1. Introduction

This document specifies a design for the gameplay of a game with the provisional title “Path Between Two Towers (PBTT)”. This is based on a brainstorming session between David Kilgannon and Josh Campbell held on November 19th.

1.1 Scope

This document is intended to be read by the developers and by the professor.

1.2 Type Conventions

Matters discussed during the meeting will be presented in arial font.

Editorial Remarks shall be written in this format.

2. Specification

2.1 Concept

Our aim with Path Between Two Towers (hereafter stylized as PBTT) is to produce a fun and reasonably complex (for the allotted development time) tower defense game featuring multiple types of towers.

2.2 Story

There is no story, there are merely towers, attack waves, and the stories that players will make for themselves.

2.3 Game Structure

There will be 3 maps, though once the tower defense system is operational the terrain is only of middling importance, as the towers will have more impact on the state of play.

Once a victory has been achieved by defeating the attacking waves (there is also an idea of extending the game, time permitting, by having alternating waves attacking), an option will be presented for the player to return to the menu screen or to progress to the next level.

2.4 Players

This WebGL build will be playable by a single player, and (development time and sanity permitting) between two players competitively across a network.

2.5 Action

Players will be able to build towers when they have the money to do so, and will be able to interact with the towers individually to use special powers, such as having an artillery tower where they can choose targets, a support tower where they can heal units (assuming alternating waves), and such like that. There will be a small number of invulnerable buildings based on player upgrades (theoretically 5 at start) not counting the player’s base. These invulnerable buildings may be toggled by selecting whether or not a building may be invulnerable.

Attack waves will pathfind between nodes, rather than having a set route that they follow each time. This is to allow for dynamism of travel and to open up the game map. If there is no available route between two nodes, the attacking wave will clear a way through to the next node by assaulting towers and obstructions.

2.6 Objective

This section will address the base objective of the game and the objective of a discussed possible (not confirmed) alternate mode.

2.6.1 Tower Defense

The player will be defending against pathfinding enemies, thus promoting a defense in depth strategy where the player will not necessarily know which route an enemy wave may take.

2.6.2 Alternating Waves

The player will be defending against pathfinding enemies, but will also be sending and supporting their own waves that they send against an enemy. Their waves shall follow the same movement rules that the enemy does, just in reversed order.

Gameplay

3.1 World

The world will be of middling size, to make navigation by attacking waves, and defense against them, easier.

The pause key will be available for player use at any time. (This is rescinded in alternating waves)

3.2 Landscape

The landscape may consist of plains, lakes, forests, and buildings. As there will be pathfinding, the terrain is of minimal importance.

3.2.1 Buildings

All buildings will be of the type “tower” to prevent problems, and all will be deployed by the player.

3.2.2 Building AI

Attacking towers will attack the nearest enemy in range, unless they shoot in a pattern in which case they will attack in that pattern.

3.3 Waves

Attacking waves will be controlled by AI, and will consist of units of varying strengths. Some units will be able to sustain damage and continue moving, while others might instantly die when hit. Damage will not be presented on a visual level to the player, but will be tracked silently by the computer.

3.3.1 Wave intelligence

Attacking waves will move between randomly selected pre-set nodes. As a member of the wave reaches a node, they will randomly choose a node from 1~5 nodes in the next progression and continue on to that.

3.4 Control

The game will be controlled by mouse and keyboard.

Front End

4.1 Intro

There will be the design of a tower and buttons by which to start a new game from the first level or to choose a level.

4.2 Menus

There will be a pause menu with the options to restart the present level or to quit to the main menu. On winning a level there will be the additional option to continue to the next level.

Development Tools

The game shall be developed in Unity, with various supporting assets intended to be used to get art and assets for the game.

Team

Grand Poobah: David Kilgannon

Head Honcho:   Josh Campbell

Time

Project Start: November 15th

Playtesting : November 29th

End Date : December 13th