**final Game**

**Timmy’s turbines**

**Plan of the week of 15th of January**

**Description of this plan:**

This plan is meant to detail the last additions, fixes and polishing that should be made for the final game to be delivered for the course.

**Goals/Tasks of the week (not in order of importance)**

Have the final game ready for Friday the 15th January. The following items need to be addressed before that is possible:

1. Fix what the power losses.
2. Modification of the visualisation of the maintenance, power and power loss.
3. Addition of tutorials.
4. Addition of the maintenance feature with the power train choices. (Done!)
5. Fix of the money construction bug. (Not Done!)
6. Fix of the UI clicking bug. (Done!)
7. Fix of the next game lack of button bug. (Done!)
8. Deactivation of the game when pressing the pause button. (Done!)
9. Finalisation of the sounds. (Done!)
10. Fix of the money signs. (Done!)
11. Addition of the death animation for wind turbine.
12. Addition of the removability of dead wind turbines.
13. Fixed terrain generation.
14. Tuning of the game.
15. Colours of the turbines.
16. Capping of the power loss.

**Chapters and levels to be created for the final game:**

The final game at the end of the week (on the 15th January) shall contain several chapters and levels. This game is structured slightly differently. There are four chapters that are introduced within this version of the game. The first chapter consists of three levels which are dedicated to the learning of the tower defence concept. Note that the tutorial is only shown in the first level:

1. The first chapter “Heights and floods” is limited with respect to the possible mechanics. In this chapter, only the pre-made wind turbines can be added. All other mechanics are deactivated and should not affect the gameplay in any way. The chapter is composed of the following three levels:
   1. Level 1: A simple map is to be used with just no turns in the river. The game is very easy, this is for the player to familiarise himself with the game and the concept.
   2. Level 2: A more complicated map, with a turn in the river. The game is also harder. The speed of the bubbles is increased. The player can no longer place his turbines anywhere.
   3. Level 3: A third map, with some river complication. The game is the hardest, the player can only win by placing his wind turbines at certain locations.
2. The second chapter “Losses all around” is limited with respect to the possible mechanics. In this chapter, only the pre-made wind turbines can be added. The power loss mechanic is also present. All other mechanics are deactivated and should not affect the gameplay in any way. The chapter is composed of the following three levels:
   1. Level 1: A simple map (if possible different from 1.a.) is to be used. The game is very easy, this is for the player to familiarise himself with the power loss concept.
   2. Level 2: A more complicated map (again different if possible). The game is also harder. The speed of the bubbles is increased. The player can no longer place his turbines anywhere.
   3. Level 3: A third map, with some river complication (again different if possible). The game is the hardest, the player can only win by placing his wind turbines at certain locations.
3. The third chapter “Maintain and move on” is limited with respect to the possible mechanics. In this chapter, only the customisation of wind turbines is omitted. All other game mechanics are present. The chapter is composed of the following three levels:
   1. Level 1: A simple map (again different if possible) is to be used. The game is very easy, this is for the player to familiarise himself with the maintenance mechanism.
   2. Level 2: A more complicated map (again different if possible). The game is also harder. The speed of the bubbles is increased. The player can no longer place his turbines anywhere.
   3. Level 3: A third map, with some river complication (again different if possible). The game is the hardest, the player can only win by placing his wind turbines at certain locations.
4. The fourth chapter “Customize away” is the full game. In this chapter, all game mechanics are present. The chapter is composed of the following three levels:
   1. Level 1: A simple map (again different if possible) is to be used. The game is very easy, this is for the player to familiarise himself with the customisation possibilities.
   2. Level 2: A more complicated map (again different if possible). The game is also harder. The speed of the bubbles is increased. The player can no longer place his turbines anywhere.
   3. Level 3: A third map, with some river complication (again different if possible). The game is the hardest, the player can only win by placing his wind turbines at certain locations.

**Details of the tasks**

1. Fix what the power losses: The power losses quantities seem to be very similar between the long distance links and the short distance links. Change this so that the benefits of long distance and of short distance link becomes obvious.
2. Modification of the visualisation of the maintenance, power and power loss: The visualisation of the “pie” and numbers appearing above the different elements of the game should be modified. The text above each of the game elements should only be present on top of one element at a time. It should therefore disappear upon clicking on an another element OR upon clicking on the currently displaying element. Furthermore, for wind turbines, the visualisation should appear above the wind turbines for three seconds after construction. This construction visualisation should contain, in a different colour (preferably red), the value of the power loss for the newly built wind turbines. Additionally, three second before going into repair, the visualisation should appear on top of the wind turbine until it repaired or until it dies.
3. Addition of tutorials: This version of the game should be outfitted with full tutorials to introduce the players to the concepts of the game. These tutorials shall be simple text describing certain mechanics and clever obstruction on top of the game screen to pinpoint these mechanics. These tutorials shall be presented at the beginning of each level. This is allowed through a delay of the first wave.
4. Addition of the maintenance feature with the power train choices: Within the customisation of the wind turbines, add the maintenance bonus or malus for the two power trains. The direct power train leads to an increase in health of 15 seconds. The indirect power train leads to a decrease of health of 15 seconds.
5. Fix of the money construction bug.
6. Fix of the UI clicking bug.
7. Fix of the next game lack of button bug.
8. Deactivation of the game when pressing the pause button.
9. Finalisation of the sounds.
10. Fix of the money signs: Make sure the money in the different panels is in TC similarly to the main money counter.
11. Addition of the death animation for wind turbine: Change the colour of a wind turbine upon its death to black.
12. Addition of the removability of dead wind turbines: Add the possibility to remove the wind turbine at no costs for dead wind turbines. Call this button Removal.
13. Fixed terrain generation: Keep the random terrain generation, but find a way to have frozen terrain only for the specific levels we will make for the final game. We will then be able to tune the game and the positioning of the pumps and transformers.
14. Tuning of the game: This is hard to plan for, tuning should be done through the costs of things, the bubbles life, the bubbles speeds, the pump attack speed, the pump attack numbers, the maintenance time, the bonus/malus of the powertrain, the properties of the customisable wind turbine menu.
15. Colours of the turbines: Make the turbines that are dead black, make the turbines that are custom red.
16. Capping of the power loss: Make sure that the output of a turbine is not negative. Therefore if the power loss is larger than the power output of the turbine, set the power loss equal to the power output.

**If (and only if) time permits:**

* Doubling the game with a hard mode where it is not allowed to sell turbines or to remove them. The game is also harder to beat (faster moving bubbles or other elements modified from the tuning section).