



Mindtree

A Larsen & Toubro Group Company

Immersive Technologies in Education Sector



Customer Experience (CX) is the battlefield for brands. Differentiated CX is core to improving and retaining customer loyalty. Mindtree, with its deep digital expertise, has been at the forefront of helping enterprises deliver enhanced and contextual experiences to their end clients.

User Experience is undergoing a **tectonic shift** in terms of how customers perceive and interact with the digital world. The shift in perception augmented by AI and interactive technologies like **Augmented Reality (AR)**, **Virtual Reality (VR)** and **Mixed Reality (MR)** is driving multisensory and multimodal user experiences. This unleashes new possibilities to transform interactions throughout the customer experience.

Overview

Immersive technologies AR VR MR are expected to grow at a CAGR of 78.3 percent for the next five years to reach nearly 10 times the scale it's expected to hit this year, going from \$16.8 billion in 2019 to \$160 billion in 2023.. Given that immersive experiences produces higher engagement, Augmented Reality is implemented in classrooms to create environments which are more conducive to learning. It also allows access to individuals with disabilities, by allowing them the same facilities as any other student, through a headset or a handset. Moreover, by facilitating a larger set of experiences, AR/VR also creates better teachers, by equipping them with the tools to engage with children in a more effective manner. Virtual tours of universities and colleges assist students in faster decision making.

Where can one use this?



Prototype



Sales & Marketing



Customer Experience



Training



Service & Operations

How are we positioned?

With physical and virtual worlds converging, Mindtree is well-positioned to help clients, rapidly unlock value from their immersive technology business use cases

Technology Essentials

True immersive experience is an amalgamation of various technologies like AR VR MR, Computer Vision and Artificial Intelligence (AI).

Category	Tools/Activities
3D Content Authoring	Blender or Maya Unity 3D Gimp, Photoshop 3D Modeling UV Unwrapping Shading & Texturing Skinning, rigging Animation Unity shading & texturing Lighting, Baking, Rendering
Game Engine / IDE	Xcode(iOS), SceneKit Android Studio, PyCharm - Python Dev Visual Studio, Sceneform Unity Editor and Unity Engine Compositing VFX Interactions Integrating AI Voice Integration Sound Integration Cloud Integration
Augmented Reality SDK	Vuforia Vuforia Expert capture - AR Instructions Vuforia Studio - Author and publish AR Apps Vuforia Engine - Advanced computer vision, calibrated performance and cross platform Vuforia Chalk - Remote ARCore - Android AR Kit - iOS Hololens Full feature AR App Development Integrating SDK's Platform specific modification Camera Scene Capturing Advanced Scene Processing Display – Rendering Effects Positional and Orientation Tracking Screen flooding Object / Image Tracking
Mobile App Development Frameworks	Native App Development Frameworks: Android SDK iOS SDK Cross Platform Development Frameworks: Xamarin Ionic / Cordova React Native Flutter Appcelerator UI Design Animations API integrations DB handling Plug-in integration Deployment
Hardware Technologies	True Depth camera (iOS) Depth sensing camera Gyroscope and accelerometer BLE Using point cloud for environment understanding and face tracking Device Motion Control Integrating with peripheral devices
Artificial Intelligence (AI) & Computer Vision (CV)	TensorFlow, PyTorch, Keras, TuriCreate, OpenCV, Apple computer vision, Microsoft Vision, Vuforia Model Target Generator Natural Language Processing (NLP) Engines - Microsoft (LUIS), Amazon (Lex, Alexa), Google (Dialogflow), RASA, Mindflow, Salesforce Einstein, SAP Leonardo Training of Models Object detection Face shape detection Edge Detection Model Detection Creation of TF Lite Model and Core ML Conversational Interaction

Possibilities



Prototype

Design University
Design Facility Center
Design Laboratory

Sales & Marketing

Virtual University Tours
Digital Brochure / Catalogues

Customer Experience

Virtual Learning Experiences
- Virtual Classrooms
- Virtual Labs Simulations

Training

Training Educators
Expert Coaching
Virtual Learning Experiences - Internal Staff
Facility Equipment Training

Services & Operations

Remote Expert Assistance
Service Manual Instructions

Benefits



Enhance Learning Experience



Explain Abstract & Intricate Ideas through AR



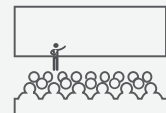
Increase Level of Engagement



Contextualized Learning



Inclusivity For People With Special Needs



AR Improves Teaching Skills





Our Experience

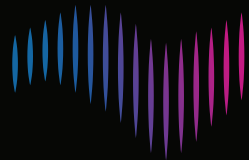
CES Innovation
Award



30+ pilots/implementations
across industries, delivered
at scale



State of the art
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IMMERSIVE AURORA

Where Possibilities Come Alive

An India-based center of excellence, to develop immersive technology experiences that unleashes new possibilities.

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