Gaming & Animation ELC Information Brochure 2020-21

Computer Science & Engineering Department,

Thapar Institute of Engineering & Technology (TIET)

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THAPAR INSTITUTE
OF ENGINEERING & TECHNOLOGY
(Deemed to be University)

For more details, kindly scan the QR code

Detailed description of the topics to be covered in Hands-on session

Target Students Group: **3rd Semester students of CSED**

Title of the Activity: *VSRF: Virtual Strength for Real fear* (A Virtual Reality based Open ended Game challenge)

Brief Description:

Virtual Reality (VR) is the use of computer technology to create a simulated environment. Unlike traditional user interfaces, VR places the user inside an experience. Instead of viewing a screen in front of them, users are immersed and able to interact with 3D worlds. By simulating as many senses as possible, such as vision, hearing, touch, even smell, the computer is transformed into a gatekeeper to this artificial world. The only limits to near-real VR experiences are the availability of content and cheap computing power.

Scope of the Work:

The activity is aimed to provide knowledge about Virtual reality scene creation and 3D modelling and animation. 3d interactive games will be developed for virtual reality platform using self created 3D models.

Problem Definition:

There are various fear factors present in real life of a human for example acrophobia (fear of height), Nyctophobia (Darkness fear), Stage phobia (fear of public speaking or performance) etc. These factors may badly affect the normal life of any human being. Sometimes medication is not enough to cure these phobias. So, in this ELC activity, students will be assigned an open ended challenge to provide a solution to overcome any of the phobias using virtual reality game development.

Outcomes:

A virtual reality game/utility based solution for curing the any of the phobias of real life. For example in case of acrophobia, students may design a VR game where they may choose different heights to walk. By this way a patient may maintain his balance without the chance of actually falling down. Similarly he can monitor their health status for different heights.

Learning:

After completion of this activity, students will be able to:

1. Create 3D models with available primitive models.
2. Design 3D virtual environment using created 3D models to solve the real-life problems.
3. Interact with 3D models available in the virtual environment.
4. Develop virtual reality games/utilities (.exe/.apk) based for solving the real life problem.

Software requirements:

(Students are requested to download following S/W for this session)

Unity 3D (Free Personal (Student) version 2018.3.14f1 or above), Windows 7 or above/MAC, Google Virtual Reality (GVR) SDK, Java Development Kit (JDK), Java Runtime Environment (JRE), Android Studio.

Download link:

- **Unity:** https://unity3d.com/get-unity/download/archive **(Note: Do not download UnityHub. Please download through only Windows or Mac Unity installer.)**
- **JDK:** https://www.oracle.com/java/technologies/javase-jdk8-downloads.html
- **JRE:** https://www.oracle.com/java/technologies/javase-jre8-downloads.html
- **Android Studio:** https://developer.android.com/studio/
- **GVR SDK:** https://github.com/googlevr/gvr-unity-sdk/releases/tag/v1.100.1

Blender 2.79 Download link:

https://download.blender.org/release/Blender2.79/

Note: Please download the blender 2.79 version as per your system configuration (32-bit, 64- bit)

Hardware Requirements:

Laptop with at least 4 GB RAM and webcam, USB mouse, Graphics card (optional), Android based Smartphone (API level > 19).

Faculty involved:

Dr. Shailendra Tiwari and Dr. Shivendra Shivani