# ECS414U/A Miniproject form

Queen Mary University of London

2021/22

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| Name | Ruihan Zhao |
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| Submitted file name | ECS414U\_Miniproject\_210354160 |
| Level of this program (1, 2, 3, Extra) | 1, 2, 3, Extra |

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| Brief description of the program. Write the chosen theme and a high-level overview of the features (two or three sentences should suffice). |
| This is a 3D maze game, based on ‘java.awt’, ‘java.JFrame’ and ‘java.swing’ class. |

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| List all your source code files, and briefly describe their roles. Add as many rows as necessary. Mark the main file used for compilation in bold. | |
| File name (\*.java) | Description |
| Engine.camera | To control the position, direction and the range of view by keyboard |
| Engine.control | The main function of the entire engine. |
| Engine.Map | A class for map object |
| Engine.position | A system of calculating direction and position, and a class for position object, includes position, direction, and range of view for the x-axis, y-axis, and z-axis. |
| Engine.screen | For calculating every pixel in the screen. |
| Engine.texture | A class for input and organizing all texture pictures. |
| System.FileAction | A class for input and output files. |
| System.FileState | An interface for every subclass of the ‘FileAction’ class to have the ability to print the progress in the terminal. |
| System.IO | A united function for ‘System.out.print()’ method. |
| System.map\_read | A subclass of ‘System.FileAction’ for inputting map and showing the progress of input file. |
| System.texture\_information | A subclass of ‘System.FileAction’ for inputting the index of texture. |
| Craft | The main function of the entire program. |

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| Class diagram, in the format specified in the instructions. |
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| Usage instructions. Describe briefly what features are available to the user and how to use them. If File I/O is used, list and describe the files involved. |
| Run ‘run.sh’ in the ‘project’ directory.  WASD can move the camera. Left-arrow and right-arrow can change the direction.  All files used in the program are in the directory ‘image’ and ‘storage’. If you want to change the picture of the wall in the game, please change the index in file ‘storage/texture’ too. |

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| Other comments. |
| Please open the command in the ‘project’ directory and type following commands for running it:  mkdir build cd src cp -rv image ../build cp -rv storage ../build javac Craft.java -d ../build cd ../build java Craft  Or you can just type: ‘sh run.sh’ in git bash. this will automatically compile and run the code. Below is the text in ‘run.sh’:    If you want to run it in IDEA, please add ‘src/’ on the front of all directories in files ‘Engine/control.java’ and ‘Engine/Map.java’.  Extra:  Using ‘awt’ and ‘swing’ and ‘JFrame’ to make a 3D engine. |