Final Portfolio

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# Document purpose

Learning to use different test design techniques on a real product hand picked by the student. I have chosen the video game called Evoland for testing since in the future I hope to be a videogame tester.

Evoland is a small indie game that goes through different eras of gaming, starting from simple isometric walking inspired by Zelda games to a full fledged 3D Role Playing game inspired from Final Fantasy VII. This game introduces new elements to the game as you complete objectives in the game. For example, as you start you can only move towards right in the game, but after moving to your objective you unlock movement to left and after completing the next one, you gain the method to move in all 4 directions. This process of evolution will continue throughout the player’s journey.

Creating diagrams for video games is hard, as there are many variables, but I will try my best to represent it until the part we unlock “overworld”.

You can watch the trailer for Evoland at this link: [Evoland trailer](https://youtu.be/Y7My1i1aij8)

All the gameplay test videos recorded during these gameplay test sessions can be found here in this playlist: [Evoland Testing Playlist - YouTube](https://www.youtube.com/watch?v=qDxorIYg7A0&list=PLP4jz5tqoMJWsdv2Bv9c3hsTzqROl38IB)

# Testing section

Following schematics cover up to the 3D Battle unlock system, but for testing purposes, we are going to cover these features.

Main menu:

1. New game - All the options marked as orange, from Forest right up till Overworld Unlocked.

As Extra feature we are picking up Smooth Screen Scrolling.

1. Continue - We are going to try continuing the game after triggering the save state at Overworld Unlocked
2. Options - We are going to test if the different settings change anything.
3. Exit - We are going to test if Exit in the main menu completely closes down the game.

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# Testing checklist(s)

## Main menu

1. Checking Main menu contents.
2. The New Game option should send you to the start of Forest.
3. Continue option should take you to the last save the game has generated.
4. Options menu button functionality.
5. Checking options menu contents.
6. Music audio level should change if you change the setting.
7. Sound audio level should change if you change the setting.
8. Language should have 3 possible options: English, German, French. When switching between languages, the change should be visible after each input.
9. Gamepad should be grayed out if you have no gamepad connected.
10. Exit should terminate the program.

## Individual gameplay components

1. After loading forest the player should be only able to move right with the input keys D or Right Arrow.
2. After walking right and completing the objective we should be able to move our character only left and right.
3. After moving the character left and completing the objective we should be able to move in 4 directions up, down, left and right.
4. After that we unlock the Sound effects(SFX) by moving to the chest right side.
5. While moving with directional keys we should hear stepping sounds.
6. Check if we can unlock smoother scrolling by moving to the chest down and left.
7. Check if we unlock the sword after moving to the chest in bottom right. Check if sword attack animation and sound effect triggers after acquiring the sword.
8. Check if we can cut bushes with a sword.
9. Check if enemy units spawn after unlocking the chest on the right after cutting the bush.
10. Check if you can damage enemy units.
11. Check if you take damage from enemy units.
12. Check if you get a graphics upgrade after unlocking the next chest on top right.
13. Check if you can move diagonally after unlocking the free movement chest at left top.
14. Go to the 2 knight statues and check if they take damage.
15. Check if you can access the inventory screen after unlocking the inventory chest.
16. Check if the game saves after unlocking overworld.

## Gameplay sections

1. Unlock the Overworld with minimal requirements
2. Unlock the Overworld with smooth scrolling and minimal requirements
3. Unlock the Overworld while doing every possible side activity you can find.
4. Unlock overworld while doing every possible side activity without smooth scrolling.

# Detailed test cases

## Main menu

1. Checking Main menu contents:

Steps - Check if Main Menu has:

Open game

Evoland logo

Background graphics

New Game

Continue

Options

Exit Game

Game version at the bottom left corner.

Passing conditions: All of the contents are there.

1. Options menu button functionality

Steps: Open the game.

Click on the options button

Click back on options menu

Navigate to options using directional keys and press enter

Passing conditions: You should see options menu contents.

1. Checking options menu contents.

Prerequisites: Open the game, navigate to options menu.

Steps - Check if options menu has:

Background graphics

Music

Sounds

Language - "Selected language"(By default English)

Gamepad(grayed out if no gamepad)

Back

Passing conditions: All of the contents are there.

1. Music audio level should change if you change the setting.

Prerequisites: Open the game, navigate to options menu.

Steps - Test following options:

When highlighting the music option with directional keys: Is music audio level changing while adjusting it with the left and right key.

When highlighting the music option with directional keys: Does music audio level go from 10 to off while pressing Enter.

Does the music audio level go from 10 to off while clicking it?

Passing conditions: All the test steps passed.

1. Sound audio level should change if you change the setting.

Prerequisites: Open the game, navigate to options menu.

When highlighting the music option with directional keys: Is sound audio level changing while adjusting it with the left and right key.

When highlighting the music option with directional keys: Does sound audio level go from 10 to off while pressing Enter.

Does the sound audio level go from 10 to off while clicking it?

Passing conditions: All the test steps passed.

1. Language should have 3 possible options: English, German, French. When switching between languages, the change should be visible after each input.

Prerequisites: Open the game, navigate to options menu.

Steps - Test following options:

Click on language and see if the language switches.

Navigate to the language setting with directional keys and press enter.

Passing conditions: Language change is visible after each input - Click or pressing enter.

1. Exit should terminate the program.

Steps:

Open game

Click Exit button

Open game

Navigate with directional keys to the Exit button.

Passing conditions: Game process is successfully terminated.

## Individual gameplay components

1. After loading forest the player should be only able to move right with the input keys D or Right Arrow.

Prerequisites: Start a new game by clicking the New Game button or selecting it by directional keys and Enter.

Steps:

Press and hold the directional key up or w on the keyboard. Character should not move on screen.

Press and hold the directional key down or s on the keyboard. Character should not move on screen.

Press and hold the directional key left or a on the keyboard. Character should not move on screen.

Press and hold the directional key right or d on the keyboard. Character should move towards the chest on the right.

Passing condition: After moving to the chest you should see the message “You got Left Key Always going right is boring!”

1. After walking right and completing the objective we should be able to move our character only left and right.

Prerequisites: Unlock the first chest during gameplay.

Steps:

Press and hold the directional key up or w on the keyboard. Character should not move on screen.

Press and hold the directional key down or s on the keyboard. Character should not move on screen.

Press and hold the directional key left or a on the keyboard. Character should move 1 space towards the right side.

Press and hold the directional key right or d on the keyboard. Character should move towards the chest on the left side.

Passing condition: After moving to the chest you should see the message “You got 2D Movement That’s good, you can’t go anywhere else anyway.”

1. After moving the character left and completing the objective we should be able to move in 4 directions up, down, left and right.

Test moving up, down, left, right with the wasd or directional keys on keyboard.

Move to the chest north side, between trees.

Passing condition: After moving to the chest you should see the message “You got Basic Scrolling You want to see where you’re heading, right.”

## Gameplay sections

1. Unlock the Overworld with minimal requirements:
2. Reference to individual gameplay component tests and unlock Overworld.
3. Record video footage and share it.
4. Unlock the Overworld with smooth scrolling and minimal requirements.
5. Reference to individual gameplay component tests and unlock Overworld.
6. Record video footage and share it.
7. Unlock the Overworld while doing every possible side activity you can find.
8. Reference to individual gameplay component tests and unlock Overworld.
9. Record video footage and share it.
10. Unlock Overworld while doing every possible side activity you can find without smooth scrolling.
11. Reference to individual gameplay component tests and unlock Overworld.
12. Record video footage and share it.

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# Found bugs/issues

Animation canceling when swinging the sword.

Steps to reproduce:

1. Unlock sword by completing the objective:
2. Use Enter or E key to swing the sword.
3. Move character during mid animation to another direction using movement keys.

Video reference: <https://youtu.be/1hgOvVu2zaI>

Animation override after picking up an item from chest when you don’t have smooth scrolling, allowing you to move while in interaction animation and allowing you to swing the sword. It does not show sword swing animation or the walking animation in this state.

Steps to reproduce:

1. Do not unlock smooth scrolling.
2. Interact with the chest and press the opposite directional key to move away from the chest position.
3. Press the swing sword key, which is E or Enter.

Video reference: <https://youtu.be/O2uHJURCkJQ?t=99>

Overworld black screen and slowly scrolling to player position when you do not have smooth scrolling unlocked.

Steps to reproduce:

1. Complete the objective unlock Overworld without using the smooth scrolling chest.

Video reference: <https://youtu.be/O2uHJURCkJQ?t=272>

Should the game pause when in the inventory menu, as I do not have documentation it is intended game mechanic or a bug.

Steps to reproduce:

1. Unlock inventory system by completing the objective.
2. Press tab to go into the inventory.
3. Use directional keys to move around.

Video Reference: <https://youtu.be/O2uHJURCkJQ?t=261>

Game does not detect the Xbox one controller, when connecting to the game already launched.

Steps to reproduce:

1. Launch Evoland
2. Navigate to the options menu, by clicking on it or using directional keys and enter.
3. Connect the controller
4. Game controller option stays grayed out.

Note: This is actually quite common for video games.

Game does not detect inputs from the Xbox one controller even after restarting the game.

1. Connect the controller
2. Navigate to the options menu, by clicking on it or using directional keys and enter.
3. Launch Evoland
4. Game controller option stays grayed out.

Game makes a buzzing sound when loading the main theme on the main menu. Not sure if it is a bug or a feature based on the style of the game.

# Improvements

1. As a player I would like an option to remap my controls.

This is fairly important for those who are used to unorthodox controlling methods, also for accessibility for people who have health problems.

1. As a minimalist player I would prefer that the smooth controlling chest to be a required part of the game or be properly tested before release.

Based on my initial play time, I experienced some difficulties progressing without this optional pickup. After reading some internet forums and such, I discovered that there are a lot of edge cases with it after progressing certain events in the game.

1. As a gamepad user I would like the controllers to be working for this kind of game.
2. As a retro gamer I would really prefer options to play at 4:3 resolutions.

The game has no resolution settings at all, which could prove troublesome for people with older hardware, such as CRT monitors.

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# Test design techniques used

**Creating a mindmap** - It provides a great deal of information on having an overview for all possible sequences.

**Trying to break the product** by doing things out of sequence. This technique brings clearance on how each mechanic in the game works.

**Creating user stories.** Based on exploratory testing it’s useful to get a sight into user expectations in order to improve the video game.

I used **Freestyle Exploratory Testing** while creating the mindmap and moved over to **Scenario Based Exploratory Testing** while performing specific tasks and testing specific parts of the software.

**Guessing** - Based on my 25 plus years long experience playing video games I can guess where to look for bugs based on my experience with past defects.

**Video recordings** - I will add test footage recorded with OBS as I am testing each feature.

**Video editing** - I used Davinci Resolve in order to present the bugs/glitches footage separately.

# Reflection

Even simplistic video games have tons of layers. Even the menus can interact in tons of different ways I didn’t think of. Even doing this small sequence of gameplay tests drains a ton of time and effort in order to test a fully built product without any of the developer tools or development documentation available.

All the points above fully apply to testing from an exploratory testers perspective. As you have no idea really what the developer was thinking while making the software. As there are still a lot of interesting tests to do here, I will be working on this document in the future.

As far as I would have loved to present testrail images also, they really do not suit this format:

[Olev\_Põldmaa\_TesterRemoteEE8\_Final\_Project](https://docs.google.com/document/d/1N9UtSRZzXL4PB_rJckh6gMk9dFScB_HuOIVMomNP4C8/edit?usp=sharing) - Thus I have created a pageless version of it as well. This version will be the future format that I will be using to document this topic further.