

Crashtastrophe

Ride a bumpercar through the urban jungle!



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Version Master
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Crashtastrophe

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Design History/Changelist:

VERSION 1.0

This version is our first presentable game design document, the basic concepts are in place but it still needs more specification and depth.

VERSION 1.1

This is the second version of our GDD, our mechanics are taking shape and most of the concept has been established. Things that still need deciding are:

Clarification on winning condition

Feedback

Obstacles: amount/type etc.

Routes: multiple/single difficulties/benefits

Level aesthetics: city?

Timer HUD

Level results screen

Music

Animations

Power-ups

Version 1.2

This our third version of our GDD our mechanics are more defined and we made decisions on our moving system, collectibles and other related game items.

Version 1.3

- Stronger specification of concepts.
- Mechanics determined
- Level design rules
- Winning condition defined
- Power ups
- Routes
- Level Aesthetics

Version 1.5 (Alpha)

This is the version for the alpha. It includes some updated concepts as well as visual help and general reformatting of text to be clearer and more grammatically correct.

Version 1.7 (Beta)

Score formula changed. Some obstacle options removed.

Version 2.0 (Master)

Score system changed

Added Star system

Added Positive and Negative obstacles

More visuals for clarity

Spellcheck

Final changes and polished document

2.0 Game Overview:

2.1 Approach:

Crashtastrophe is a game about speed. The player rides in a bumper car through levels at a fast pace, avoiding obstacles, gathering collectibles and finishing levels. The game uses the game show theme to frame its mechanics with a fitting integration and has a minimal narrative.

Due to the type of game, our target audience is concentrated on an audience skilled enough to work with its fast pace, but young enough to enjoy its aesthetics. Therefore, the target audience consists of the more 'hardcore' gamers of ages 13-30.

2.2 General Information

2.2.1 Genre and Platform

Crashtastrophe is a 3D semi- top-down single-player action game with platformer and racing game elements made for PC and/or Mobile.

2.2.2 Game Objective

Reach the end of the level with minimal delay, use the trail of collectibles to guide your way, be the one that finishes the level the fastest.

2.2.3 Story and Narrative Delivery

Our protagonist Purple enlisted in a new competition concept: Bumper City. This new TV show involves using a bumper car in an area and be the fastest one to complete the set course. Being one of many competitors it will not be easy to grab the first place. Can she become the next bumper city champion?

2.2.4 Player and Game World Representation:

The game world is represented from a slightly tilted top-down perspective centered on the player. The camera will always be centered on the player, but its zoom level will change slightly depending on the player's interactions with the character.

The levels consist of locations within a city, taking place in the streets, with obstacles.

The player controls a single character, represented as a cartoony-looking female superhero in a bumper car. The character's appearance is inspired by 70s/80s aesthetics (disco, *Tron*, etc.).

2.2.5 Gameplay and Mechanics

2.2.5.1 General description

At the start of each level, the player must aim a spring to decide the initial trajectory of their character. The spring can be rotated 360 degrees using the A and D keys to rotate left and right, respectively. When the player has chosen their desired angle, they can launch themselves from the spring using the Space key.

Upon launching, a force is applied to the player character to launch it. Afterwards, the character will reach to a set top speed (45) and will always have this speed.

After launching, the player cannot slow down or stop their character. They can only adjust its direction with the A and D keys to gradually turn left or right, respectively. If the player collides with a wall, they will be bounced away from it. If a player hits a wall with obstacles on it, the player dies and the level resets. The slow rotation is intentional, forcing the player to always think a little bit ahead. Sometimes, they may have to intentionally hit a wall to turn them away more quickly than they could on their own.

The player's objective is to complete to get a level star rating. Collectibles are placed in each level to help guide the player on the correct path. For the player, collecting all the collectibles contributes to having a higher star rating, as well as the amount of deaths and finishing a level. After completing the level, the player will be shown their completion time, amount of deaths and star rating. The higher the star rating, the lower amount of deaths you had, the better a player did.

The one exception to this is a set of switch levels that the player will periodically encounter, where the objective is to trigger the switch. On a switch level the timer will have the function whereas it presents the time it took to trigger the switch. The faster someone is, the better the player did in this switch level. The player will not have collectibles to guide his path to make the level even more like a challenge.

2.2.5.2 Movement

The player will be able to move using two forms of movement:

1: Spring



The player can shoot himself from of a spring at the start of each level. This spring can be aimed in any direction. The spring can be turned with the buttons A and D, where A is turning clockwise and D is turning counter clockwise

2: Player movement



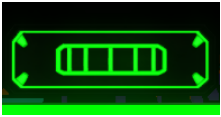
Once the player has been shot out of the spring the player has free movement. The player may move left and right by using the A and D keys. Pressing A makes the player bank left, Pressing D makes the player bank right.

2.2.5.3 Obstacles

The player can encounter several objects that are lethal when touched. Some are static, while others will move back and forth along a straight line. Visually, these obstacles have taken on the form of lightning coils.



Lightning Coils: These are the main obstacles in the game. Lightning coils emit lightning across walls so they cannot be bounced against. This means there are parts of walls you can bounce against. There are static and moving Lightning Coils. Lightning coils may also appear as static obstacles throughout the levels.



Pressure plates: After playing 4 levels, the player will encounter a pressure plate as an obstacle; this plate has to be driven over 3 times, before it unlocks the final goal.

2.2.5.4 Collectibles

The game presents one type of collectible. The collectibles serve one main purposes

Guidance

Due to the way levels are designed, it may be difficult for the player to find out how to reach the exit while going at breakneck speed. To account for this, the collectibles are placed along paths to guide the player to the right place.



2.2.5.5 Score

The game offers the player a simple star rating system. The player will always get a star for finishing a level. The player can however unlock two additional stars by staying under a certain amount of deaths and collecting all the available collectibles in the level.



2.2.6 Player progression and rewards

The player progresses by completing a level. A player navigates through a level by use of the movement mechanics. A player ends a level by finding the exit in a level. While navigating through a level, players might encounter collectibles that will guide them in finding the exit, but also in getting a higher star rating.

The levels become gradually more difficult and thus completing a level in later stages is more challenging.

Practicing and going through a level to aim for that highest score and then getting it should be rewarding enough to keep the player entertained, and to give the player the feeling he/she wants to keep playing. Also by figuring out the fastest way with collecting as many collectibles as possible is another reward players might look for.

2.2.7 Conflicts – enemies and obstacles

The levels will present obstacles to increase the challenge. Obstacles will present themselves as tesla coils. Obstacles will kill the player in a fiery explosion upon touch, followed by a quick restart of the level. See section 2.2.5.3 for more information.

2.2.8 Audio

Since we're going with a disco feel for the game our music will be related to the 70-80's. Inspiration and references can be found in the Appendix.

2.2.9 Technology

Since our game does not pose any new technology challenge we will just use the regular software available to us for making a game. This includes Maya, Photoshop, Unity and Blender.

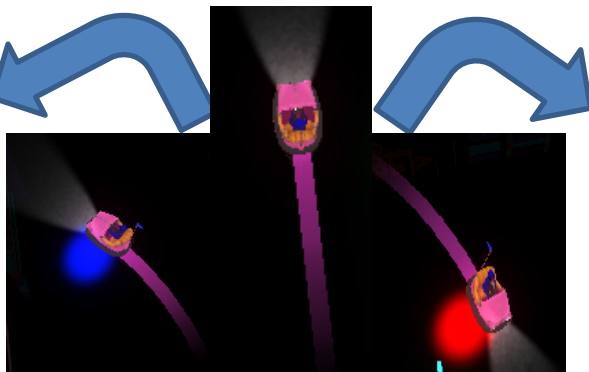
2.2.10 Other Resources

Seeing as our game is flashy and has a lot of small elements in it, we need to have a structured library of things we have. We aim to keep a clear structure in how we work and what we have. A mind map or software like OpenProj could help with this.

3.0 Player/Game Interaction (control system)

3.1 In-game interaction

3.1.1 Movement:



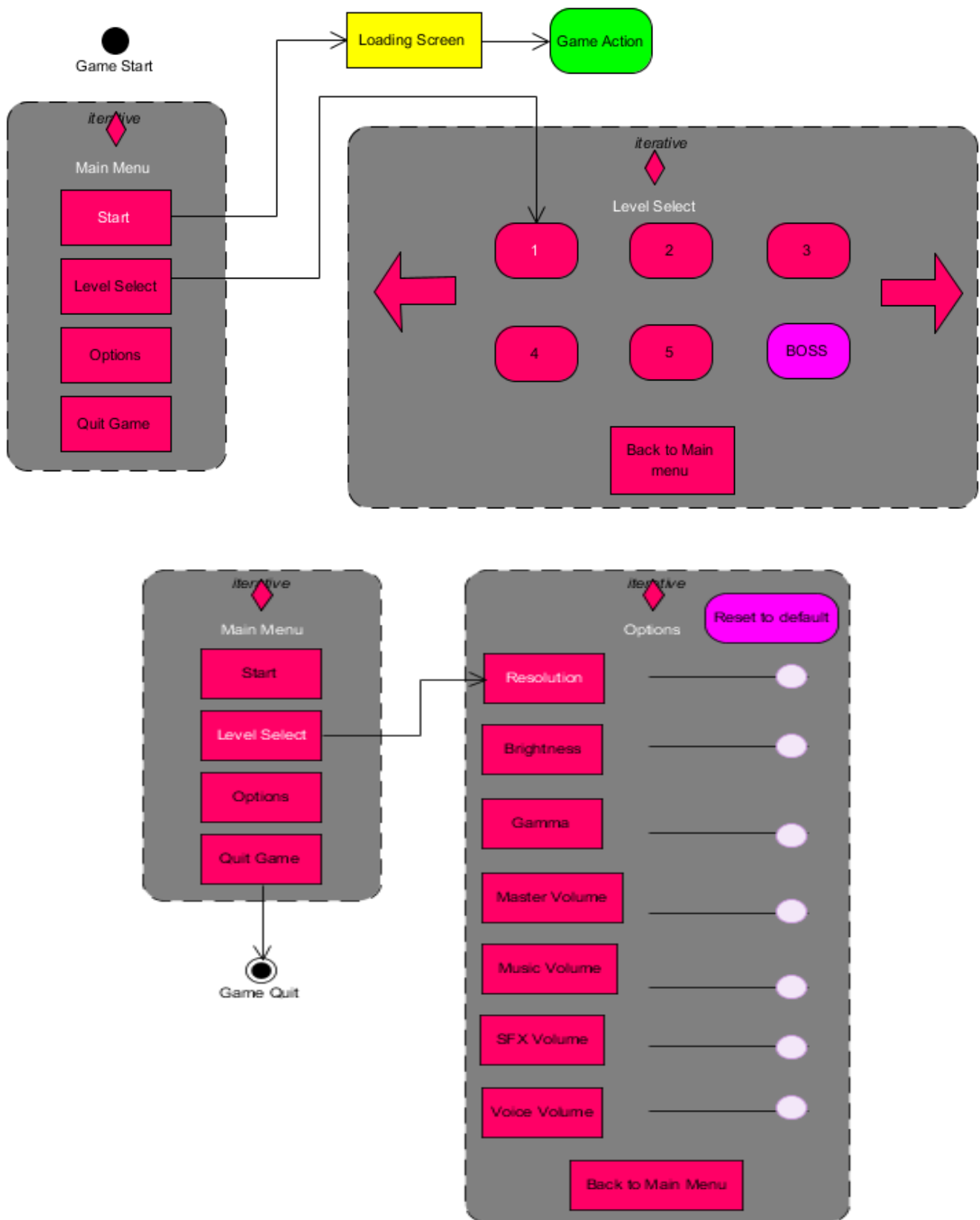
The player will be able to make the character turn using A and D to turn left and right, respectively.

3.1.2 Shooting:

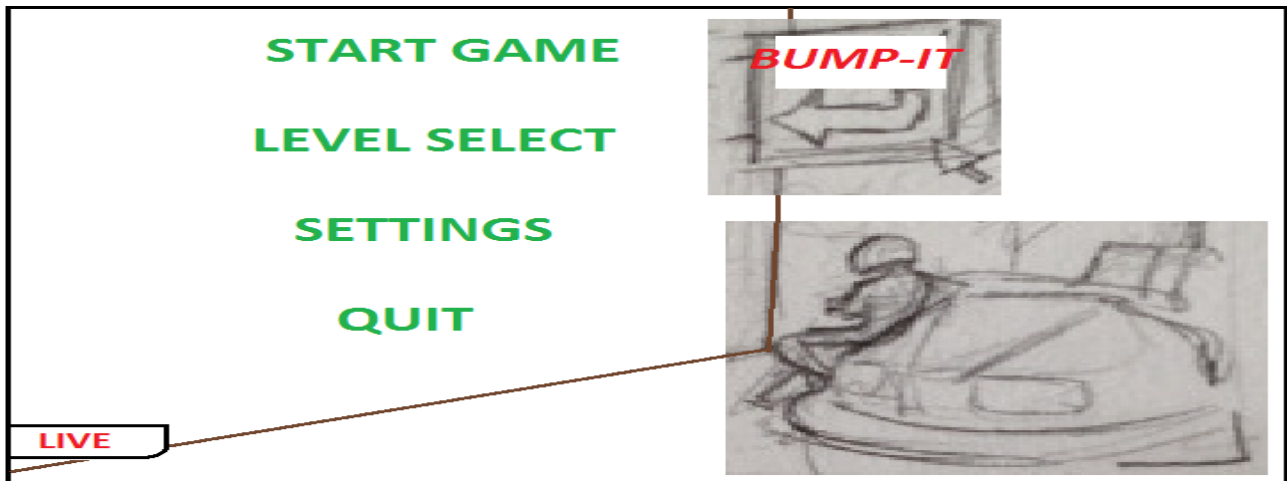
The player will be able to make the spring rotate using A and D to turn left and right, respectively. The spring rotates smoothly, allowing for precise angles. To launch their character out of the spring, the player must press Space.



3.2 Pre-Game (Front End) Interaction



Main Menu



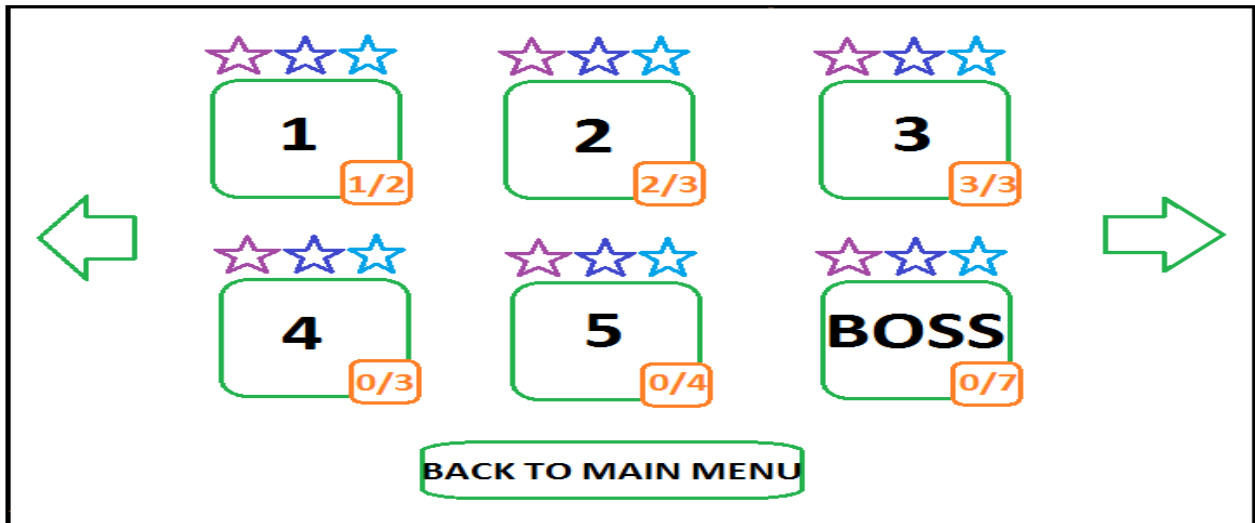
The Main Menu shows the bumpercar and driver (driver is optional). It shows the name of the game as a neon sign, and several options the player can select: START GAME, LEVEL SELECT, SETTINGS and QUIT. There is also a blurb that says "LIVE" at the bottom, similar to that of tv shows that show things that are happening right at that moment.

Players can use either the mouse to select any of the buttons and click to use that option (taking them either into the game action with Start, out of the game entirely with Quit or into another menu with Level Select or Settings; this is on PC only), use A and D to select an option and use the space bar to confirm the selection (PC only; using the same controls as in the game itself) or use the touch controls (mobile only).

Start Game

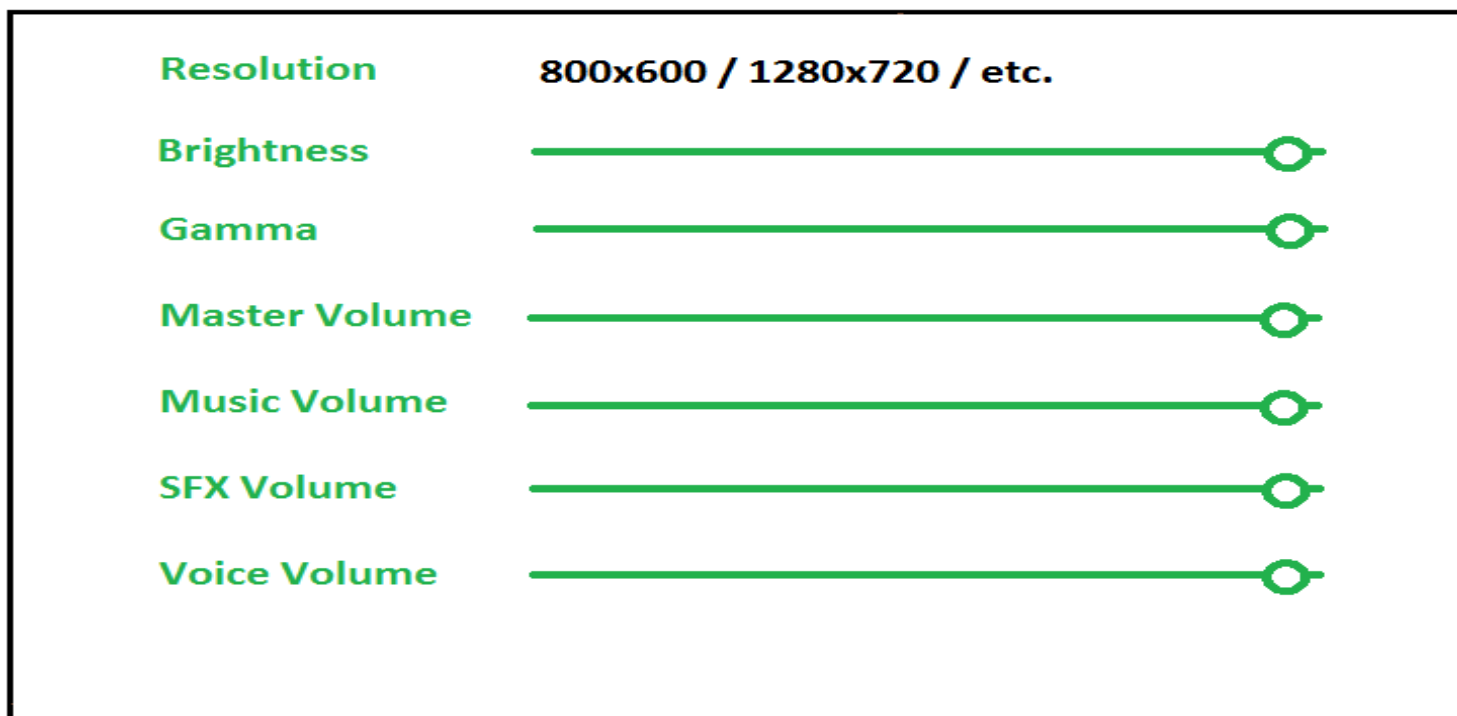
Clicking Start Game takes you directly to the first level that you haven't completed yet. For example, if the player has finished levels 1-4, it will take them to level 5. If the player hasn't played before, it will take them to level 1.

Level Select



The Level Select shows six buttons for the levels, with three stars above each (the stars are 'empty' if the level hasn't been played yet and stars are gained if the level is completed within a certain amount of time) and how many coins have been collected in the level, as well as the total amount of coins in the level. Clicking a button will take the player into the game, playing the level that is associated with that button. There are arrow buttons on the sides of the screen that take the player to the next 6 levels (5 normal levels plus a switch level) or the previous 6 levels. There is a button at the bottom of the screen that takes the player back to the main menu.

Settings



The Settings screen has options for Resolution (select from a drop-down menu) and adjustable sliders for Brightness, Gamma correction and the volume of various types of audio (music, sound effects, voices and master volume adjusting the sound overall).

Quit

Clicking Quit will exit the game.

4.0 Recap of concept

The player shoots out of a spring by using the AD movement setup. After being shot into the level the player navigates by either using the A-KEY and D-KEY on their keyboard. The player uses the navigation buttons to navigate as quickly as possible in a level while getting as many collectibles as possible. The player has to evade obstacles in the level or the player will die and reset the level, starting with the launch.

5.0 Extra Information

Considering our scope we have to ensure we prioritize creating the base for the game first, while every piece of additional content will be worked on after that.

Movement will be one of the main concerns, as we will have to ensure the movement feels smooth and functions in a way that appears natural for the player.

We have to ensure every part of the game runs smooth, so that the player can boot up the game and start quickly, as well as re-starting very quickly after death. This ensures the fast-paced flow of the game will not be broken.

5.1 Level Design

This section is meant for standard level design symbols, so that if we build levels we don't use different symbols in our digital level design.



Gate



Lethal Wall / obstacle



Collectible



Bouncable wall/ object

6.0 Appendix

6.0.1 Music References

References for synthesizer stuff

Mid-80s work by Toto:

https://www.youtube.com/watch?v=s98HrB_FkP0

<https://www.youtube.com/watch?v=mt7DUHvrDZo>

"The Reflex" by Duran Duran:

<https://www.youtube.com/watch?v=oDnNF5cHCdo>

"The Metro" by Berlin:

<https://www.youtube.com/watch?v=cNVLRPSEVaE>

Amiga mod compilation:

<https://www.youtube.com/watch?v=PvSfqBJi0ss>

(Technically 90s, but many of the sounds used are sampled on or based on popular 1980s synths, so this is actually a good example of 80s pop synths being merged with video games)

Theme from The Terminator:

<https://www.youtube.com/watch?v=68I3j2luW64>

Theme from Airwolf:

<https://www.youtube.com/watch?v=aqcQUmKJEK8>

References for glam/hard rocky stuff

Hardline - Takin' Me Down:

<https://www.youtube.com/watch?v=ODPdifFNA1Q>

Van Halen - Jump:

<https://www.youtube.com/watch?v=SwYN7mTi6HM>

Bon Jovi - Livin' on a Prayer:

<https://www.youtube.com/watch?v=IDK9QqIzhwk>