Course Plan

<u>Software/Platform required:</u> Blender, EnablAR
<u>Hardware required:</u> Virtual Reality Kit

Age group – 5th std to 8th Std
Sessions : 12   Batch Size : Min- 10

Module 1: Blender Basics
Topics Covered:
a) Learning 3D Viewports
b) Global, Local and Gimbal selection
c) Creating Basic 3D objects
Practical Covered
1. Ico Sphere
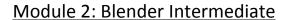2. Sphere
3. Cylinder
4. Cube
5. Monkey

d) Mesh Manipulation
Practical Covered:
1. Location
2. Rotation
3. Scale
4. Create a Table and chair
5. Create 3 more 3d models

e) Edit Mode in Blender
Practical Covered:
1. Vertex mode
2. Plane mode
3. Line mode
4. Selection Tool
5. Create a table in Edit mode only

f) Switching between edit mode and object mode
g) Joining 2 different meshes

Module 2: Blender Intermediate

Topics Covered:
a) Adding Materials to a model
b) Adding multiple materials to an object
c) Learning the Extrude tool
d) Learning the loop tool
Practical Covered:

      1) Creating a wine glass
      2) Creating a water bottle
      3) Create a simple 3D model of a pencil and color it
      4) Create a 3D model of a Plane and color it

Module 3: Augmented Reality/Virtual Reality with EnablAR

Topics Covered:
a) How create your account on EnablAR?
b) How to develop your first application on EnablAR?
c) Adding a personalized icon to your application?
d) Uploading your 3D models on EnablAR.
e) What is an .apk file?
f) Download and Install an app made on EnablAR in your Smartphone?
g) How to pair you Bluetooth remote with your Smartphone?

Module 4: Augmented reality

Topics Covered:
a) What is AR?
b) Fundamentals of AR.
c) How AR works?
1) Concept of triggering and trigger image.
2) Viewing Device
3) 3D experience
d) How to Make an AR application on EnablAR?
e) How to Customize the button names for your application?
f) Concept of Markered and Markerless AR.
1) How to create a Markered AR application on EnablAR?
2) How to create a Markerless AR application on EnablAR?
g) Applications of AR in the real world.

Assignment:
1) What are the components of AR?
2) How to view your 3d models in AR

Module 5: Virtual Reality

Topics Covered:
a) What is VR?
b) Different components of VR
  1) VR World
  2) VR Headset
  3) VR Controller
c) Why do we have split screen?
d) Why is a headset required?
e) What is a Reticle?
f) How to Make a VR application on EnablAR?
g) Fundamentals of Static and Dynamic VR.
  1) How to create a Static VR application on EnablAR?
  2) How to create a Dynamic VR application on EnablAR?
h) How to make your own VR headset?
i) How to use the controller?

Assignments:
1) Marking various VR components in a given picture.
2) Distinguishing weather the given application is AR or VR.
3) Locating your 3D model in a Dynamic VR Environment.

Projects:

1) AR based Smart text book
2) AR based coding game
3) AR based drone shooting game
  1) Using coding
  2) Create their own game