Centripetal

1. Overview

This game is a fast-paced platformer where the player generates and maintains momentum through jumping and grappling as a yoyo.

Input: Controller and Keyboard dual support
Platform: PC
Duration: 1 hour
Level Length: 7 minutes (Average)
Fastest Total Run of 3 levels: 4:50

2. Gameplay

This 2D platformer is heavily inspired by Celeste , SpeedRunners: the Game, and 2D Sonic the Hedgehog. The player will spend most of the time "sight reading" levels as obstacles appear in their way. Moving quickly and smoothly is the core experience.

2a. Mechanics

The grapple mechanic is the primary mechanic and everything else goes to support that mechanic. Mechanics are listed below in order of complexity.

Move/Roll

Players generate velocity slowly like a car and moving in the other direction means you must first overcome the initial velocity. There is no max speed, and it continuously adds speed to the player, even while in the air. This should feel slow at first, but level design indicates we start each level with some velocity through gravity (start the player higher than the ground). It is a punishment to slow down.

Jump/Double Jump

Players can jump once on the ground and jump again while in air. It resets upon touching the ground. Jumping in air resets downward velocity to zero before adding the upwards jump velocity.

Dash

The dash starts with Celeste's dash as an example, except it only adds a set amount of speed in the direction the player indicates. Resets upon touching the ground.

Intended Uses

- Giving yourself a burst of speed after stopping/slowing down

- Quickly changing direction in the air
- Maximizing the acceleration of the player (spamming it whenever it is available)

Grapple

Players can grapple to specific yellow points on the map when they are within 4 unit radius of it. When within that radius, an animation plays prompting the player to grapple to it. Players accelerate when grappling. Grapple has no recharge or reset – provided you are in range, you may grapple.

Intended Uses

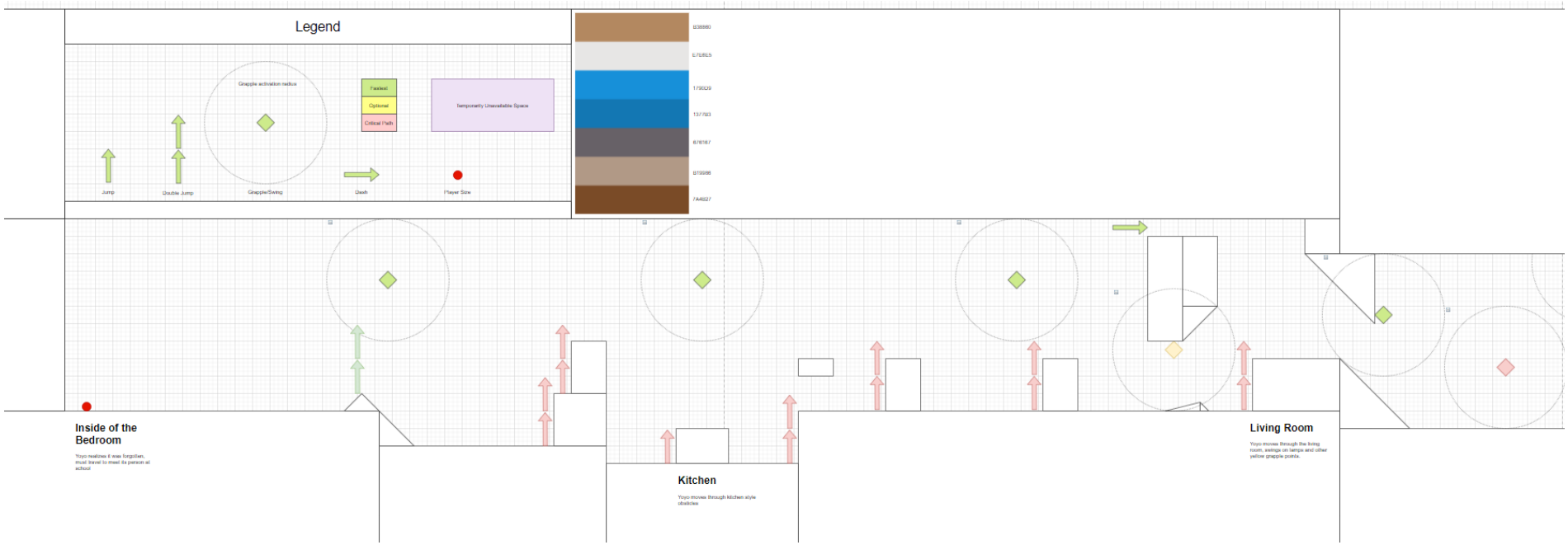
- Gain Speed
- Rapidly change direction
- Gain height

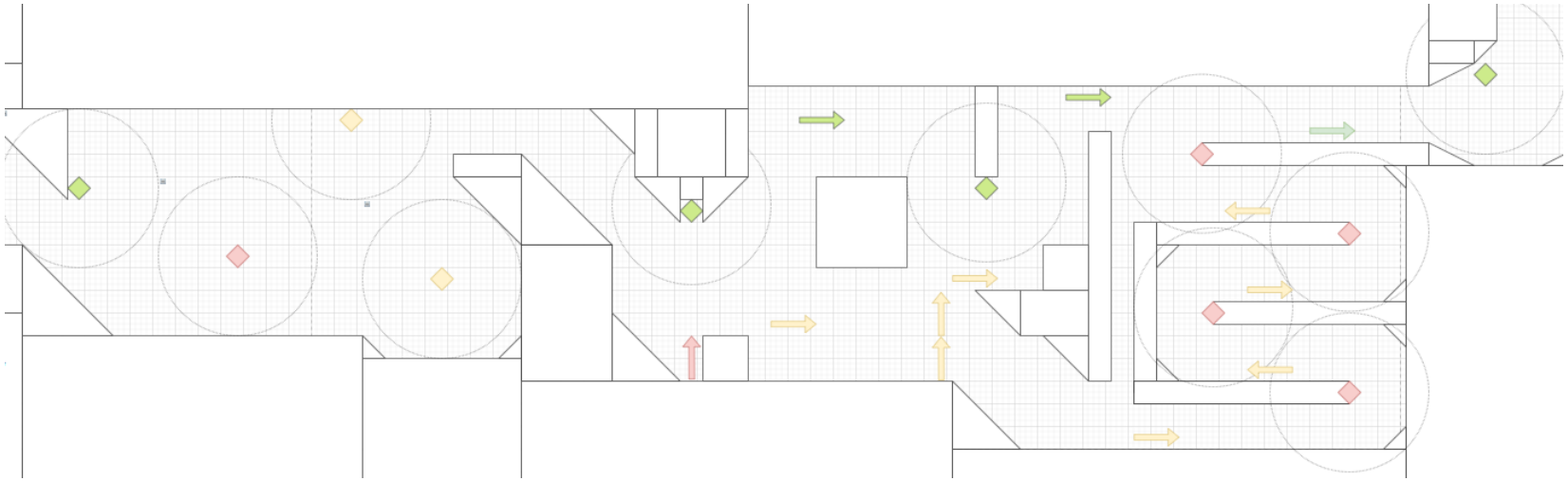
2b. Input

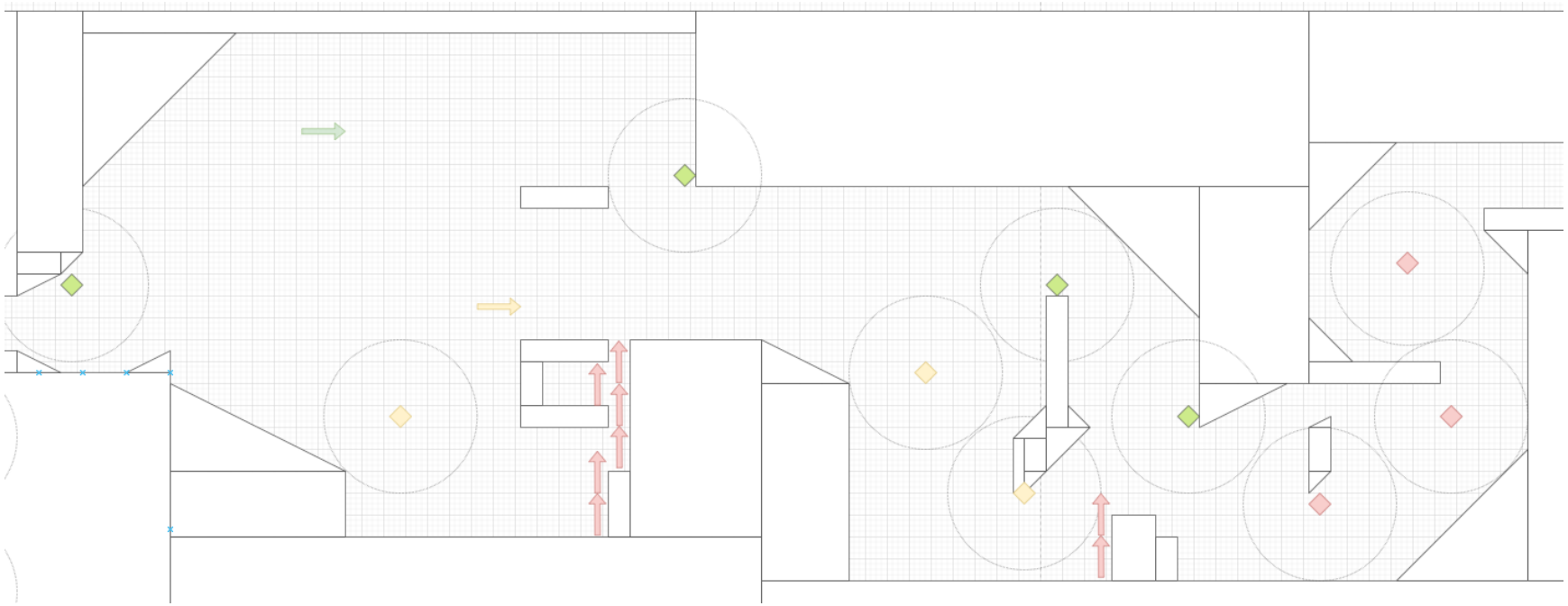
3. Level Overview

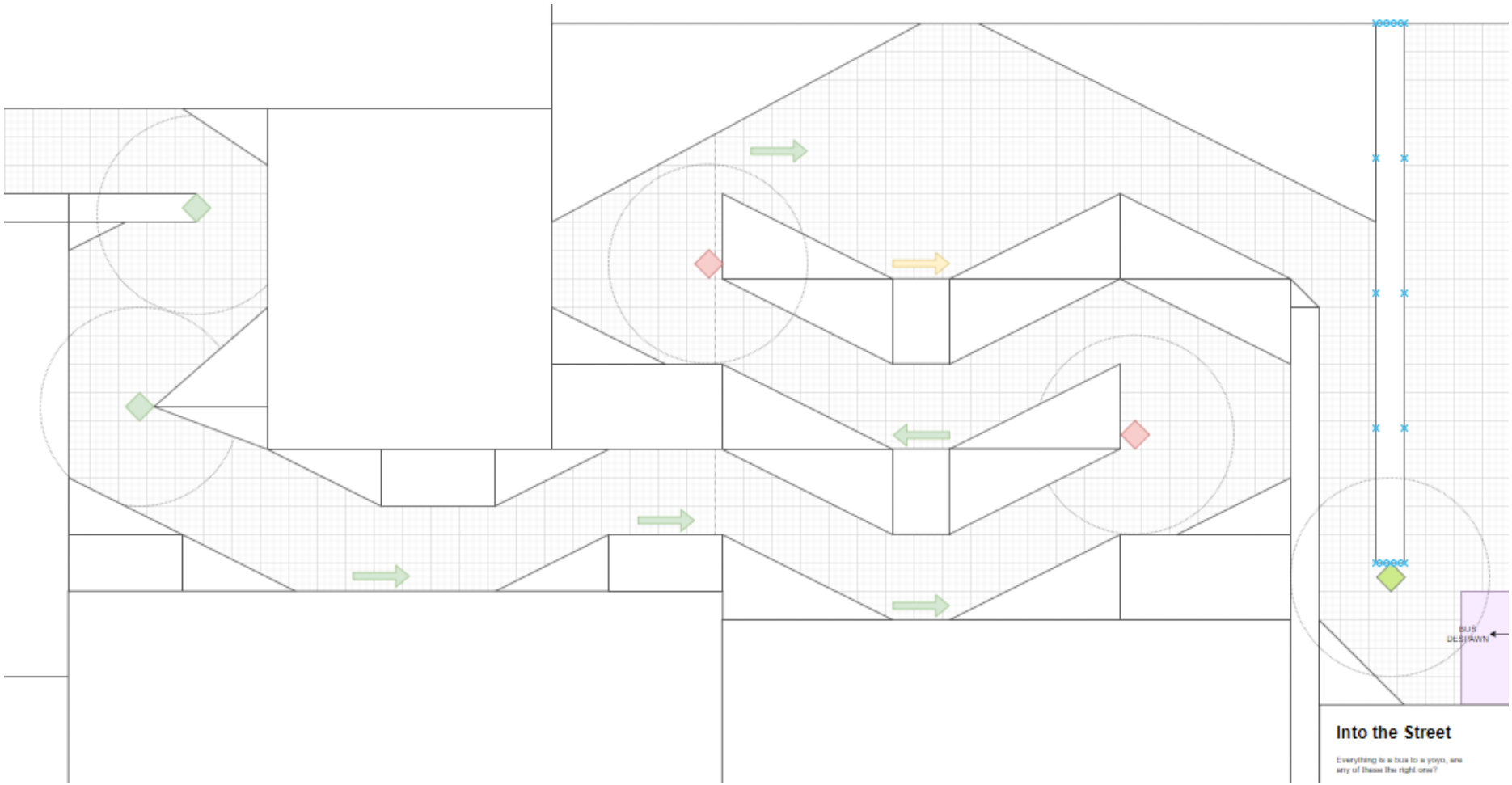
3a. Level 1: Apartment to Street

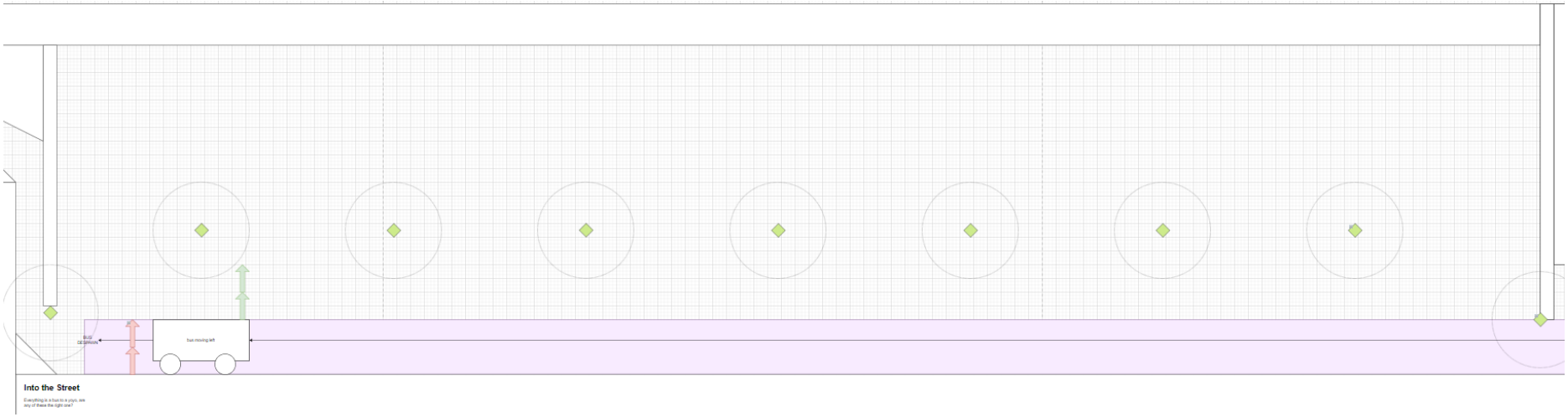
Story: The yoyo begins its chase after their person who left for school without them.
Places: House, Street
Mechanics: Teaching Grapple and Jump

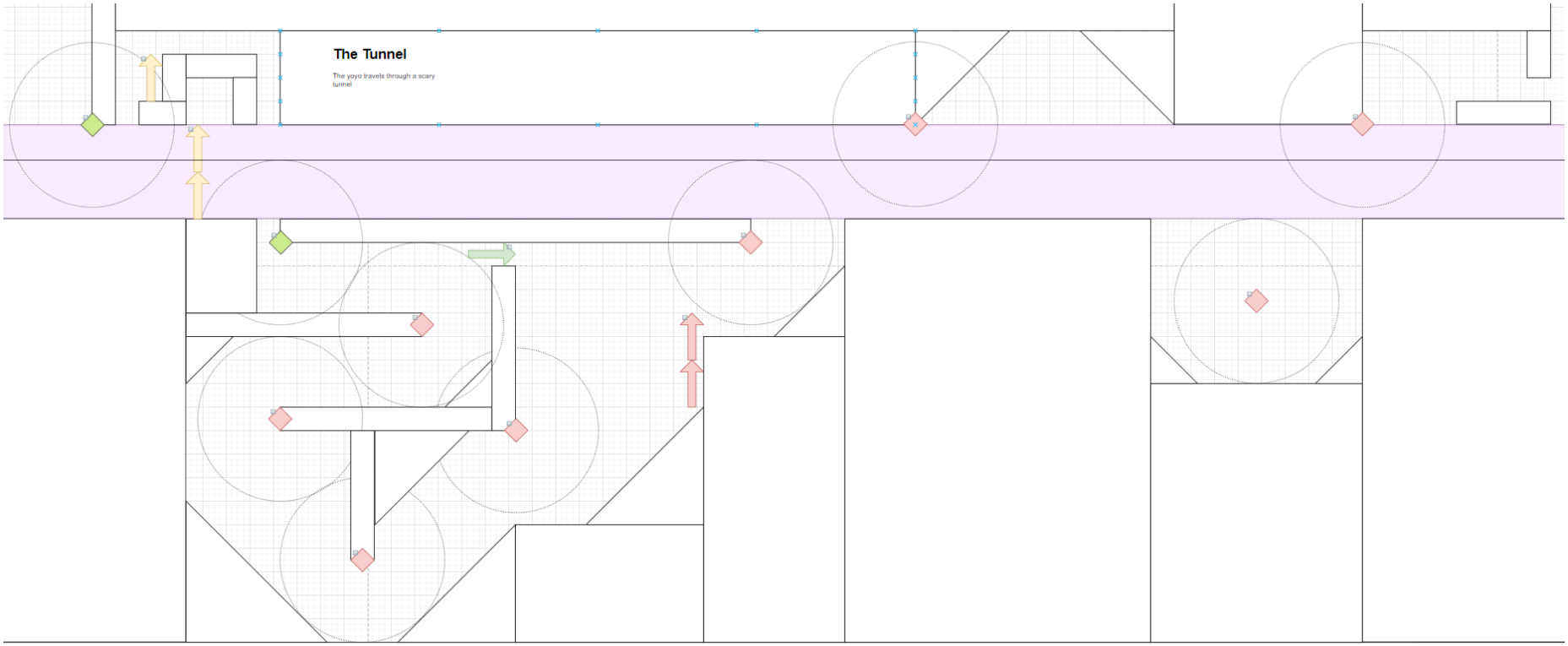


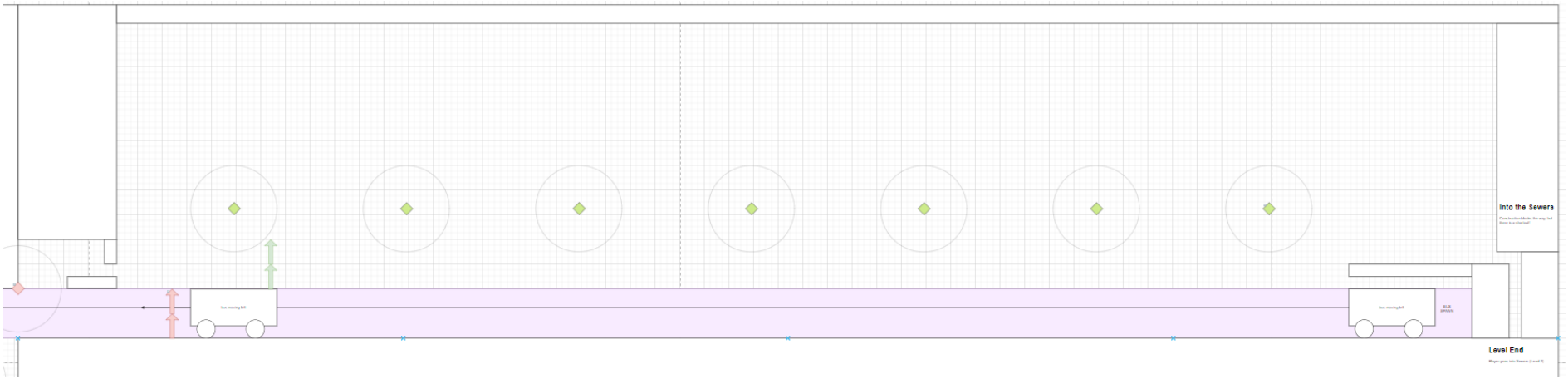





BUS
DESPAWN
Into the Street
Everything is a bus to a yoyo, are
any of these the right one?


bus moving left
Into the Street
Everything is a bus to a yoyo, are any of these the right one?


The Tunnel
The yoyo travels through a scary tunnel



3ai. Level Design Notes

This level is meant to teach the player how to use the jump, double jump, and grapple abilities. The dash button is shown to the player, but its uses are not specifically taught in this level; however, there are several instances where it is useful for faster play, marked with yellow or green dash-arrows.

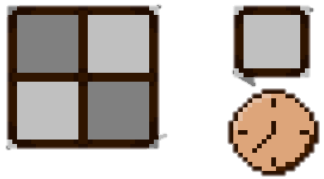
The level follows the trend that higher is faster, meaning if the player can keep elevation along the route, their route will be faster. Failing to keep the high route defaults the player to the lower, slower, and easier route where they must learn the fundamentals of the game one at a time.

This level then challenges the player with temporarily available space with moving busses. In the expansive area before and after the tunnel, players get to play with their grapple ability and soar across the screen above the busses. We test the players in the tunnel section to ensure they are ready for the next level.

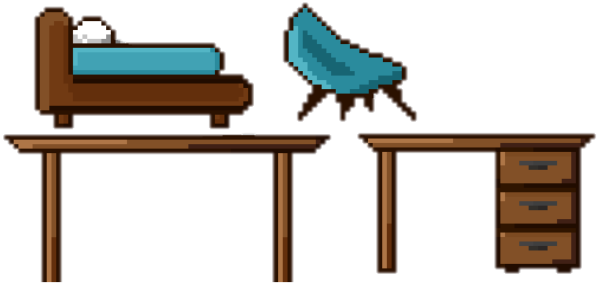
The tunnel section adds an element of timing to the player as they must use the grapple and jump to navigate above and below the line of busses that threated to push them back to the previous section of the tunnel. This section pushes the player to think about how to use their dash ability, but because it is not required to complete it, it is not explicitly taught.

3aii. Assets for Level 1

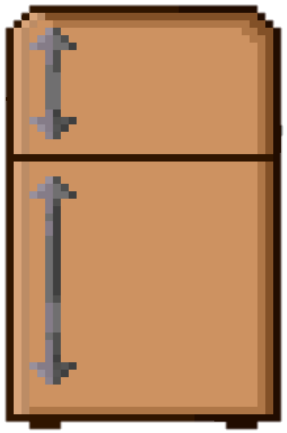
9: Wallpaper of House



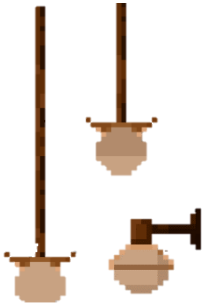
9: Windows and Clock, Background



9: Bedroom Furniture, Obstacles



9: Home Appliances, Obstacles



9: Ceiling Lights, To Be Used as Grapple Points

9: Home Plants, Obstacles

9: Home Theater, Obstacles

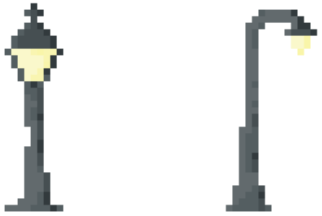
9: Tile Floor and Ceiling

9: Floor Lamps, To Be Used as Grapple Points

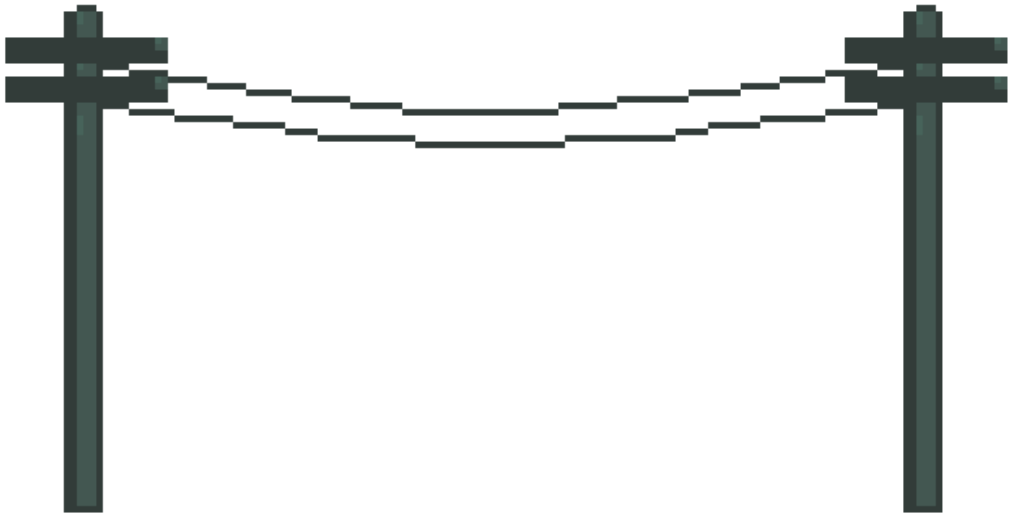
1. TREES

4. INFRASTRUCTURE

5. FINGERPOST



2. STREET LAMP



3. SCHOOL BUS

6. TELEGRAPH POLE

3b. Level 2: Sewers

Backdrop:

- Brown slimy walls

Level Mechanic:

- Fast moving water pushes player back and leaves them on embankment to retry sections.
    - Water disables player controls and quickly (<2 seconds) puts them on an embankment that they can then retry. It is dying and respawning without ever giving the player a fail state (or reason to exit the game).
- Tight areas
    - Slippery surfaces/ slides

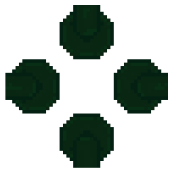
Assets

- Water
- cement floor tile mat

Story

- Yoyo falls into the sewers and must navigate through it to pop back out in the school playground

3bi. Assets for Level 2



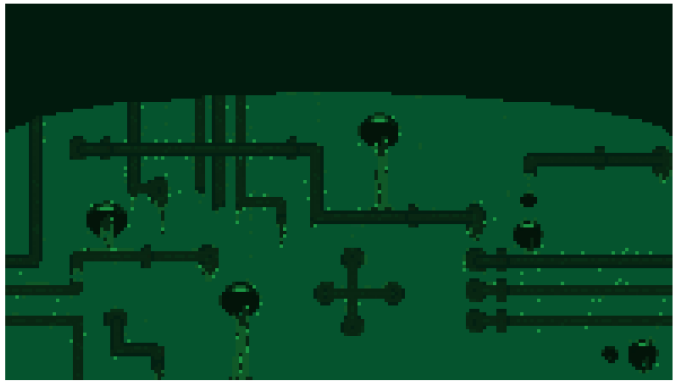
1. THE PIPE HEAD

2. THE FLOOR AND CEILING

3. BOUNDARY OF FLOORS

4. SLOPE TILES

5. PIPE BODY



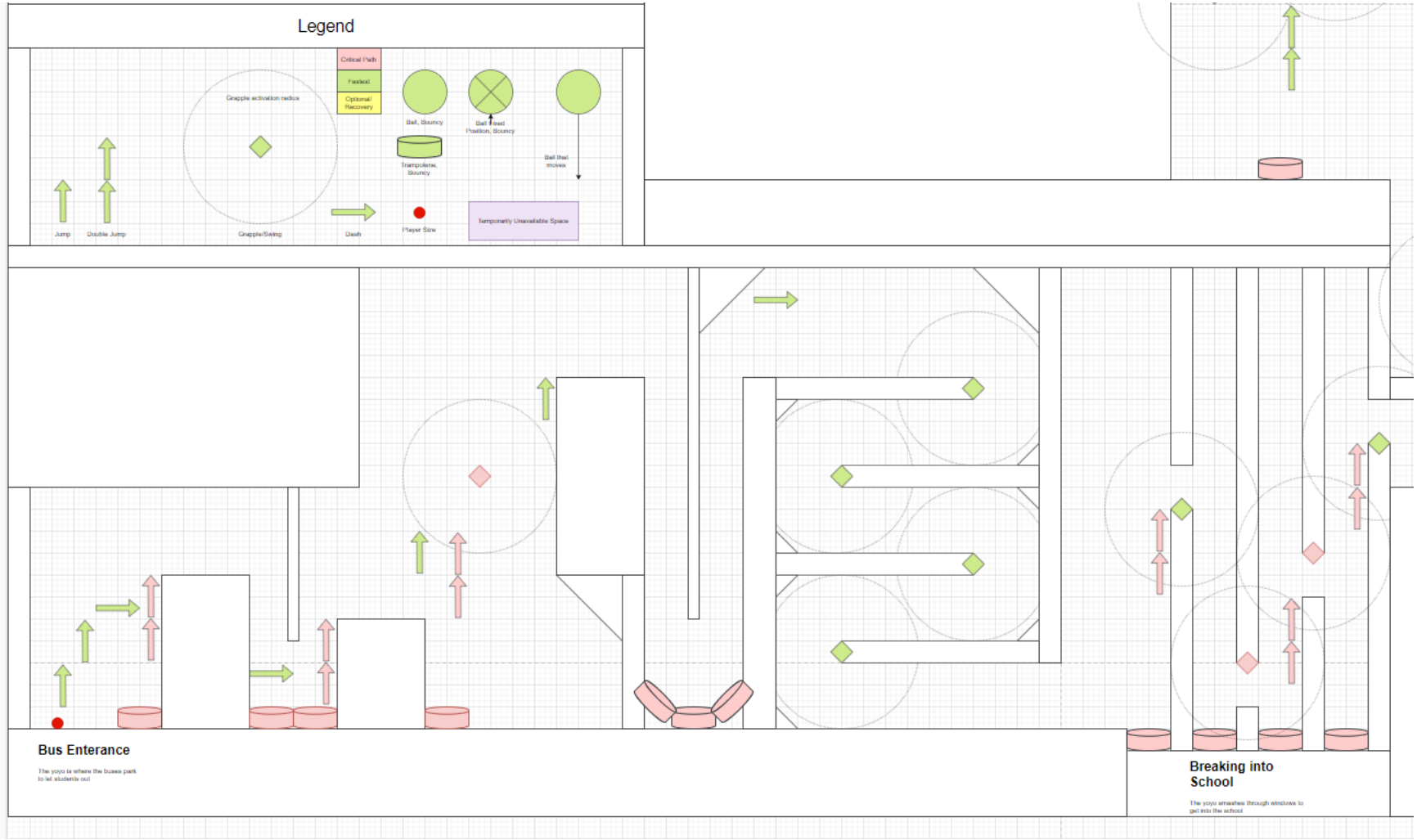
6. BACKGROUND

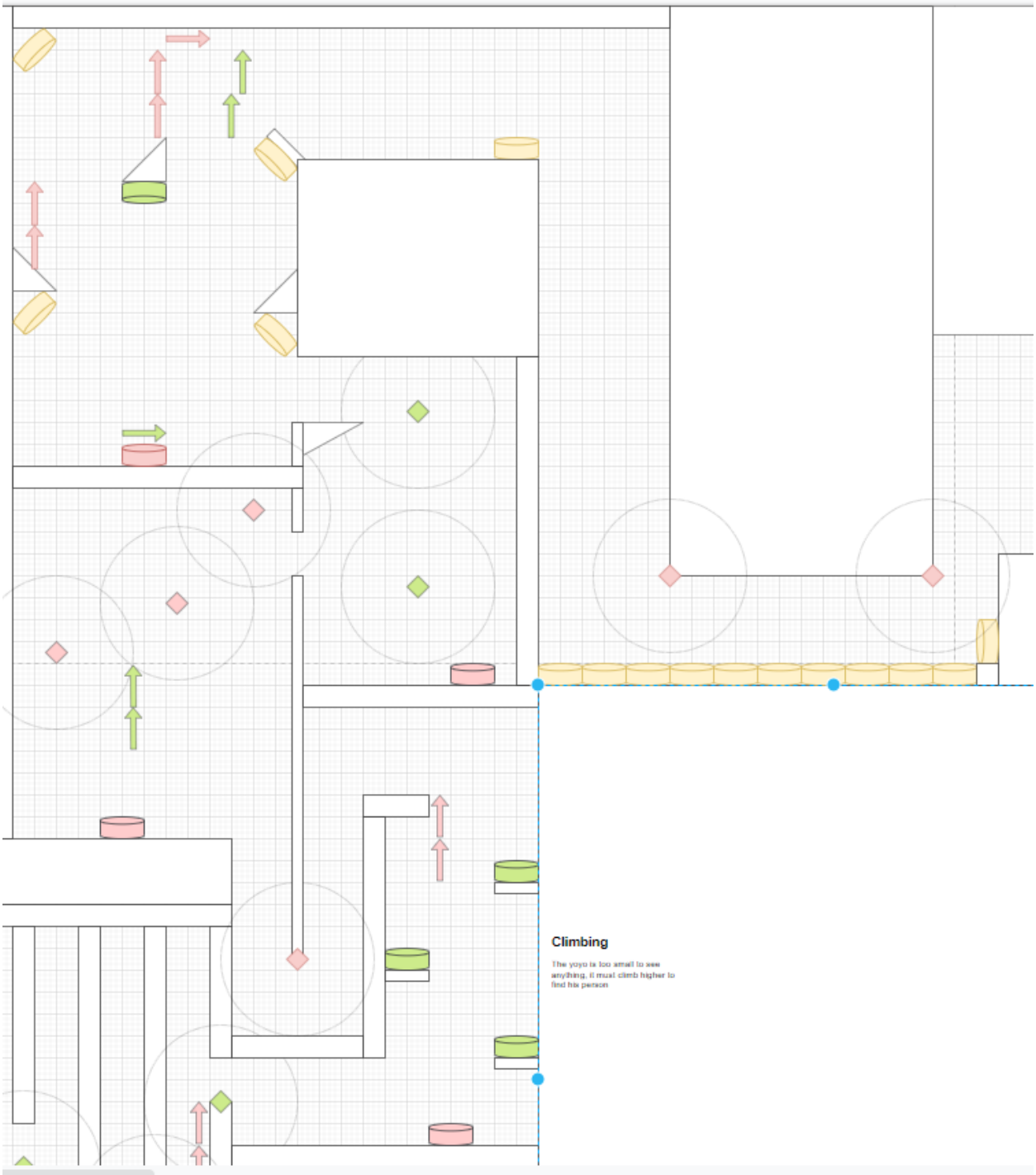
3c. Level 3: Schoolyard at Recess

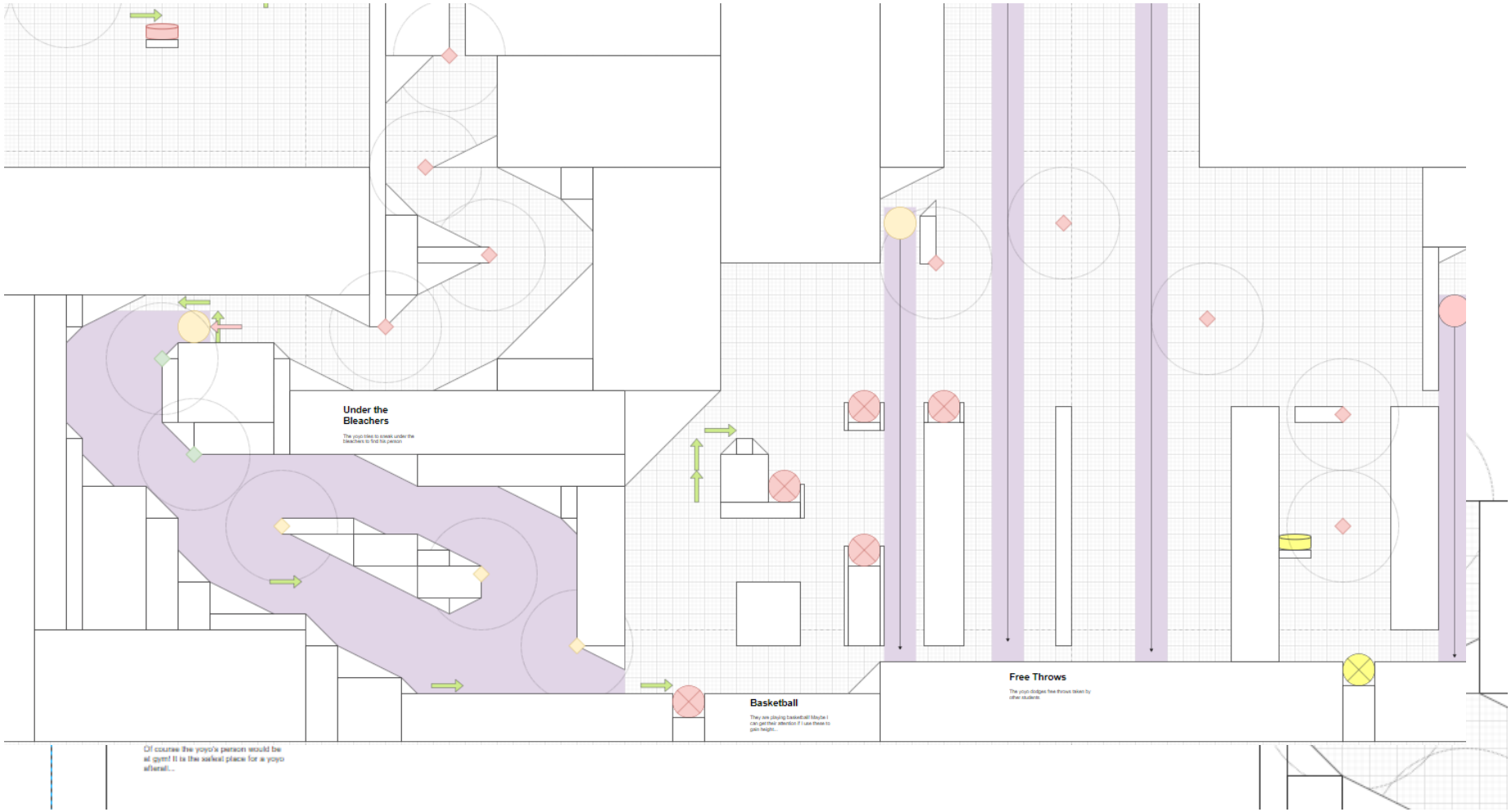
Story: The yoyo reaches the school and must navigate through it to reunite with their person.

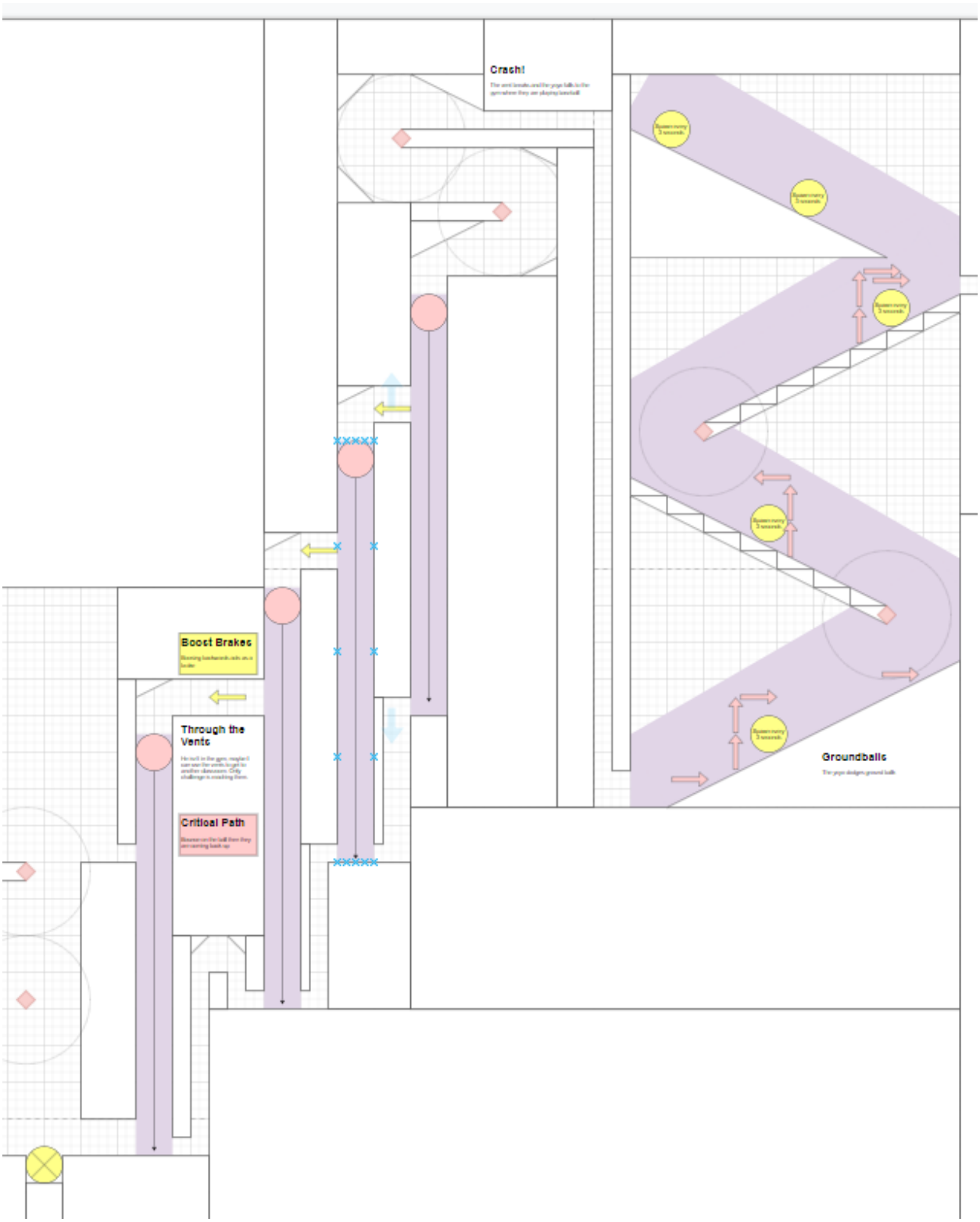
Places: School, Gymnasium

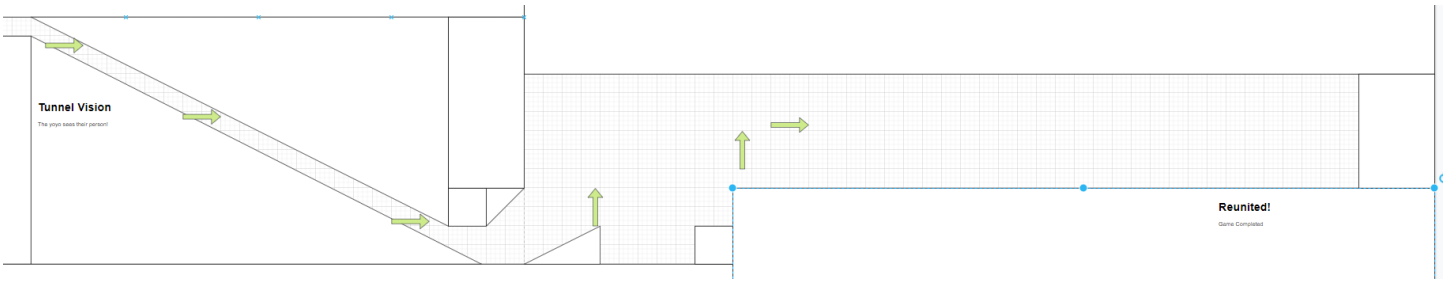
Mechanics: Bounce on Trampoline and on Balls



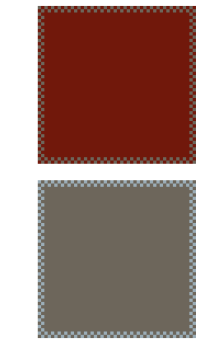

Climbing
The yoyo is too small to see anything, it must climb higher to find his person


Under the Bleachers
The yoyo tries to sneak under the bleachers to find his person
Basketball
They are playing basketball! Maybe I can get their attention if I use these to gain height...
Free Throws
The yoyo dodges free throws taken by other students.
Of course the yoyo's person would be at gym! It is the ideal place for a yoyo afterall...

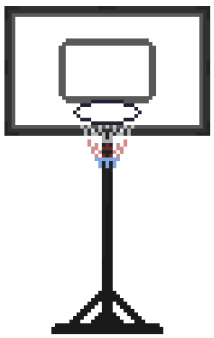

Crash!
Boost Brakes
Through the Vents
Critical Path
Groundballs


Tunnel Vision
The yoyo sees their person!
Reunited!
Game Completed

3ci. Assets for Level 3



FLOOR TILES



BASKETBALL FRAME

GLASS

TRAMPOLINE

BALLS

4 Story

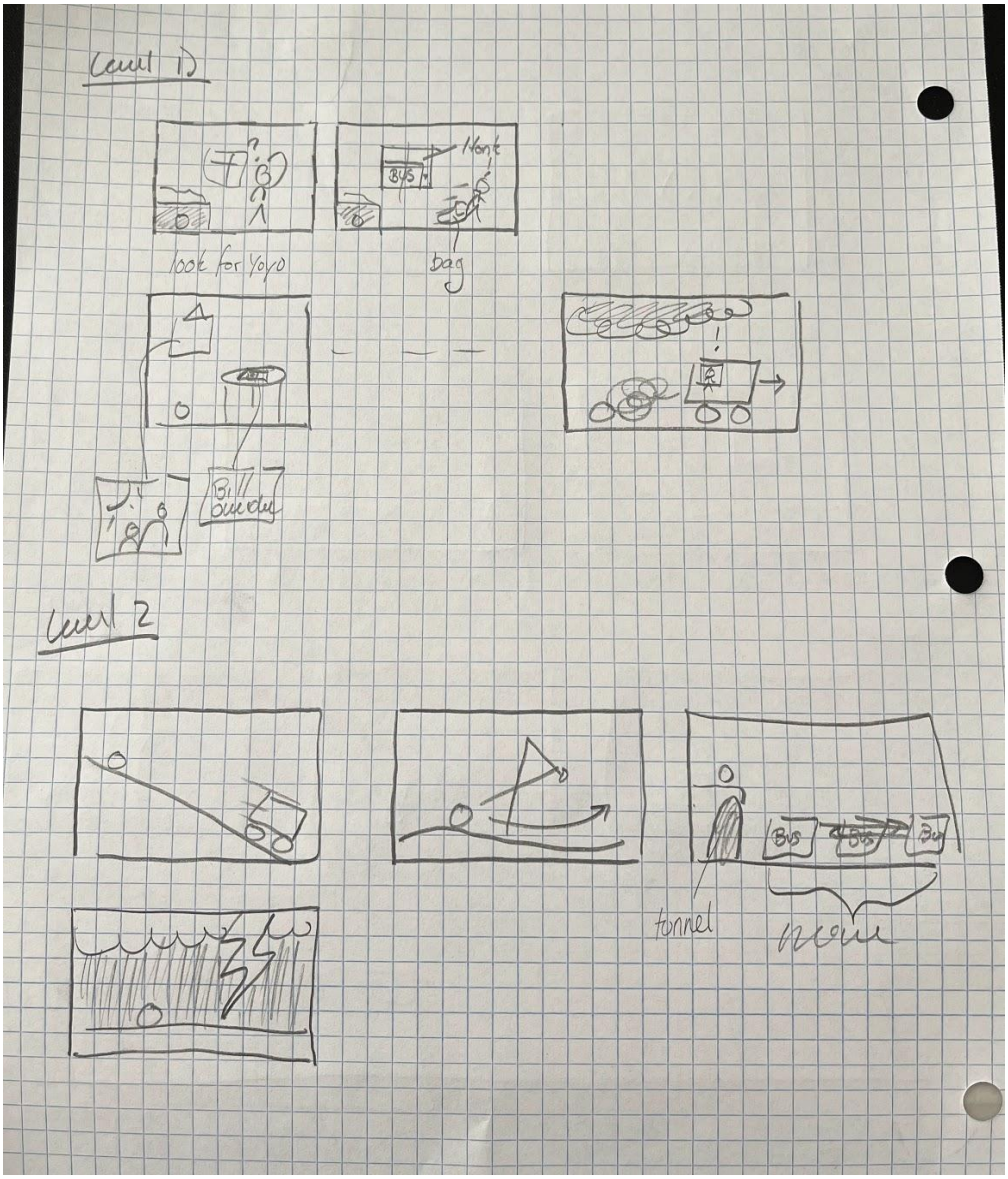
It’s about a yoyo going to see its person at their school. The yoyo chases a bus, goes through the city, slips through the sewers, and breaks into the school to be reunited with their person.

Characters:

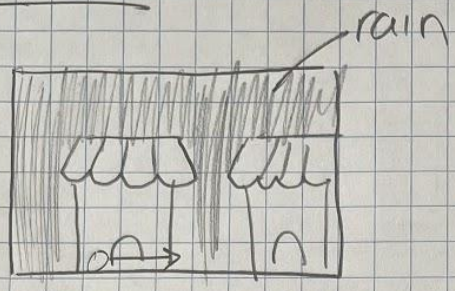
- The Yoyo (player)

4a. Storyboard

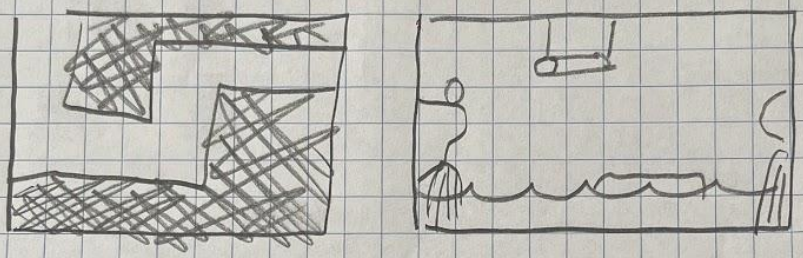
These are drawings to represent what is stated in the Level Overview.



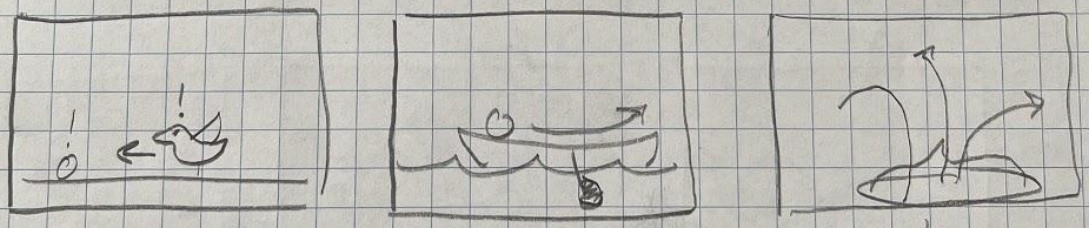
Level 3J



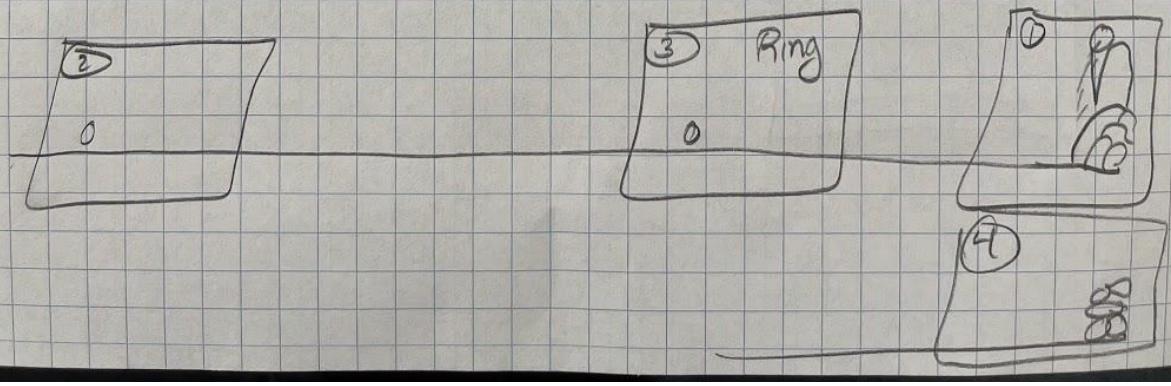
Level 4

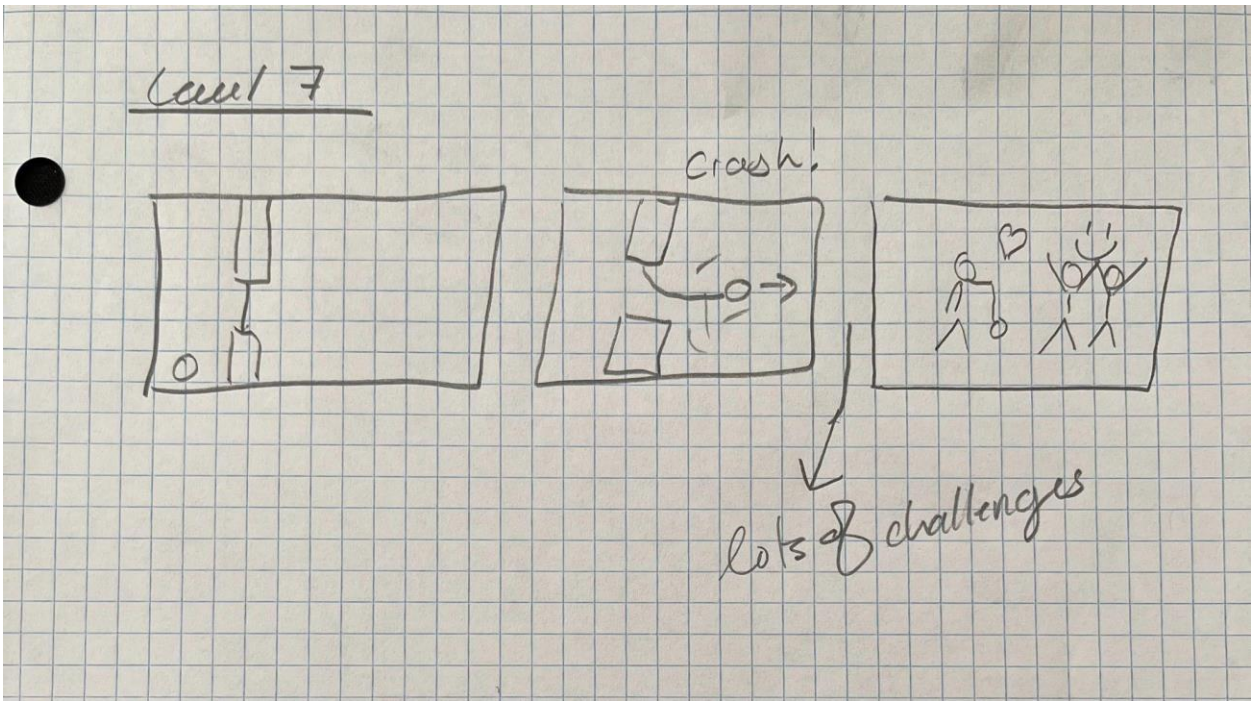


Level 5

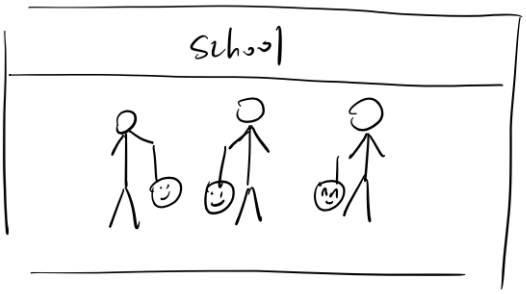


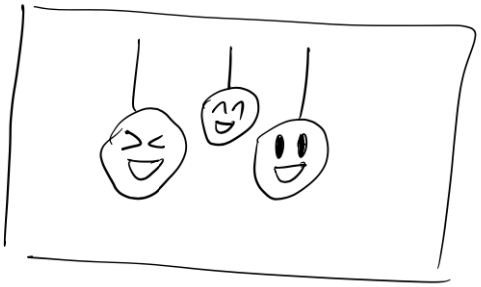
Level 6

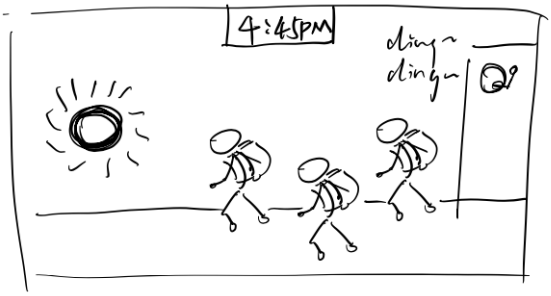


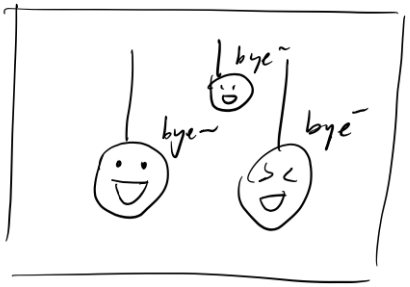

Level 7
crash!
lots of challenges

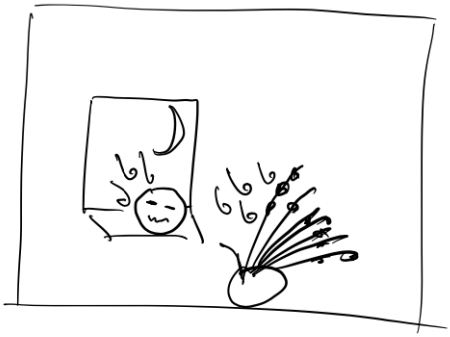
yoyo friends!











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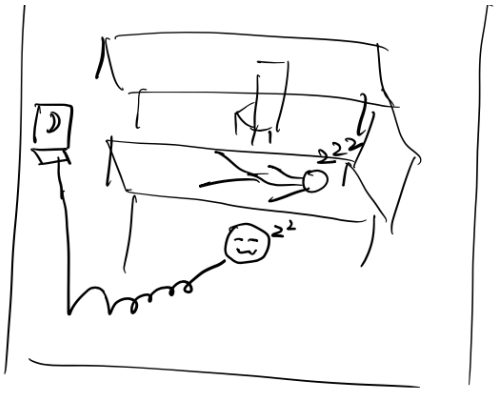
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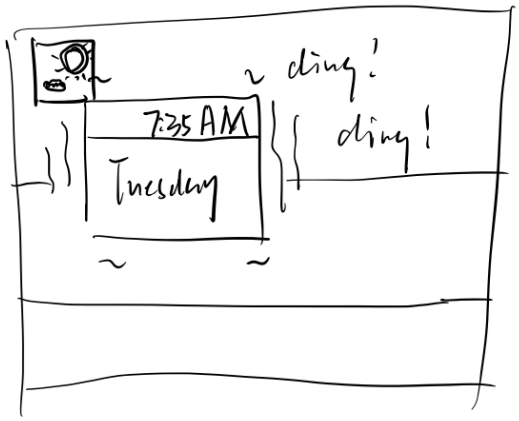
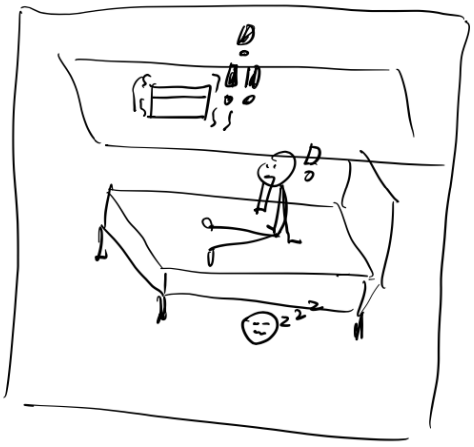

7:35 AM
Tuesday
cling!
cling!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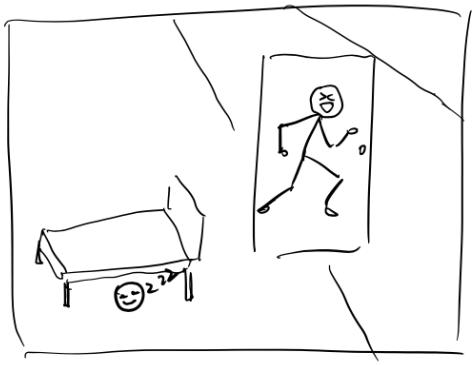
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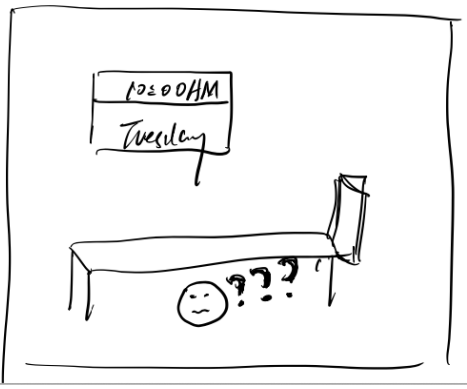
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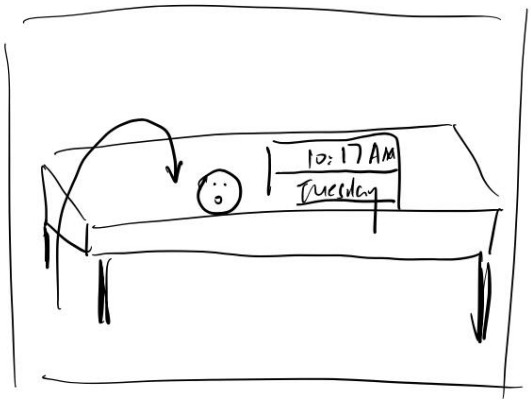
Tuesday
???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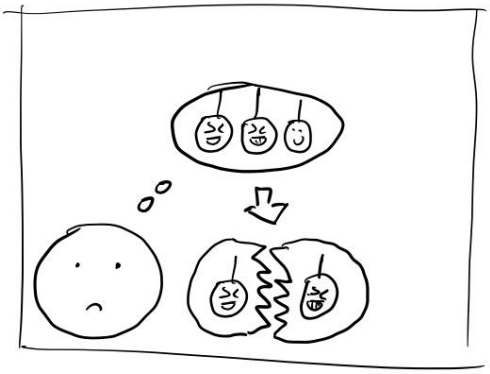
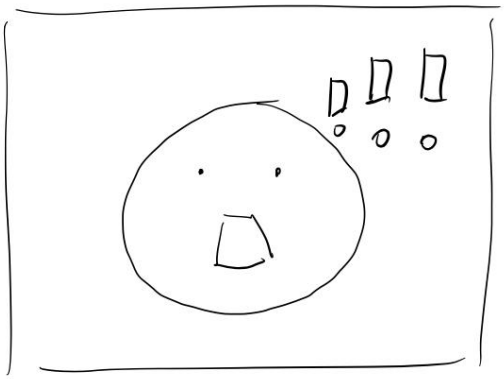
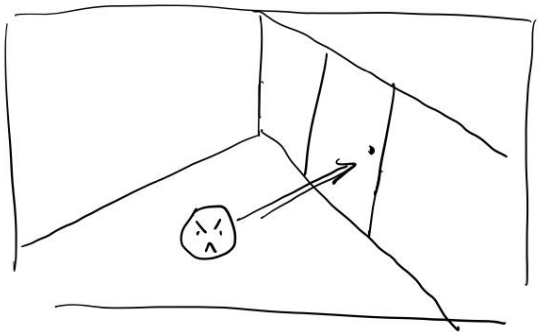
Tuesday

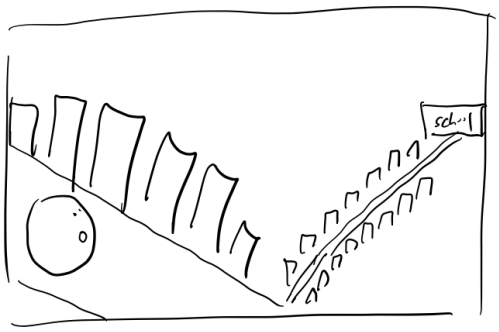


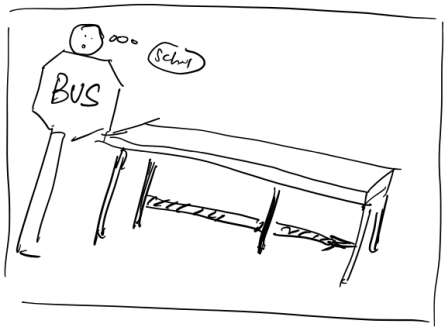


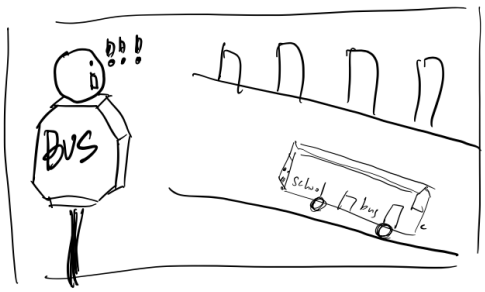


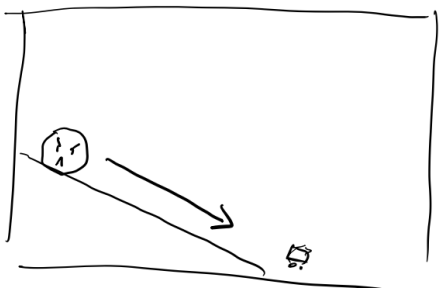
After the tutorial level

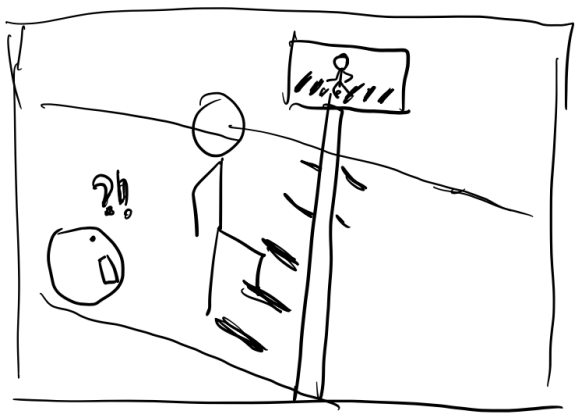
[play level]

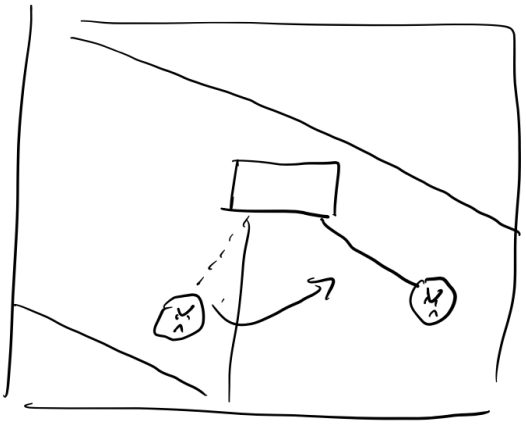


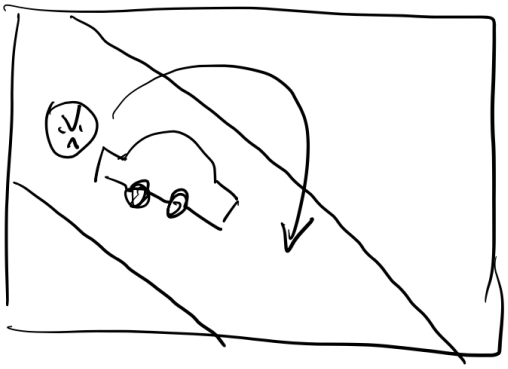


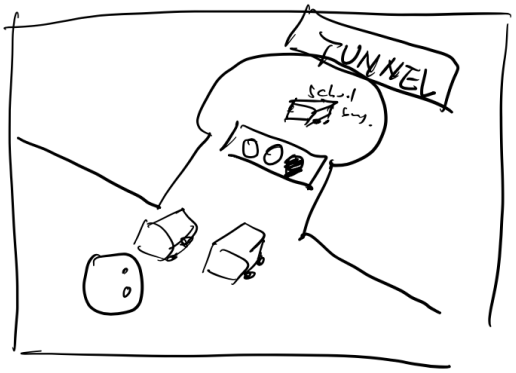


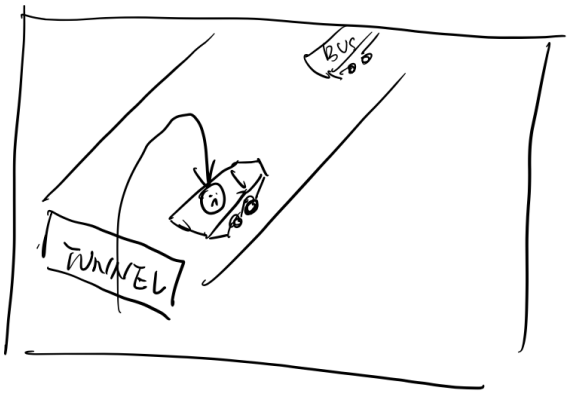


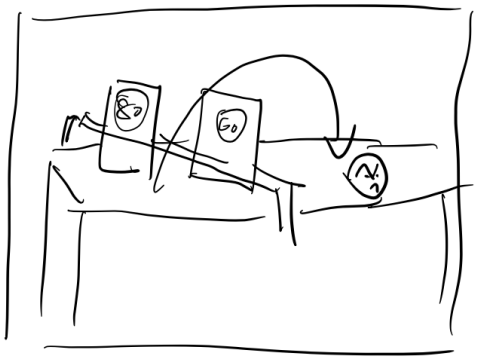


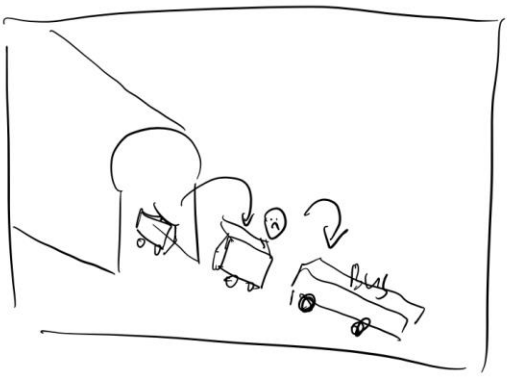


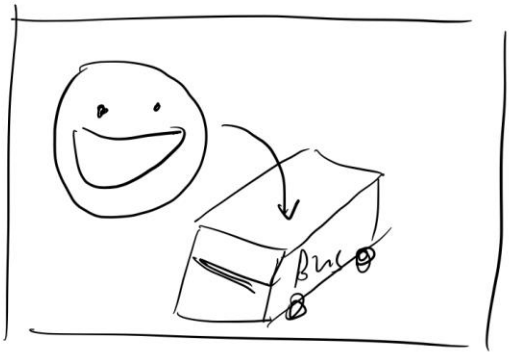


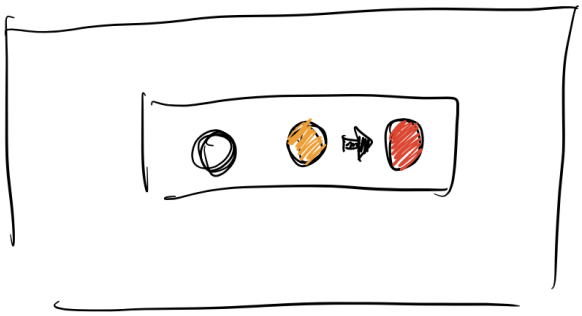

TUNNEL

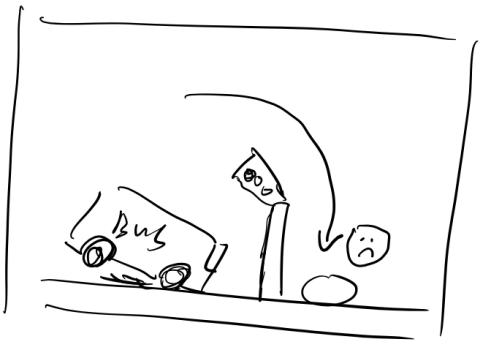

BUS
TUNNEL

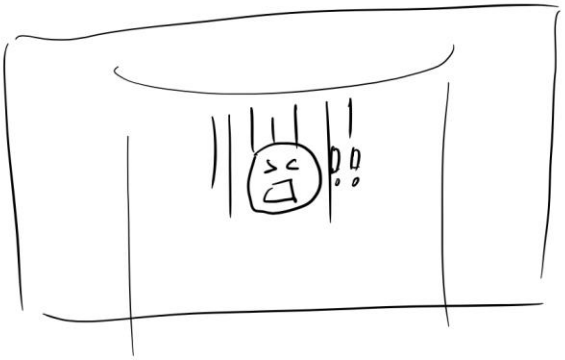


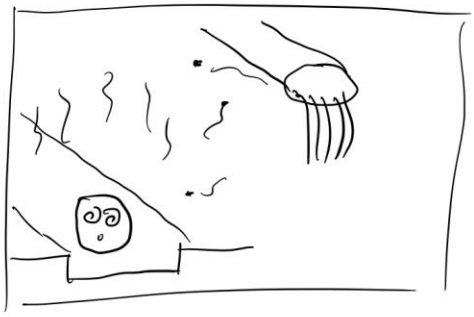

BUS

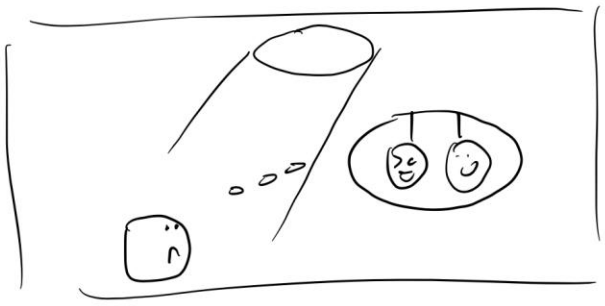


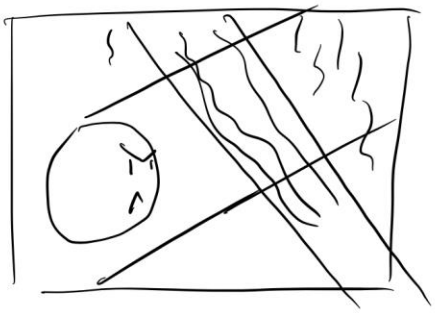


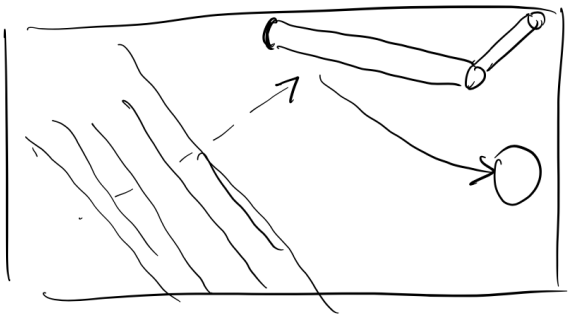


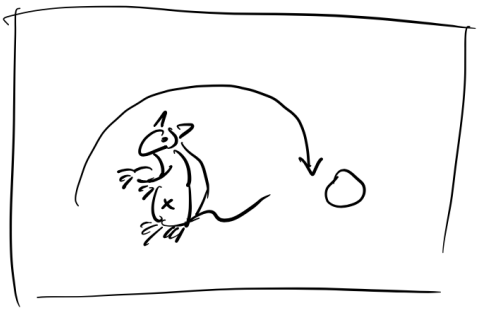


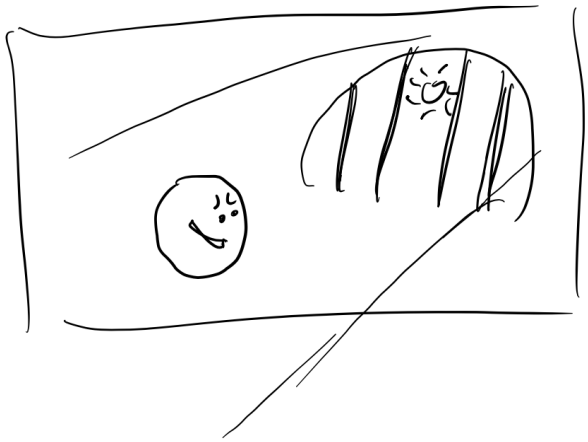












next level

5. Asset Guide

In this section, we define the art style for assets

5a. Mechanics Shown Through Color

All grapple points must be Yellow.

5b. Backdrop

Each level will have its own backdrop hue. The backdrop should be of low saturation, so the level architecture pops

5c. Foreground Assets

Foreground assets should be high saturation and clearly obstacles or objects the player will bump into. Foreground assets should not be clustered with background assets because of the speed the player will be going.

Examples:

- Bus
- Car
- Road
- Traffic Cone

5d. Background Assets

Background assets should be of low saturation and large compared to the yoyo itself. They should not have colliders.

Examples:

- Tree
- Bush
- Bench

5c. Mixed Assets

Some assets are mostly in the background but may double as a platform or grapple point.

Examples:

- Lamppost (grapple)
- Billboard (platform at bottom, able to pass through from bottom)

Archive

Level XX: Thunderstorm (IF TIME ALLOWS)

Backdrop:

- Grey Skies over the same cityscape

Level Mechanic:

- Rain makes yoyo not be able to grapple or jump

Assets

- Umbrellas/Canopies
  - Under: you can grapple and jump
  - Over: you can bounce on them
- Rain overlay darkens the scene.

Story

Level XX: Park IF TIME ALLOWS

Backdrop:

- Trees in front of city buildings. Mostly green.

Level Mechanic:

- Wind that pushes player forward and back.

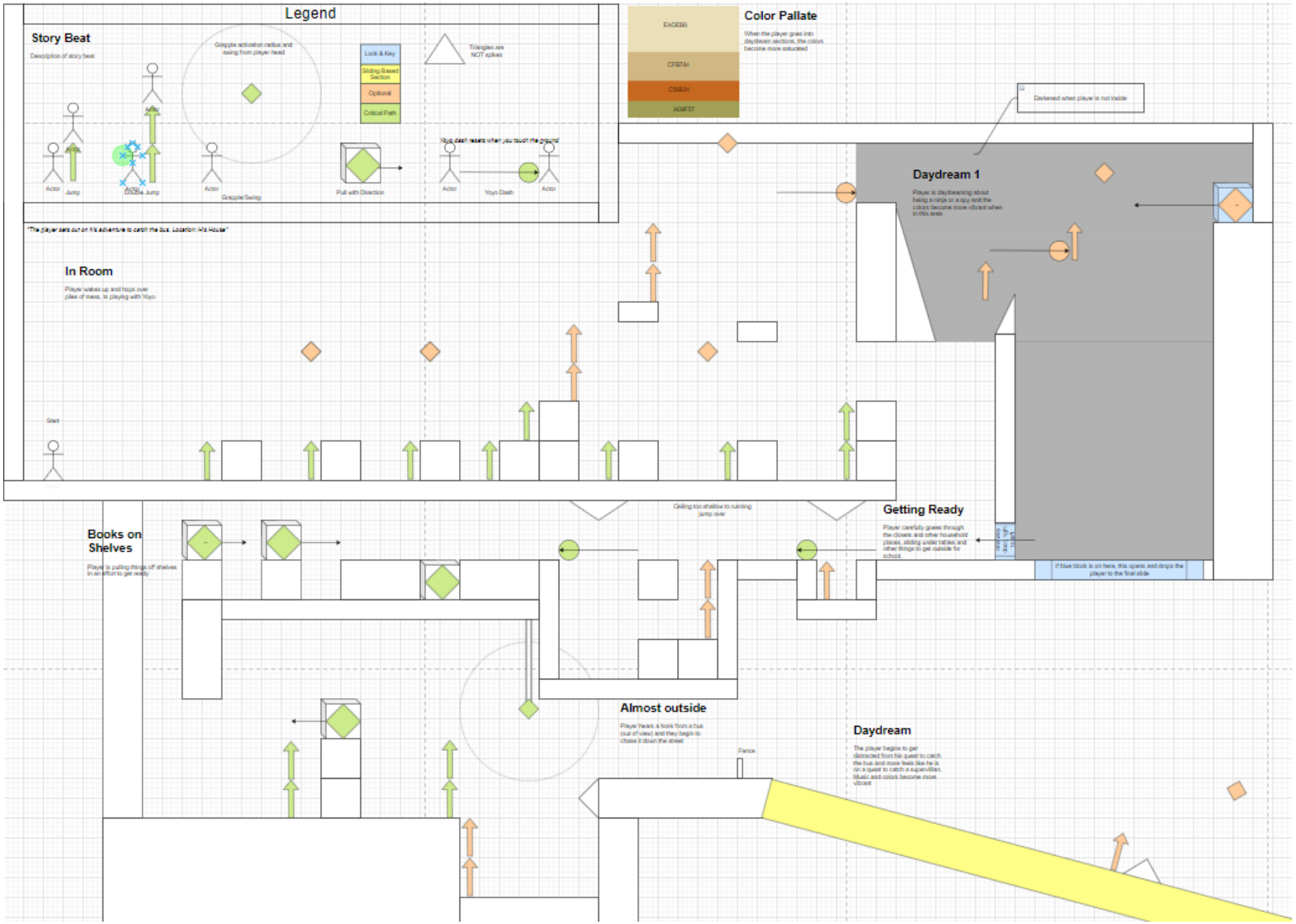
Assets:

- Trees
- Grass
- Bridge
- Stone walkway (tilemat)
- Wind

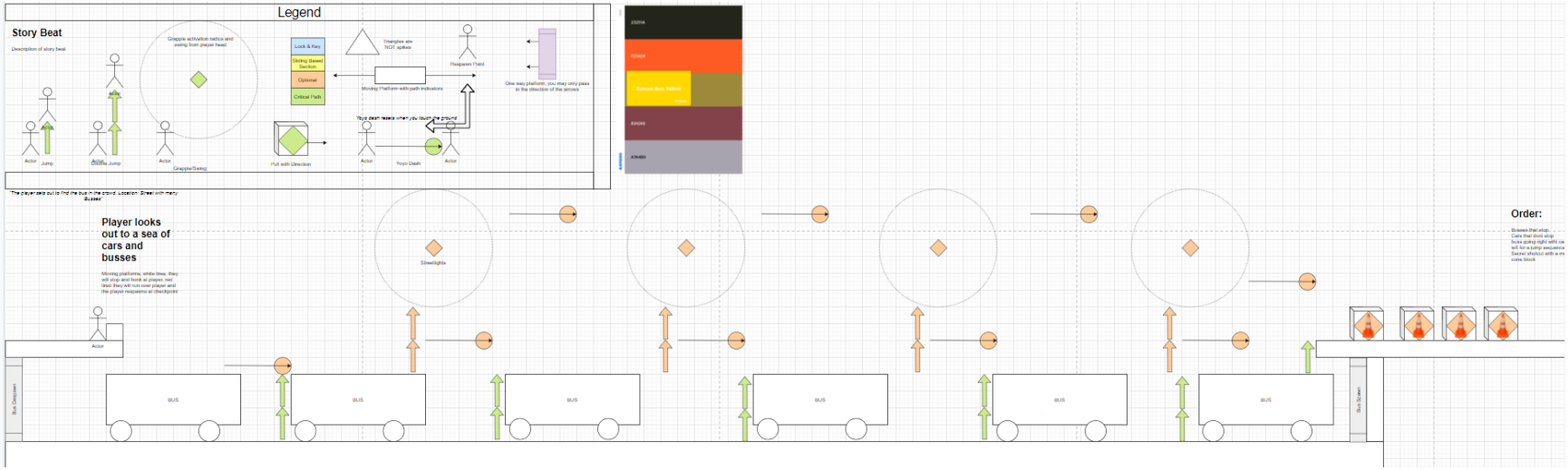
10 Rain stops at umbrella

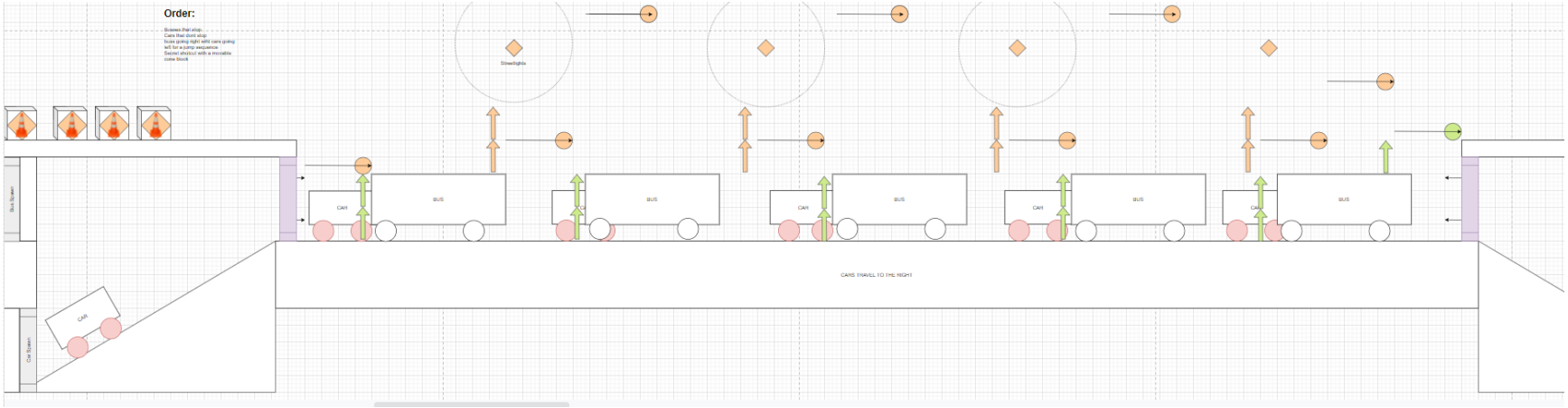
- Boat?

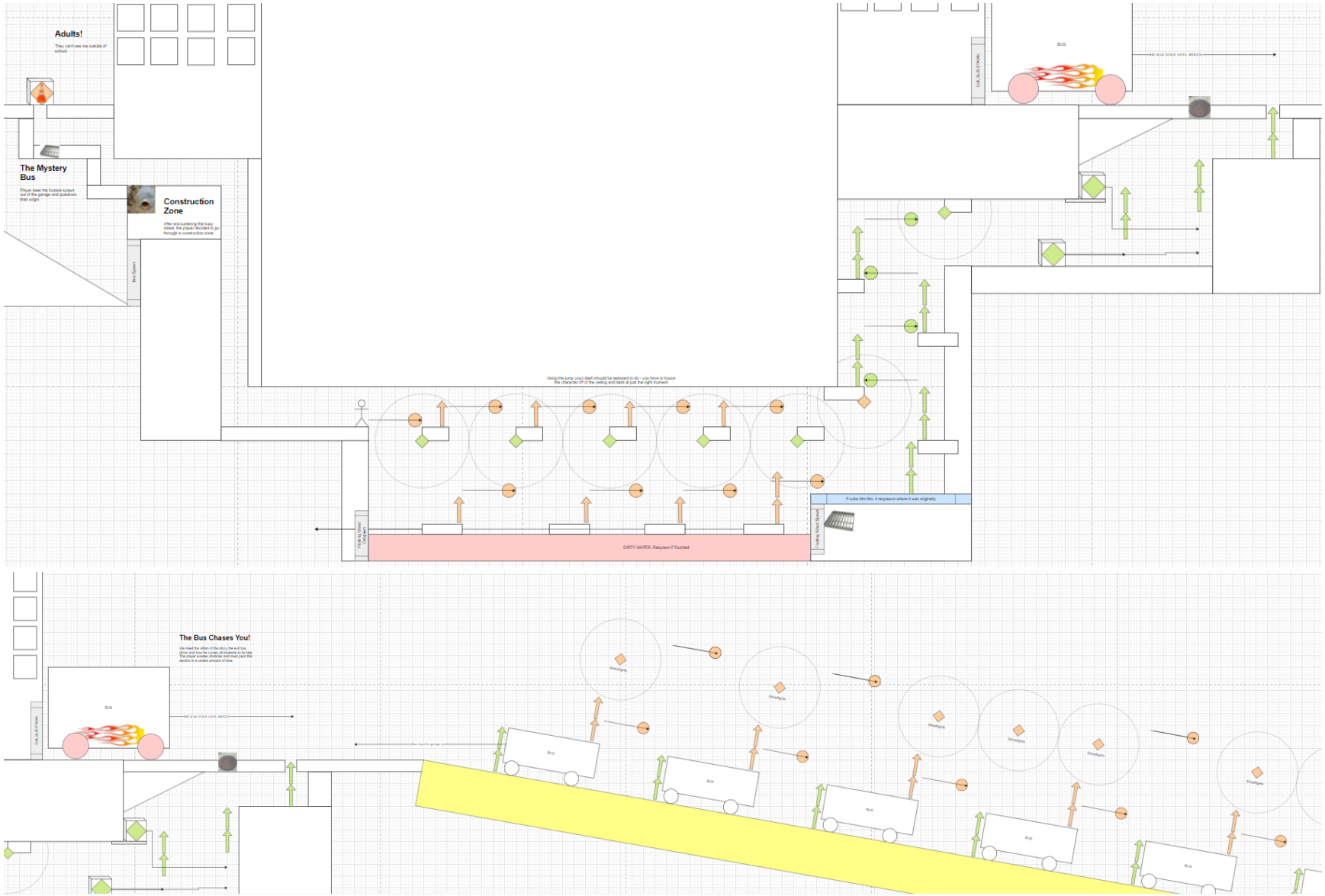
Old Tutorial Level

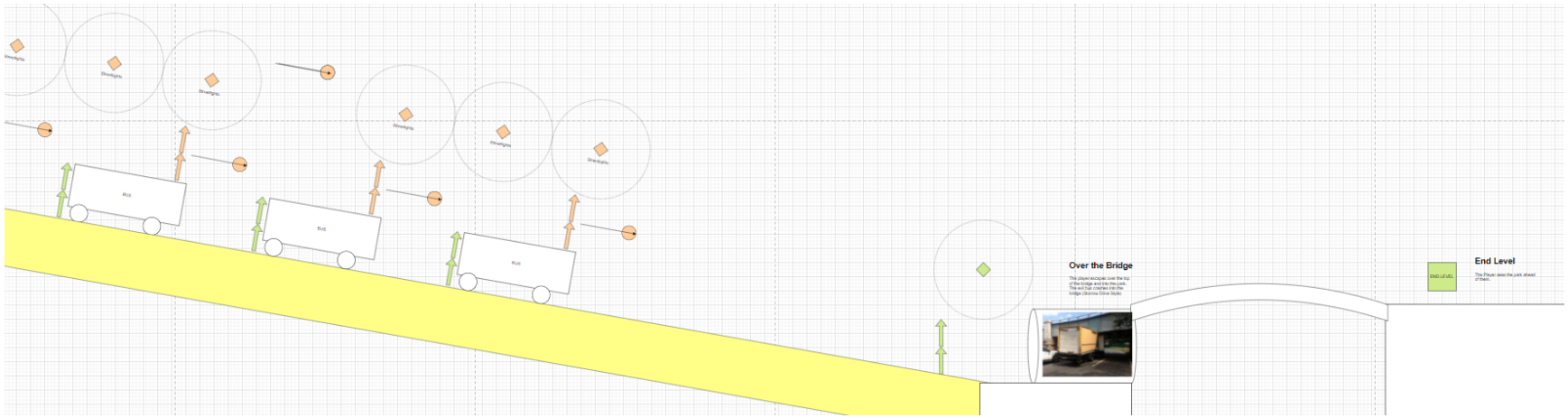


Old Level 2


Legend
Story Beat
Player looks out to a sea of cars and busses
Order:
BUS


Order:
BUS
CAR
CARS TRAVEL TO THE RIGHT


Adults!
They can't see me outside of school
The Mystery Bus
Player sees the busses spawn out of the garage and questions their origin
Construction Zone
After encountering the busy street, the player decided to go through a construction zone
Bus Spawn
Using the jump yoyo dash should be awkward to do - you have to bouce the character off of the ceiling and dash at just the right moment
If cube hits this, it respawns where it was originally
DIRTY WATER, Respawn if Touched
Floating Wood Despawn
Floating Wood Spawn
BUS
BUS BUS COILS UNTIL BRIDGE
The Bus Chases You!
We meet the villain of the story the evil bus driver and how he comes all evidence to be late. The player evades obstacles and must pass this section in a certain amount of time.
BUS
BUS BUS COILS UNTIL BRIDGE
BUS
BUS
BUS
BUS
BUS
BUS


Over the Bridge
The player escapes over the top of the bridge and into the park. The exit bus crashes into the bridge (Stormy Drive Style)
END LEVEL
End Level
The Player sees the park ahead of them.