Test Plan

Section 1: Introduction

The game Wandering in the Woods is a simple simulation in which two figures on a screen go around at random. The characters move across the screen until they collide or find a common ground. The basic wandering in the woods game consists of two players and a predefined square screen playing environment. We've redesigned the game structure to provide more features and allow users more flexibility over how they design the playing field and run random simulations. Our game's purpose is to allow students of various grade levels to engage in the wandering in the woods game at their own level of knowledge and education. Our game is meant for kids of all ages, including teachers, to play. We also wanted to appeal to a younger audience, thus the characters were based on Tom and Jerry. The game is a fun educational tool for teachers and parents to use to teach kids about mathematical functions. We created the game so that children can choose their grade group, which then leads them to add new features to their game or simulation. The user handbook that comes with it goes over how kids can pick the game they want to play in great detail. The widespread consensus is that as the youngsters become older, the game becomes more complex.

For grades K-2, we attempted to make things as simple as possible. Children who choose the k-2 option will be presented with a square grid with only two characters in the upper right and lower left corners. We did provide this class the option of selecting from three different square grid sizes. After they choose one of these grids, the game will begin automatically, and the two characters will wander about the grid at random until they meet. Once the two characters have met, the number of movements it took them to meet is indicated. Students in grades 3-5 were given the option of creating their own grid.

The grid didn't have to be square and could be any size or shape. This group was also given the option of picking the number of characters they wanted in the simulation. They might choose between two, three, or four characters. After the users in this group customise the grid and the number of participants they want, the simulation begins and continues until the players meet. The amount of moves it takes for the players to meet is displayed and recorded in a separate text file. Users can run the simulation multiple times to see how long it takes for characters to meet on average, how long it takes in the shortest run, and how long it takes in the longest run. Users can now control players in the 6-8 grade group, which is set up identically to the 3-5 grade group. This can be used to determine how quickly the characters can meet. It gives this grade level more freedom than the others, allowing students to experiment with novel situations.

Section 2:

To get the game's result, we had to build an intricate piece of software. The programme has several features and functionalities that help us achieve the aforementioned goals. To ensure that everything worked properly, we had to test each part carefully and one at a time. The following are the items we tested that were crucial to the completion of our programme:

2.1. Basic Setup of Wandering in the Woods Game

The first test was carried out while the game's base gameplay was being developed. At the time, we had a screen open with an animated background, two characters starting from the top left and bottom right, music playing, and the opportunity for users to control the two characters using the wasd and arrow keys. The purpose of this test was to ensure

that the audio, visual, and character movement were all working properly. To keep the characters from fleeing, we had to move them about the screen while keeping the barrier in place. This segment of the show was repeated about 5 times. Users could manipulate characters and hear sound, which was exactly what we were looking for. We also drew up a user-acceptance test that guides players through the game. The final structure of the game will be determined by this test.

2.2. Border Collision Sound and Character meetup

The purpose of this test was to see if sound plays when characters strike a wall and if the game pauses when characters collide. The characters were manually moved around the screen until they met in this test. This test was also used to ensure that the step counter functioned properly, and that the total number of steps appeared when the characters collided. We double-checked this function around ten times to make sure all of the stages were recorded correctly. This test went without a hitch, and the correct amount of steps appeared.

2.3. Base Testing and Debugging

The goal of this test was to see if sound plays when characters hit with a wall and if the game pauses when they collide. In this test, the characters were manually manoeuvred around the screen until they met. This test was also used to confirm that the step counter was working properly and that when the characters clashed, the complete number of steps shown. We checked this function at least 20 times to ensure that all of the steps were appropriately recorded. This test went off without a hitch, and the proper amount of steps was displayed.

2.4. Different Map Sizes and Celebration Sound

There are now more map sizes available, as well as new map backdrops. We also added celebration noises when the characters got together. We needed to make sure that the code we already had worked with the various map sizes, so we tested by shifting the characters about on all of the different map sizes. We also tried the celebratory sound on these various sized maps. Each map size was tested five to six times. They appeared to work as expected, as the procedure of incorporating the new map sizes was comparable to that of producing our original map.

2.5. Menu

The purpose of this test was to confirm that the menu worked properly and that the buttons correctly guided users to the appropriate game kinds. The testing included clicking each of the menu buttons and checking that they led to the correct map size. Because there should be no difficulties with a button transporting the user to another window, we simply tested each menu button twice. Each button worked as it should.

2.6 Random Simulation

At this point, we had incorporated player movement, audio and visual components, different map sizes, and a counter to the programme. We used a random simulation to account for the various players and map sizes. We tested each of the game versions with different player numbers to guarantee that the random simulation functioned appropriately. Because the larger maps took a long time to complete, this was a time-consuming exam. Each map was tested three times, and it took a long time for the characters to meet. We were first apprehensive, but realised that larger maps would necessitate more steps for the characters to meet. When the characters finally met, the entire steps were shown.