

# **Design Document for:**

## **Cyberpunch**

**A Retro-Techno Brawler**

“We wrote this document 41 seconds from the deadline”™

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Version # 1.00

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# Design History

This design history simply lays out the various major stages this document went through before this iteration(as 1.0)

## Version 0.8

Drew out the first GDD listing out our planned features and gameplay for planning the game

## Version 0.9

Revised the GDD to better match submission requirements and describe the actual finished game better.

## Version 1.0

Revised the GDD to the Games Fleadh format.

# Game Overview

## Philosophy

### Philosophical point #1

The game is an attempt at remaking a popular genre of games, the platform brawler, in the theme of 80's revival techno. It is similar to other games in the genre in its

fighting mechanics, but staged as a performance on an EDM concert stage, so that the players themselves can affect the musical performance while performing visually in the combat arena.

## **Philosophical point #2**

The game is rooted in 80's retro revival because of the increased prevalence of the theme lately, and because of the deep intermixing of audio and visual aesthetics of the era that may or may not be genuine to the era. With the mix of neon-styled characters and backgrounds, with a mix of techno, rock and metal music to accompany, the game attempts to add a ludic element to the theme already rooted in audiovisual experiences.

## **Philosophical point #3**

The game was designed to run on PC, which Nintendo's newly released Joy-con controllers. The game is also compatible with networked play. The mix of old technology with new interfaces pairs with the themes of the retro-revival genre, and the progress of technology in all fields and their sometimes-difficult integration.

## **Common Questions**

### **What is the game?**

Cyberpunch is a techno styled brawler game, similar to Smash Bros. It is a platform based fighting game, with local and networked multiplayer.

### **Why create this game?**

Everyone on the team was always a big fan of both fighting games and platformers and we wanted to put our own spin on the genre and add some mechanics that can make the game more interesting and fun to play.

### **Where does the game take place?**

Describe the world that your game takes place in. Simple as that. Help frame it in the reader's mind by spending a few sentences on it here. You can go into lengthy detail later in a section solely dedicated to describing the world. Remember that we want to keep this part of the design light and readable.

### **What do I control?**

The player controls one game character, a cyberpunk themed fighter girl. You control her to navigate the platformer fighting game, and defeat your opponents.

### **How many characters do I control?**

Each player in the game controls one character. Up to 4 players can play the game with connected controllers, but at all times each player should only control one fighter on the stage at a time.

### **What is the main focus?**

The main focus is using your character's attacks and the abilities offered by the DJ booth powerup to remain on the stage, while knocking your opponents off the screen.

### **What's different?**

Our game has a unique setting and introduces some game mechanics that other games do not have. Our game allows players to flip gravity essentially turning the fight on its head. The platforms can be switched mid gaming completely changing the gamescape and fighting experience with an ever changing level.

## **Feature Set**

### **General Features**

2D World  
Single-screen multiplayer  
Local multiplayer with up to 4 players  
Challenging AI opponents  
Manipulate the arena in real-time  
Achievements

## **Multiplayer Features**

Up to 4 players locally or online  
Add AI to multiplayer matches

## **Gameplay**

Jumping from platforms to out maneuver other players.  
Phase down through platforms to surprise enemies.  
Punch, Kick, Uppercut and Super Stun enemies to knock them off of the game arena space.  
Build up damage against players or AI to knock them back or up off the map while also building up your super percentage.  
Build up your super percentage and activate it to land a devastating stunning blow to a player, while they are stunned, they build up the impulse from all attacks and is applied once the stun is over to knock the enemy back with tremendous force, but beware, the players damage percentage affects the force that is applied, so you must choose wisely when to use this.  
Players can pick up a spinning record that spawns randomly around the game, players will be teleported to a DJ booth and will have the option to affect the game in 3 ways. They can slow down time, flip the gravity of the game or move every platform in the game to the left. Moving the platforms of the game to the left will allow the game to introduce a new platform set and keeps the game interesting and fun while also changing the visuals and audio of the game.

# **The Game World**

## **Overview**

The game world is loosely set in a club, where the characters join together to battle on stage for entertainment. Because it is a musical stage, the music and visuals have an impact on the battle and can be impacted by the fighters.

## Playing the DJ

A power-up will occasionally spawn somewhere on the stage. The players should rush to grab it first, as the player who catches it will be taken to the DJ booth, where they have the choice between 3 different battle-altering abilities. They can flip the gravity so everyone must play upside-down for a few seconds, they can slow down time to get some time to think through each move, or they can completely change the layout of the platforms.

## The Physical World

### Overview

The physical world the game is played in is composed of platforms. Base floor platforms are placed at the bottom of the screen, and thinner platforms are spread across the screen. These thinner ones are spaced so players can jump from one to another easily enough to gain advantages and maneuverability. Players can jump up through or fall down through the thinner platforms at will, but those at the bottom of the screen are solid, as well as the walls surrounding the DJ booth at the top of the screen. This is only accessible by finding the DJ powerup.

### Key Locations

- **The main stage:** the main stage is where all players will spend most of their time platforming and fighting to remain on stage and knock others out of the screen and offstage to their deaths.
- **The DJ booth:** This booth will be placed at the top of the screen at all times, and only be accessible by the DJ powerup. It contains 3 stations, one of which can be activated to change the song and background of the game, and affect the game world

### Travel

Characters have simple platforming controls, able to run left and right, jump up onto or through platforms, and fall through platforms that are thin enough.

## **Scale**

The players will be a relatively small part of the overall stage to accomodate a large battle with 4 players. Visibility will be helped with a camera that will zoom in if players are fighting near each other.

## **Objects**

The DJ powerup is a vinyl disk that will appear and disappear at random during the game. It will instantly teleport any player that contacts it into the DJ booth, where they will have a few seconds of safety and access to one of the three DJ booth's abilities.

## **Rendering System**

### **Overview**

All the game rendering is handled using the SDL2 graphics library.

### **2D Rendering**

SDL2 was used for rendering in our game in 2D.

## **Camera**

### **Overview**

The camera follows the player and scales to the a local average between all players and AI in the match keeping the game focused on the players at all times, whilst zooming effectively to allow maximum sight of the game.

### **Camera Movement/Positioning**

The camera will position itself based on the average distance between all players in the game.

## **Camera Zoom**

The camera will zoom in if players are close to one another and will zoom out if they are far apart

## **Game Engine**

### **Overview**

We use SDL as our library to build the game. We did not use a fully fledged game engine.

### **Collision Detection**

Our game will make use of Box2D, a physics engine for C++. We will use this for collisions and collision detection in our game and will be used to decide if attacks were landed or not.

## **The World Layout**

### **Overview**

The world is arranged with a base layer of platforms at the bottom of the screen, a set of movable thinner platforms across the screen that can be navigated, with a box at the top called the DJ booth where the DJ stations can be used to affect the game world.



## **World Layout: DJ Booths**

The DJ booth is used by players to affect the game. This is a closed off area and can only be reached by using a record that spawns throughout the game.

# **Game Characters**

## **Overview**

Each of the players plays essentially the same character with differences in color scheme. This player can run, jump, punch, kick and uppercut to interact with the game world(eg. Other players and the DJ stations) in addition to a super attack, that will freeze an enemy in place to built up damage and knock them further away.

## **Enemies**

The game is competitive and player-vs-player, only ending when there is only one character left alive. Therefore, the enemies are the other players or AI.

# **User Interface**

## **Overview**

Our UI should obstruct as little of the screen as possible and should show only necessary detail.

## **User Interface Player Icons**

During gameplay each player will have an icon that will show the amount of damage they have taken and the amount of super percentage they have built up.

# Weapons

## Overview

Our game is a brawler designed to use no weapons. The game is purely hand to hand combat using a variety of punches and kicks.

# Musical Scores and Sound Effects

## Overview

We used sound effects that fit a SCI-Fi cyber-punk themed game. We also used heavy rock as part of our game music to fit our fighting game.

# Multiplayer Game

## Overview

Multiplayer will work by allowing up to 4 players to fight on a single arena. Players will have 3 lives and the objective is to hit players off of the world until you are the last player standing.

## Max Players

Up to 4 players can play at once

## **Servers**

Game is Client-Server or played locally on one machine with all players playing on a single screen

## **Internet**

If being played multiplayer over the internet, the game uses the TCP protocol to send information. Otherwise, the internet is not necessary.