

## **Games Development using Virtual Reality**

### Course Content:

Introduction to Unity 3D

Understanding Unity development eco system

- Versions of Unity
- Features
- Working with Unity 3D

Installing Unity

- Introduction to the Object-oriented Paradigm
- Unity Basics:
- Unity Entities
- Meshes
- GUI Elements
- Materials
- Lights
- Particle Systems
- Basic elements of Game Development

Scripting in Unity

- Scripting basics & Creation
- Type of Scripting and use
- Transform
- Renderer
- Physics
- Collision
- Time Correction

Unity 3D Game Development:

- Example: Scripting a demo game
- Exploring Documentation / Learning More

- Building Your Game / Compiling

- Closing Notes

WorldViz Vizard VR Toolkit

Introduction of Python

- Installing python framework
- Understanding python lifecycles
- Entering and running a program structure

Data types and variables

- Expressions , statements and variables
- Working with numbers, Strings
- Understanding list and tuples
- Python Input / Outputs
- Making decisions : If / else statements.
- Working with For / while loop
- Defining functions and passing arguments.

Understanding WorldViz Vizard IDE

- Understanding Vizard workbench
- options windows
- Package Managers
- Create and run a script
- Docking a running scripts
- 3d Models
- Osg Workflow

VizConnect control setup

- Display and trackers
- Input and transport
- Tool Events

- Avatar Gestures
- Transport Commands

#### Coordinate Systems

- 3d Models
- Querying Positions
- 2D & 3D texts
- Changing the fonts
- Adding Shapes

#### Avatars

- Animating Bones
- Attaching a Head / Head Morphing
- Animating Avatars
- Using Built in Animations
- Animating Avatar Interactions
- Using Inspector

#### Working with sketchUp Make software

#### Working with Google sketch up models using VR

#### Toolkits

Fees: Rs. 1350/- per head

Take Away: Google Cardboard worth Rs. 350

(individual)