RV College of Engineering®

CENTRE OF EXCELLENCE
EXTENDED REALITY CENTER FOR EDUCATION AND RESEARCH

Established and funded by
Rashtreeya Sikshana Samithi Trust (RSST) & VGST K-FIST L2

The Centre of Excellence in Extended Reality has been under continuous development since 2022. This centre focuses on use of Immersive Technologies to accelerate Digital Transformation and Innovation. The Center is dedicated to work towards adoption and integration of XR in education for creating immersive, interactive and engaging educational content with aim towards empowering young learners. The center provides facilities to develop applications in

1. Virtual Reality
2. Augmented Reality
3. Mixed Reality

Focus Areas

It is a state-of-the-art facility focuses on environment design, registry, calibration and tracking of game objects and UI components of eXtended Reality applications.

1. Environment Design - To conceptualize, design and calibrate the assets using modeling tools and registering them with XR environment
2. Tracking – To control object behaviour and instantiate the event system to interact with the user commands
3. Consulting and Training - Impart Conceptual and Hands-on Training on the topics of Extended Reality

Achievements

Funding sanctioned - Rs 30L from VGST under KFIST -L2	Trained over 250 + Students & Faculty	Offering Project works on VR, AR & MR
Working with experts in the domain to take the technology to the end users	Technical Talks 10+	Awards Received 2

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Facilities @ XRCER

A) Virtual Reality

The XRCER centre employs various methods for the implementing virtual reality concepts using Unity 3D. The essential models are imported from Asset Store or are customized using 3D modeling Open-source tools such as Blender. The broad classification of applications in VR:

1. VR Walk Through
2. VR Simulations
3. VR Games

B) Augmented Reality

The COE XRCER works on the Augmented Reality implementation through use of third-party platforms such as Vuforia and Unity's AR Foundation. Both marker-based and Marker-free AR applications are worked on in the center. The applications suited to be designed and developed using AR technology:

1. Training Simulators
2. Text Augmentation for Information Flow
3. Product Display

Software And Hardware @ Xrcer

1. The Unity 3D license under "Unity Academic Alliance" has been procured for a duration of 3years from 2023 to 2026.
2. The free open-source software tools like Blender, SketchUp, FreeCAD are used for model design and building.

Quest 2

Quest 3

Meta Pro2

Microsoft Hololens2

Canon VR 360 Camera

GoPro Max 360 camera

Samsung s10 ultra tablet

Current Application Themes

The current reverence of XR in education, industry and research stands in creatively designing, calibrating, registering and tracking the contents essential for applications as

1. Educational Content Design using VR/AR
2. IoT based AR Applications
3. AI Based VR/AR Applications

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