



JavaCraft Project

BCS1110, Introduction to Computer Science

Group 11

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1 | Introduction

JavaCraft is a a multifaceted text-based Java game inspired by Minecraft. The game is a relatively complex Java program that brings over 35 functions to create a diverse gameplay experience. This project is an academic exercise in computer science, logical thinking, and collaboration. Working in teams of four, we used our creativity, analytical skills, and technical skills to analyse and expand upon the existing JavaCraft game.

2 | JavaCraft's Workflow

In order to fully understand the mechanism of the game, a flowchart of the entire game is provided below. The flowchart is accompanied by pseudocode.

Insert flowchart of game Insert pseudocode for game

3 | Functionality Exploration

Table 3.1: A table that describes functions used in javacraft

No.	Function Name	Description
1	void generateWorld	assigns integer to every tile of the world
2	void initGame	creates world with width <code>worldWidth</code> and height <code>worldHeight</code>
3	void main	main function
4	void startGame	starts the game
5	void movePlayer	moves player horizontally or vertically
6	void mineBlock	mines block player is on if block is not air
7	String getBlockSymbol	returns symbol of <code>blockType</code>
8	void resetWorld	clears the world and sets player position in middle
9	void generateEmptyWorld	generates an empty world
10	void clearScreen	clears terminal
11	void lookAround	prints out adjacent squares to player
12	void fillInventory	completely fills up inventory of player
13	void displayLegend	displays a legend of what each tile represents
14	void displayWorld	prints out all tiles of the world
15	void displayInventory	prints out obtained items & crafted items
16	void loadGame	loads the game from file <code>fileName</code>
17	void saveGame	saves the game in file <code>fileName</code>
18	void interactWithWorld	interacts with item player is standing on
19	void addCraftedItem	adds item <code>craftedItem</code> to array <code>craftedItems</code>
20	void removeItemsFromInventory	removes item <code>item</code> <code>count</code> times from inventory
21	boolean inventoryContains	returns boolean of whether <code>item</code> is in inventory
22	void placeBlock	places block <code>blockType</code> at player position
23	void displayCraftingRecipes	prints out available crafting recipes
24	void craftItem	crafts an item based on argument <code>recipe</code>
25	void craftIronIngot	crafts an iron ingot
26	void craftStick	crafts a stick
27	void waitForEnter	waits for operator to press Enter
28	String getBlockTypeFromCraftedItem	returns integer of <code>craftedItem</code>
29	String getCraftedItemFromBlockType	returns integer of <code>blockType</code>
30	String getBlockName	returns name of <code>blockType</code>
31	String getBlockColor	returns color of <code>blockType</code>
32	String getCraftedItemName	returns name of <code>craftedItem</code>
33	String getCraftedItemColor	returns color of <code>craftedItem</code>
34	char getBlockChar	returns char of <code>blockType</code>
35	void craftWoodenPlanks	crafts wooden planks
36	void getCountryAndQuoteFromServer	makes HTTP request and writes data to server and prints country and quote

4 | Finite State Automata (FSA) Design

Secret Door Logic Analysis: Describe the secret doors functionality • FSA Illustration and Description:
Attach FSA diagram

5 | Git Collaboration & Version Control

The link to the JavaCraft branch can be found here: <https://gitlab.maastrichtuniversity.nl/bcs1110/javacraft/-/tree/group11>

All the files of the project can be found in the repository.

Everything was done on one branch called group11. There were no conflicts during the process.

6 | References

A | Appendix A title

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