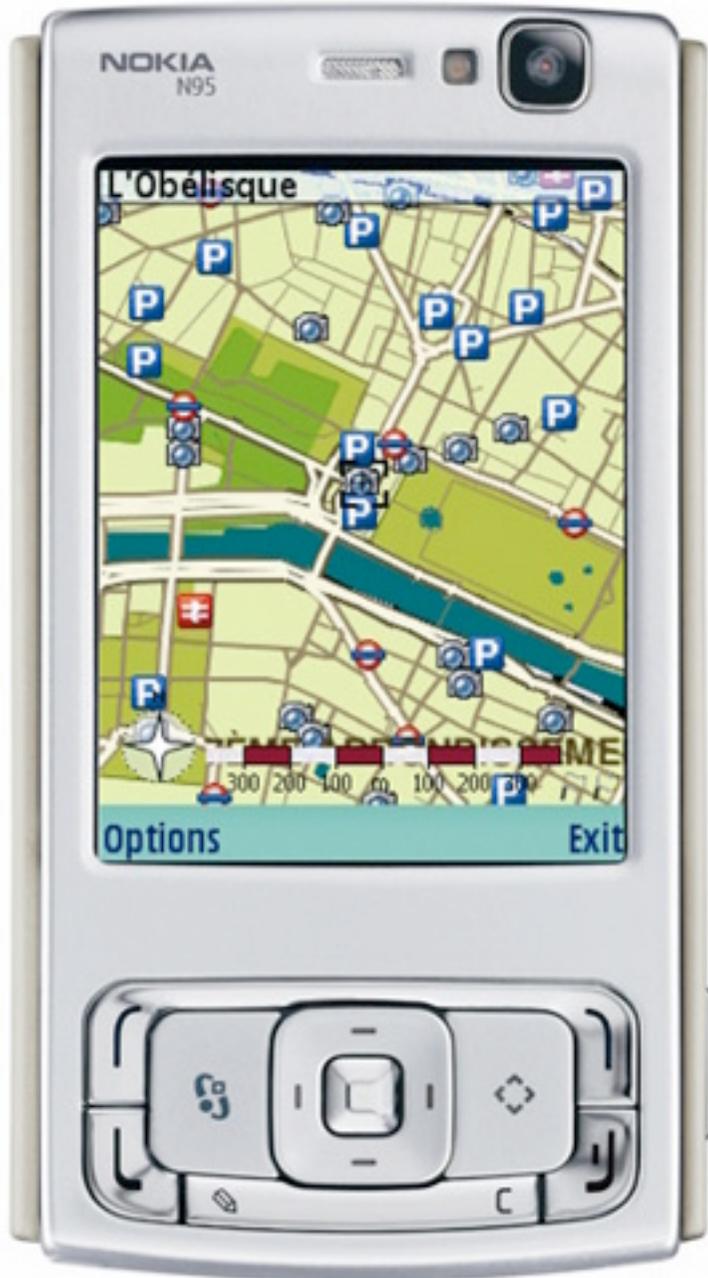
michael sharon

Menu

- **Review: Homework, Setup**
- **Presentation: Nanna, Cat, (Jadie?)**
- **Phone of the Week**
- **Tips'n'tricks**
- **Deployment**
- **Multimedia**
- **Networking**
- **Special Guest: Adam Greenfield**

Phone of the week

Nokia N95



Nokia N95

- GPS!!!
- Bluetooth 2.0
- USB 2.0
- WiFi
- QVGA
- 5 Megapixel camera
- Tons more

Review: Homework / Setup

Presentation

Tips'n'tricks: Eclipse

Directory Structure

Preferences

type filter text

New Midlet Suite



Specify preferences for new J2ME projects

- Force Java 1.1 Compliance
- Automatically Use Resources Directory in New Projects

Resources Directory:

- ▶ General
- ▶ Ant
- ▶ Help
- ▶ Install/Update
- ▼ J2ME
 - Device Management
 - New Midlet Suite**
 - Over the Air
 - ▼ Packaging
 - Obfuscation
 - Preverification
- ▶ J2ME Polish
- ▼ Java
 - ▶ Appearance
 - ▶ Build Path
 - ▶ Code Style
 - ▶ Compiler
 - ▶ Debug
 - ▶ Editor
 - ▶ Installed JREs
 - JUnit
 - Properties File
- ▶ Plug-in Development
- ▶ Run/Debug
- ▶ Team

Restore Defaults

Apply



Cancel

OK

Preferences



type filter text

- ▶ General
- ▶ Ant
- ▶ Help
- ▶ Install/Update
- ▼ J2ME
 - Device Manage
 - New Midlet Sui
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 - ▶ Compiler
 - ▶ Debug
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 - JUnit
 - Properties File
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Build Path

Specify the build path entries used as default by the New Java Project creation wizard:

Source and output folder

Project

Folders

Source folder name:

Output folder name:

As JRE library use:

Restore Defaults

Apply

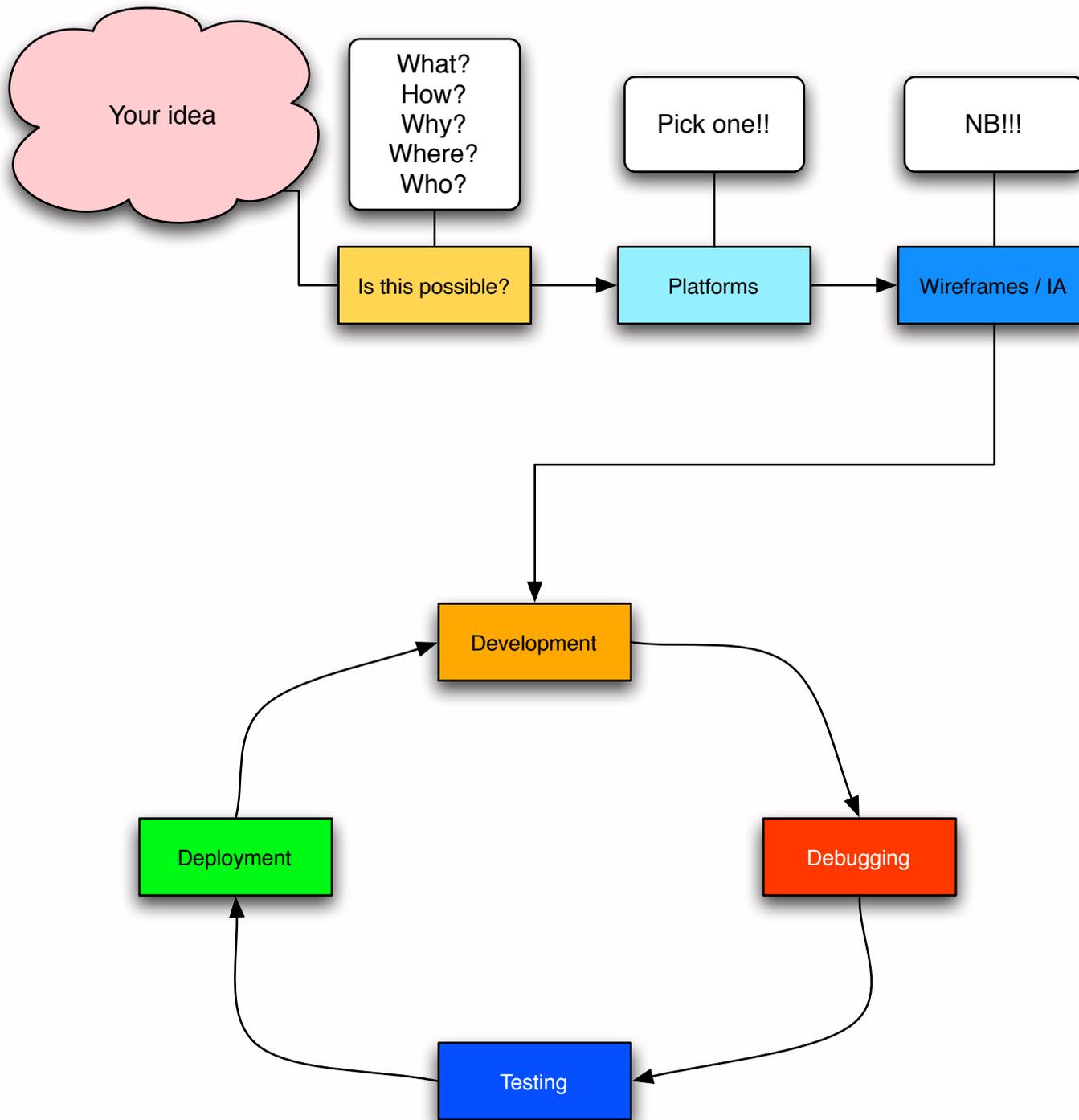
Cancel

OK



Flashback!

Sample Mobile Development Process



Multimedia

MMAPI Architecture

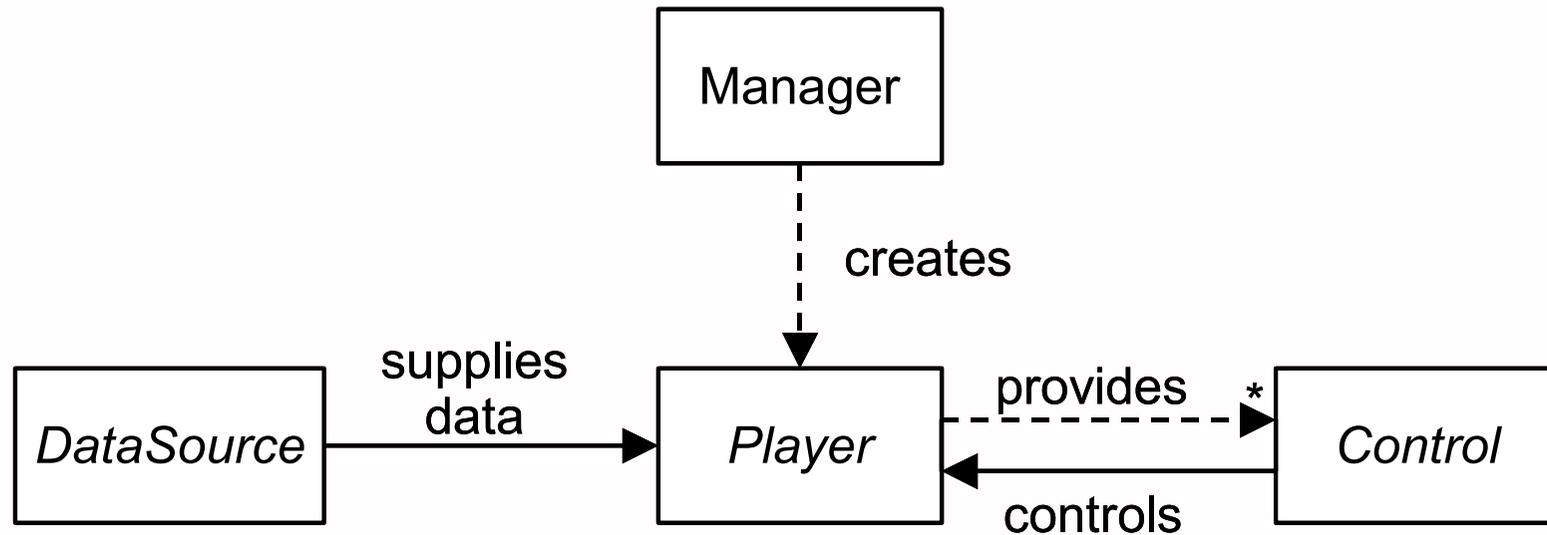
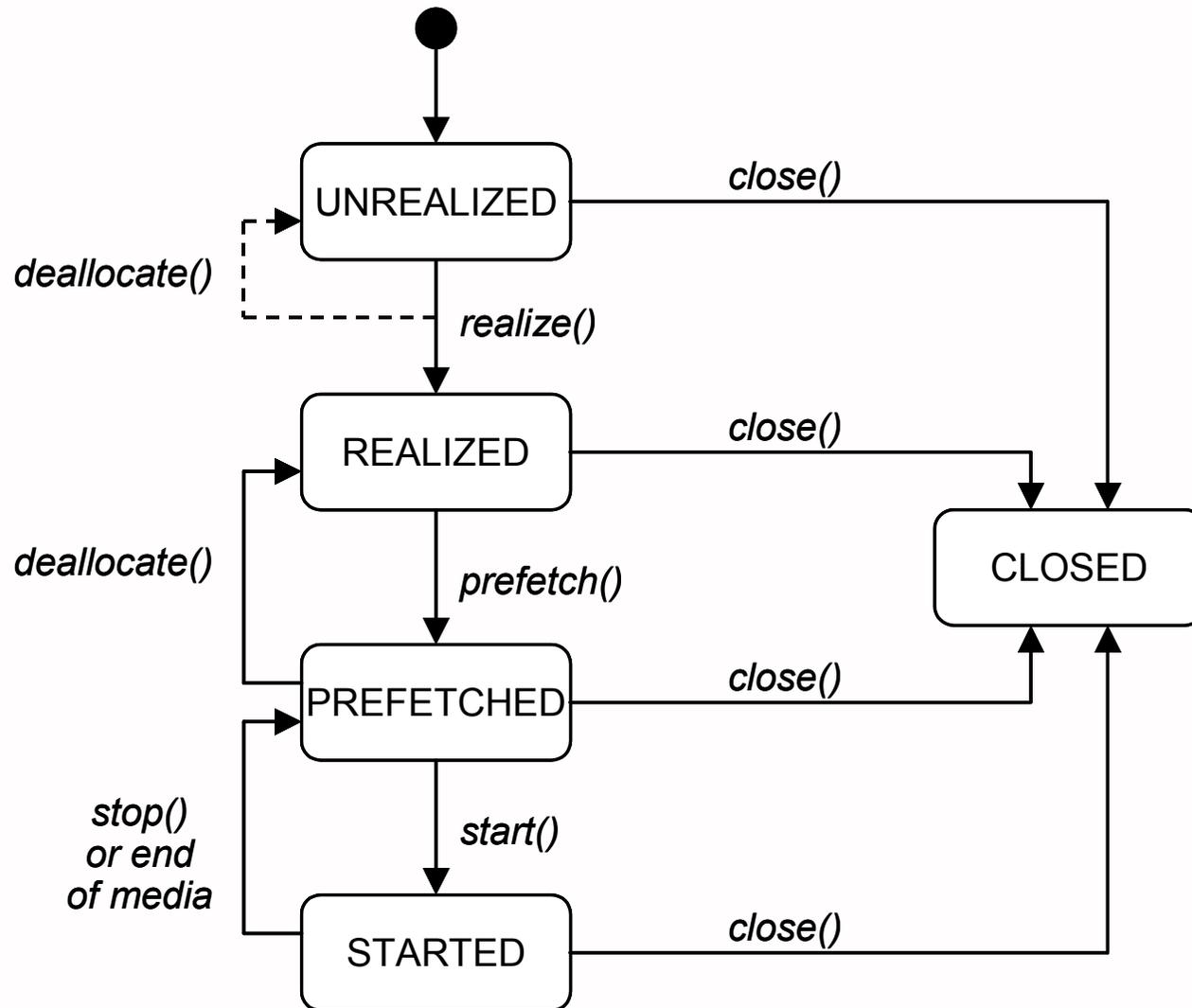


Figure 1: MMAPI architecture

Player State Model



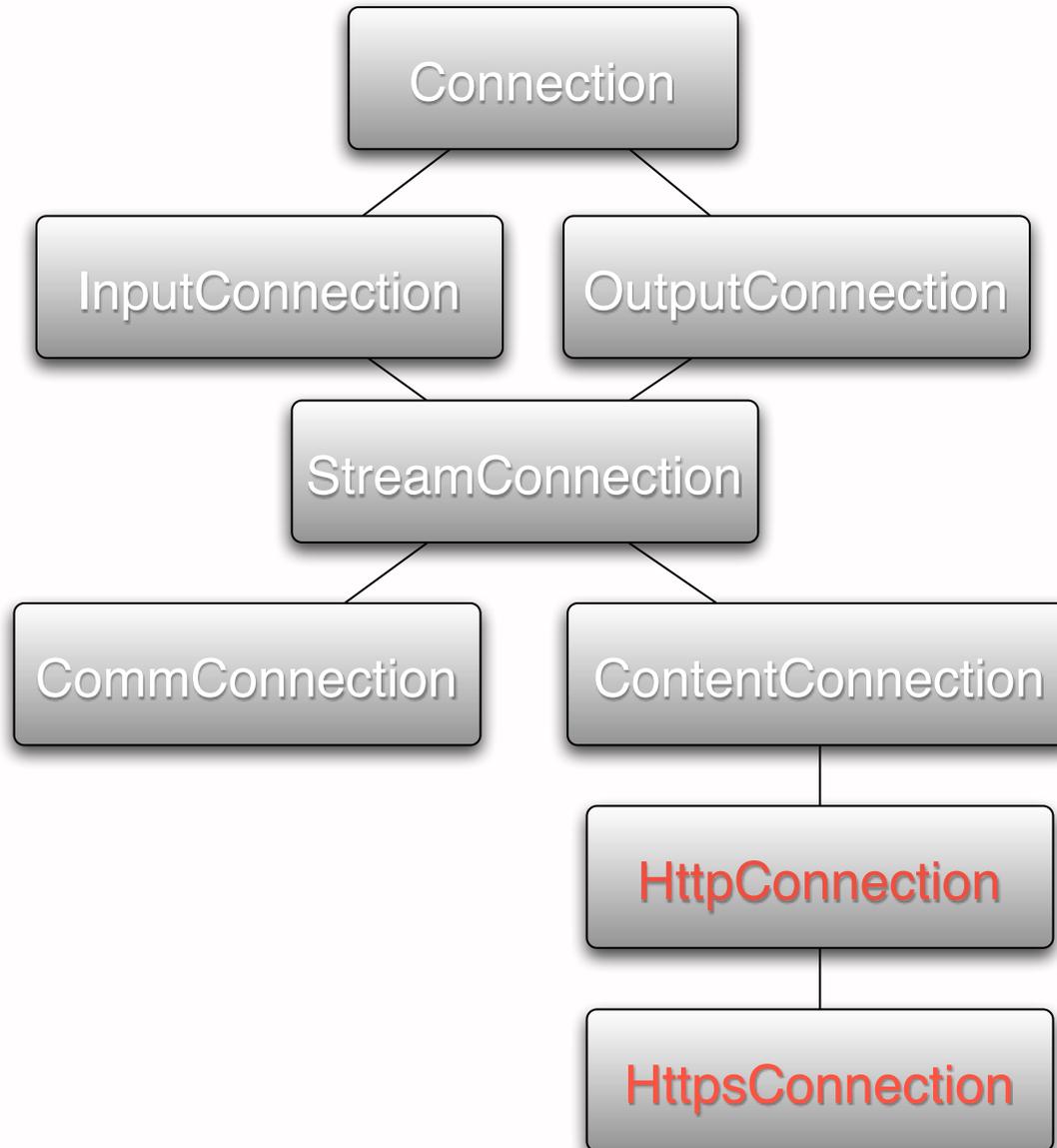
MMAPI Questions/ Issues

Networking! (not that kind)

GCF

- Generic Connection Framework
- lives in `javax.microedition.io`
- HTTP required in MIDP 2.0

Partial GCF Diagram



HTTP

- Powers the “dubdubdub”
- Stateless protocol
- Required in MIDP 2.0

OPERATION: HTTP

- Requests + Responses
- GET, HEAD, POST
- GET - parameters in URL (query string)
 - `http://mysite.com/?this=that&p=1`
- HEAD - only headers get returned
- POST - parameters passed in body

HTTP Gotchas

- POST is more complex
- Costs \$\$ [except for WiFi on N80 :-)]
- Affects MIDlet Security
- Set Permissions
- `javax.microedition.io.Connector.http` (and friends)