Merchant Venturers School of Engineering

Outreach Programme

Arduino Games

Preparation Notes for Teachers

Created by

Ed Nutting

Organised by

Caroline.Higgins@bristol.ac.uk

Published on September 16, 2016

Workshop Summary Notes

- This workshop is intended to last 1 to $1\frac{1}{2}$ hours.

- The workshop is intended for ages 9^+ (years 5^+).

- The content is intended to be learnt through self-directed individual or pair work, using the worksheet as guide.

- The learning platform is Arduino, the popular small, inexpensive, prototyping platform for kids.

- There are a number of versions of the Arduino platform, made by various different manufacturers. Only one is compatible with this workshop. If you are planning to buy your own Arduinos (though we can supply them) please buy Arduino Leonardo boards.

  It is possible to adapt this workshop for other Arduinos such as Arduino Uno, but it requires slightly different wiring. Please talk to us if you would like to use a different platform.

- Students do not need to have used the board before.

- Students do not need to have used wires or wire cutters before. We will supply these tools and teach them how to use them. They are low-risk on a risk assessment - equivalent of scissors.

- This document includes some notes about what you need to do to prepare for us to come and run the workshop.

1 Guide

The following notes are guidelines for the things we have thought of or know from experience need to be prepared before we arrive to run the workshop. Please use these notes as an addition to any guidelines and preparation you would normally follow.

Logging on   If you have enough PCs/Macs for the whole group, please ensure the children are logged on before we begin the session.

Provision of laptops   If you do not have enough PCs/Macs for the whole group, please let us know in advance. We may be able to provide laptops in order to run the session. If we provide laptops, we will need to allow at least an additional 15 minutes for handing them out and logging everybody on / getting set up.

Provision of Arduinos   If you do not have enough Arduinos for the whole group, please let us know in advance. We are able to bring enough Arduinos for everyone, including large groups.

Additional hardware   We will provide any additional hardware (inc. wires etc) required to run this workshop.

Software Installation   Please ensure the Arduino IDE is installed and configured on the computers you intend the group to work on during the session. You may need to talk to your IT administrator to get them to install it. The Arduino IDE is free and available for all platforms (Windows/Linux/Mac OS). Instructions for installation and configuration can be found at the start of the worksheet.

Website Access   Please ensure your IT administrator has unblocked the Arduino website and our Github site: https://github.com/MVSE-Outreach/ The easiest way to test this is to get a student (not a teacher) to open the websites and attemtp to browse them.

Students with special needs   We are happy to accommodate students who have special educational needs or disabilities. If you can, please make us aware of any students in the group who might need extra attention and any additional information that will help us make the workshop as enjoyable and successful as possible for them.

DBS Checks Your school or organisation may require valid DBS checks (previously called CRB checks) for our volunteers. Please let us know if this is the case so we complete the process. All of our volunteers are current members of the University of Bristol.

Name List and Contact Information We would very much like to be able to keep in touch with students to encourage them to attend our other free, open outreach events (such as Digimakers). If possible, please supply us with a list of the names of students and their parent's contact information so that we may follow up with them after the last workshop. We never send spam and we'll only contact parents to let them know about our other outreach events that are available to them.