

Level Design Document

S4G Kart Racer

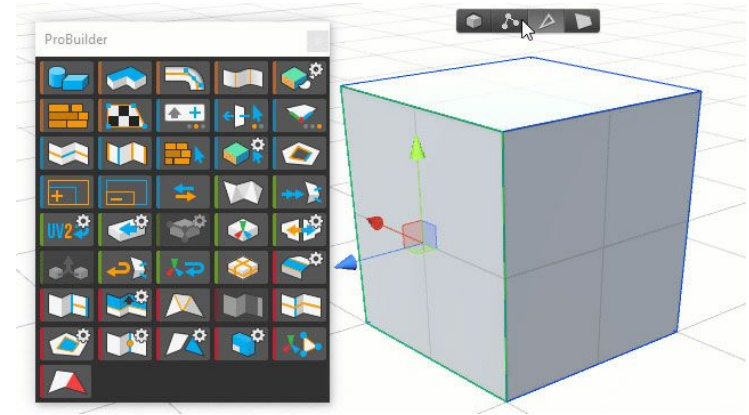
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6. Stages
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Tools & Asset Packs

ProBuilder

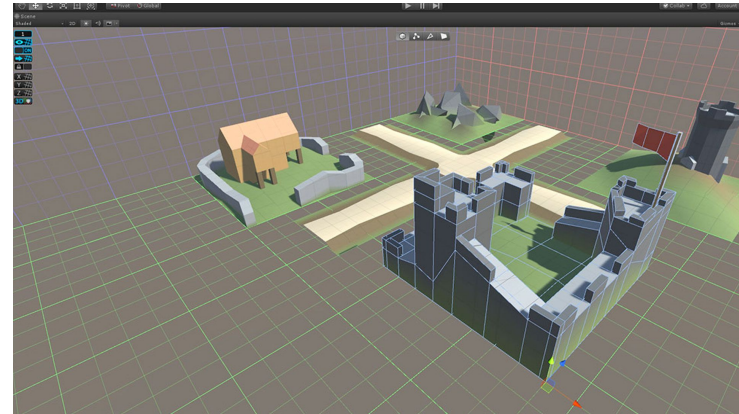
It is a great Level Design and World building tool for Unity. You can easily build and change geometry without an extra 3D software. We will use it to build our Level Design Blockouts.



ProGrids

ProGrids allows you to snap any object to the never changing world grid as you move it.

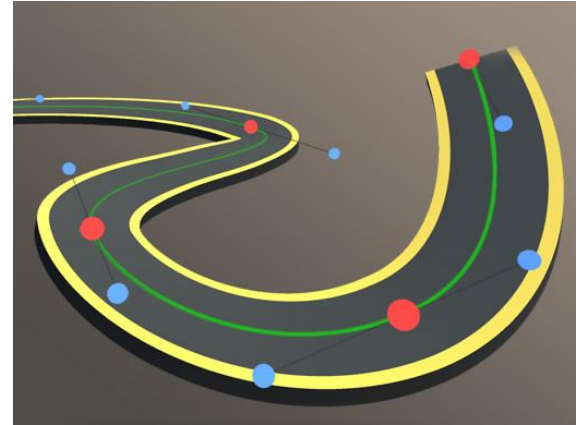
It also provides excellent visual cues to help you extrude faces and edges evenly because the grid is in world space. You can use the larger snap values to create the exterior walls, and then switch to smaller snap values to create insets or details.



Bézier Path Creator

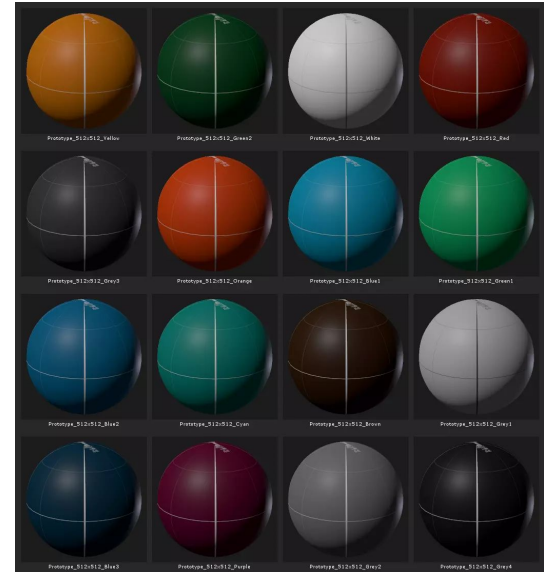
This Asset Pack allows us to build roads easily. You can find a Tutorial here:

https://docs.google.com/presentation/d/1hPiW4RMuL8kqhZpVM5MxbZGKnLFdPQ_8-Tih04Raju0/edit?usp=sharing



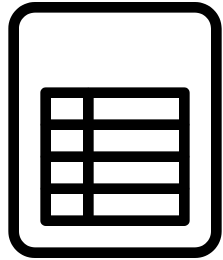
Gridbox Prototype Materials

This is an Asset Pack with materials you can apply to your ProBuilder meshes. The color coding of our Blockouts will be based on this materials.



Workflow

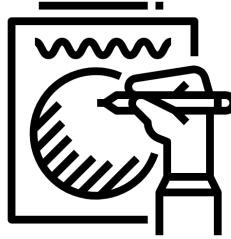
Workflow



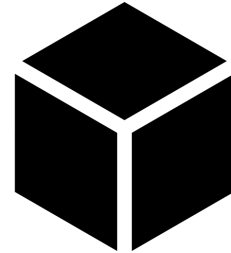
Select a Game
Mode and a
S4G Game



Study the
Environment
and Level
Design of the
chosen game



Draw Concepts
and add them
to the Concept-
Chapter below



Build the
Blockout in
Unity



Playtest and
Iteration

Metrics

Metrics

General: 1 ProBuilder Unit (PM) = 1m

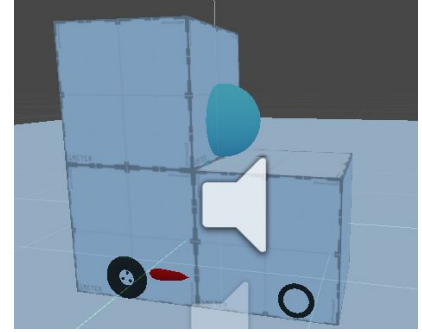
Kart: we assume a size of 2m X 1m X 2m (length, width, height)

Minimum width of a drivable **road**: 2.5m

Maximum width of a drivable **road**: unlimited (Depending on the selected environment)

Minimum environment-height: 2.5m

Maximum environment-height: unlimited (Depending on the selected environment)



Metrics

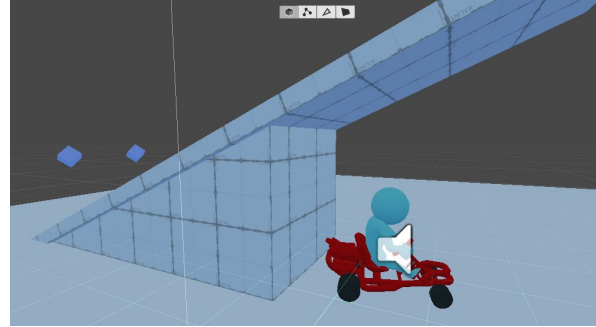
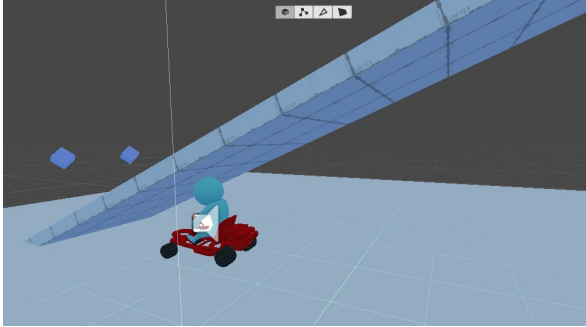
Minimum height of a impassable edge: 0.5m

Size of a Item-Pick up: 1m X 1m (Prefab)

Important Rules

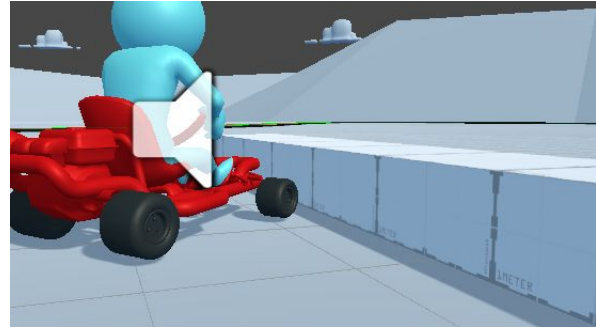
Important Rules

- If the player is able to drive under a inclined surface, the minimum height must not be undercut. As soon as this is the case, an object must be placed in front of it.



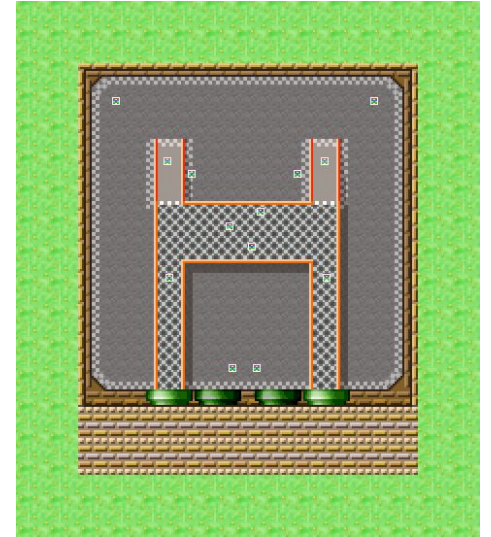
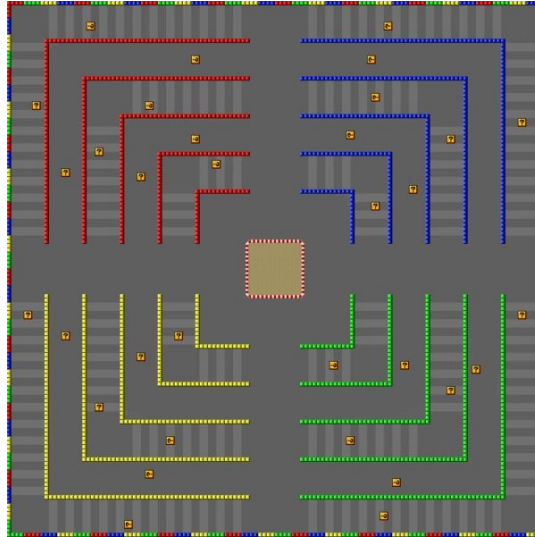
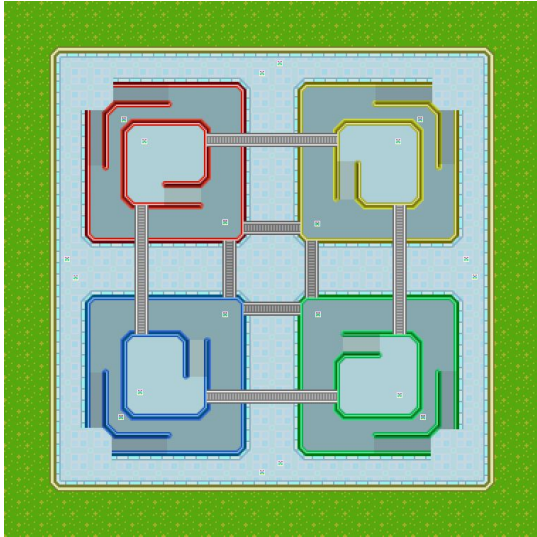
Important Rules

- Impassable edges must fit the minimum height in order to be clearly recognisable as such. There should be no edges that look as if they are passable but which the player is stuck to



Important Rules

- In order to have a fast paced racing battle you should avoid dead ends. They are frustrating, dangerous in some situations and it could be hard to turn the car around.

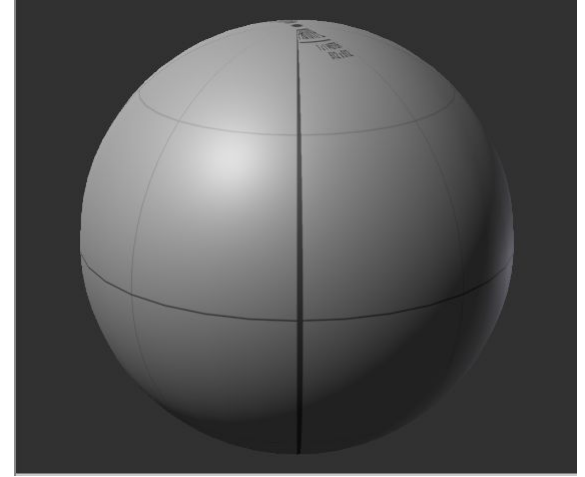


Color-Coding

Color-Coding

Name: Prototype_512x512_Grey2

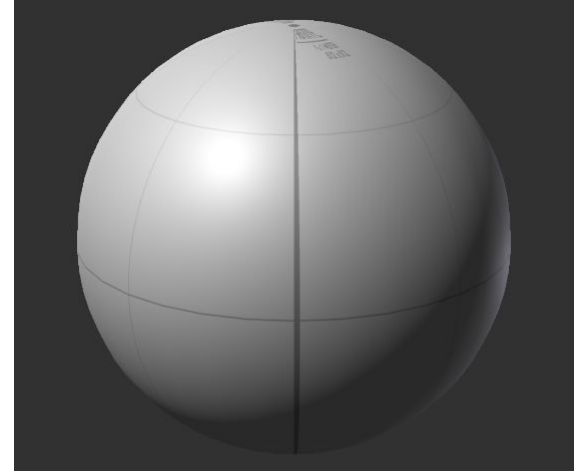
Function: normal ground on which can be driven



Color-Coding

Name: Prototype_512x512_White

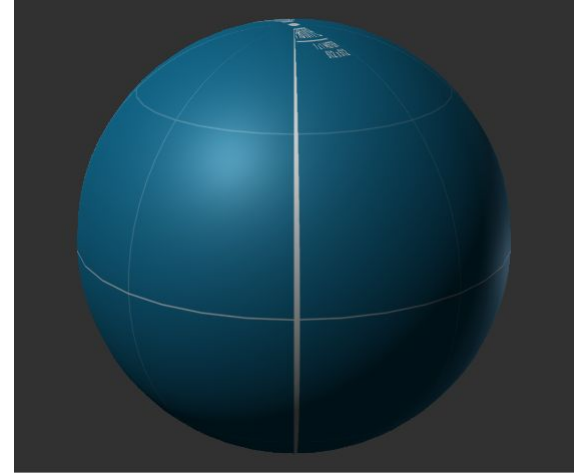
Function: Obstacles and Environment



Color-Coding

Name: Prototype_512x512_Blue2

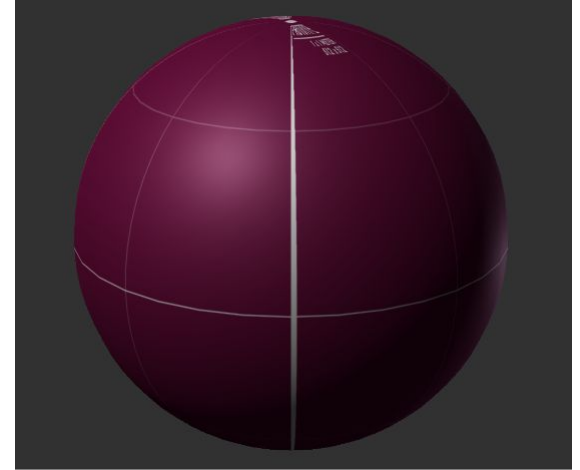
Function: Water, which is too deep to drive on



Color-Coding

Name: Prototype_512x512_Purple

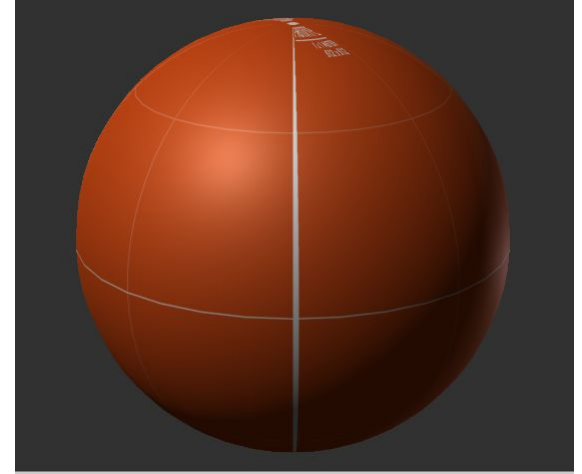
Function: Items



Color-Coding

Name: Prototype_512x512_Orange

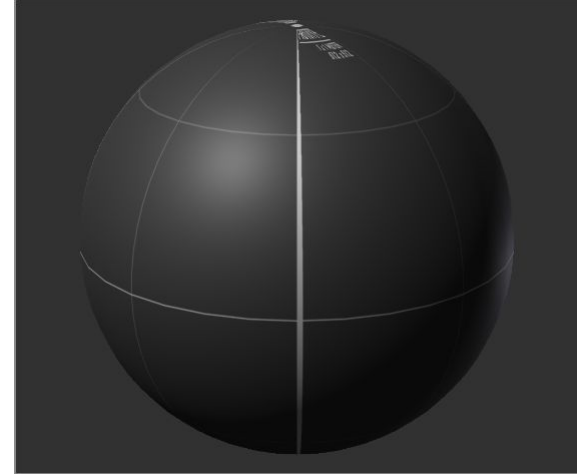
Function: Speed-boosting ground



Color-Coding

Name: Prototype_512x512_Grey3

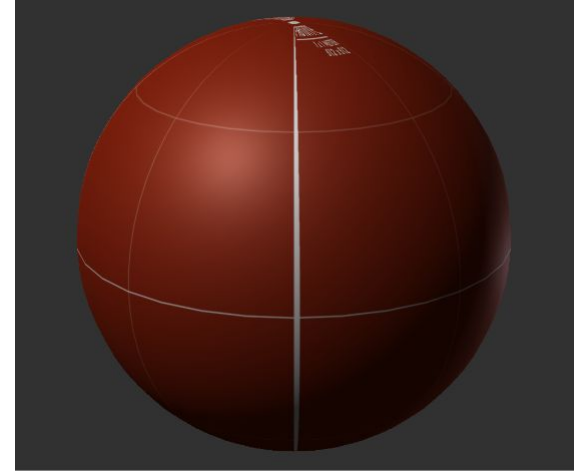
Function: speed reducing ground



Color-Coding

Name: Prototype_512x512_Red

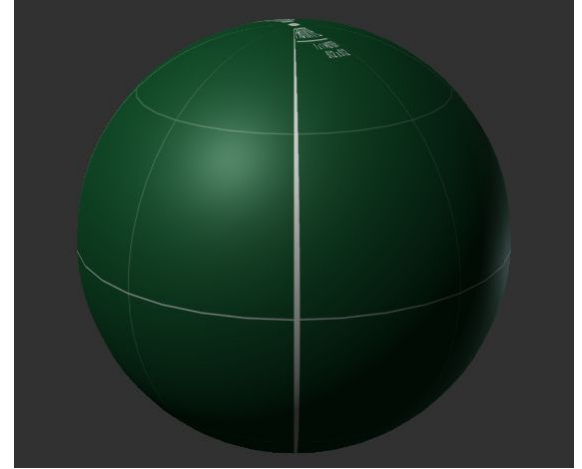
Function: Hero piece or banner ad



Color-Coding

Name: Prototype_512x512_Green2

Function: non-drivable S4G Character



Stages

Pool Party Arena

Pool Party Arena is a fast paced
Water Bomb Mayhem with
playful Characters.



Pool Party Arena

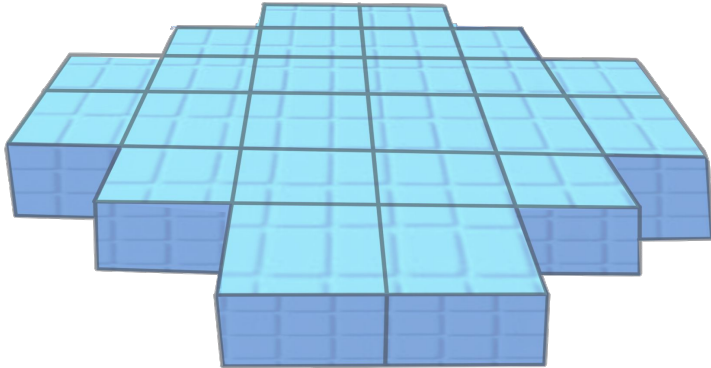
Game Description: PPA is a fast paced local multiplayer battle in which 2-4 player tried to shoot each other with water bombs. These water bombs will knock back the other player. The goal of the game is to shoot all opposing players into the water.

Level Design:

- Every stage has a pool surrounding the platform
- Every stage has four mirroring Spawn-Points (4)
- Every stage has a clear center
- The stages are built with a specific set of 2x2 building-blocks

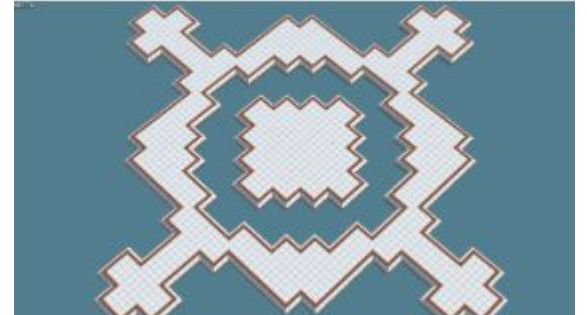
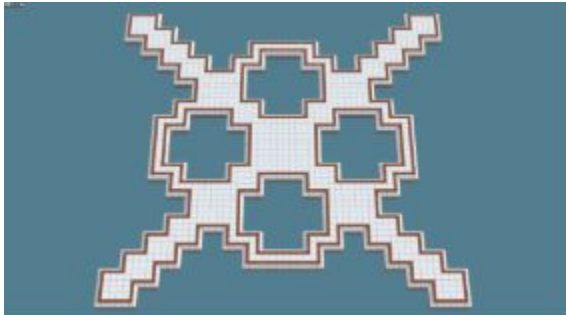
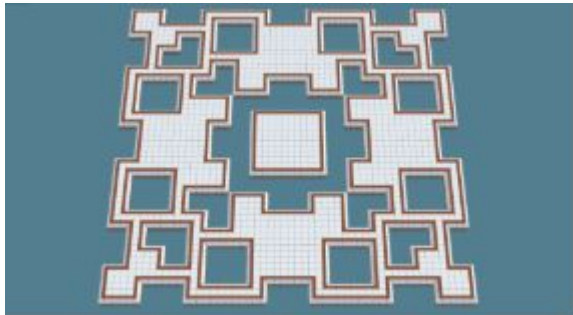
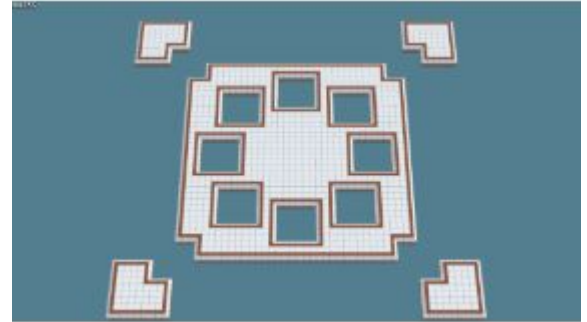
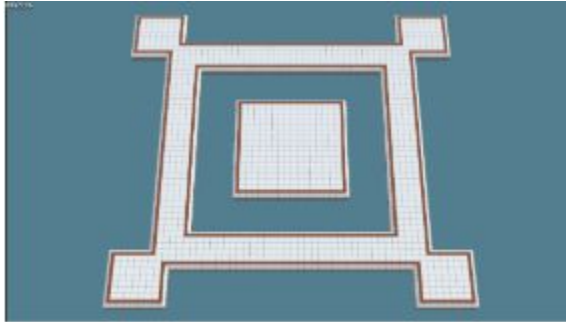
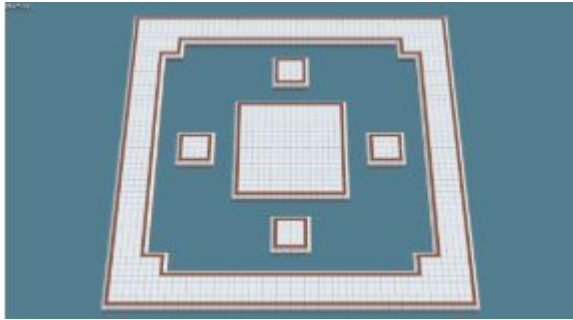
Pool Party Arena

Assets: The drive contains a complete set of 3D meshes we can use to build our stage. Furthermore they have many decorative elements which we can use for our environment as well. The only problem could be the top-down perspective, because we don't know the original environment and holes in the ground could be harder to see in our perspective.



Pool Party Arena

Original Level Design examples:



Poly Bomb

Poly Bomb is a fast, competitive local multiplayer where players fight against each other, under pressure of a time bomb.



Poly Bomb

Game Description: Poly Bomb is a fast, competitive local multiplayer where players fight against each other, under pressure of a time bomb. The goal of the game is to use the bomb on your enemy or his base to blow it up.

Level Design:

- all Level are rectangle based, sometimes the rectangle can be rotated or have his edges cut off, to have some diversity
- along with the level all assets are square based, obstacles inside the level are giving them their shape and create paths
- round shapes or multiple corned shapes conflict with the art design
- no option for the player to fall off the level

Poly Bomb

Assets:

1. Out of the Level: only 2 walls: a straight wall and a 45 degree rotated wall which has its edges cut off to fit with straight walls
2. Inside the Level: the obstacle: Those are bigger objects, which serve the same purpose as the walls, but inside of the level

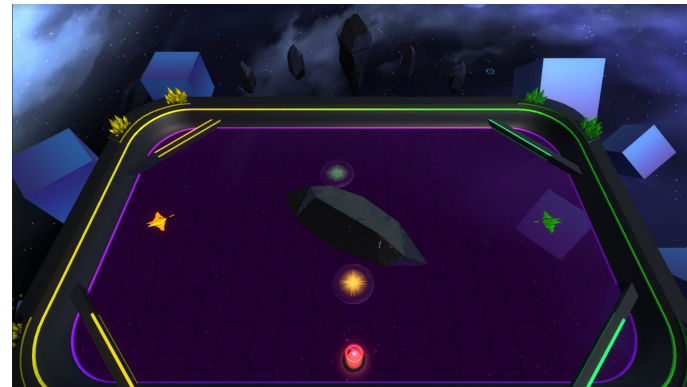
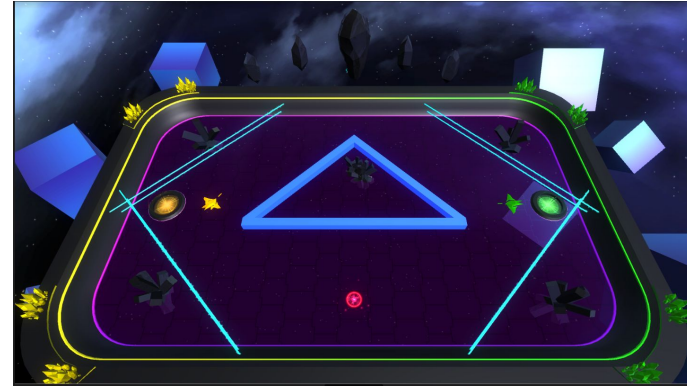
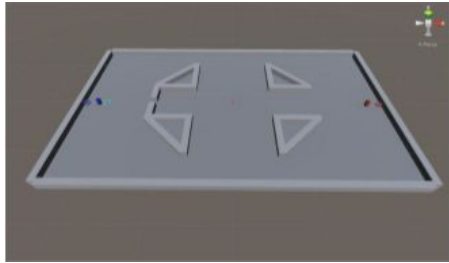
Poly Bomb

Special information:

- A whole level has a size of 30x1x50 or 30x1x30 “Unity Units”
- In the Level there should only be a 3 color lightning, with red (Player 1),blue (Player 2) and white (neutral)
- There is a spotlight at each base facing the middle of the map, with the player color. In addition to that all Players have a light cone around them in their color

Poly Bomb

Original Level Design examples:



Pin

Pin is a cute family friendly 3D point & click adventure about a quirky robot seeking its place in the animal community of an idyllic Japanese village.



Pin

Game Description: Pin tells the heartwarming story of the quirky robot Pin from the big city who wishes to join a Japanese village full of talking animals.

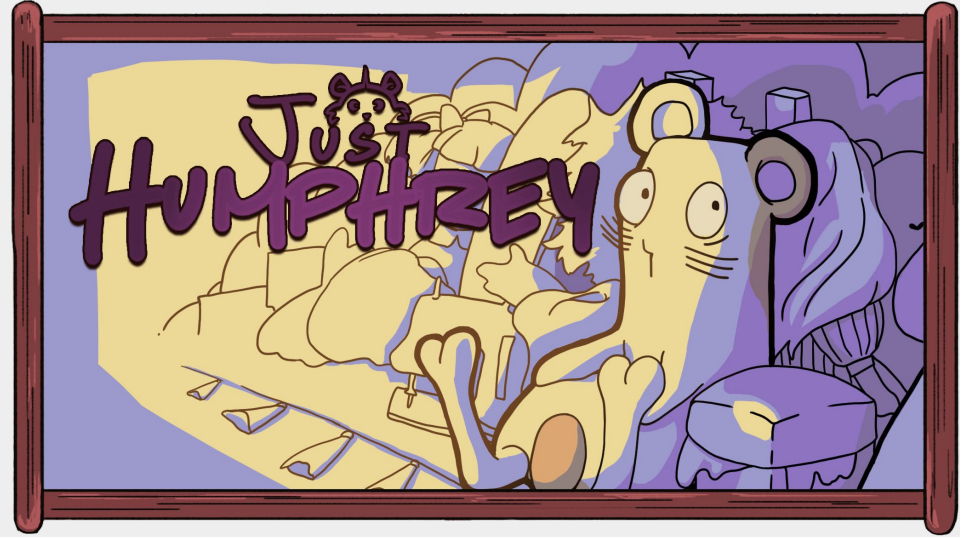
You play using only the mouse. You talk to NPCs, learn of their needs, interact with objects in the scene, pick up, combine and use all sorts of items, all in an effort to become friends with the locals and find your place amongst them.

Level Design:

- Traditional Japanese village
- Buildings are far from each other to give feeling of openness and freedom
- Scenes are framed by assets such as houses, bamboo or water
- Houses are built in a rough circle

Just Humphrey

Just Humphrey is a quirky 2D Point and Click Adventure for Android.



Just Humphrey

Game Description: Join Humphrey on his journey and find out more about him and the dollhouse residents and their grand ball!

Just Humphrey is a quirky 2D Point and Click Adventure for Android.

Level Design:

- 2D dollhouse
- rooms are connected through holes and tubes / pipes
- single rooms are tailored to individual personalities

Level Elements

Level Elements

Item PickUps: If a player drive through these blocks they will get destroyed and the player gets a random item.

Speed-Boost: A ground area where the player gets a speed boost when driving over it.

Water and Holes: Areas in which the player can fall through and will respawn if he collides with the Respawn-Trigger.

Respawn Points: 4 Points where the player possibly respawn.

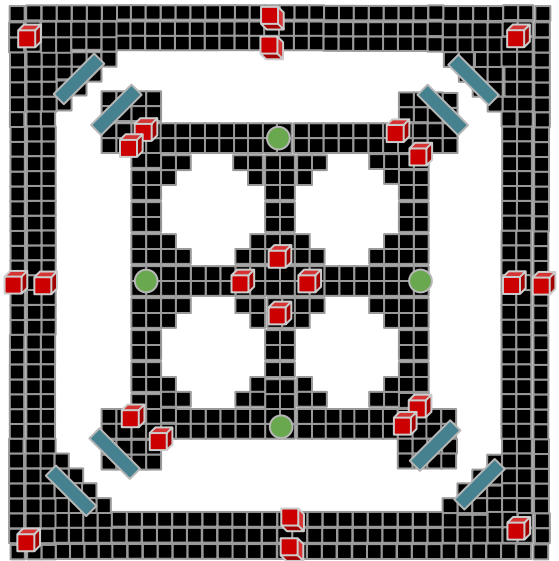
Concepts & Screenshots

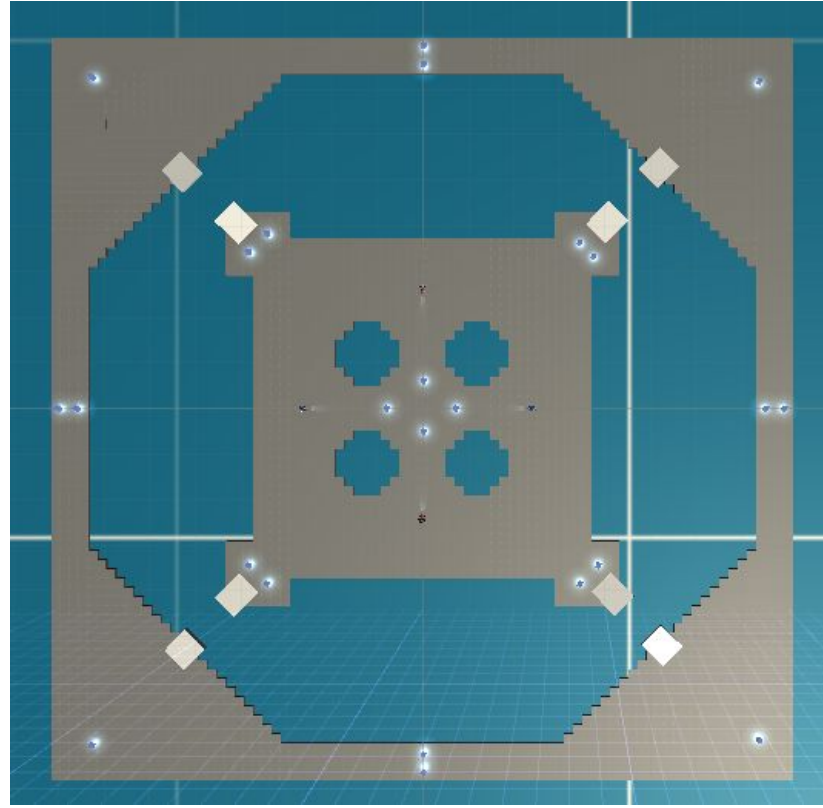
Pool Party Arena

Supported Modes:
Balloon Battle, Poolparty, Shine
Runners, Super Bounce

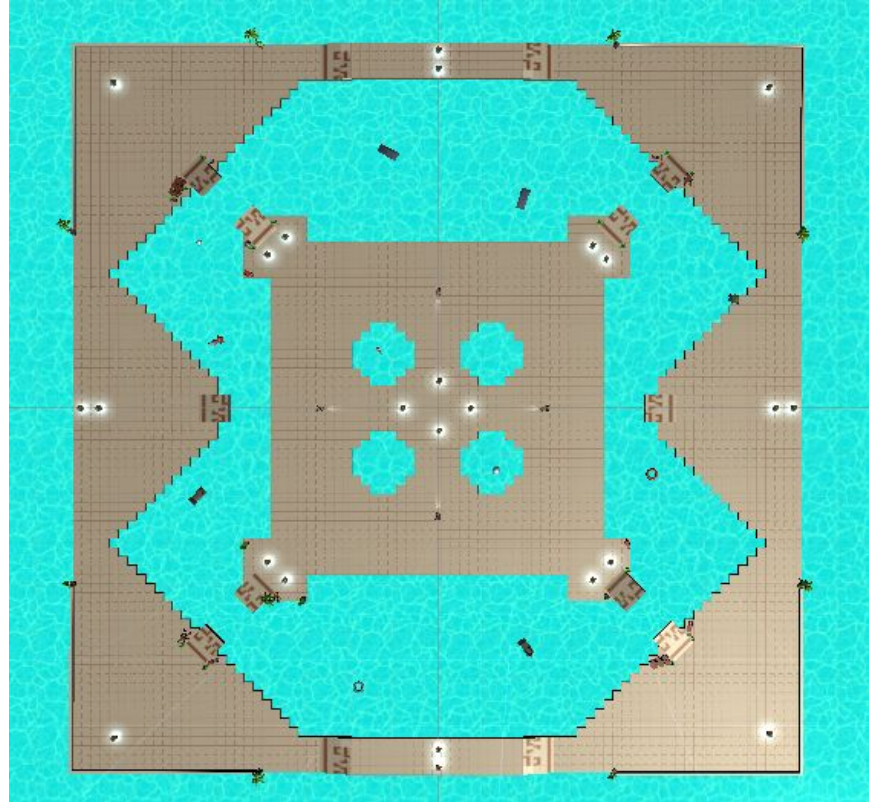
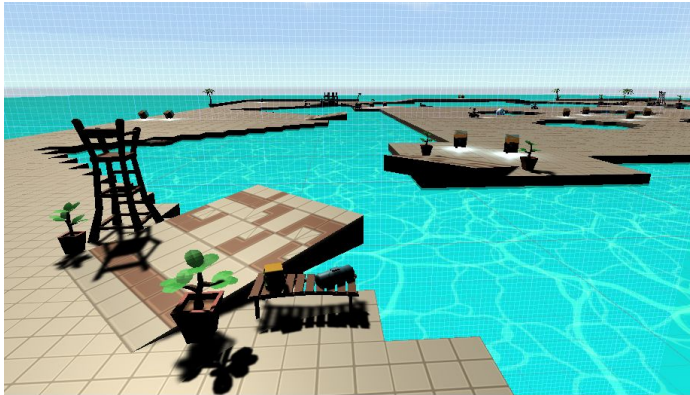
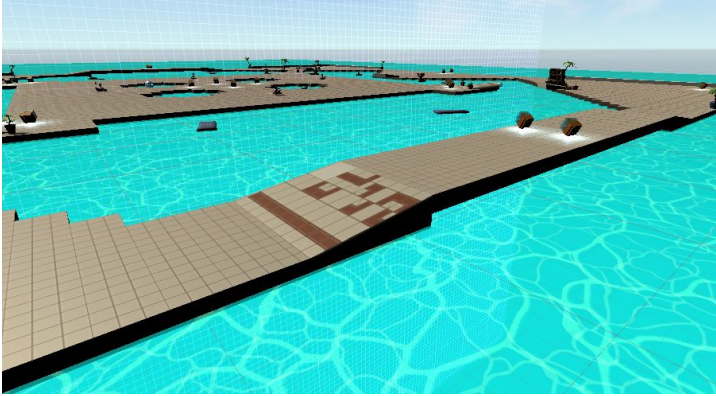


- - One Building-Block (2x2, Pool Party Arena Asset)
- - normal Ramp
- 📦 - Item Pickup
- - Player Start Point









Pool Party Arena Stage





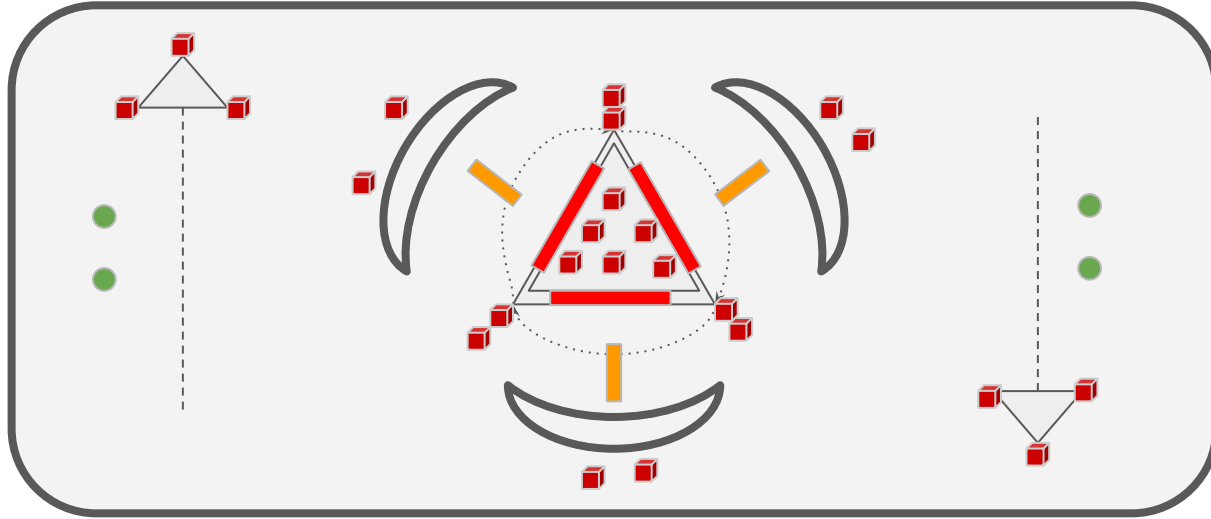
Poly Bomb

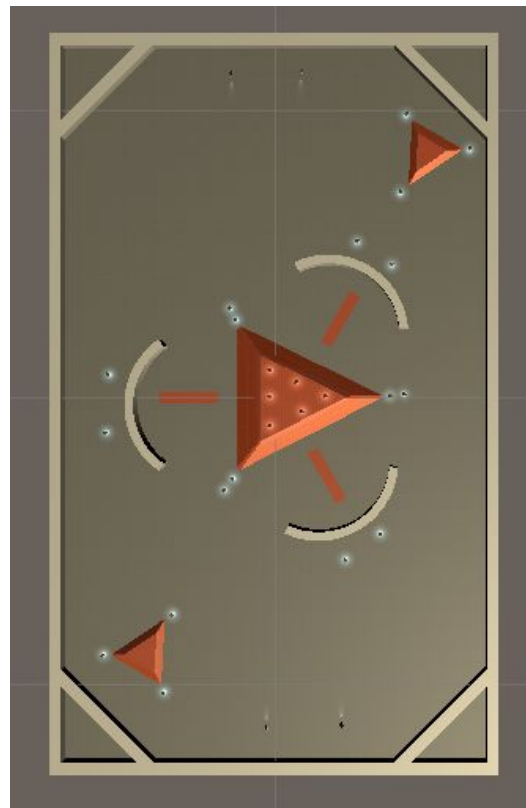
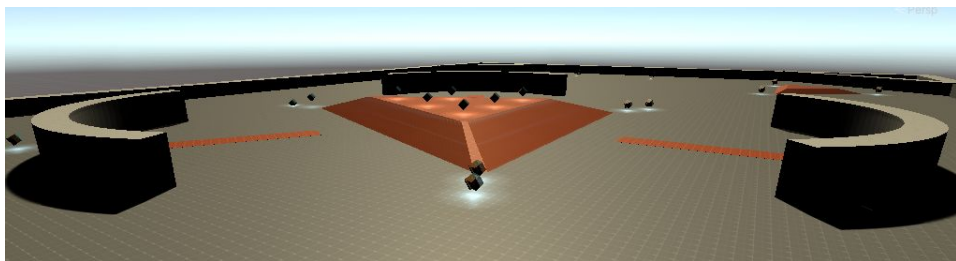
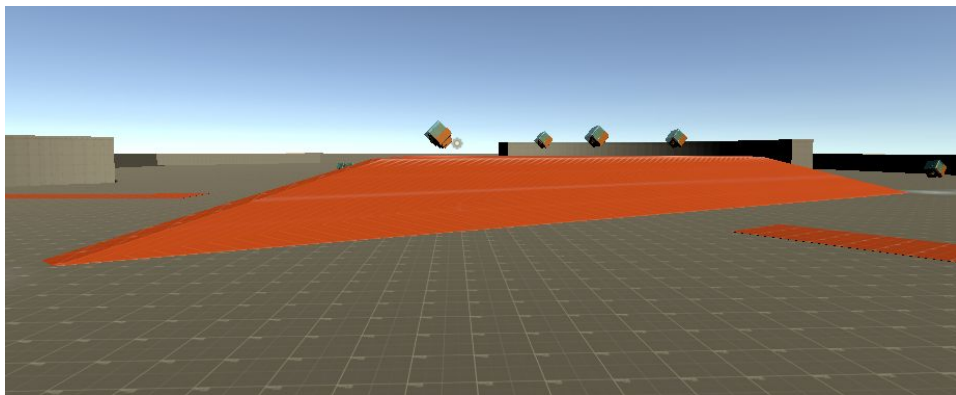
Supported Modes:
Balloon Battle, Shine Runners,
Soccer

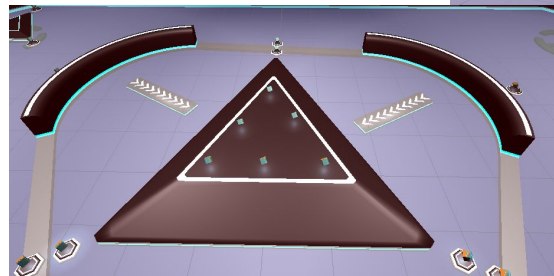
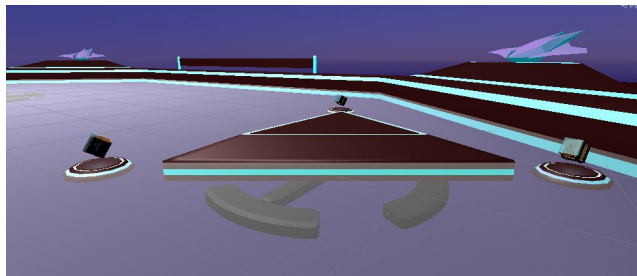
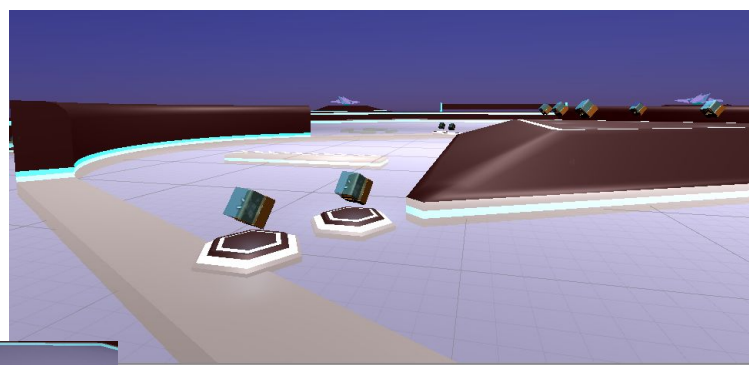
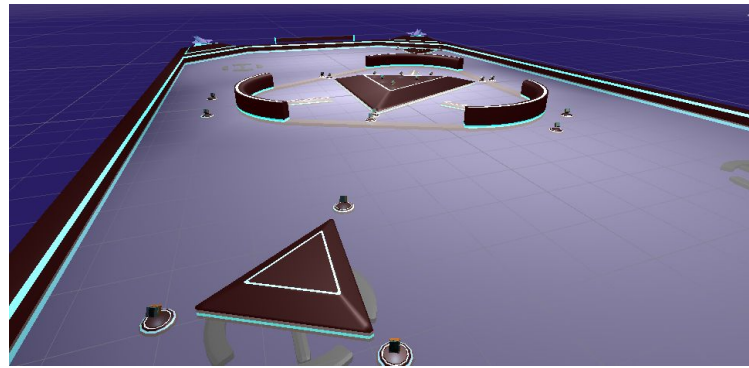
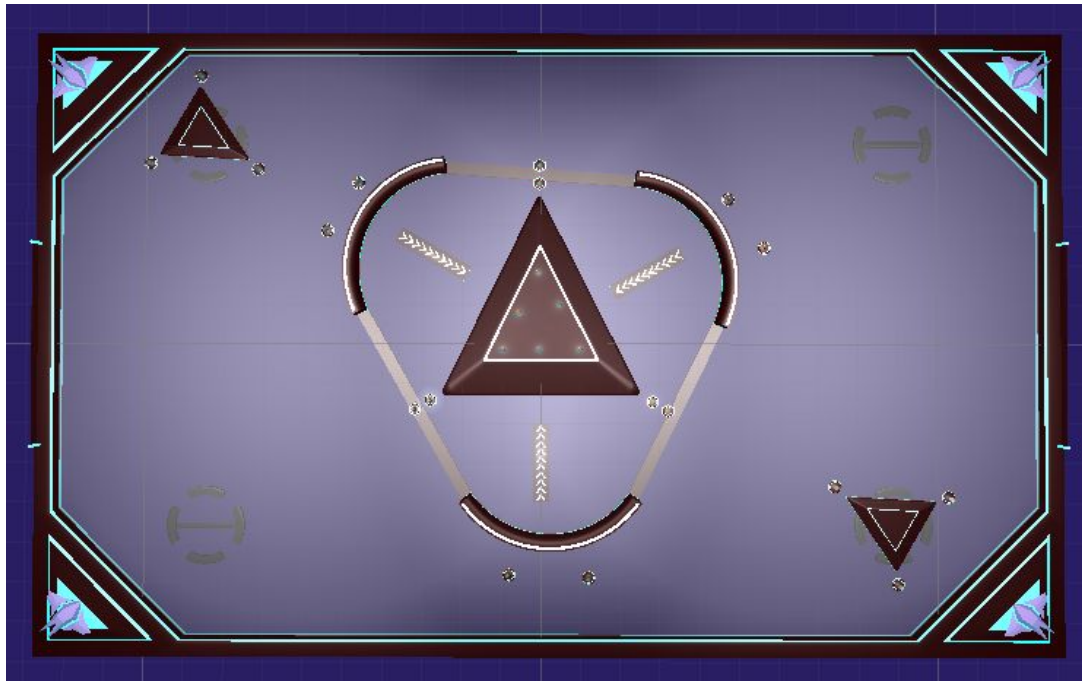


-  - boost ramp
-  - boost ground
-  - Item Pickup
-  - Player Start Point

-  - Rotation
-  - moving path





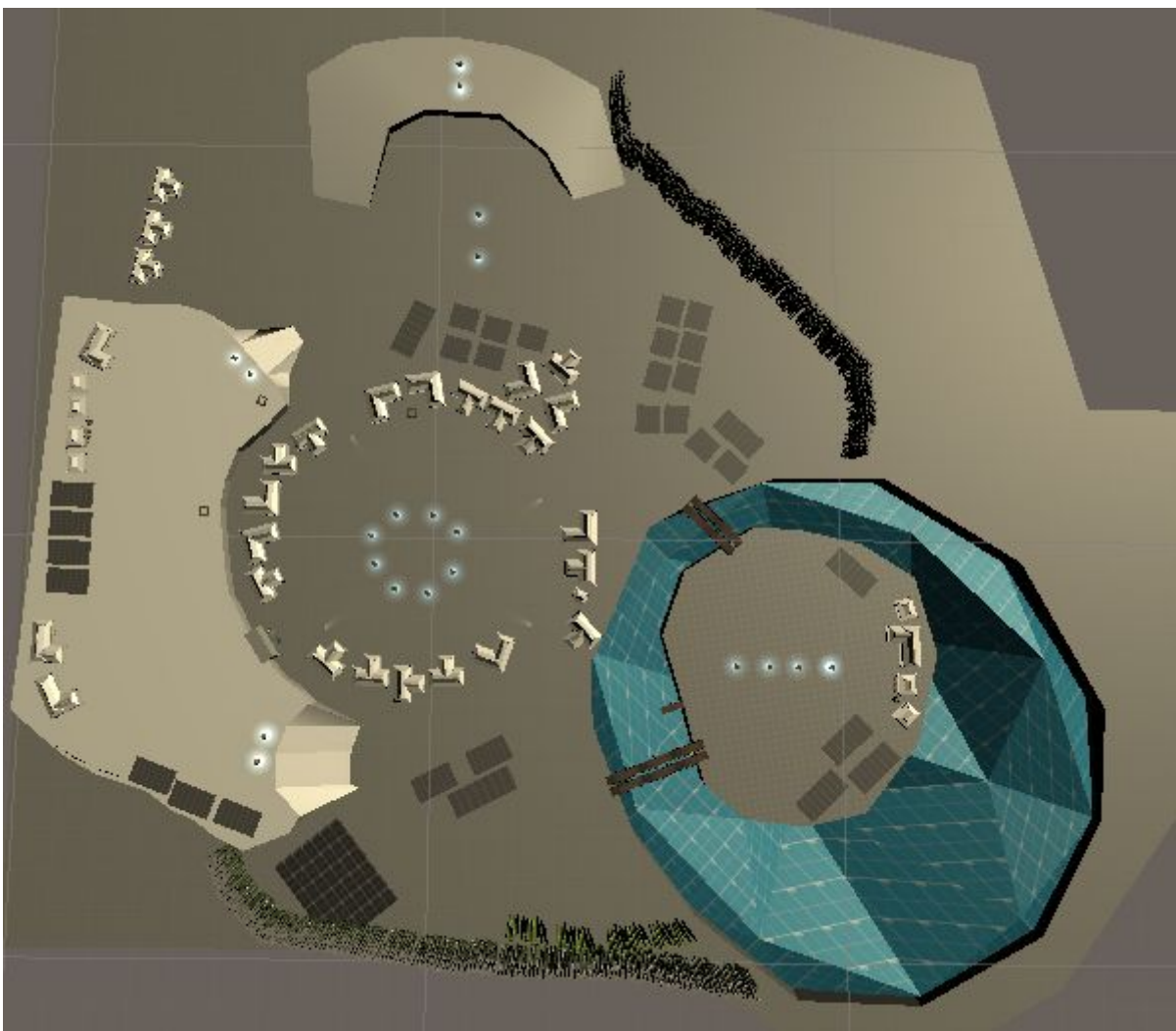


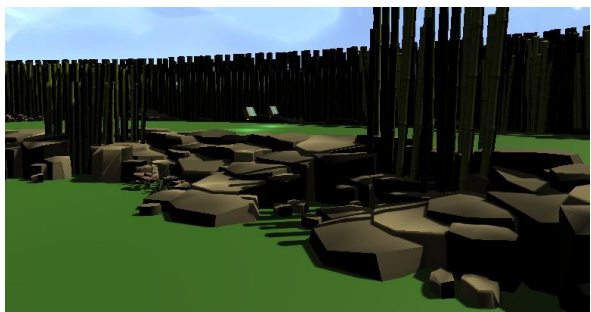
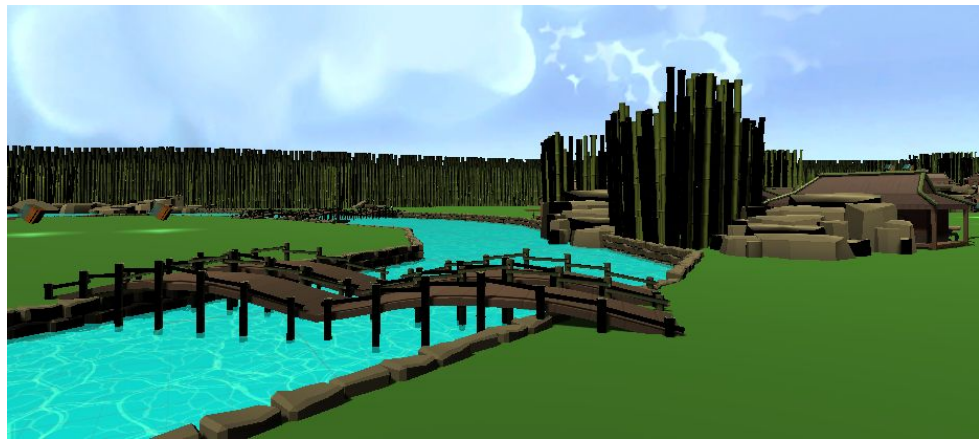
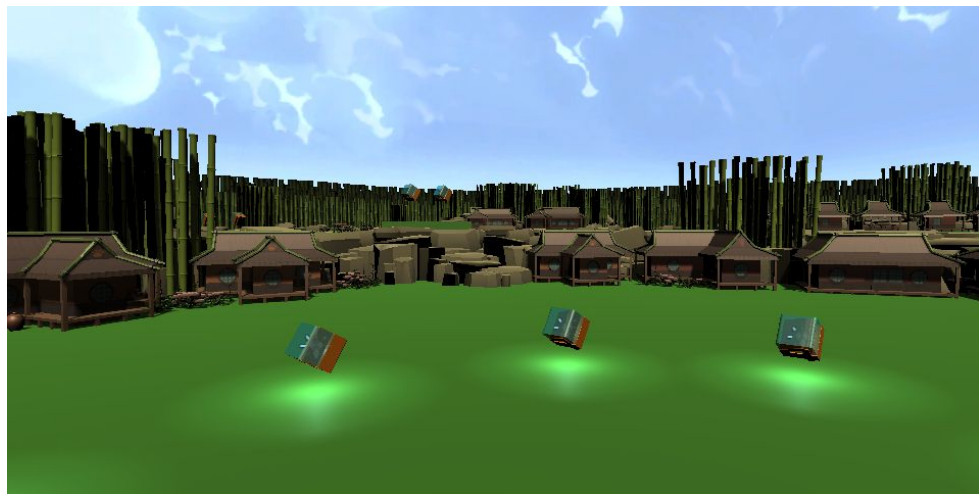
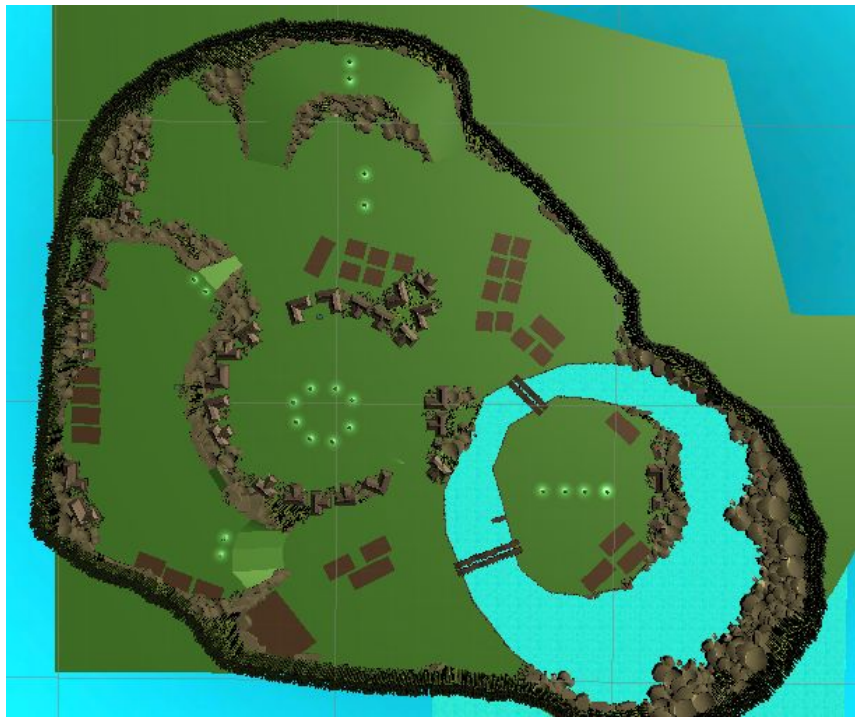
Pin

Supported Modes:
Balloon Battle, Shine Runners,
Soccer, Capture the Flag



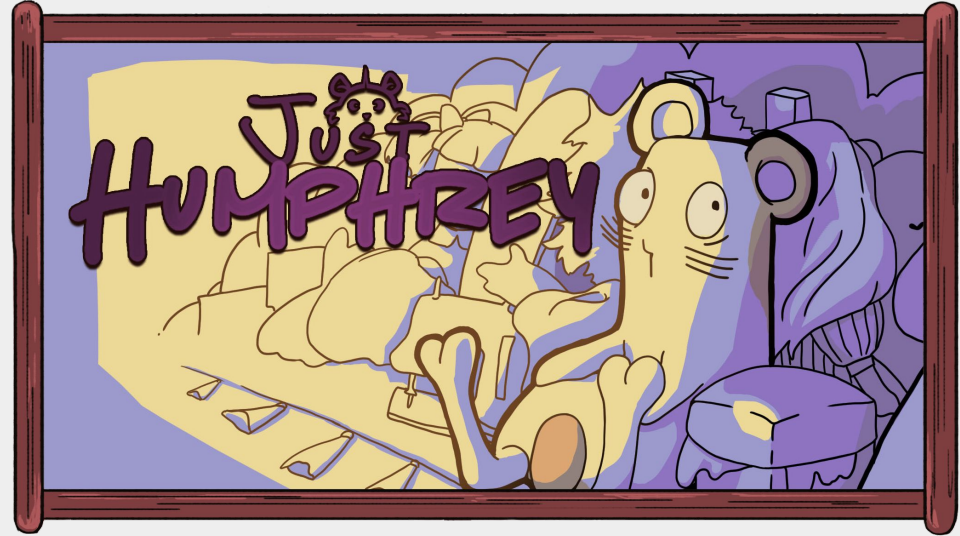










Just Humphrey

Supported Modes:
Balloon Battle, Shine Runners,
Capture the Flag



-  - Tube
-  - Hole (wall)
-  - Hole (ground)
-  - CtF Base

