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Virtual Reality (VR)

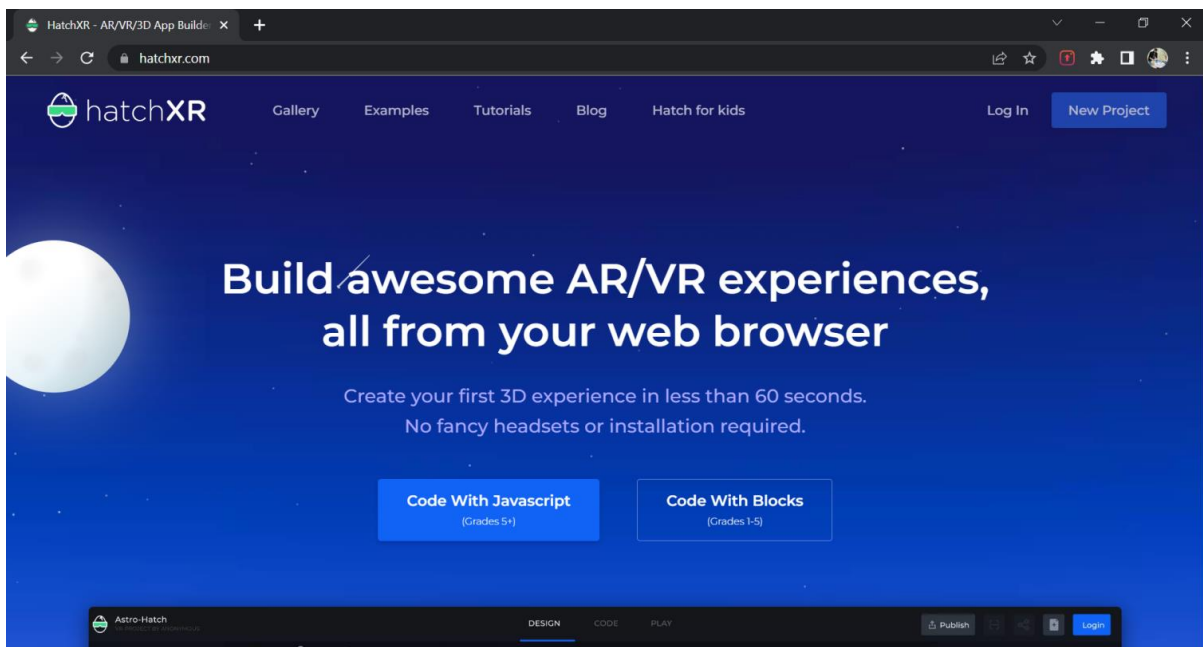
Project Description

During the vacation, you and your family had gone to a beach to enjoy the view of the ocean. While you were playing in the water on the shores with your parents and siblings, you observed that the ocean water had many waste materials such as plastic bottles, papers, slippers and food packets floating all around. This was not only making the ocean water unclean but also causing harm to the living creatures inside the ocean. You also got to know about the major threats faced by our oceans today such as ocean warming, ocean acidification and plastic pollution by watching the theme video on life below water during this course. You are now determined to contribute towards the efforts of protecting the oceans and the marine life. As a first step, you want people to be aware of the different life forms below water, appreciate it's beauty and develop a will in them to protect the oceans. In this project, you will create a virtual reality experience of life below water to provide an immersive experience to people to understand and appreciate ocean life.

Let's get started!

1. Platforms / Tools Needed

Hatch XR Kids: <https://kids.hatchxr.com/>



2. Major Steps to be performed in the Project

Part 1: Setup the VR account

Part 2: Layout designing

Part 3: Ground setup

Part 4: Setting up ocean layout

Part 5: Inserting depth meter image

Part 6: Adding aquatic animals according to depth meter

Part 7: Applying Ocean layer on top

Part 8: Positioning player

Part 9: Coding

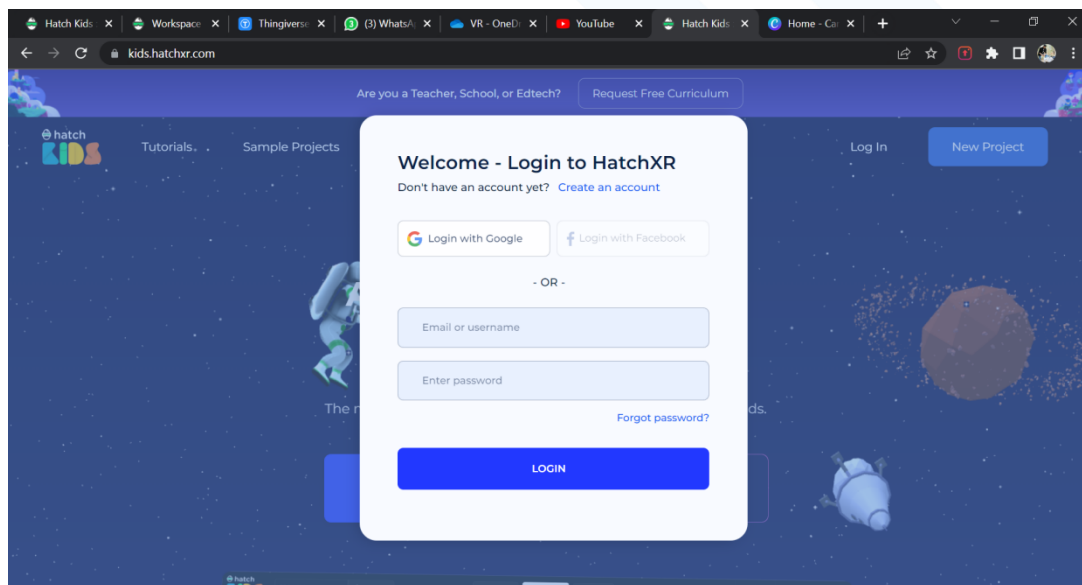
Step by step Instructions

Part 1:

Setup the VR account

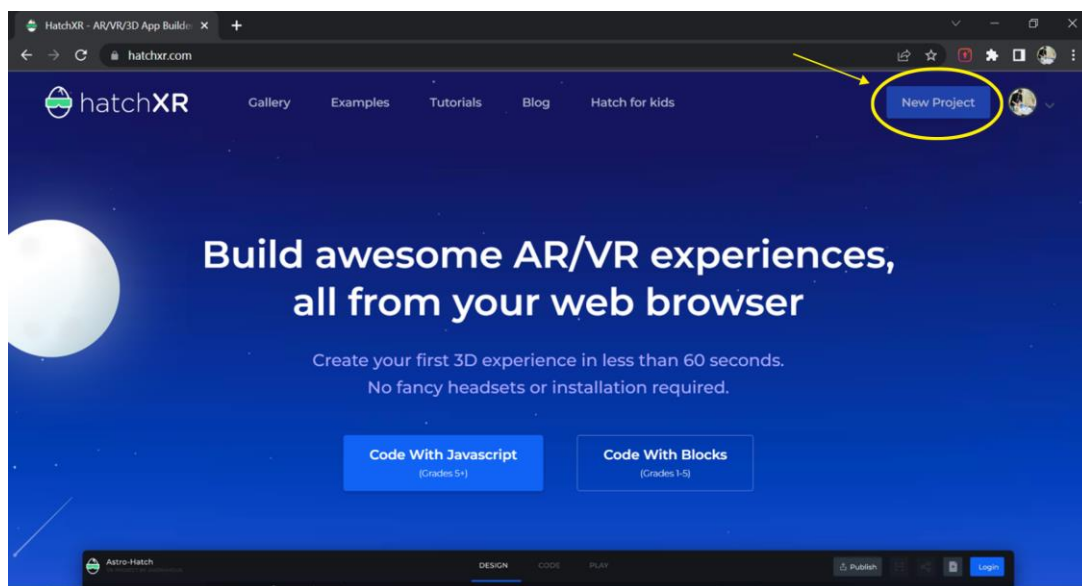
Step 1

Sign up into your Google account or create a new account.



Step 2

Once Logged in click on New Project on right-hand side of the corner.

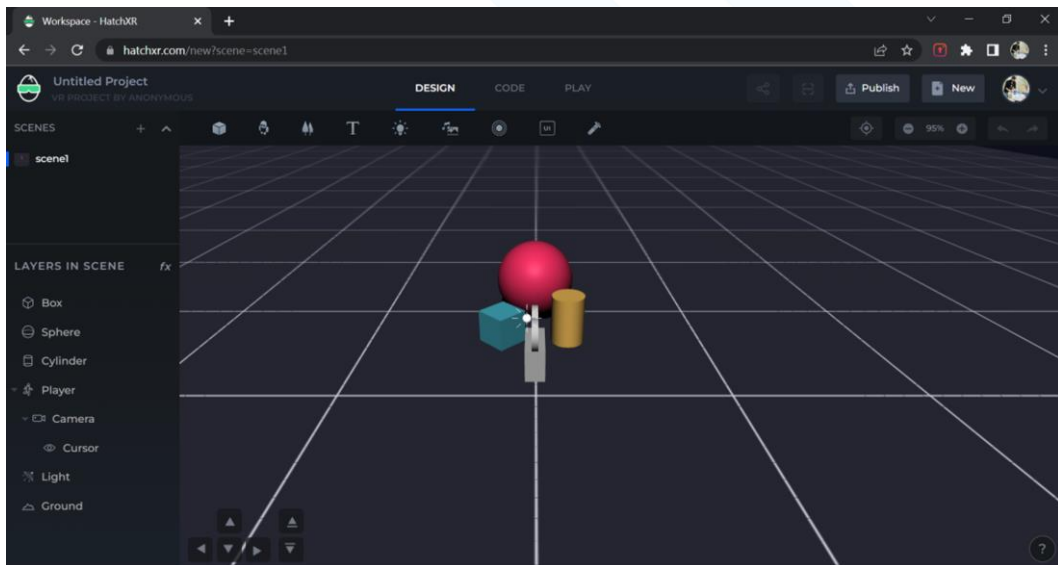


Part 2:

Layout designing

Step 3:

Once you click on the new project it will redirect to the design page.



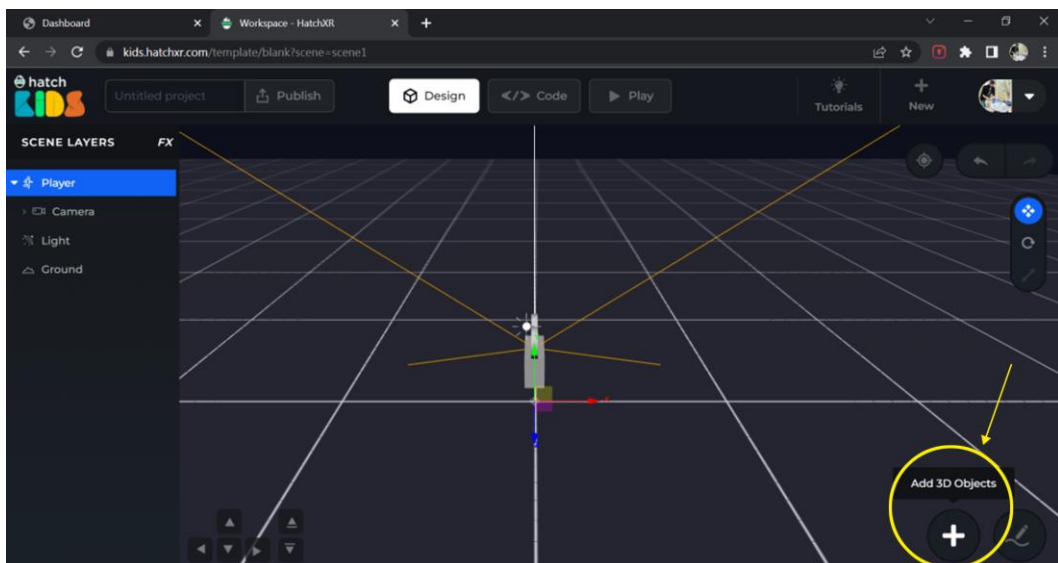
Step 4

Delete the default objects (Sphere, square box and cylinder)

Click on Sphere and press Delete button, similarly for square box and cylinder

Step 5

Add 3D objects to the layout by clicking + sign.



Part 3:

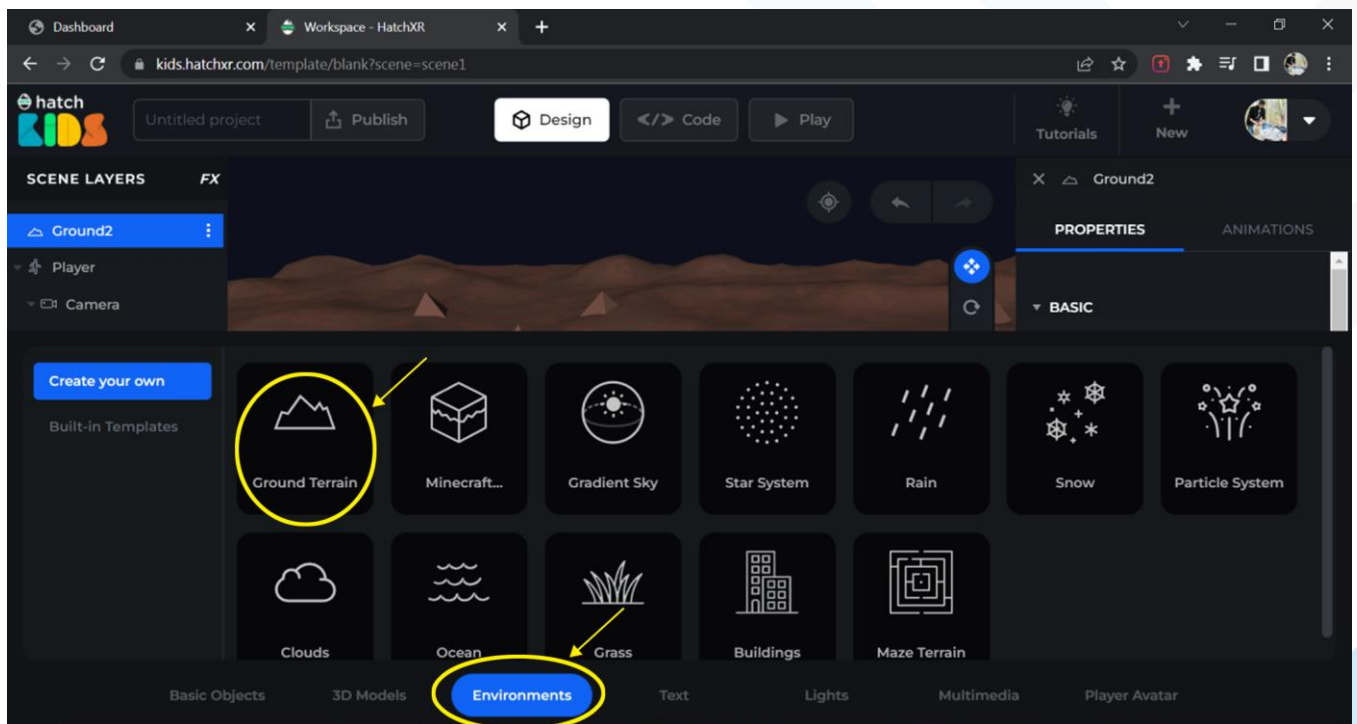
Ground setup

Step 6

Click add button

Select Environment tab

Select Ground Terrain.



Step 7

Zoom out by scrolling the mouse and go to basic and change co-ordinates and mentioned

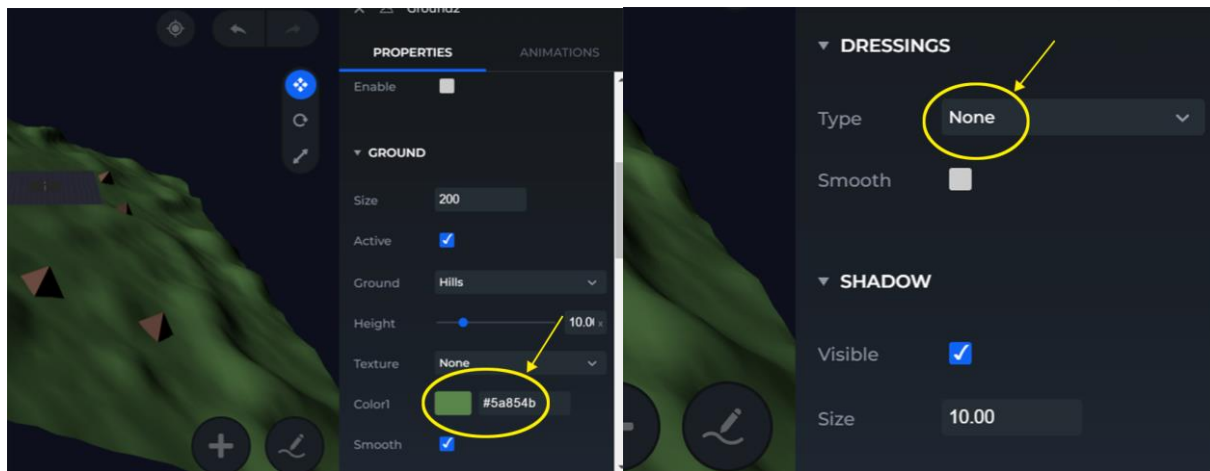
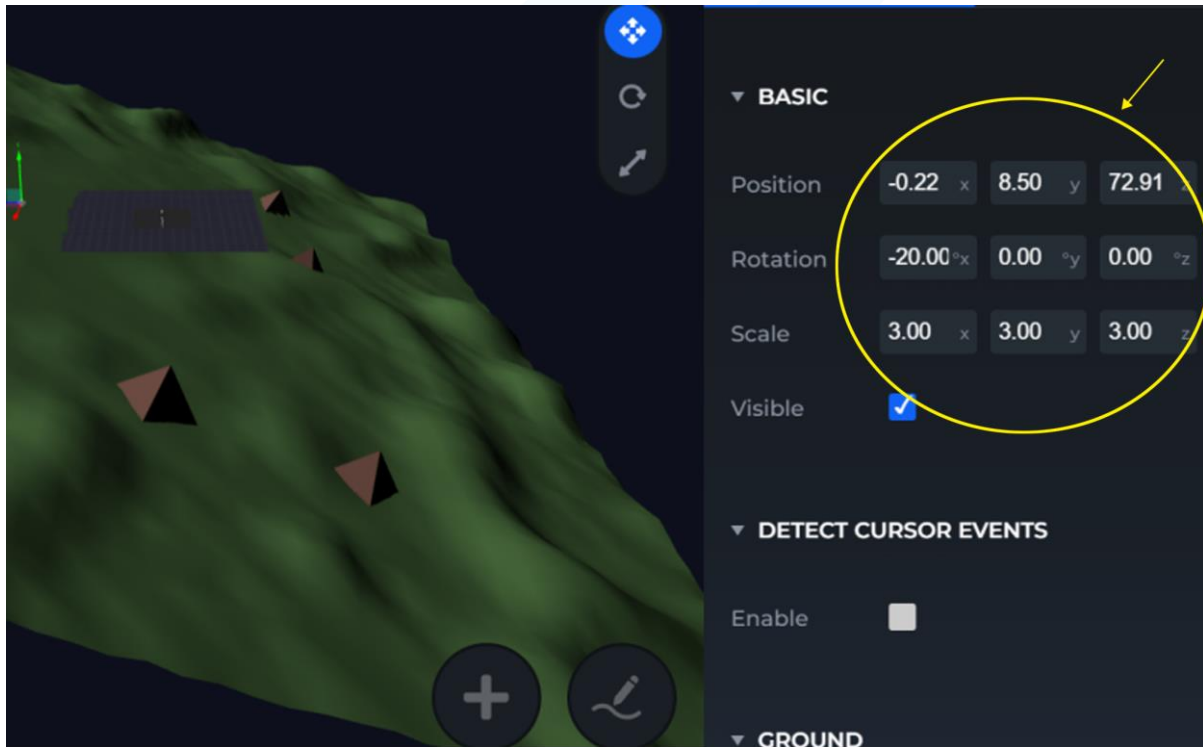
Position -0.22 x 8.50 y 72.91 z,

Rotation -20.00 x 0.00 y 0.00 z

Scale. 3.00 x 3.00 y 3.00 z

Scroll and change colour to #5a854b

Change dressing type to None

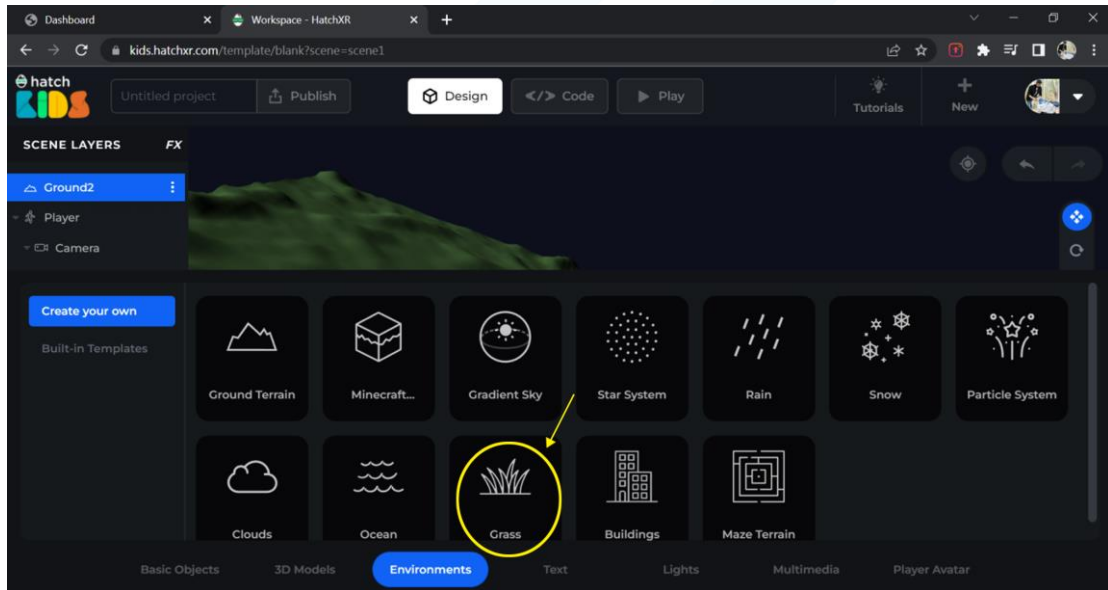


Step 8

Add grass to ground for realistic feel

Emerging Technologies - Virtual Reality

Click on add button go to environment and choose grass



Step 9

Set Basic

Position 1.79 x -28.81 y -34.46 z,

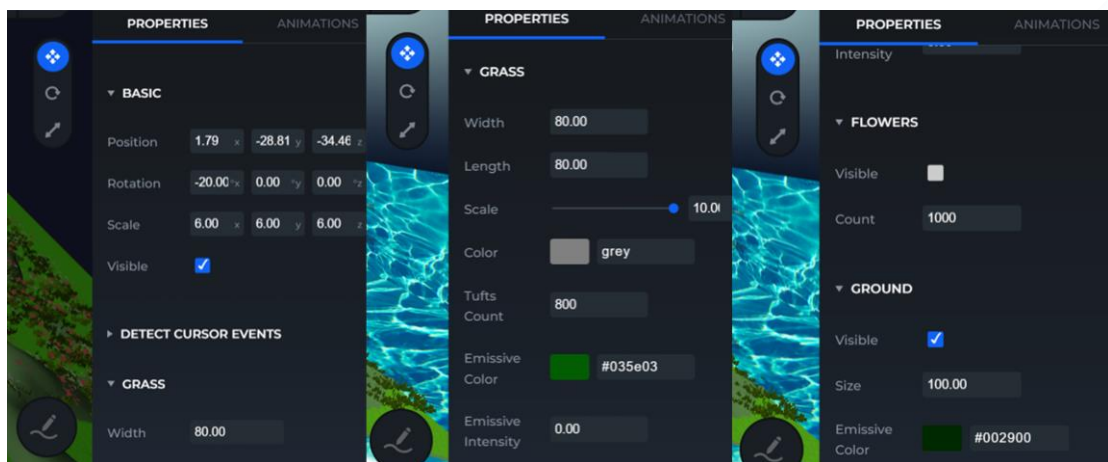
Rotation -20.00 x 0.00 y 0.00 z

Scale. 6.00 x 6.00 y 6.00 z

Scroll and change colour to #035e03

Scroll and Check visible option for Flowers.

Rest all keep same.



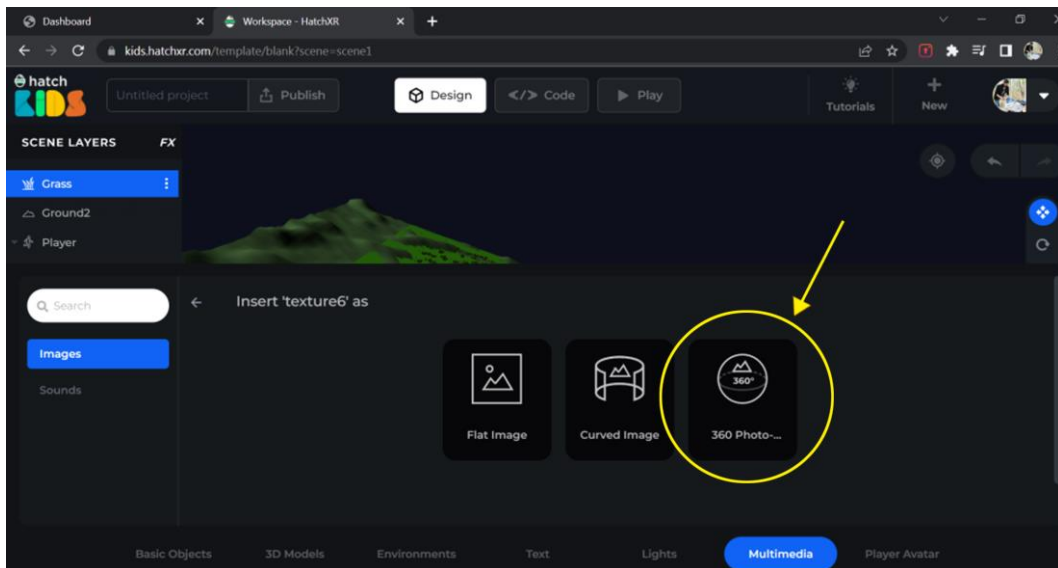
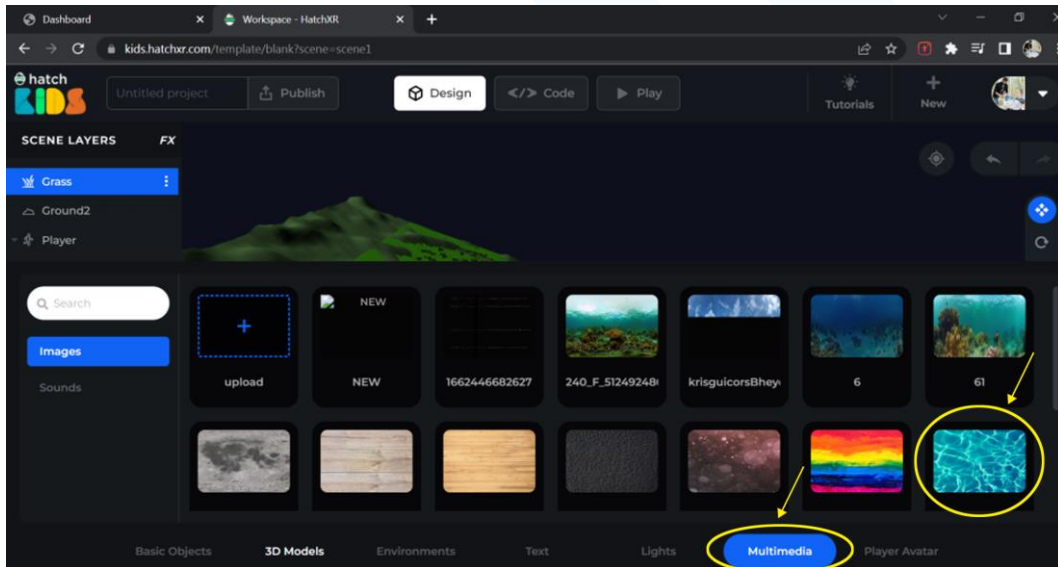
Here Grass and ground layout is done.

Part 4:

Setting up ocean layout

Step 10

Click on add object button, select multimedia choose the downloaded ocean picture and select it as 360 image.



Step 11

Set Basic

Position 0.37 x -1.09 y 1.46 z,

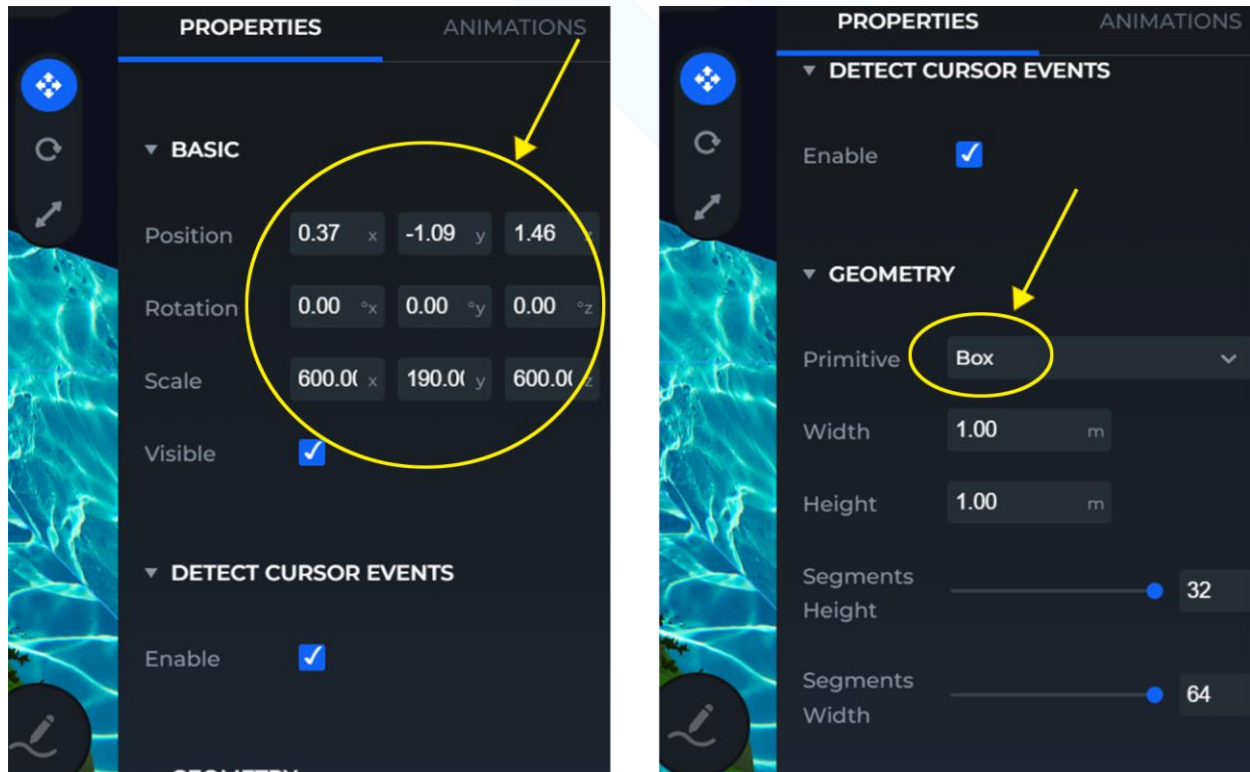
Rotation 0.00 x 0.00 y 0.00 z

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Scale. 600.00 x 600.00 y 600.00 z

Scroll and change primitive to Box

Rest all keep same as it is.



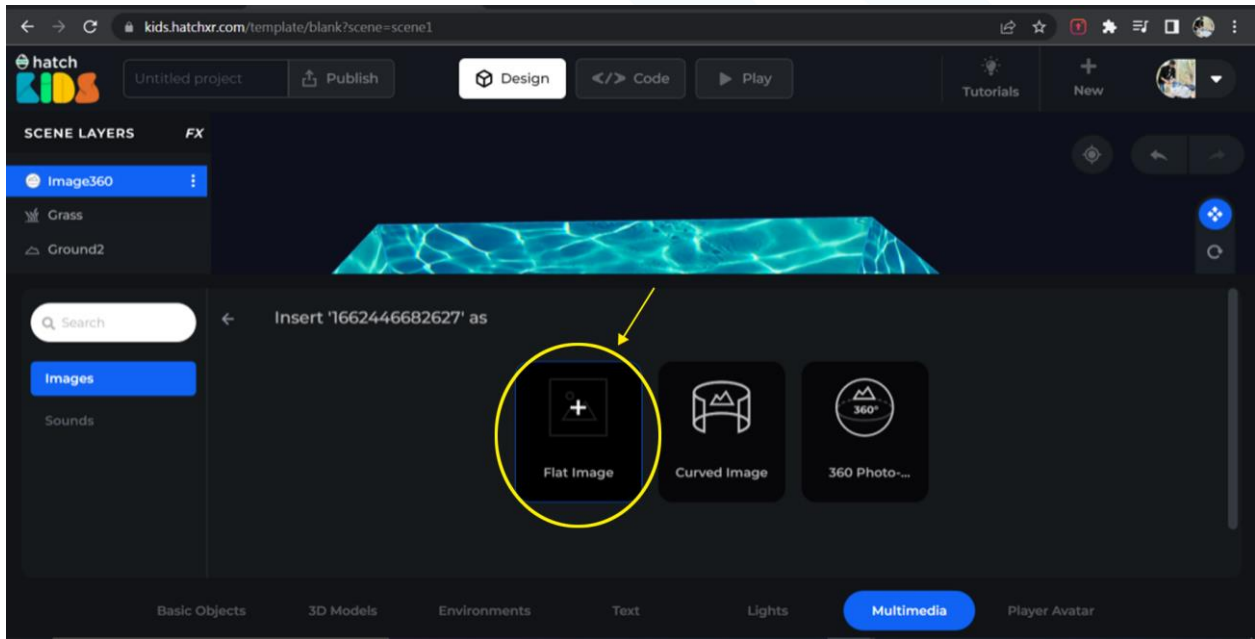
Here ocean layout is done.

Part 5:

Inserting depth meter image

Step 12

Click on add object button, select multimedia choose downloaded depth meter picture and select it as 360 image.



Step 13

After uploading flat image on layout

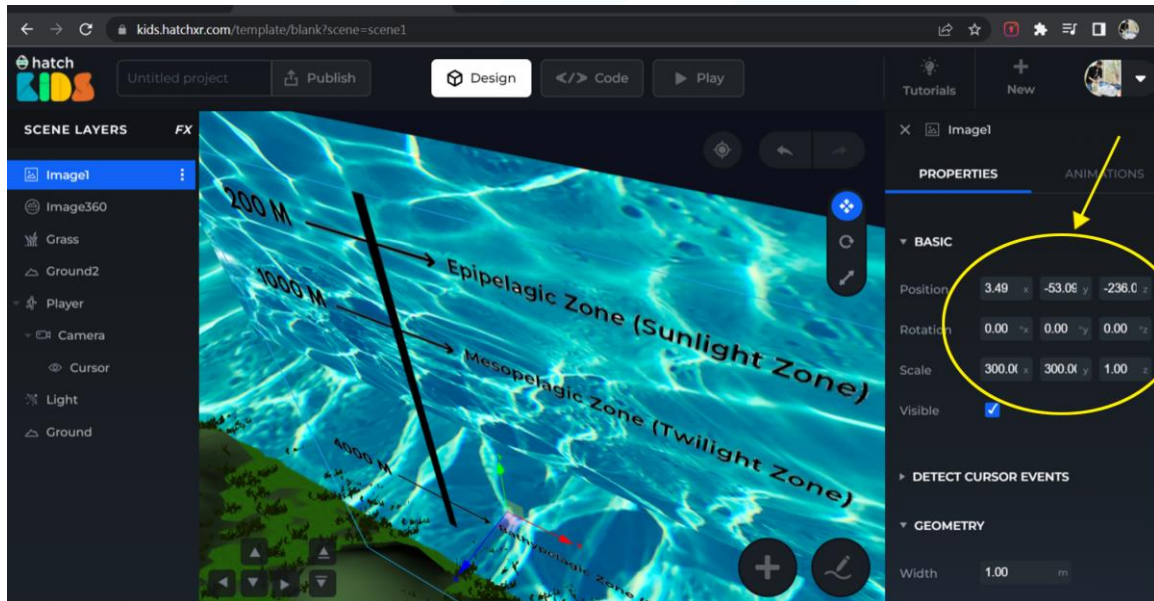
Set Basic

Position 3.49 x -53.09 y -236.0 z,

Rotation 0.00 x 0.00 y 0.00 z

Scale. 300.00 x 300.00 y 1.00 z

Rest all keep same values.



Here depth meter layout is done.

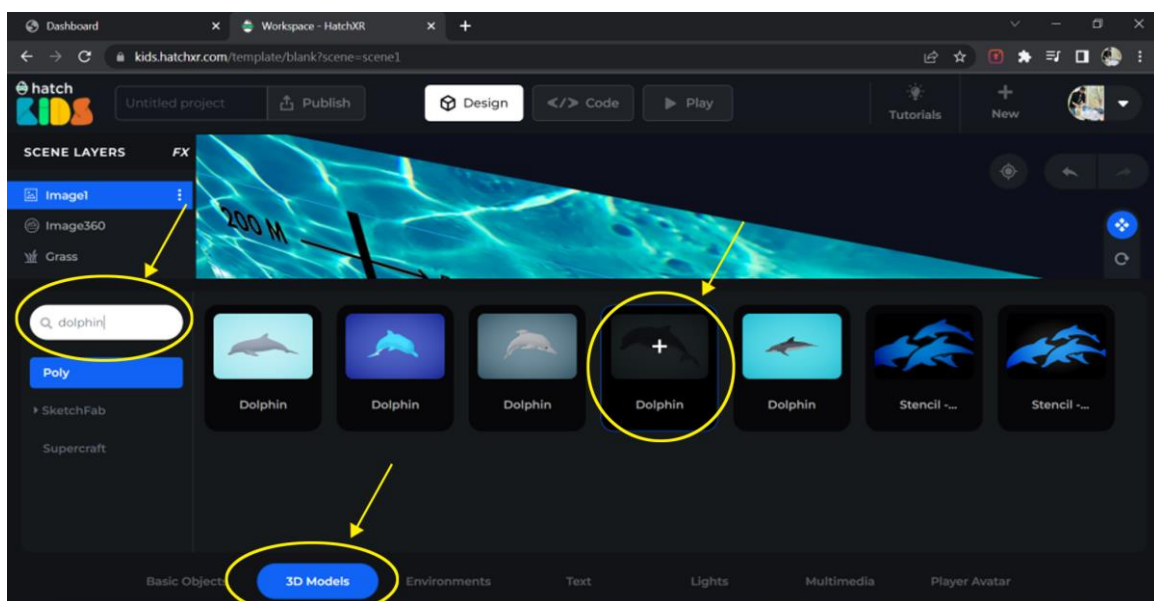
(Depth meter image can be downloaded from resource file)

Part 6:

Adding aquatic animals according to depth meter

Step 14

Click on add object button, select 3D Models and search for dolphin on search bar then select Dolphin.



Step 15

After selecting dolphin, go to properties and set basic

Position -86.44 x 81.64 y -237.4 z,

Rotation 0.00 x 90.00 y 0.00 z

Scale. 10.00 x 10.00 y 10.00 z

Rest all keep same as it is.



Step 16

Repeat same steps for all other aquatic animals for more re-presentable.

Step 17

Same for boat

Click on add object button, select 3D Models and search for boat on search bar then select required boat.

Step 18

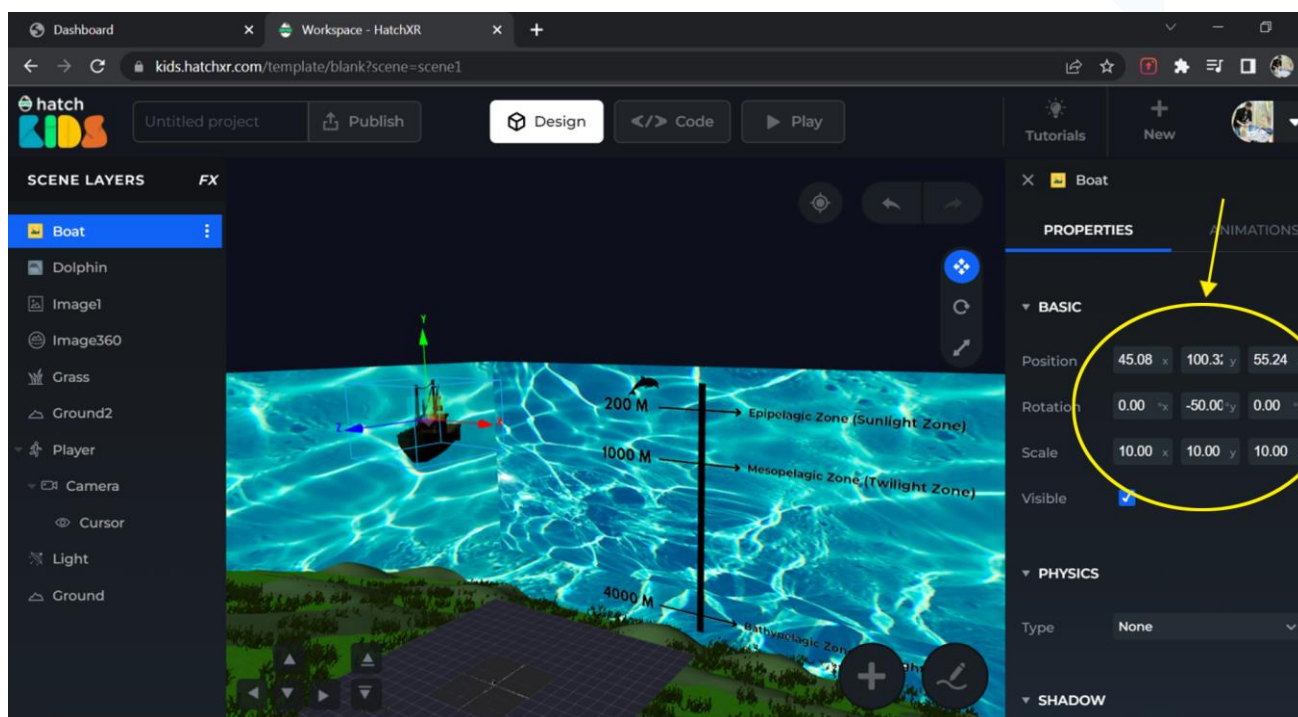
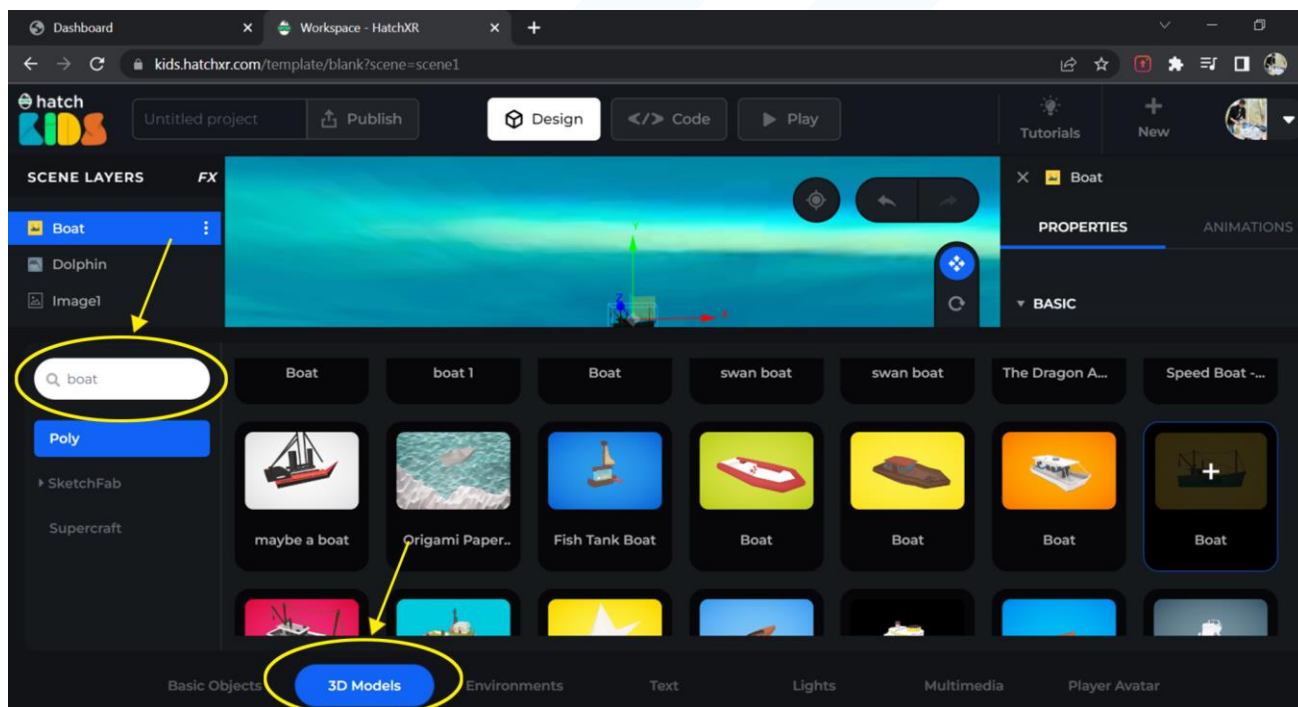
After selecting Boat, go to properties and set basic

Position 45.08 x 100.32 y 55.24 z,

Rotation 0.00 x -50.00 y 0.00 z

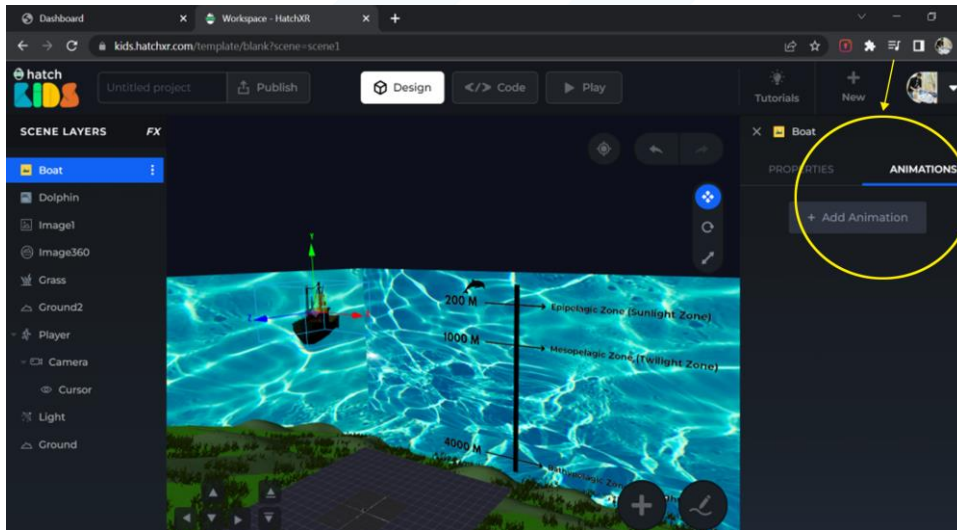
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Scale. 10.00 x 10.00 y 10.00 z Rest all keep same as it is.



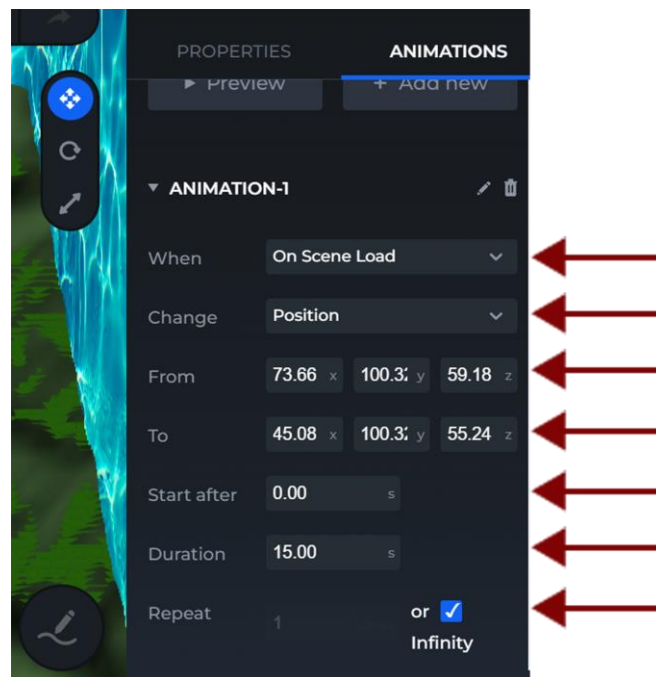
Step 19

Animate boat to move



Click on animations and select add animation

After selecting animation apply this as shown in below picture and for continuous loop tick check box of infinity.



Step 20

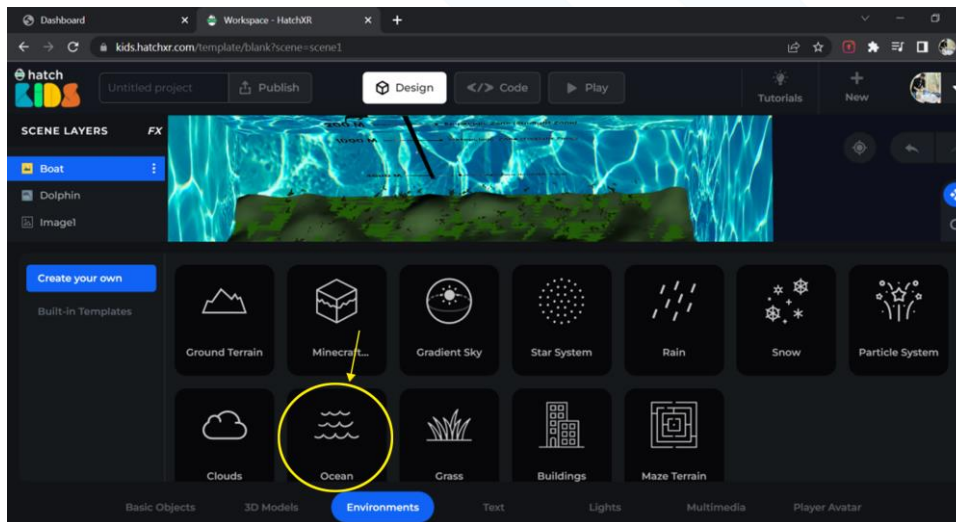
Here boat animation is done.

Part 7:

Applying Ocean layer on top

Step 21

Click on add object button, select Environments and choose ocean.



Step 22

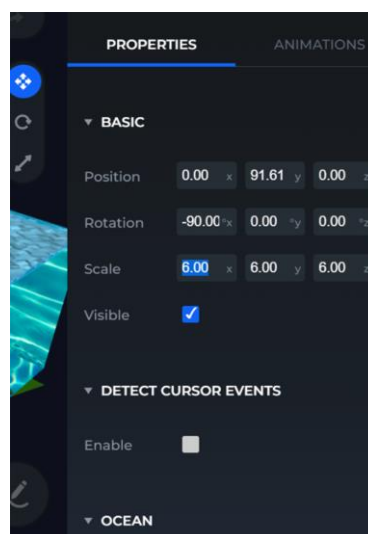
After selecting ocean, go to properties and set basic

Position 0.00 x 91.61 y 0.00 z,

Rotation -90.00 x 0.00 y 0.00 z

Scale. 6.00 x 6.00 y 6.00 z

Rest all keep same as it is.



Part 8

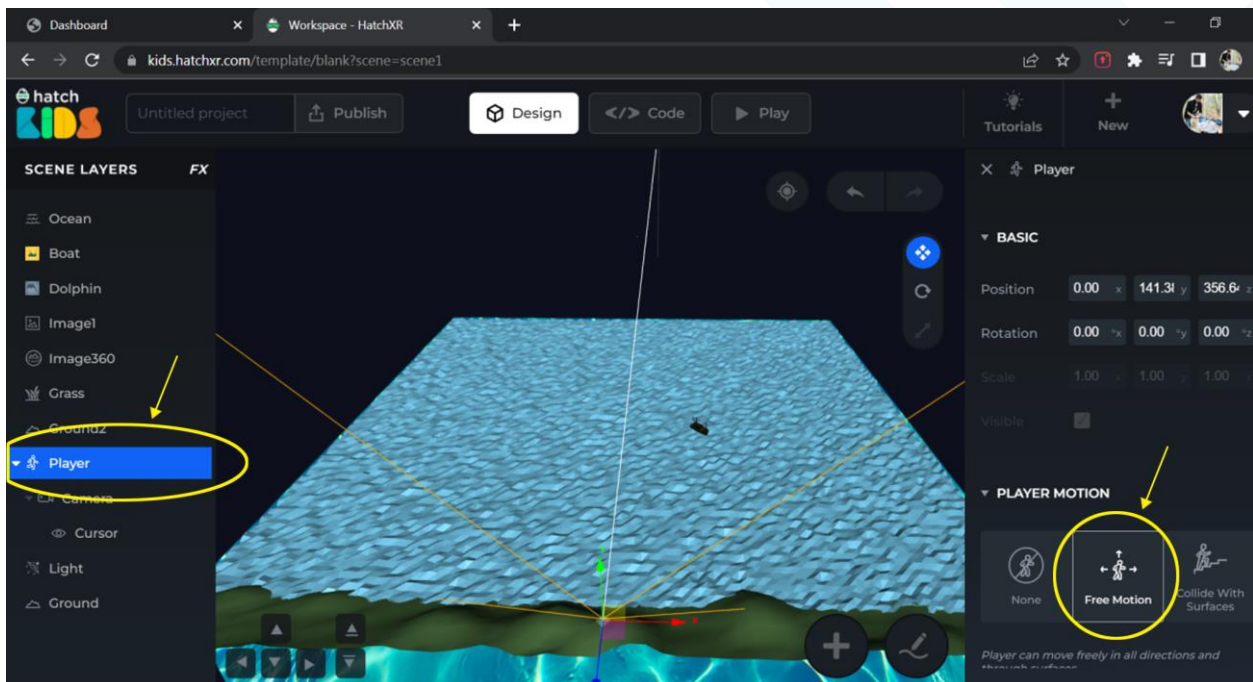
Positioning player

Step 23

Click on player, go to properties and set co-ordinates from where you want to start and play.

Step 24

Always keep player motion - Free motion



Part 9

Coding

Step 25

Click on code after clicking here you can just plug and drop code for which you want to make in action.

Step 26

Click on dolphin at left hand side down corner.

Step 27

Scroll and select “When dolphin collides with ____”

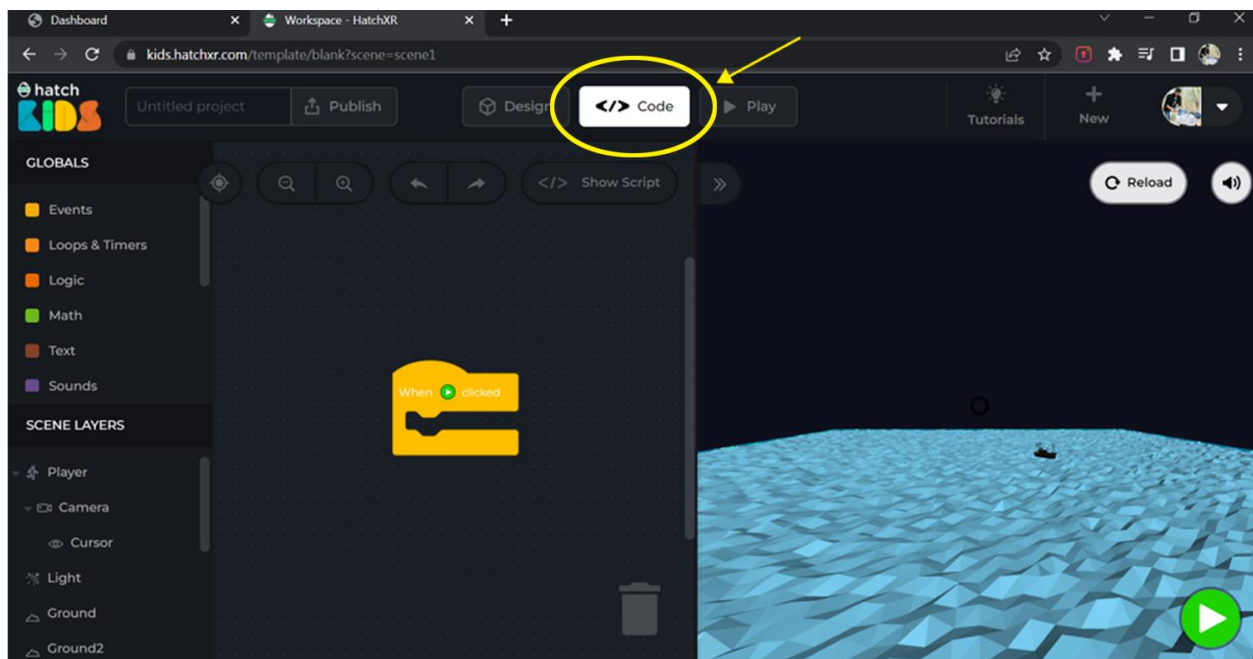
Step 28

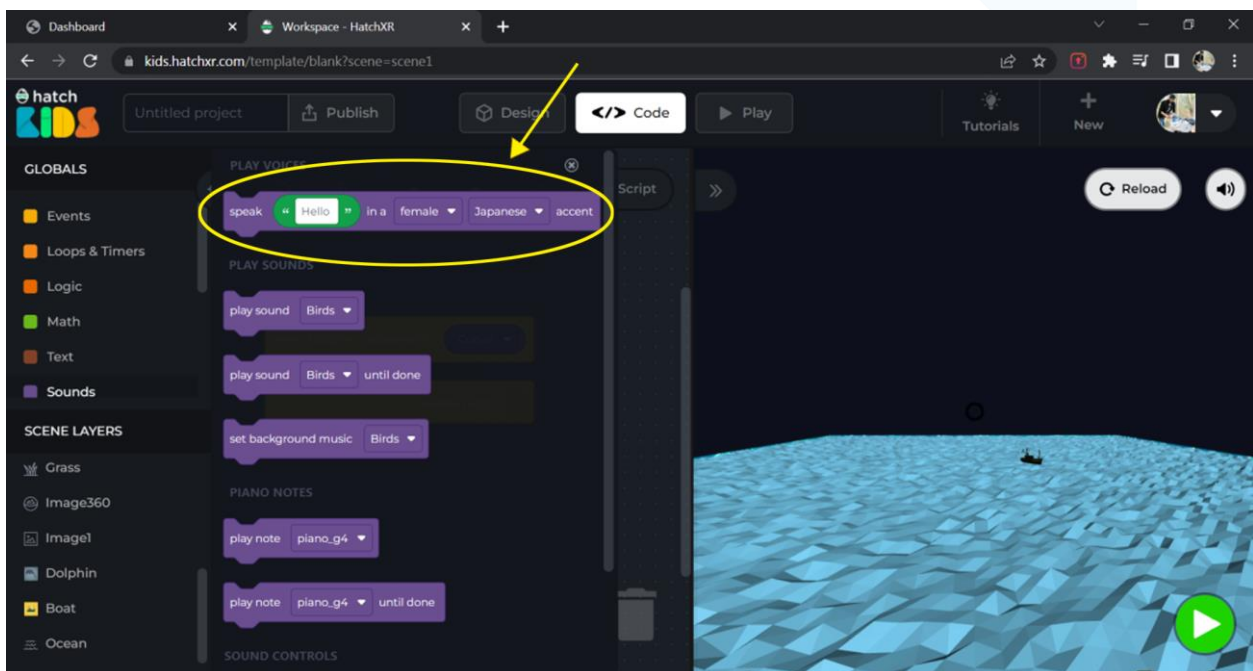
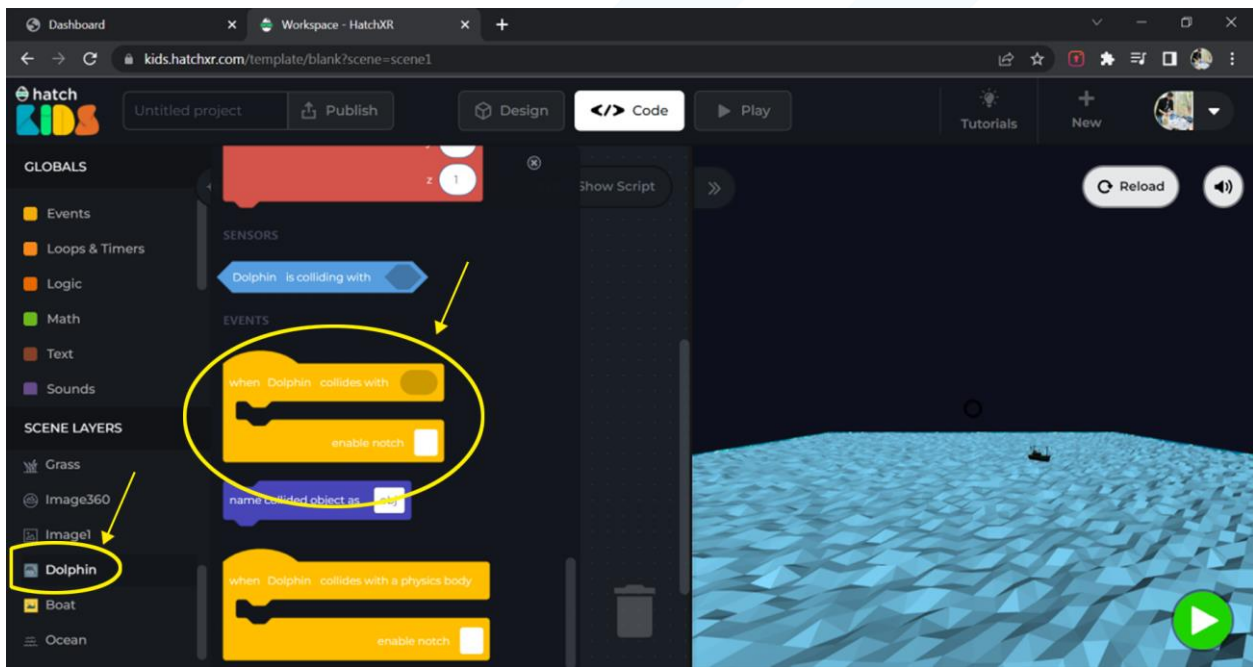
Again click on dolphin and pick “Dolphin” now drop down and select “Cursor”

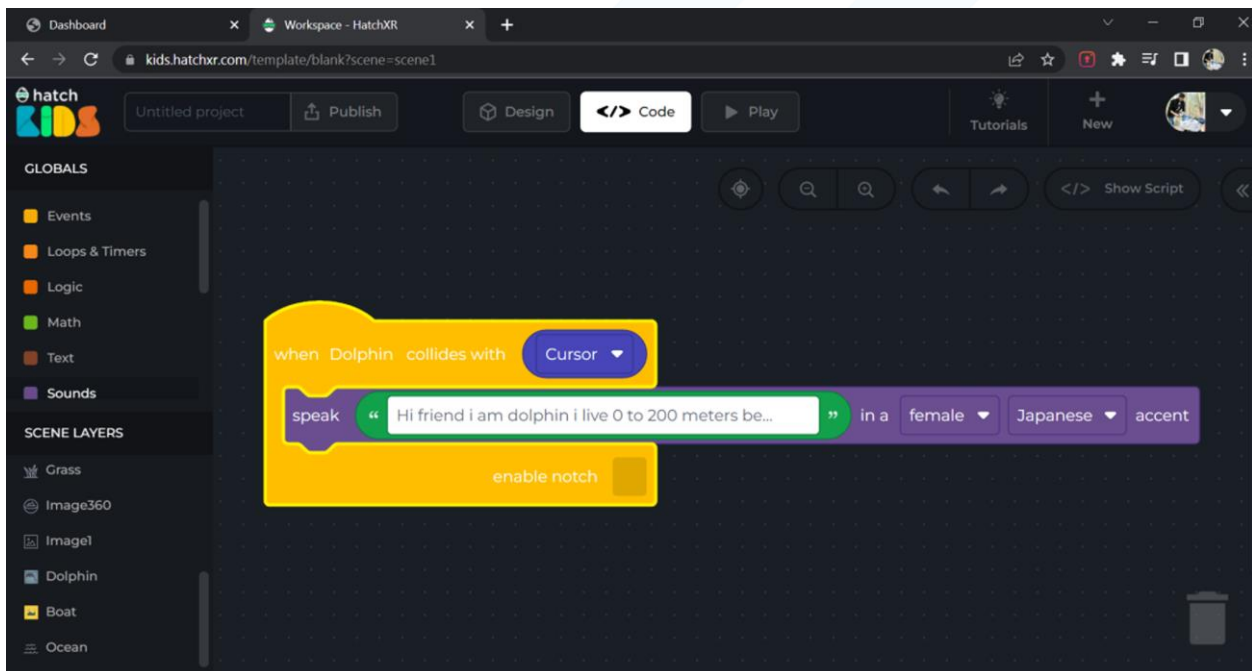
Step 29

Click on Sound and select “Speak (Hi friend i am dolphin i live 0 to 200 meters below water) in Female/Male (Select) Accent (Select)”

While playing when the cursor touches dolphin, Dolphin speaks Hi friend i am dolphin i live 0 to 200 meters below water in given gender and accent.







Now Select play button to experience the Virtual Reality environment.

Congratulations! You have created your very first virtual reality experience. Isn't it amazing!! Share this with your family and friends and let them have a VR experience of life below water. Check how much curiosity and understanding of ocean life is getting developed in people. Based on their response, think about new elements that you would like to add in your VR project to enhance their experience.