**Design**

- Master Document -

For SubwaySurfersClone

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Shop

# 

# Controls

## Keyboard

* WASD or arrow keys to move, duck, jump
* Esc to pause

# Mechanics

## Player

* Player is perpetually running through a cityscape with moving obstacles coming towards him randomly
* Player can move left and right between 3 lanes
* Player can jump and duck
* Player can collect power ups and coins that randomly appear

## Points

* Player score increases based off of distance traveled

## Powerups

* Jump boost
  + Allows player to jump higher
* Time freeze
  + Slows down time
* Jet pack
  + Allows player to fly over the track
* Coin magnet
  + Coins will attract to the player

## Shop

* Player can customize their skin and purchase upgrades to the power ups using coins

## 

## Pause menu

* 3 second timer before resuming

# Plan

CURRENT STEPS FOR MVP

* TILE AND OBJECT SPAWNING ✅
* Speed up speed over time ✅

NEXT STEPS

* Smooth camera
* Generate multiple objects per tile…
* CREATE FIRST FLOOR PANEL TEXTURE
  + Grass, gravel, dirt, wood planks? Or could jus be smooth stone, ores and stuff
  + Set the pixel size for each panel and make the textures to fit the exact size w the edges and everything. May have to rescale other parts of the game to be even smaller…
* Design First few objects (stationary)
  + Zombie might be easiest because I can use the steve model?? Idkkk

Texturing resources: <https://www.youtube.com/watch?v=hRnqIqYK-4Y&t=1s>

<https://www.youtube.com/watch?app=desktop&v=Y-fDGOqHQZA>

TILE AND OBJECT SPAWNING METHOD

* Objects are randomly spawned on new tiles
  + Make prefab for each obstacle
  + For each tile that is spawned
    - While Object Quota of items is not reached (object quota increases as number of tiles increases)
    - Instantiate random object in a random row, assign weights based on difficulties of items? Then you can increase randomization weight of difficult items so they appear more often later in the game
    - How to make sure that the obstacles are not impossible
      * Restrictions on minimum distance between obstacles
* Game begins with certain amount of tiles already generated and new tiles are constantly being spawned
* How to delete all old tiles and objects as well when they are behind the camera
  + Distance deletion rather than time
  + Same for tile spawning dont have it rely on time

OBSTACLE TYPES IDEAS

* Minecart moving towards you
* Zombie moving towards you slowly
* Creeper / TNT that blows up
* Stationary
  + Fence
  + Sheep, Cow, Chicken
  + TNT pile
  + Trapdoor
  + Stalactites?
* Duck
  + Tree??
  + piston
* Multiple stationary ones of different sizes and lengths
* Objects to duck

What type of tiles? Different tile types? W different effects?

Change skybox and make it look clean on the sides and edges so they’re not visible

FUTURE IDEAS

* Implement score system
* Coin system
* Shop system (change skin, upgrade power ups…)
* Power ups
* Do I want to implement objects the player can walk on top of like the trains in subway surfer? Depends on theme
  + Minecraft theme, could have cave areas where you go under or sumn…

MISC SHIT

* Decide on theme so I can start designing tiles and obstacles
  + UNDERWATER
    - Player is a fish, avoiding sharks
    - Swim up and down so it’s like columns as well as rows
    - Could be like scuba divers and stuff too
  + MILITANT
  + ARCTIC
    - Player is a penguin
    - Ice patches where you slide and its harder to control
  + ~~Subway surfers but you are the train~~
    - ~~Trying to hit the players running your way~~
  + TOP 3
    - Minecraft
      * Will be easiest to animate and it’s simple if i need to make anything myself
    - ~~Spongebob~~
    - Lego
* Get assets somewhat sorted out
  + MC\_ASSETS
    - [[BACKUP]](https://www.turbosquid.com/3d-model/free/minecraft/unitypackage)
    - [[BASIC BLOCKS]](https://www.cgtrader.com/free-3d-models/exterior/landscape/minecraft-basic-blocks-unity-package)
    - <https://assetstore.unity.com/packages/3d/environments/3d-blocks-150775>
    - <https://github.com/b3agz/Code-A-Game-Like-Minecraft-In-Unity/tree/master/29-block-behaviours/Assets>
    - [[ENDER DRAGON]](https://rigmodels.com/model.php?view=Ender_Dragon_and_Animation-3d-model__02fafd964cce444383ff722281288b00&searchkeyword=minecraft&manualsearch=1)
    - [[STEVE]](https://rigmodels.com/model.php?view=The_Perfect_Steve_Rigged-3d-model__0cffc39bdab04551bde4f8cdfbc52eca&searchkeyword=minecraft&manualsearch=1)
  + LEGO\_ASSETS
    - <https://learn.unity.com/tutorial/lego-mod-import-new-models#>
    - <https://learn.unity.com/tutorial/creating-with-lego-tools>