Mobile and Ubiquitous Computing: Exercise 1

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The Task

Start with a bad calculator. Make a good calculator.

Starting either with the source code for the calculator I showed you in the lecture, or from scratch, write a better calculator. Choose between:

- A more sophisticated RPN calculator, which has scientific functions and a more attractive user interface (this is the easiest option).
- A conventional "four function" infix calculator, which handles `4 + 3 x 2 =` and produces the answer `14`.
- A more sophisticated "operator precedence" infix calculator, which handles the same input but gives the correct answer of `10` by properly performing multiplication first (this is the hardest option).

Resources

You will need a working Android development environment of your choice, either the command-line tools I have shown in the lectures or Eclipse if you would rather. You can target any Android device you like, either a simulator or a piece of real hardware.

The source code for a basic RPN calculator is available at `http://www.batten.eu.org/~igb/Calc.zip`.

Submission

Please use canvas to submit a `zip` or `tar` of a project ready to build with "ant debug". I should be able to unpack your submission, `cd` to the top of it and type "ant debug" to build a fresh binary (I will obviously have to change the properties files).

Marking

- 10 marks for a calculator which builds and works and is not simply my source code.
- 5 marks for an attractive UI and additional functions.
- 5 marks for infix calculation.
- Additional 5 marks for handling operator precedence correctly.

I will mark generously if anything else interesting is submitted (multi-language, different layout when the phone is turned horizontally and vertically, etc).

Deadline

Please submit by noon, Monday 17 February. I will endeavour to have marked your submissions by the lecture the following afternoon if at all possible.