

Tackling the Technology Gender Gap Together:

Mary Queen of Bots – Lesson 3

Level – Second Level

Subject area/s – Computing Science and Social Studies



Mary Queen of Bots Lesson 3 (Over to You)

The theme of this lesson concerns Mary Queen of Scots, but can be easily adapted to any setting, historical or otherwise. For example, if the children are reading Kensuke's Kingdom, you could swap Mary for Michael and have him collect fish, with an angry Kensuke after him. Perhaps you are learning about WW2 and wish to have your Kodu collect coins/shrapnel!

LEVEL-

Second Level

SUBJECT AREAS-

Technologies
Social Studies

EXPERIENCES AND OUTCOMES-

I can explain core programming language concepts in appropriate technical language. **TCH 2-14a**

I can create, develop and evaluate computing solutions in response to a design challenge. **TCH 2-15a**

I can investigate a Scottish historical theme to discover how past events or the actions of individuals or groups have shaped Scottish society. **SOC 2-03a**

I can discuss why people and events from a particular time in the past were important, placing them within a historical sequence. **SOC 2-06a**

TECHNOLOGIES COMPUTER SCIENCE BENCHMARKS-

- Explains the meaning of individual instructions (including variables and conditional repetition) in a visual programming language.
- Predicts what a complete program in a visual programming language will do when it runs, including how the properties of objects for example, position, direction and appearance change as the program runs through each instruction.
- Creates programs in a visual programming language including variables and conditional repetition.
- Identifies patterns in problem solving and reuses aspects of previous solutions appropriately for example, reuse code for a timer, score counter or controlling arrow keys.
- Identifies any mismatches between the task description and the programmed solution, and indicates how to fix them.

DURATION OF LESSON-

This lesson will take more than an hour.

COMPUTING SCIENCE CONCEPTS AND APPROACHES-

Programming- this is what we do to create our game. Kodu keeps this simple enough in a WHEN (this) DO (that) format. The screen shots provided in this guide provide examples.

Algorithms- algorithms are the set of instructions that we give to the characters and objects within our game.

Tinkering- children should be given ample opportunity to play around with the Kodu software. This will allow them a degree of freedom and indeed, *inspiration* for their own game designs in lesson 3. The best way to do this would be to allow children to play through the Kodu tutorials found in the Load World section.

Debugging- children will find that (frequently to begin with) characters and objects are not doing what they want them to! This is not the computer revolting, rather an error in the lines of code the children have entered. A vital skill is for children to review their lines of algorithmic code and look for errors. Previous guides contained plenty of screenshots to show what the code should look like, but by this lesson the children will be experimenting and will have to debug by themselves!

PRIOR LEARNING-

Children will have completed Mary Queen of Bots lessons 1 and 2. They will have considered what story elements they wish to include in their own game and will have tinkered with Kodu to figure out their options. Children will have created an increasingly complex game about the Rough Wooing. They have become familiar with the programming environment of Kodu and how algorithms or lines of code are added and have expanded the size of the playable area to include hills and water. They should have been able to tinker with the look of their game to an extent, perhaps following some of Kodu's tutorials from the Load World section.

OVERVIEW OF LEARNING-

Pupils will design their own game that will relay key events in the life of Mary Queen of Bots. By now, children will likely have decided on what elements of Mary Queen of Scot's story they wish to cover in their game. If not, suggestions might be-

- Fleeing to France
- Mary's life in France
- The murder of David Rizzio
- Lord Darnley's death
- Mary and the Earl of Bothwell and Carberry Hill
- Mary's imprisonment in Loch Leven Castle
- Willie Douglas to the rescue
- Fleeing to England
- Imprisonment in Fotheringhay Castle
- The Babington Plot and execution

They will investigate and design posters and game box sleeves to promote their game. If technology distribution permits, I would have children working in pairs on their game. It may be that you wish to combine groups together to have a more Co-operative Learning approach, where roles are specifically assigned and shared but I would still encourage children to work in pairs on their games. Perhaps each pair could create a level (see later on in this guide for how to do this) and then link them together later.

If possible, contact any local games designers/digital industries for advice on how to design and market their game and provide insight on the process.

PUPIL OBJECTIVES-

We are learning to-

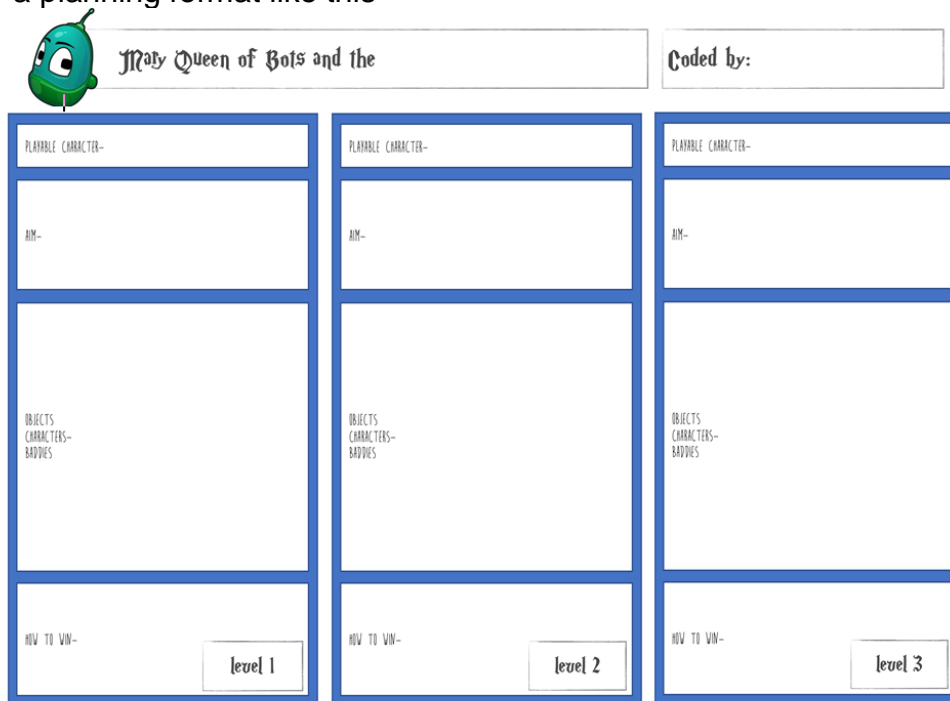
- Design
- Build and
- Market a game. I would suggest discussing with the children as to what the success criteria for a good game is. These can be kept in mind while they are coding and also be used to inform the feedback sheet later on.

INTRODUCTION-

It's the children's turn now! As a class we have explored many aspects of programming using Kodu and the children will be itching to be creative and show off what they've learned.

MAIN ACTIVITY-

- Children should think about how their game will play out. Perhaps give them a planning format like this-

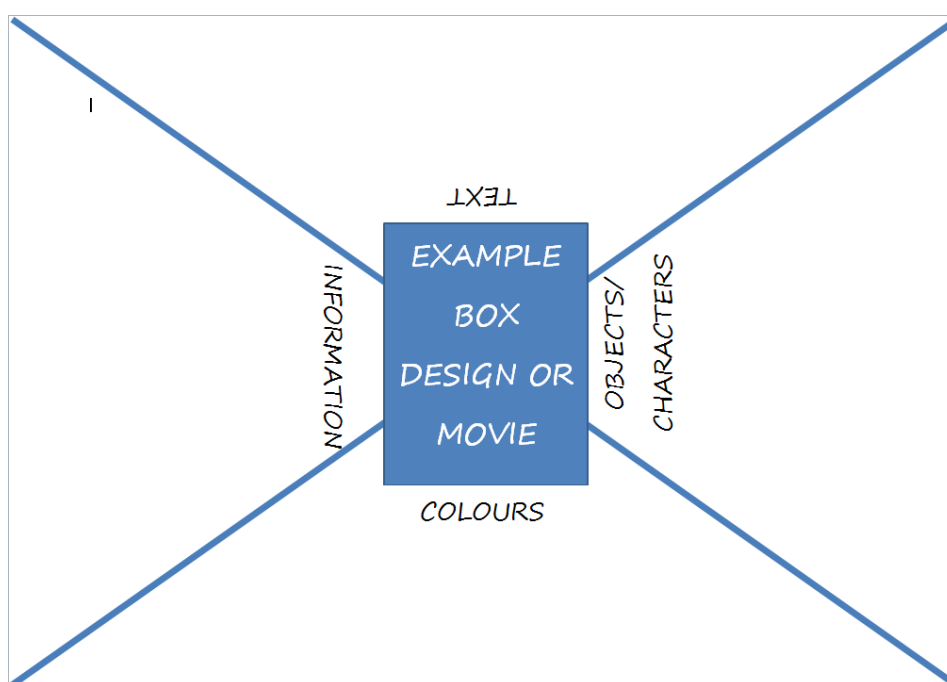


The template is a game planning sheet for a game titled "My Queen of Bots and the". It features a small green robot character icon on the left. The title is in a decorative font. To the right of the title is a box labeled "Coded by:". Below the title and "Coded by:" box are three identical vertical panels, each representing a level. Each panel has a blue border and is divided into four sections: "PLAYABLE CHARACTER-" at the top, "AIM-" below it, "OBJECTS CHARACTERS- BADGES" in the middle, and "HOW TO WIN-" at the bottom. The bottom section of each panel has a small box labeled "level 1", "level 2", and "level 3" respectively.

- Now children can begin to create their game. They should separately construct their 'levels'. To link them, it's a simple case of, on the first and second levels, tweaking the code for how a player wins. This is done in the following way-

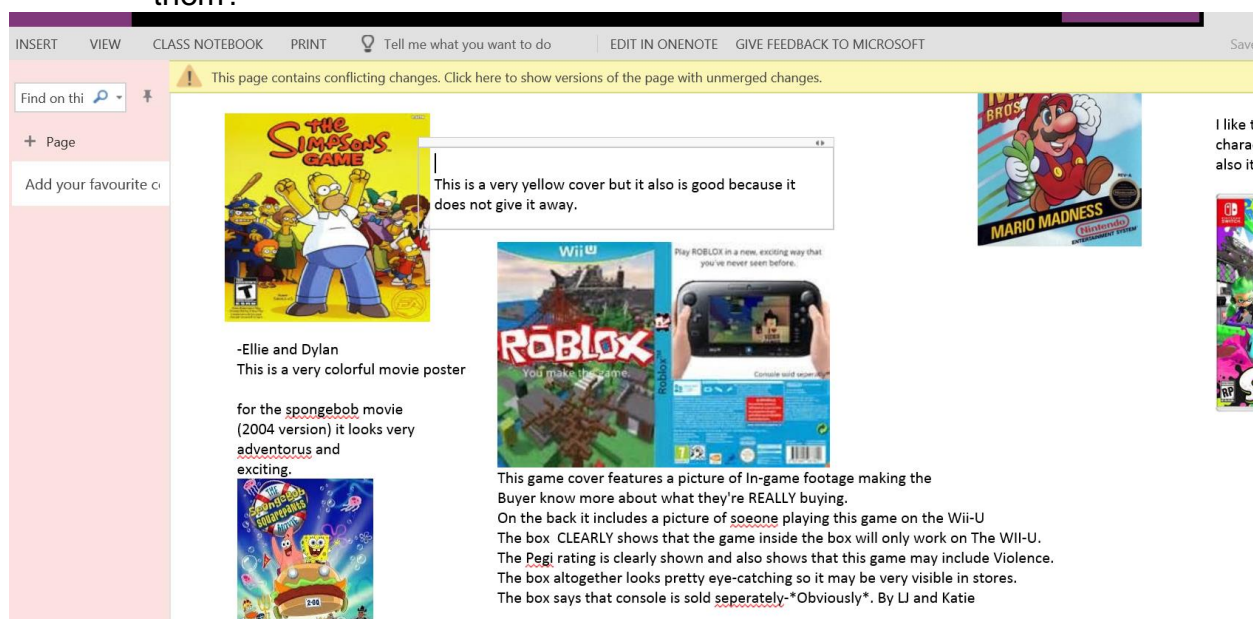


- Then follow the prompts to 'attach' another file. Simply choose the subsequent file. On the third 'level' the children would just programme a winning situation, e.g. enough points gathered or fulfilling a quest.
- We should think about the promotion of our game. Plan to link up with another class who can eventually act as reviewers. Begin by researching film and game posters. Particularly those posters that would be described as 'teaser' posters. These are designed to cryptically whip up interest in a project. Children could also create a game box to promote their game after investigating and discussing good examples.
- Perhaps approach this task in a collaborative learning way. Prepare large sheets, one per group, in the following way. In the centre of each sheet have examples of a poster or game box.



- Discussion points for each section might be-

- COLOURS- How do these enhance the mood of the poster? Are there primarily warm or cold colours? Is there a limited palette or are there lots of colours? Do the colours evoke a mood? Are they trying to make us think of something or make us feel a certain way?
 - TEXT- Look at the font. Is there a different font for the title of the game? What colour is it? Where is it placed? Is the font of greater or lesser importance than the images?
 - OBJECT/CHARACTERS- how prominent are these in the design? Can we see characters' faces? Are we shown many characters, few or none at all? Why? What are they doing in the image?
 - INFORMATION- what extra information are we given? Are details sparse? Why? Is there information about the game revealed in just the image? What do we know about the game from what we see and read in the poster?
- The children should be given time to write responses on each of the sections on their sheet. Each child could write in a different colour to encourage accountability.
 - Children should review the other posters in the same way. As a class, gather feedback on the designs and begin to compile a list of success criteria for a good promotional poster/game box.
 - Perhaps provide children opportunity for discussion through a digital collaboration space such as OneNote to look at what they each think of as good examples of design. What have they themselves seen that has intrigued them?



The screenshot shows a OneNote interface with a class notebook. The notebook contains several game posters and student feedback. The first poster is for 'THE SIMPSON'S GAME' with a yellow cover. A student comment says: 'This is a very yellow cover but it also is good because it does not give it away.' The second poster is for 'ROBLOX' with a blue cover. A student comment says: 'This game cover features a picture of In-game footage making the Buyer know more about what they're REALLY buying. On the back it includes a picture of someone playing this game on the Wii-U. The box CLEARLY shows that the game inside the box will only work on The Wii-U. The PEGI rating is clearly shown and also shows that this game may include Violence. The box altogether looks pretty eye-catching so it may be very visible in stores. The box says that console is sold separately.* Obviously*. By LJ and Katie'.

- Children will now be better placed to design posters and/or game boxes for their own game. For their own designs, they may wish to come up with a company name and logo for the more professional look!
- Children should present their finished game and promotional material to a peer group/other class along with a feedback sheet, using the game success criteria designed by the children.

PLENARY-

Look at and, if necessary, debug or alter the games.