

COMP 1501 – Tutorial 06

Design Document Template

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Introduction [1-2 paragraphs]

Provide a quick 'abstract' of the game. This includes a brief explanation of how the game will function, as well as what the goal of the game is. Think of this as providing a very top-level narrative of a player experiencing this game for the first time.

“Tower builder” is a tower defense game about creating paths and towers to prevent enemies from traversing the city. The player will be able to create shops – the equivalent of towers – on the predefined path to try and force the enemies to change their paths through the city. Through clever tower placement, the player will force the enemies to empty their wallets in the various shops through the city and go back to get more money.

The money taken from the enemies will be given directly to the player to build new towers or improve the towers they currently have built. The player will slowly lose support – the equivalent of lives – from the population until they lose the mayor’s office.

Genre / Target Audience [1-2 sentences]

What genre is your game and who is it being designed for? For example, is this more focused on strategy or performance?

The game is a tower defense game for one player. It aims at giving a good strategy experience to bring the more strategy oriented players while still being simple enough for any players to enjoy.

Story / Background [1-2 paragraphs]

What is the backstory for the characters in the game? What has happened in this hypothetical world and how/why has it led to the point your game world is currently in when the player(s) are playing it?

The mayor of the town of **Greedyville** is tired of seeing all the tourists go through his city without visiting any shops. However, the citizens have decided that the mayor is responsible for the economic crisis that happened due to the lack of tourists. Due to that, the citizens will not support any infrastructure projects unless it is justified, preventing the mayor from building different roads to force tourists into the shops.

The mayor has prepared a crazy plan. He will build shops on the roads themselves to force the citizen into approving the infrastructure project. He hopes the money generated by those shops will be enough to pay for them. But he will need to walk carefully, as any tourist leaving the town will cause people to talk about what is happening and they might give the mayor the boot.

Characters / Factions [1 paragraph per character]

Introduce your main characters / factions. Describe them in high level only (nothing about specific gameplay mechanics here). How do your characters fit into the background/story you've devised?

The Mayor is the main character of the game. His goal is to bring money back to his town and keep his mayor office in the upcoming elections. Sadly, due to his declining popular support, he started to make crazy plans to push reforms and the citizens are very close to finding out.

The citizens are tired of seeing their town lose money and they believe the mayor's inactions are the cause of the economic crisis. Due to that, they refuse to support any infrastructure projects and will prevent any new road project the mayor will propose. They are not yet aware of the mayor's plans, but people are starting talking.

The tourists are people who wants to visit the next town, but have to go through Greedyville to visit it. They really don't want to waste their money in Greedyville, but they can't stop themselves from buying things in nice shops if they are placed in their path.

Level / Environment Design [1 paragraph]

In a very top-level fashion, describe how your game will approach its level design. What kind of environment will you be in? How will the levels be set up?

The main level will be designed as a single straight road through the town. As more and more tourists are coming to visit the next town, waves of tourists will increase in number and money. The player will create new roads and shops, changing the level as the game goes on. The player could change the difficulty by changing the amount of popular support they have at the start of the game.

Gameplay & Key Features [1-3 sentences per feature/mechanic]

Describe briefly all the signature and novel mechanics/features that your game will offer. This includes ones that are specific to a certain character and those that are either generic or a part of the level itself.

The game is grid based, everything will be stuck to a grid of squares of very specific sizes.

The player can only build towers on paths. When the player builds a tower – named shops – on a path, a new road will be built. The new road built will be perpendicular to the first square before the shop. It will be built three squares long and then try to wind back to the main road without having segments smaller than 3 squares.

When a new path is created, the old path is not destroyed. This means that a future tower might create a path that connects back to this old path, creating multiple paths for the enemies to go through.

Tourists will always chose to go through the smaller path, the path with the least amount of squares. Arrows on the chosen path will show the player where tourists will move to.

Shops removes money from tourists – the equivalent of their health points – as they hit them with ads and products. Each hit will add money to the player's bank. Defeating a tourist will add a big amount of money as the tourist throws their wallet on the ground in frustration.

Shops can have multiple effects with their hit as well as a range. Different shops will have different values and the player can upgrade a shop up to three times to increase those values.

The souvenir shop will take money from the tourist. The flower shop will reduce the value of the squares next to it for the tourist path calculation. The clothing shop will slow down tourists near it as they need to try out the clothes before buying. Finally, the food shop will cause greater amount of damage in a smaller range and stop tourists for some time.

Tourists will remove popular support from the player if they leave the town without having spent all their money. When the support hits 0, the mayor loses his office and the player loses the game.

The game is played in real time, but the player will have a few seconds to prepare between waves.

Tourists waves are randomly generated, but they will be decided by the current difficulty. As the player clears waves, the difficulty will increase.

The player has access to all the towers at the start of the game, but they cost of some towers will prevent them from building them immediately. The goal is to force the player to build at

least on souvenir shop before anything else. The first wave should be beatable with a souvenir shop and given enough money to build new shops afterwards.

Technical roadmap

Scene Name: Title
Scene description: The title screen will show three buttons to play the game in the three level of difficulty as well as a button to leave the game.
Entry condition: The game is launched
Exit condition: The game is closed, the exit button is clicked or the escape key is pressed.
What user input needs to be looked for and what should each do: <ul style="list-style-type: none">• Check for escape, and if escape is pressed, the game should exit.• Check for mouse click, and if the mouse is in the button rectangle it should go to the next scene.• Check for mouse over, and if the mouse is over a button, it should be highlighted to give some feedback to the user.
What data is updated each frame, and how should it update: <ul style="list-style-type: none">• If we should quit, exit the game.• If we should start the game, switch to the Playing scene.
What needs to be drawn to the screen: <ul style="list-style-type: none">• The background color• The game's title• The button sprites with some color variation if highlighted

Scene Name: Playing
Scene description: The main scene of the game will show the current level of the game, the shops and enemies, the current level of popular support and the amount of money the player owns. The player will be able to click on paths to create new towers through a circle menu and the towers will start attacking the tourists passing by depending on their types. Clicking on a tower again will upgrade the tower if the player has enough money.
Entry condition: The scene is launched from the Title scene.

Exit condition: The player loses the game or the escape key is pressed.

What user input needs to be looked for and what should each do:

- Check for escape, and if escape is pressed, the game should exit.
- Check for mouse click. If the click is over a path, show the circle menu. If clicked anywhere with the menu open, close the menu. If clicked on a menu button, build a shop there. If clicked over a shop, upgrade that shop.
- Check for mouse over, and if the mouse is over a shop or path, highlight it.

What data is updated each frame, and how should it update:

- If we should quit, exit the game.
- If the player loses all popular support, go to the Title scene.
- If the player has clicked a path, show the circle menu with buttons grayed out if the player doesn't have enough money.
- If the player clicks a button in a shown circle menu, build something on the previously clicked path.
- If the player clicks anywhere with a circle menu opened, close it.
- If the player has clicked a tower, update that tower if the player has enough money.
- If the player has built a shop, update the path and the tourists' direction.
- The tourists need to move towards their goal, following the base path if they can.
- The towers need to attack the enemies when they are close.
- Lose popular support if a tourist leave the screen
- Add money with each shot on a tourist and when a tourist is defeated.

What needs to be drawn to the screen:

- The background map
- The paths
- The shops
- The tourists
- The circle menu if shown
- The current popular support
- The current amount of money
- The path the tourists will take