

Getting into gaming – Kodu Game Lab



Introduction

Getting into game building isn't too challenging – there are lots of programs out there, often free to download and use, that can help you start to build your own game. One of these is Kodu – a free program from Microsoft that allows you to easily create worlds and characters and make those characters interact by simple coding principles. Similarly to Scratch, Kodu is a visual programming language that allows characters to be easily programmed to interact with the world, and with each other.

Downloading Kodu

Kodu can be downloaded free from:

<https://www.microsoft.com/en-gb/download/details.aspx?id=10056>.

The software works with all Microsoft Windows operating systems, including Windows 10, but not on any Mac operating systems.

A quick overview of how Kodu works

Kodu uses pre-available characters in a flat green square world that can be changed in a range of ways to make it more interesting.

Hills, water and different coloured ground can be added to the world. There is a set of controls that run along the bottom of the window that allow different features to be added or programmed.



- > The hand icon controls the camera angle and includes a zoom in and out feature
- > The character icon opens up an option wheel where you can select different characters and objects including the Kodu character, and a moon/Mars rover
- > Submenus on the wheel reveal other characters such as sputnik (see in the screenshot above), and more objects that can be added to the world
- > The path tool builds paths through the world and these can be different types
- > The paint brush tool can be used to enlarge the world and add more ground. This can be different colours by selecting the cubes on the left of the tool which reveals different terrain types. Clicking around the world adds more blocks of colour.
- > The next tool adds hills to the world – these appear blocky at first but can be smoothed to be more realistic using the next tool
- > Water can be added to the world by adding more land and then clicking on water. Water fills in the areas that are not elevated.

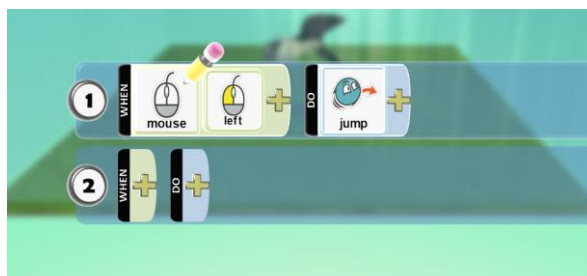
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- > The final two tools in the set are for undoing or erasing what you have built, or by changing settings. Settings can change the appearance of the sky, the light and the dynamics of wave motion in the water.

Programming a character or objects in Kodu

Character programming happens when you have inserted your character in the world. Right click on it to bring up a menu of options which includes changing the size, height and orientation of the character. To open up the programming option, select Program.



The programming of characters follows the when...do logic. Clicking on the When tile generates options that can then be selected.

Here the character jumps when the left side of the mouse is clicked. It is also possible to use other controls including keyboard clicks. Kodu is built to also be used with an Xbox game controller.

Creating a simple game

To create a simple game to get started in Kodu:

- > Add to the world to make it larger
- > Add sputnik to the world (character submenu)
- > Program him to move around using the arrows on the keyboard
- > Add apples to the world (character main menu)
- > Program sputnik to eat an apple when he comes into contact with one – to do this you will use the second row of when... do commands.
- > Add a scoring mechanism using the third row of when...do commands. Add 10 points to the score for each apple eaten.

More information

To find out more about Kodu and what games others have built go to <http://www.kodugamelab.com/>.

Kodu works with the BBC micro:bit and you can find out more about that by clicking on the link on the home page.