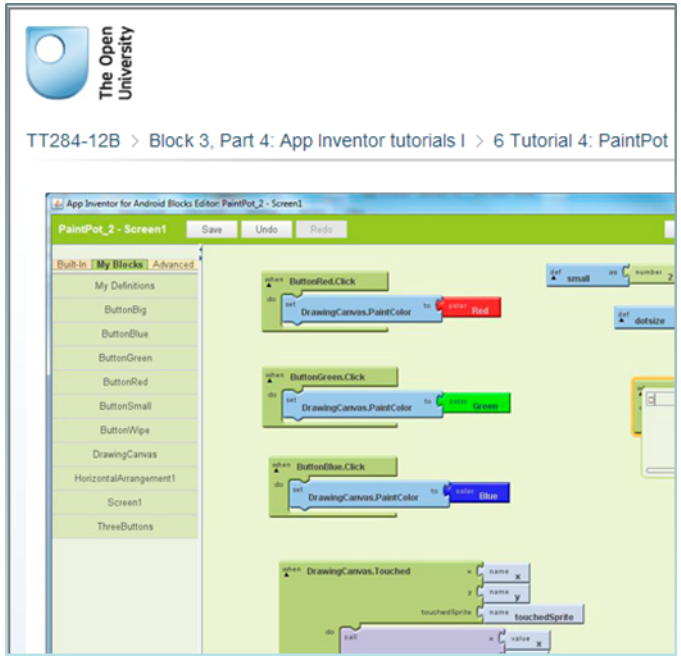
Online learning using App Inventor



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Overview

- The UK Open University
- App Inventor in the *Web Technologies* module
- Practical activities for students
- Student support
- App Inventor in assessment
- Student feedback
- The teacher's perspective

The UK Open University

Long-standing distance learning institution
Open access
Very large numbers of part-time, adult learners
Tutor groups of about 25 students per tutor
Widespread use of online learning
Uses Moodle and Elluminate
Forums used for student support and peer learning
Very little face-to-face contact
Challenge: how to teach hands-on, practical skills

The Web Technologies module

- TT284 ‘Web Technologies’ - started Feb 2012
- 9-months part-time - 300 study hours
- Second-year (non mandatory) module
- 600 students
- Four blocks of study:
- 1. Basic web technologies
- 2. Web architectures
- 3. Mobile content and applications
- 4. Managing application development
- Case studies with sports theme

App Inventor in Block 3 - rationale

- Mobile technologies are a key development
- App Inventor allows hands-on learning about them
- Student motivation - enjoyment
- Sense of achievement – get something working
- Skills development – using IT, problem solving
- Employability – demonstrate practical skills
- Visual programming – aid to learning

App Inventor learning resources

- Learning materials on the module website
- App Inventor tutorials:
- HelloPurr; PaintPot; MoleMash;
- QuizMe;StockQuotes
- Phone emulator
- Extracts from Wolber et at. (2011) App Inventor book
- Chapter 14: ‘Understanding an app’s architecture’
- Chapter 15: ‘Engineering and debugging an app’
- Support via online forums

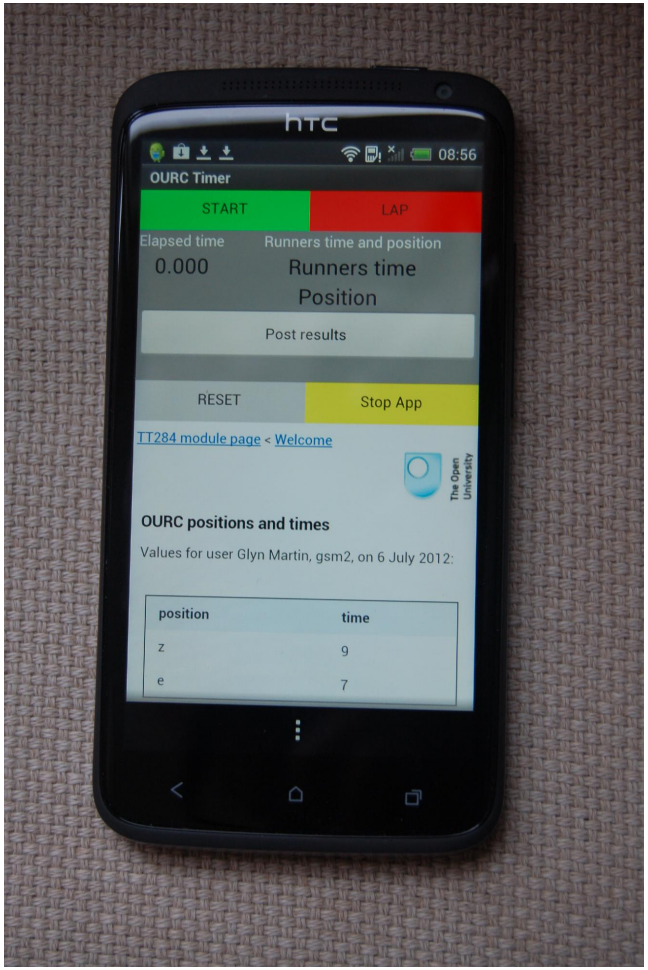
Assessment

- Assignment – marked by the tutor
- Links to the case study – videos for context
- Question1 (40%)
- Features and techniques for mobile-friendly websites
- Question 2 (20%)
- Requirements for a running club timer app
- Question 3 (40%)
- Design a simplified timer app for a running club
- Use App Inventor to implement it
- Deadline was 5th July

The App Inventor assessment task

- Build a mobile app to:
- record a sequence of race times
- upload them
- display them on a web page
- Each student is provided with their own results page
- protected with the student's OU password
- password entered via the app
- The student's app populates the results page

The race timer app



Student feedback so far …

- Mixed reception (of course!)
- perhaps influenced by other aspects of the module
- Many students liked App Inventor
- gained a sense of achievement
- good for those who had struggled with javascript
- Some did not see it as ‘proper programming’
- wanted to learn java
- Some were not keen at first, but then enjoyed it
- Some developed their own apps that were not in the module

… feedback on technical aspects

- Lots of feedback from students via the module forums
- Reports of bugs/oddities
- Requests for improvements e.g.
- an offline version
- copying between apps
- local variables
- Appreciation of useful aspects e.g.
- the GUI
- the emulator

The teacher's perspective

- App Inventor gave students hands-on experience
- Built something that worked
- Important for confidence building
- Students had some problems
- To be expected from 600 distance, part-time learners
- Forums allowed for support from tutors and peers
- App inventor might be better earlier in the module
- Before the material on Javascript – which students found difficult

Conclusion: future investigations

- Research just started on visual programming
- How well do visual environments support learning?
- How do visual environments relate to text-based programming?
- OU Computing students use visual programming
- in a first year module
- using OU ‘Sense’, based on MIT Scratch
- Surveys on students’ experiences of learning in visual environments
- Via App Inventor
- Via Sense/Scratch

Thank you …

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