

Some Technical Information

- Here are some technical information and pointers prepared by Professor [Christelle Scharff](#) and I ([Anita Wasilewska](#))
- Professor Scharff is currently in France on her sabbatical from Pace University
- We have planned to run our seminar together, but she had to leave for her sabbatical.
- She will visit Stony Brook and our Seminar and the end of October and answer your technical questions.
- **STUDY** the materials and Lectures slides as much as possible and as fast as possible!

Java ME

- Java ME is the language that will be used for developing the applications.
- 99% of the phones are Java enabled. It is the most widely used language on mobile phones.
- You can download different software to develop in Java ME.
- The emulators are integrated in the tools.
- **Development tools:**
 - Eclipse Europa (Eclipse IDE for Java Developers) <http://www.eclipse.org/downloads>
 - Sun Java Wireless Tool Kit 2.5.2 for CLDC <http://java.sun.com/products/sjwtoolkit/download.html?feed=JSC>
 - EclipseME plugin for J2ME Midlets <http://eclipseme.org>
 - Netbeans 6.1 and Mobility pack <http://download.netbeans.org/netbeans/6.1/final/>

Development Environments

- Each vendor has also its own development environment, for example:
 - Motorola <http://developer.motorola.com/>
 - Nokia <http://forum.nokia.com>
 - Sony Ericson <http://developer.sonyericsson.com>
 - Sprint <http://developer.sprint.com>
 - Blackberry JDE 4.5
<http://na.blackberry.com/eng/developers/downloads/jde.jsp>
- The environments come with emulators – generic ones / specific ones are available from the vendors

Phone Model

- Each phone has a different model
- You can find the model of your phone inside your phone.
- Open the phone and remove the battery and you will see the model.
- EXERCISE: Get the complete specification of your phone at
- <http://deviceatlas.com>
- or somewhere else with respect to your phone model.

Phone Specifications

- Here are some sites for some phone types:
 - Consult
 - <http://deviceatlas.com>
 - Motorola <http://developer.motorola.com/products/handsets/>
 - Sony Erikson
https://developer.sonyericsson.com/site/global/products/phonegallery/p_phonegallery.jsp
 - Nokia 40 http://www.forum.nokia.com/devices/matrix_s40_1.html
 - Nokia 60 http://www.forum.nokia.com/devices/matrix_s60_1.html
 - Blackberry
http://www.phonescoop.com/search/jump_search.php?q=blackberry&j.x=0&j.y=0

Specification Exercise

- What is the complete specification of your phone?
- What is MIDP? What is the MIDP of your phone?
- What is CLDC? What is the CLDC of your phone?
- What libraries are available on your phone?
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Example

- For example if you have a Sony Erikson with a **model K750** you go to
- https://developer.sonyericsson.com/site/global/products/phonegallery/k750/p_k750.jsp
- **Sony Erikson K750**
- is CLDC 1.1 and MIDP 2.0

Development

- When developing you need to test the application on different emulators
- You also need to test it on physical phones because emulators are only simulate the phones

Fragmentation and Emulators

- **Fragmentation of phones** means that if you develop an application you have to test it on each phone because it will appear and react differently on different phones
- **For example** the size of the screen, the menu is different, it can be on the right on one phone and on the left in another phone.
- These are things you do not control
- That is why you test your application on emulators.
- **You run it with different emulators to test it because you cannot have all phones...**

Fragmentation

- Fragmentation is the inability to "write once and run anywhere" due to the multitude of vendor-specific and optional libraries
- Developing an application targeting n different devices required it to be tested on the n devices
- Note that the same application may look different on different phones (e.g., an element of the menu can appear on the left or right depending on the phone)

Testing on the phone

- **JAD files** are the deployment packages for mobile phone applications – they are the ones that need to be transferred on the phone
- **To download the JAD files you can either:**
 - Use bluetooth
 - Do it over the air (Internet also)
 - Use a cable from your phone to the computer
- We will talk about it later, when your applications are erady!

Testing on the phone

- Here is **a tutorial** that may be useful:
- <http://developers.sun.com/mobility/midp/articles/deploy/>