Computing in the Classroom - My Personal Project

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Overview

- West Calder High School.
- The classes and classroom environment.
- My aims & objectives.
- My personal project.

West Calder High School

- Located in Polbeth, near West Calder, in West Lothian.
- An ‘accessible rural area’.
- 731 pupils – only 1 computing teacher!

West Calder High School
Learning to live, living to learn

The classes

- A third year BGE (Broad General Education) class, who I spent 28 hours of class time with.
- A mixed fourth, fifth and sixth year class with National 5 and Higher pupils as well as one Advanced Higher, who I worked with for 9 hours.
- Both classes were made up of around 20 pupils.

The classroom environment

- Traditional classroom – rows of tables facing the front.
- Whiteboard and Smart board at the front.
- Separate PC desks all around the sides.
- Lots of posters on the walls – fun facts and information.

Aims & Objectives

What I wanted to get out of this placement:

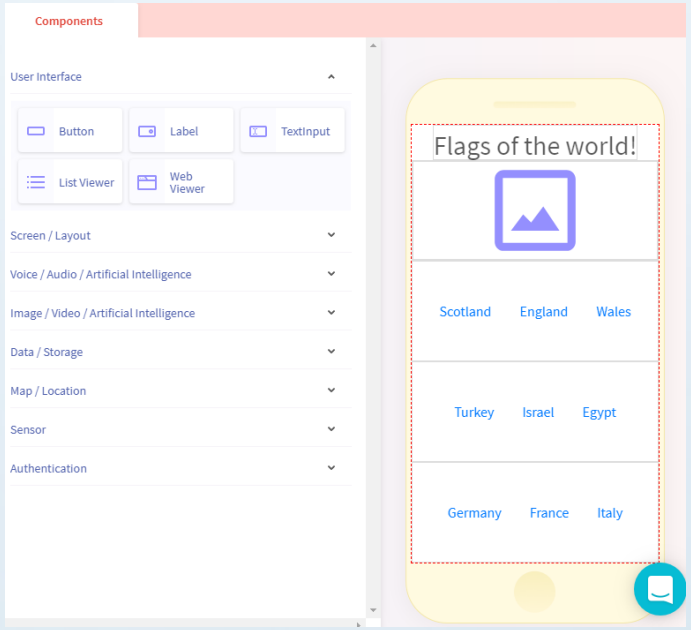
- Observation: A first-hand look at what is currently going on in schools and computing classrooms in particular.
- Learn through teaching: An opportunity to interact with pupils, to assist them with their learning and to learn more about teaching through experience.
- Give something back: I wanted a chance to try out my own teaching methods, with the hope of giving the pupils something exciting and new to work on.

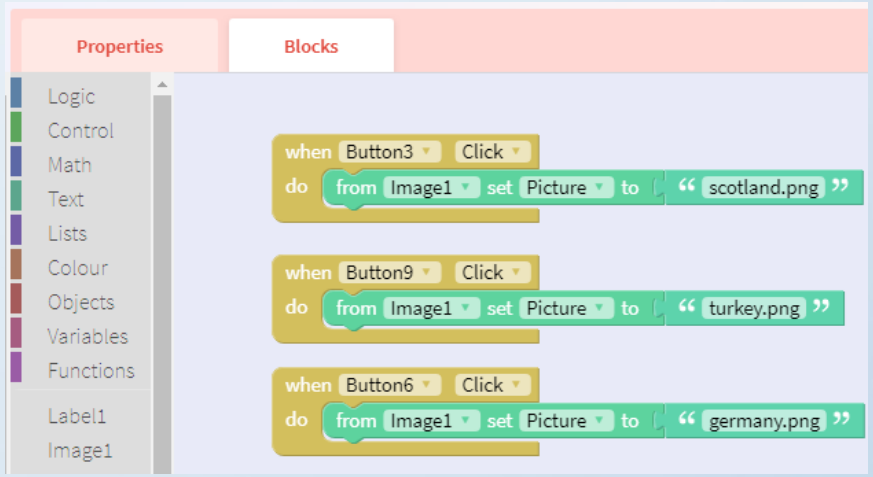
My personal project with the third years…

Creating mobile apps with Thunkable!

Thunkable

- An online tool used to quickly and easily create and demo iOS and Android apps, using graphical block programming.





Decision Making & Problems Encountered

- Between mobile app development and simple Python exercises.
- Went with mobile app development
  - Experience with block programming in MIT App Inventor.
  - Online tool wouldn't need installed in the school.
  - Friendly interface for a mixed-level class.
  - Lots of beginner-friendly tutorials already available online.
- Originally planned to work with MIT App Inventor – this was problematic.
  - The school's network firewall blocks QR codes!

The three days…

- Carried out the project over three days, hoping to work up the ladder described by Bloom's Revised Taxonomy.
- An educational theory that treats learning as a series of steps, that gradually become more difficult as you reach the top.

The three days… Day 1

- REMEMBERING, UNDERSTANDING and APPLYING.
- Introductory slides.
  - What mobile applications are.
  - Where they came from and why they are successful.
  - Different smartphone operating systems.
  - Asked lots of questions and gave out chocolates to keep them interested.

- Worksheet 1
  - Creating a few simple apps by following tutorials, that started off fully self explanatory then explained less and expected the pupils to apply the knowledge they had gained from the introductory material and previous apps on the worksheet.

The three days… Day 2

- UNDERSTANDING, APPLYING and EVALUATING.
- Finish off worksheet 1.
  - They had all finished the first app – most of them had to complete the other 2.
- Worksheet 2.
  - Make adjustments to the apps you made the previous day to make them better.
- Allowed them to work in pairs on days 2 and 3 so they could combine and share knowledge and ideas.

The three days… Day 3

- ANALYSING and CREATING.
- Worksheet 3.
  - Complete freedom to come up with whatever ideas they liked and to have a go at creating them in Thunkable.
  - Allowed them to work in pairs and gave them very little info to get them started – although I did come along with my own ideas for anyone who was stuck.
  - They were allowed to create completely new apps, or simply design them on pen and paper if they wished.

Links:

Some of the apps we created over the three days:

http://www2.macs.hw.ac.uk/~rs6/CinCApps/Apps.html

My teaching materials (worksheets and presentation slides):

http://ronanjsmith.com/ComputingInTheClassroom/worksheets.html

Thank you!