Minecraft2D — Notes for Club Leaders

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Python   PDF

Introduction:

In this project, children will learn aspects of graphics and AI design by making improvements to a very basic 2D Minecraft clone. Children will add new resources, and crafting rules for combining resources to make new ones. This will be achieved by understanding and manipulating variables, lists and dictionaries.

Resources

For this project, Python will need to be installed. It is recommended that version 3.2 of Python is installed.

Children will need to use the materials which accompany these challenges. Files included in the 'Project Resources' folder (found under the 'Download Project Materials' link):

- Minecraft2D.py
- variables.py
- FreeSansBold.ttf
- player.png
- dirt.png
- grass.png
- water.png
- brick.png

Make sure that each child has read and write access to their own copy of these resources.

Pygame should also be installed. Make sure that you have installed Pygame for Python 3.2, which can be downloaded from the Pygame website. You can check whether Pygame has installed successfully by typing `import pygame` into the Python shell. If you don't receive an error message then it means everything is working!

Learning Objectives

- Creating and editing graphics;
- Game AI design;
- Editing:
  - Variables;
  - Lists;
  - Dictionaries.

Challenges

- Build your world;
- Improving the graphics;
- Customising your game;
- Adding resources;
- Develop your own game.

Frequently Asked Questions

- Children may need reminding that elements of a dictionary/list are separated by a comma. For example, when adding inventory items, graphics and crafting rules to the game.