

Duquesne University

‘Lost in the Woods’ Test Plan

TMT: The Money Team

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COSC 445W - Software Engineering

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Document History

Revision History

Revision #	Revision Date	Notes	Author
v.1	03/28/2021	Initial Files Created	Guriqbal Singh/ Jared Konop
v.2	04/13/2021	Added 3 files so that we could separate grades K-2, 3-5, 6-8	Jared Konop/ Guriqbal Singh
v.3	04/14/2021	Added extra player options for the user to use on grades 3-5 and 6-8	Jared Konop/ Guriqbal Singh
v.4	04/16/2021	Implemented simple GUI menu – imported several packages for java Swing	Guriqbal Singh/ Jared Konop
v.5	04/18/2021	Menu adjusted and matched program specs – user input works and grid display a white block currently	Guriqbal Singh/ Jared Konop
v.6	04/22/2021	Overlapping fixed of the grid background + player images now show on the screen. Grid is now scaled properly to the screen.	Jared Konop/ Guriqbal Singh
v.7	04/27/2021	Player statistics overlapping issue is fixed.	Guriqbal Singh/ Jared Konop
v.8	04/28/2021	Restart button error fixed – now restarts after each game finishes	Guriqbal Singh/ Jared Konop
v.9	04/30/2021	Student can now place players where they would like	Guriqbal Singh/ Jared Konop
v.10	04/30/2021	Successfully added 3 movement options added for grades 6-8	Jared Konop/ Guriqbal Singh
v.11	04/30/2021	New menu updated	Guriqbal Singh/ Jared Konop
v.12	04/30/2021	Speed slider added and adjusted to the program for each grade.	Jared Konop/ Guriqbal Singh

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1. INTRODUCTION

1.1 Objectives

The woods simulation game contains people that are lost in the woods where the woods is represented in a square or rectangular grid form. The overall premise of the project is to help K-8 grade students learn about computational thinking, mathematics, and computer science. Within this simulation there are 3 different levels to the game represented by grades k-2, 3-5, and 6-8. Grades K-2 is meant to be a simple game for students that allow students to make simple choices and see the rendered results. Grades 3-5 is a bit more complicated by introducing additional features such as adding more players to the game and analyzing small data. Grades 6-8 is the most complex game of them all. This game introduces the students to the topic of big data. The simulation will allow the students to experiment with the game and analyze several different types of statistics the game generates. Although all 3 games have a similar structure, as the students' progress through school years they will be met with different concepts and challenges that help them learn about computational thinking, mathematics, and computer science.

1.2 Finished Product

For each game the structure and results will vary. When the game is run, the student will first input what grade they are in. Based on this result, the software will display an option to enter the names of the players within the game. If the student is within grades K-2 then they will enter names for 2 players and then the size of the grid. If the student is in grades 3-5 or 6-8 then the student will have the option to add up to 4 players to the game and they will have more flexibility on how the grid is shaped. Then the program will display the grid and place the players within their appropriate locations. Each game has a forest background with the players represented as children. In each game the players will move in random directions until they all end up within the same grid. Once the program ends it will display different statistics depending on which grade the student is in.

2. ITEMS TO BE TESTED

** We will be utilizing 3 types of test cases for this project (Functionality Test Cases, User Interface, and Performance Test Case). The testing team is responsible for completing required tests on the code to ensure all requirements are met. If the results box is highlighted **red**, then the test failed. If the results box is highlighted **green**, then the test was successful according to the testing team**

2.1 Basic Logic of Grades k-2, 3-5, 6-8 (JAVA)

- The basic logic of these games is the fundamental structure of the entire program. This part is essential to move onto more complex parts of the program such as the graphical user interface.
- Logic should be tested in any java IDE and the tester should determine whether the software contains any errors and note down the results. If the tests are valid then confirm with another tester and move onto the next item that needs testing.

# of times tested	Date (xx/xx/xxxx)	Who Tested	Result
2	04/10/2021	Guri/Jared	For some reason grades 3-5 and 6-8 isn't displaying any results.
2	04/12/2021	Guri/Jared	Grades 3-5 and 6-8 works fine now but it looks like we need to add while loops so that the user can't enter grade out of bounds.
3	04/13/2021	Guri/Jared	Basic logic is working well right now. All functions work properly.

2.2 Test up to 4 players meeting in the same grid for grades 3-5 and 6-8

- Grades 3-5 and 6-8 add a bit more complexity than compared to grades K-2. Grades 3-5 and 6-8 can have up to 4 players on the same grid at the same time. It's a vital component for the project especially when we are going to implement this within our graphical interface.
- When testing, check if the program stops when all players meet up within the same grid. First test with 2 players, then 3 and then 4. Test if the size of the grid changes any results to be 100% sure the code works correctly.

# of times tested	Date (xx/xx/xxxx)	Who Tested	Result
4	04/14/2021 5:15pm	Guri/Jared	<i>Tested 2 players and the program worked fine. When testing 3 players we saw that two kept going in random directions, but the 3rd player wasn't moving in any directions. Then we tested for the 4th player and yielded the same result.</i>
2	04/14/2021 9:29 pm	Guri/Jared	<i>We tried testing with a smaller grid using 4 players and we noticed that the program stops when 2 players meet and not when 4 meets. Same goes with 3 players.</i>
4	04/15/2021	Guri/Jared	<i>Testing went well. Once all players meet up in the same grid the program stops correctly.</i>

2.3 Basic test for a sample GUI using Java Swing

- This is important to know if it's working correctly because now, we are entering the graphical portion of our project. With much research done the past 2 weeks, we are in the beginning stage of creating a graphical game. We will be testing to see if we can create a menu for the 1st portion of the game.
- Test WoodsSimulationMenu.java and see if the program displays a basic menu with options to enter user inputs.

# of times tested	Date (xx/xx/xxxx)	Who Tested	Result
2	04/16/2021	Guri/Jared	<i>The test was good. Menu was big, but the overall layout is good. Successful test.</i>

2.4 Test the Text Fields and Get the User Input working and Display a Grid

- We are getting more in depth with the graphical portion now, so we need to start getting inputs in and displaying a proper game board.
- Try testing multiple times and each test should contain different variables. We should see the grid/board adjust depending on the size we use.

# of times tested	Date (xx/xx/xxxx)	Who Tested	Result
5	04/17/2021	Guri/Jared	<i>Testing is good so far but when you enter variables for grades k-2 and 3-5 it displays a white block. For 6-8, the continue button doesn't work.</i>
4	04/18/2021	Guri/Jared	<i>It's displaying a white block instead of a grid-like format but grade 6-8</i>

			<i>is now working so the test as of now is successful. We will move onto the next portion.</i>
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2.5 Player Movement Within the Grid

- With the grid being built we need to simulate player movements across the game board and allow for the program to stop when each user falls within the same grid location.
- Test for each grade and sizes to see if the program runs correctly.

# of times tested	Date (xx/xx/xxxx)	Who Tested	Result
5	04/19/2021	Guri/Jared	<i>Simulation is working but the movement counts are still being displayed in the terminal and not on the screen yet. Overall, the progress is showing both on the graphical side and logical.</i>

2.6 Add Background Image, Player Images, and Movements onto the Board

- To bring a game-like feel to this project, we need to have a graphical representation of a forest and the players within the simulation. Get the graphics for the player movements working as well.
- Test to see if the background image shows and see if you can see player movements as its happening.

# of times tested	Date (xx/xx/xxxx)	Who Tested	Result
6	04/21/2021 5:15pm	Guri/Jared	<i>Right now, we see a forest background, but some overlap the others. The players images only show when the student is in grade k-2 but for the other 2 games it's not showing.</i>
5	04/21/2021 8:20pm	Guri/Jared	<i>Forest background is working nicely –we tested using multiple sizes of the grid and different grades. Players are showing up now</i>

			<i>on the program. With grades k-2 it shows two students and with 3-5 & 6-8 we see up to 4 images representing the players. Players are currently moving on screen, but 3-5 & 6-8 haven't stopped yet; it could be because we used large sizes for the grid size.</i>
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2.7 Get Player Movement Statistics to show on the screen

- This will show the students playing the game how many times the players in the game move until they find each other in the woods.
- Run the tests and see if the movements appear on the screen.

# of times tested	Date (xx/xx/xxxx)	Who Tested	Result
4	04/25/2021	Guri/Jared	<i>Movement texts overlaps the grid, so we need to fix that. Also maybe make the fonts a little bit smaller and move the statistics to the right side of the screen. It may look better overall for the person using the program.</i>
3	04/26/2021	Guri/Jared	<i>Moving counts are looking accurate and it displays for all three grades which is nice. We like the idea of the stats appearing on the right side so the test is successful to us. Good work.</i>

2.8 Restart Button

- When the program finishes and all players meet up, the program should give a prompt to the user to restart the program and enter their grade level again.
- Test each grade from K-8

# of times tested	Date (xx/xx/xxxx)	Who Tested	Result
7	04/28/2021	Guri/Jared	<i>The restart button pops up for only grades k-2 and 3-5. Also, the 3-5 button doesn't work but it does appear after the program finishes.</i>
3	04/28/2021	Guri/Jared	<i>All grades are displaying the restart button now and the button works correctly. Maybe for the button we should add an image saying game over -restart but overall, it looks nice.</i>

2.9 Grades 3-5 & 6-8 Allow the Student to Place the Players anywhere on the Grid

- For grades K-2 the program automatically places the 2 players on the top left of the grid and bottom right of the grid. For 3-5 and 6-8 the program will allow the student to pick and choose where each player will start the game.
- Run multiple tests for each grade using 2,3 and 4 players.

# of times tested	Date (xx/xx/xxxx)	Who Tested	Result
4	04/29/2021	Guri/Jared	Grades 3-5 automatically runs without allowing the user to pick where each player starts. Grade 6-8 works well though.
5	04/29/2021	Guri/Jared	Both grades 3-5 and 6-8 now allow user to pick starting locations for all players. It works if you choose 2,3, or even 4 players. Success.

2.10 Three Movement Structures for Grades 6-8

- Grades 6-8 gives the user 3 options for how they want the students to move through the forest. Once the user picks the program runs until each player finds each other.
- Test grades k-2 and 3-5 to make sure it's not affected by the changes to 6-8. Test each option for grades 6-8 and make sure each game runs accordingly to the specs.

# of times tested	Date (xx/xx/xxxx)	Who Tested	Result
4	04/30/2021	Guri/Jared	First random option is working however the other 2 options pop the game up, but no movements detected.
5	04/30/2021	Guri/Jared	All 3 options work correctly.

2.11 New Intro Menu

- The appearance of the menu needs to be restructured and cleaned up. Functions are working properly but overall appearance needs adjusted.
- Test by running each grade.

# of times tested	Date (xx/xx/xxxx)	Who Tested	Result
4	04/30/2021	Guri/Jared	<i>Looks okay right now but center the words to make everything look more even. Some text is cut out after you enter the students grade so we also need to fix this issue.</i>
5	04/30/2021	Guri/Jared	<i>Looks great.</i>

2.12 Speed Slider

- The speed slider will allow the user to speed up or slow down the simulation for each grade.
- Test by running each grade and report results.

# of times tested	Date (xx/xx/xxxx)	Who Tested	Result
4	04/30/2021	Guri/Jared	<i>Slider appears on the screen but doesn't work.</i>
3	04/30/2021	Guri/Jared	<i>Its currently working for game sk-2 and 3-5 but not 6-8 –fix this and make it a bit smaller</i>
5	04/30/2021	Guri/Jared	<i>Slider function works well. Speeds up and slows down when selected.</i>

3. SIGNATURES OF THE TESTING TEAM

~ Jared Konop (4/30/2021)

~Guriqbal Singh (4/30/2021)