TORQUE-X Accelerator

Bike Showroom

By Team-SAD v.1

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PROBLEM STATEMENT OF THE IDEA

The goal of this project is to develop an immersive XR bike showroom experience that addresses these limitations. By integrating augmented reality (AR) and virtual reality (VR), this solution allows customers to explore a wide range of bike models in a virtual showroom, customize their selections in real time, and even simulate test rides in various environments—all from the convenience of their location.

Key objectives:

- Expanded Selection: Allow customers to explore the entire range of bikes, including custom options, without physical inventory constraints.
- Personalized Customization: Provide interactive options for customers to visualize and configure bikes with custom colors, accessories, and modifications.
- Immersive Test Rides: Enable customers to experience virtual test rides in different terrains, simulating real-world conditions like mountain trails, city streets, and highways.
- Sales Integration: Create a seamless, XR-enhanced purchasing flow that bridges virtual experience with real-world sales channels, including financing and scheduling in-person test rides.

Impact:

This XR-powered showroom has the potential to significantly enhance customer engagement, improve decision-making, and expand access to the showroom experience beyond geographical limitations, thus transforming the bike retail landscape.

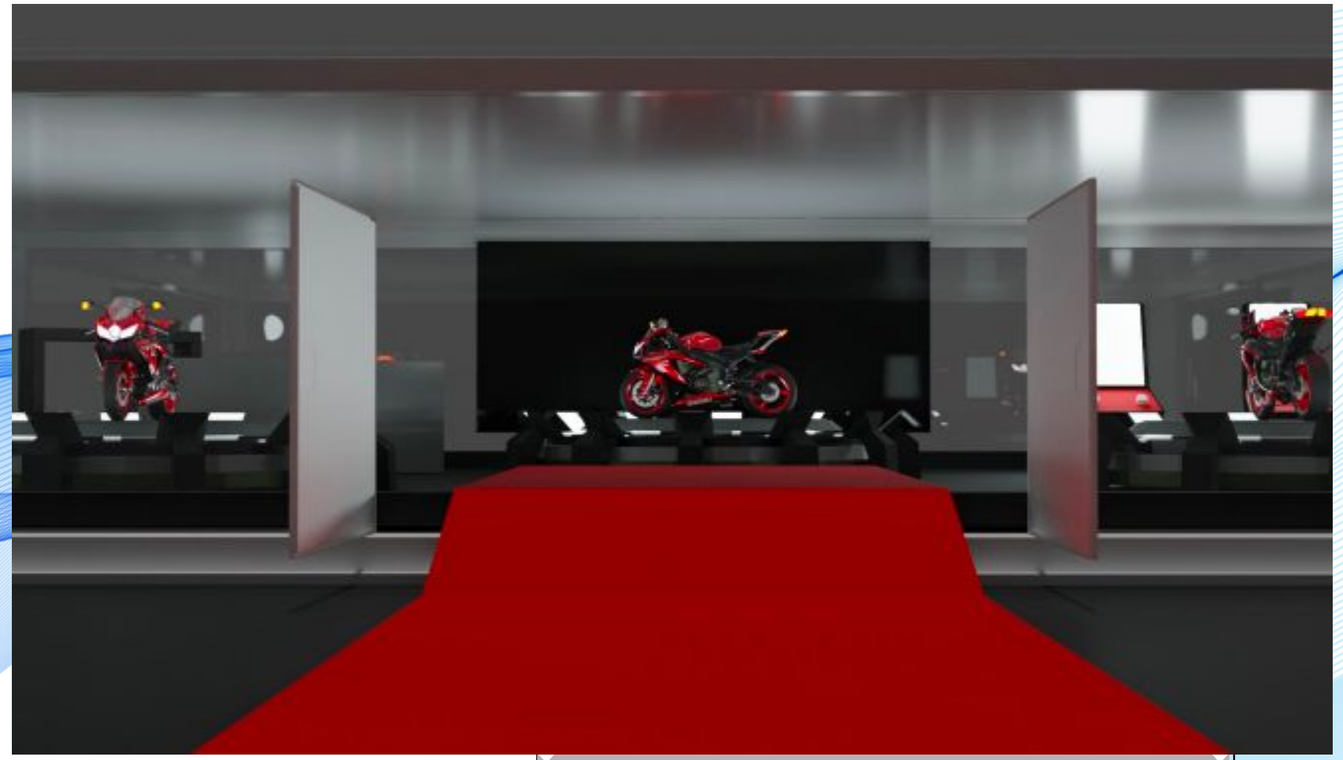
SOLUTION DESCRIPTION OF THE IDEA

An XR-powered virtual bike showroom that transforms the customer experience by providing a fully immersive, interactive, and personalized journey, combining virtual reality (VR) and augmented reality (AR) technologies.

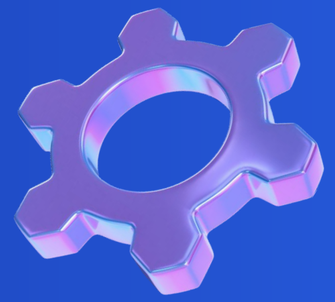
Key Features:

- **Virtual Showroom (VR):**
  Customers explore an expansive virtual showroom with the entire bike lineup, including limited editions and customizable models.
- **AR Customization App:**
  Through a mobile app, users can visualize life-sized bikes in their environment, customizing colors and accessories in real-time.
- **Immersive Test Rides (VR/AR):**
  Simulated test rides allow users to experience bikes in various terrains, with realistic physics and optional haptic feedback.
- **AI Sales Assistant:**
  A virtual AI assistant provides 24/7 guidance, answers questions, and assists with financing and checkout.
- **Integrated E-commerce:**
  Users can complete purchases directly within the XR experience, select financing, and schedule final checks at a physical location.

DESIGN MOCKUPS



DEVELOPMENT TOOLS



Software: Unity 3D – VR/AR environment, Node.js – Backend, Blender – 3D modeling, ReactJS – Web/mobile interface, Figma / Adobe XD – UI/UX design

Scripting Languages: C# – Unity scripting, JavaScript – Web and backend

SDKs: XR Interaction Toolkit – Unity XR support, Meta XR SDK – Meta Quest integration, ARKit / ARCore – Mobile AR

Other Tools: Postman – API testing, GitHub – Version control, AWS/Firebase – Cloud hosting

Hardware you're building upon: Meta Quest 3 – VR headset, Mobile Devices (Android & Apple) – AR experiences

Additional Information

Unique Selling Points:

- Fully Immersive Experience: Combines VR and AR to provide an all-encompassing showroom journey.
- Personalization: Real-time customization of bikes with AR, tailored test rides, and interactive AI guidance.
- Accessibility & Flexibility: Accessible anywhere via mobile and VR, reducing dependency on physical showrooms.

Future Plans:

- Enhanced Test Ride Simulation: Integrate advanced physics and haptic feedback for more realistic rides.
- AI-Powered Recommendations: Use customer data for personalized bike suggestions and configurations.
- Multi-Device Sync: Enable users to switch seamlessly between devices for a unified experience.

Acknowledgements:

- Meta Quest and XR SDKs for development support.
- Unity Community for resources and tutorials.
- Team Members for collaboration and innovation throughout the project.