

1. Title Page

- a. Ronnie Huang
- b. CSC 413 Project Documentation Fall 2022
- c. <https://github.com/csc413-SFSU-Souza/csc413-tankgame-RonnieHuangSFSU.git>

2. Introduction

- a. Project Overview
 - i. Use the arrows to move around the room. There are holes on the ground that can't be stepped over. Every once a while when moving, you'll be forced into a random encounter, where you have to defeat the enemy (or run) in order to proceed. To leave, you first have to defeat the boss who holds the key to the exit. After defeating them, the door will open up. Head to it and you can escape.
 - ii. In battle, use the ">" button to advance the text. When it is your turn, you may select from 5 options, attack to harm your foe, defend to decrease your foe's attack for a turn, spy to see their health, items to heal, and run to have a chance at outright ending the battle immediately. Keep an eye on your health, as when it is reduced to 0, you lose and will have to start from the beginning.
- b. Introduction of the EH - atHoT
 - i. In Elvofield High and the House of Terror Revisted, you run around a haunted house, get ambushed by enemies, defeat the boss guarding the key to the exit, and try to not die

3. Development environment.

- a. Java 17
- b. IntelliJ IDEA 2022 2.1
- c. Overworld Sprites
 - i. Player Sprite - Kim's sprite from [A Day in a Life of A Mercenary](#) (I made)
 - ii. Player Portrait - Kim's portrait from *A Day in a Life of A Mercenary*
 - iii. Boss Sprite - Edit of Kim's sprite
 - iv. Door1 Sprite - *MS Paint*
 - v. Hole Sprite - *MS Paint*
 - vi. Wall Sprite - *MS Paint*
- d. Battle Sprites
 - i. Ghost Battle Sprite - *MS P...*(Okay, you get it at this point)
 - ii. Bat Battle Sprite - [clipartmax.com](#)
 - iii. Fairy Battle Sprite - [Space Bust-A-Move](#)
 - iv. Warrior Battle Sprite - [Fire Emblem Heroes](#)
- e. Floor
 - i. Wooden Floor - [Adobe Stock](#)
- f. Sound Effects
 - i. Bash - *Earthbound Beginnings*
 - ii. Heal - *Earthbound Beginnings*
 - iii. Hit (unused) - *RPG Maker MV*
 - iv. Players - *Earthbound Beginnings*
 - v. Victory - *Earthbound Beginnings*
- g. Music

- i. Boss - *Mega Man Minus Infinity* [Cossack Boss](#)
- ii. Enemy - *Earthbound Beginnings* [Dangerous Foe](#) (before you ask, no relation the meme)
- iii. Lobby - *Sweet Home* [Lobby Theme](#)
- iv. Night (unused) - *Project Sekai* [The Moon Rabbit & Us](#)
- v. Title - *Uninvited* [Title Screen](#)

4. How to build or import your game in the IDE you used.

a. Import Game

- i. Go to <https://www.jetbrains.com/idea/download/#section=windows>
- ii. Download the “Community Edition”
- iii. Extract the downloaded file (I’m not responsible for viruses)
- iv. Open IntelliJ IDEA
- v. Download the file on GitHub
- vi. Unzip the file
- vii. In IntelliJ IDEA, if a file is already opened previously, press “File” on the top right of the screen
 - 1. If not, press “Open” (which either has an of a folder or is the button between “New Project” and “Get from VCS”)
- viii. Find and open the file titled “csc413-tankgame-RonnieHuangSFSU”(don’t open it)
- ix. Open file and you’ll see a folder titled “Elvofield”
- x. Open the file

b. Build Project

- i. On the side, there should be listing the files on the left side, if not click “Project” on the left side bar
- ii. Open the folders csc413-tankgame-RonnieHuangSFSU, Elvofield, src, and elvofieldhigh, in that order, and there should be a file named “Launcher”
- iii. Press Launcher and it’ll open the code for it up
- iv. Press the green “play arrow” (shaped like this: ▶)
- v. A window would appear at the bottom of the screen asking you to input a name.

5. How to run your game. As well as the rules and controls of the game.

a. Name Input

- i. When inputting a name, don’t input a name over 10 characters long, as the prompt will reset asking for a shorter name
- ii. After inputting a name, a window should pop up (minimize the IntelliJ window) and the game will begin

b. Title

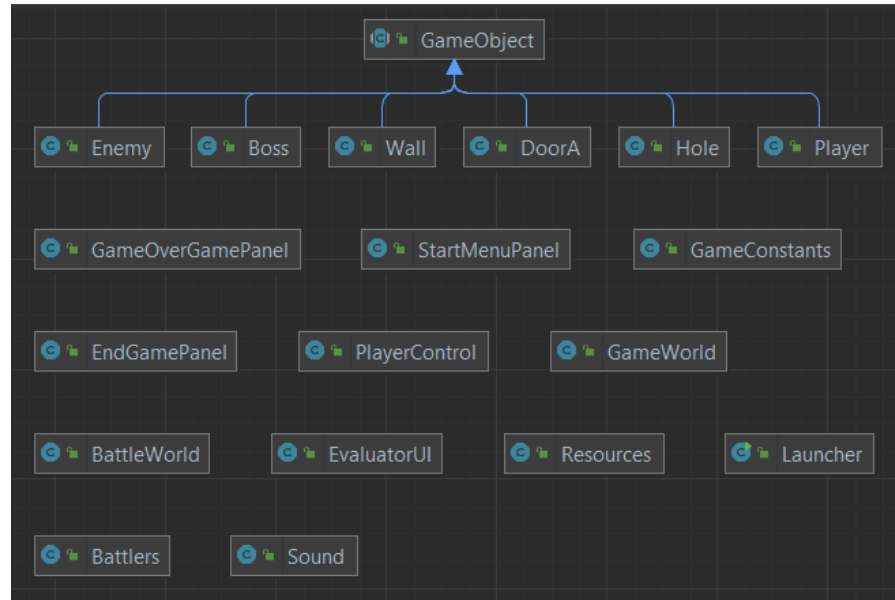
- i. There are two options, “Game” and “Preview”

c. Overworld

- i. Use the 4 arrows on your keyboard to move around the map
- ii. Locate boss and defeat them
 1. Fight them by colliding with them on Overworld
- iii. Goal is to leave through the door (Red Square)
 1. Door is only unlocked after defeating boss

- iv. Every step you take is a possibility at causing a random encounter, you need to defeat the enemy (or run if you're a coward) to proceed
- d. Battle
 - i. You and your enemy alternate turns on attacking
 - ii. Use ">" to advance the text
 - iii. When it is your turn, you're given 5 options for combat
 - 1. Attack" does basic damage to enemy
 - 2. Defend" increases your defense for a turn (lowering your opponent's attack)
 - 3. Spy shows the HP for your opponent (doesn't work on bosses)
 - 4. Items heals your HP (doesn't go over your maximum)
 - 5. Run gives you a 50% chance to escape from a battle (doesn't work on bosses)
 - iv. When it is their turn, they'll can do a range of actions, ranging attacking you to outright nothing
 - v. If they attack you, your HP reduces by a set amount
 - vi. If your HP reaches 0, you lose and will have to restart from the very beginning (although since this is a short demo, you won't have to go back that far)
- e. Game Over
 - i. Press "Restart Game" to head back to the Title Screen and start the game again
 - ii. Press "Exit" to close the game, not sure if I need to clarify that

- f. Ending
 - i. Press “Exit” to close the game...assuming you’re too lazy to do it manually
 - g. Preview
 - i. Shows off a fight against a later boss, as well as your ally
 - h. Minor Fix/Secret?
 - i. I didn’t want players to have the same name as their ally, so if you name yourself “Lance” (or “lance” with no capitalization) and press “Preview”, you’ll be given a different ally with her own stats and a unique move
6. Assumptions Made when designing and implementing your game.
- a. I genuinely thought that the process of changing our previous Calculator assignment to a turn based RPG would be nearly impossible
 - b. I thought “collision” would’ve been pretty straightforward to program...it wasn’t. Thankfully I doubt anyone would be forcefully be running into walls unless they’re intentionally trying to get stuck
 - c. By resetting the game after a forced boss fight, I thought it would send me back to the overworld normally (as ever after reset, the locations of the player restart at a place far away from the boss), but instead it would immediately send you back to the battle
7. Tank Game Class Diagram



8. Class Descriptions of classes implemented in the Tank Game

- a. Launcher - Launches the game and contains several objects that all the game shares
- b. GameObject - Contains all the objects used in the overworld
- c. Boss - Contains the information of the “Boss” object in the overworld
- d. Wall - Contains the information of the “Wall” object in the overworld, mostly used for the game’s borders
- e. DoorA - Contains the information of the “DoorA” object in the overworld, named that because there was originally multiple rooms for players to explore, with “DoorA” sending players forward, and “DoorB” if players wanted to backtrack
- f. Hole - Contains the information of the “Hole” object in the overworld, only difference from walls is that this isn’t used for borders. Originally I wanted them to look more 3D to look more like the holes in Wii Play Tanks, but I got lazy. I have trypophobia...just saying

- g. Player - Contains the information of the “Player” object in the overworld, does the actual drawing of the moving sprite in the overworld increases a counter that causes random encounters every move the player makes
 - h. GameOverGamePanel - Contains all information used at the game over screen, including the buttons used and their function
 - i. StartMenuPanel - Contains all information used at the title screen
 - j. GameConstrants - Contains the screen border widths used in the title, overworld, and end screens. Written all here so it can be changed at ease
 - k. EndGamePanel - Contains all information used at the end screen
 - l. PlayerControl - Keep track as to which keys the player pressed and released
 - m. GameWorld - Runs all the program during the overworld segments
 - n. BattleWorld - Only there to launch Battle and to fix an error in Launcher
 - o. Battle (formally EvaluatorUI...because I was too lazy to change it) - Contains all information used and ran in the battle segments
 - p. Resources - Creates and stores all the visuals and sounds
 - q. Battle Object (formally Battlers) - Class that holds all the information for each battler, as I realized halfway when programming how much code each of the battlers used
 - r. Sound - Class for all the music and sound effects used, with functions to play, end, or loop the music
9. Self-reflection on Development process during the term project
- a. It was fairly difficult to code, at points of programming, I did give up on features I originally wanted, but couldn't program due to not having enough time to

program them as well as keep up with my other works from my other classes.

However overall, it was a pretty fun project to end the semester off with.

10. Noticeable Bugs

- a. If you lose to the “Fairy” and press “Game” on the title, the boss fight against the “Fairy” immediately initiates. Originally this was ignored as the “Restart Game” button wasn’t present in the “Game Over” screen, but I thought I’d include it back in as the screen looked too identical to the “End” screen
- b. If you try running into the wall, you may notice you sometimes get stuck in it and start moving in reverse, a bit of an issue I had when I was programming for collisions

11. Project Conclusion.

- a. The game project was pretty fun, as one of the rules were so laid back that it made for a “limit is your imagination (and possibly programming knowledge)” kind of experience. It was also finally cool to remake my first term project into a form easier to see and understand...kinda. The overworld system was better in this term project, the battle system was better in the first term project. My favorite part was the presentation, as it was fun to see what everyone made, and how certain people made their code different for the given example, as well as their different aesthetics and art styles they used.