VR based Convenience Store using ML

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Project Guide
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Introduction

- 3D Convenience store is a mobile app powered by Virtual Reality to enable advanced shopping experience.

- 3D Convenience store focuses on bringing a more practical approach to the current shopping system(2D & on-site) using 3D simulation and interaction.

- The proposed system introduces a VR based 3D Convenience store where the user can experience Real world based shopping activities Virtually from the Comforts of their home.

- This virtual Convenience store will have an easy to interact UI.

Objectives

- To advance the current Shopping system by providing user an immersive experience.

- To allow the users get the feel of the object's texture, pattern similar to that of real world shopping.

- To cut down the amount of time required to search the products by suggesting relevant items to the user.

Problem Definition

- With the 2D shopping websites used today, they have their natural limitations, which is a particularly important element of shopping.

- Malls and grocery shops are closed or there are many restrictions imposed on them due to ongoing pandemic.

- Customers have to wait in long queues in order to get the tokens increasing the manual work and the amount of time.

Technological Stack

Software Requirements:

- 3D Modelling – 3Ds Max

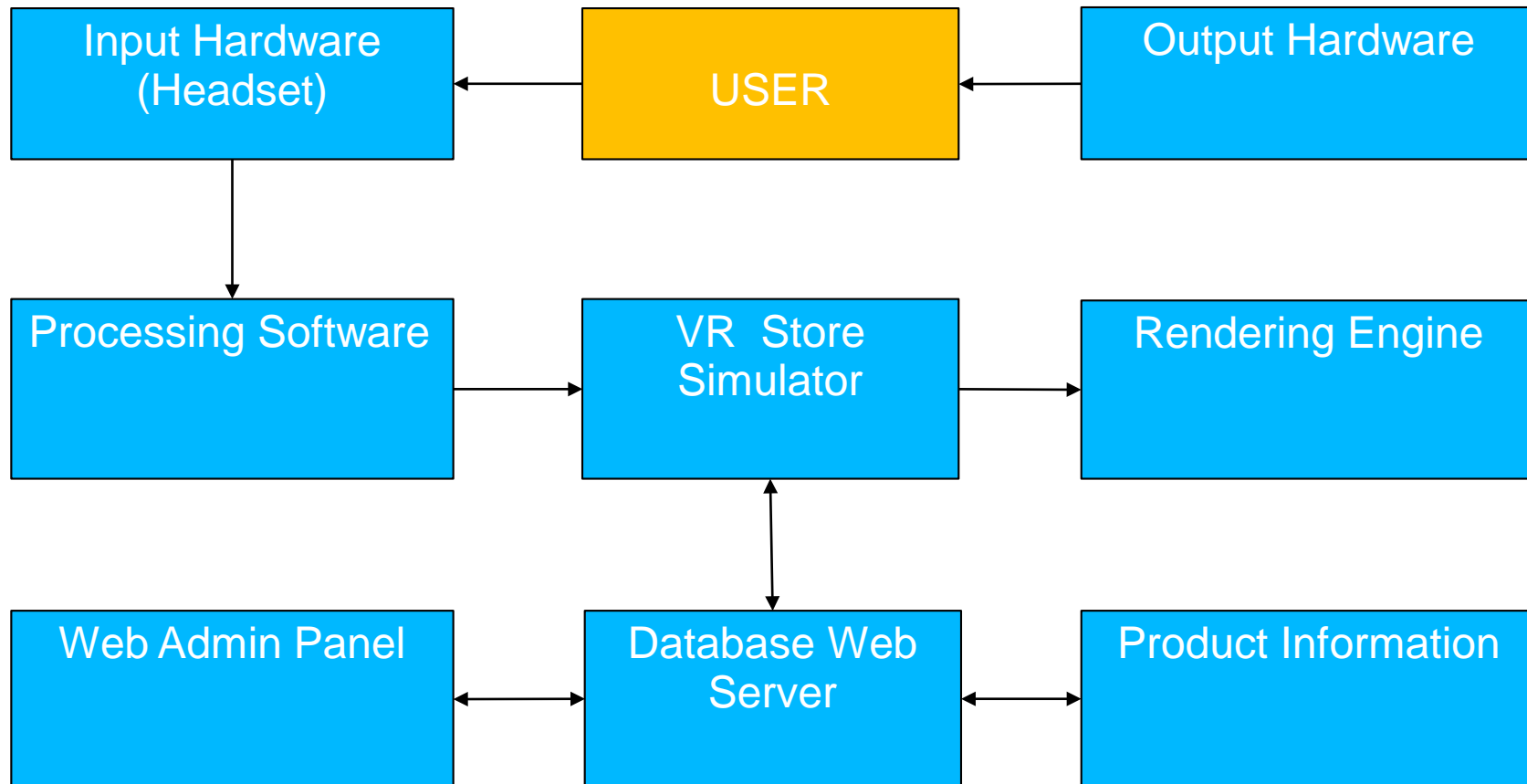- VR Engine - Unity (C#)

- Machine learning algorithms

Hardware requirements:

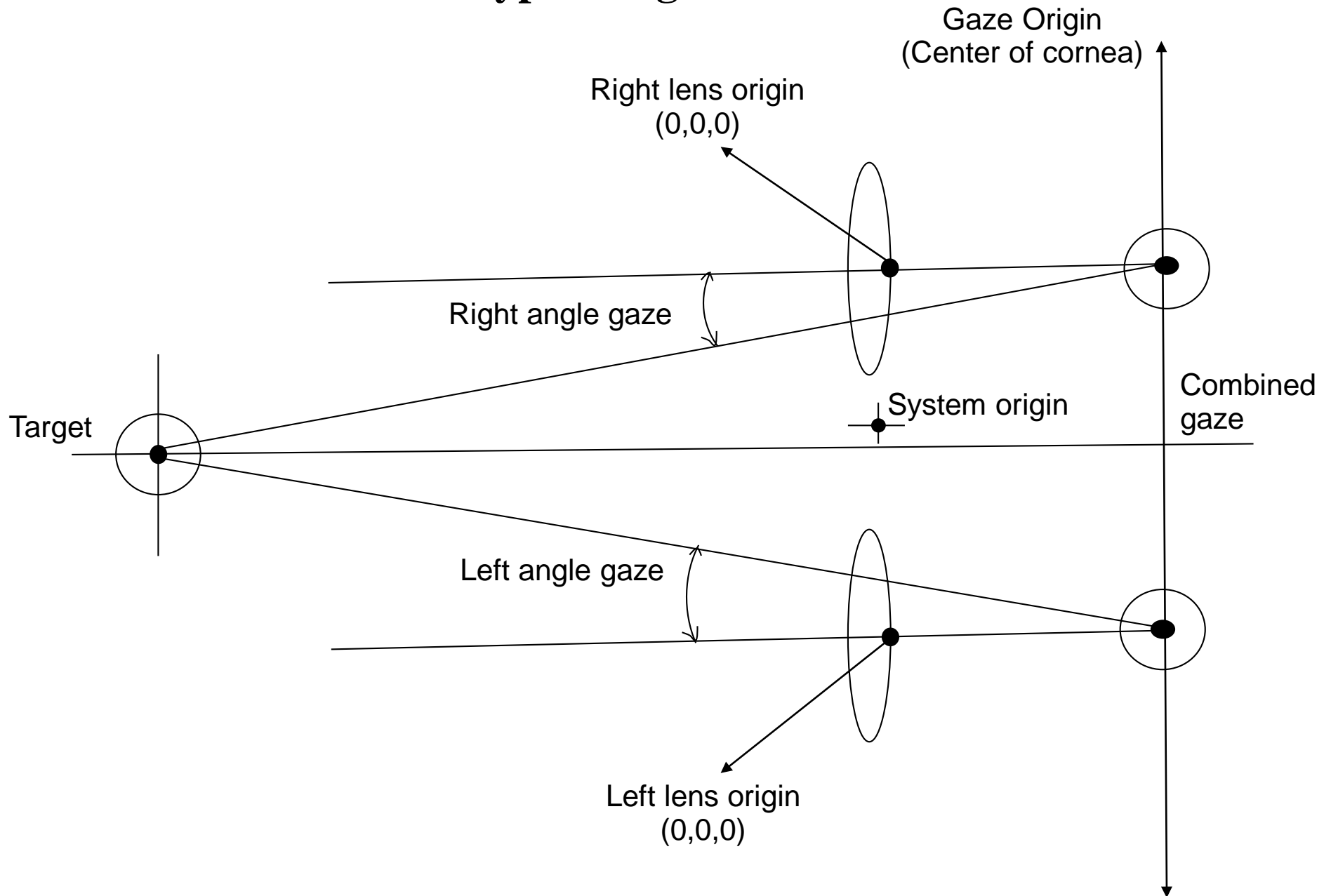- VR Headsets with Bluetooth controller – Rs. 3000/- approx.

Review Suggestions

- Decide if it is going to be a desktop app or a mobile app

  (Using Android store, mobile app will be developed)

- Finalize the Products range

  (This app will be focusing on all the things available in Grocery Store)
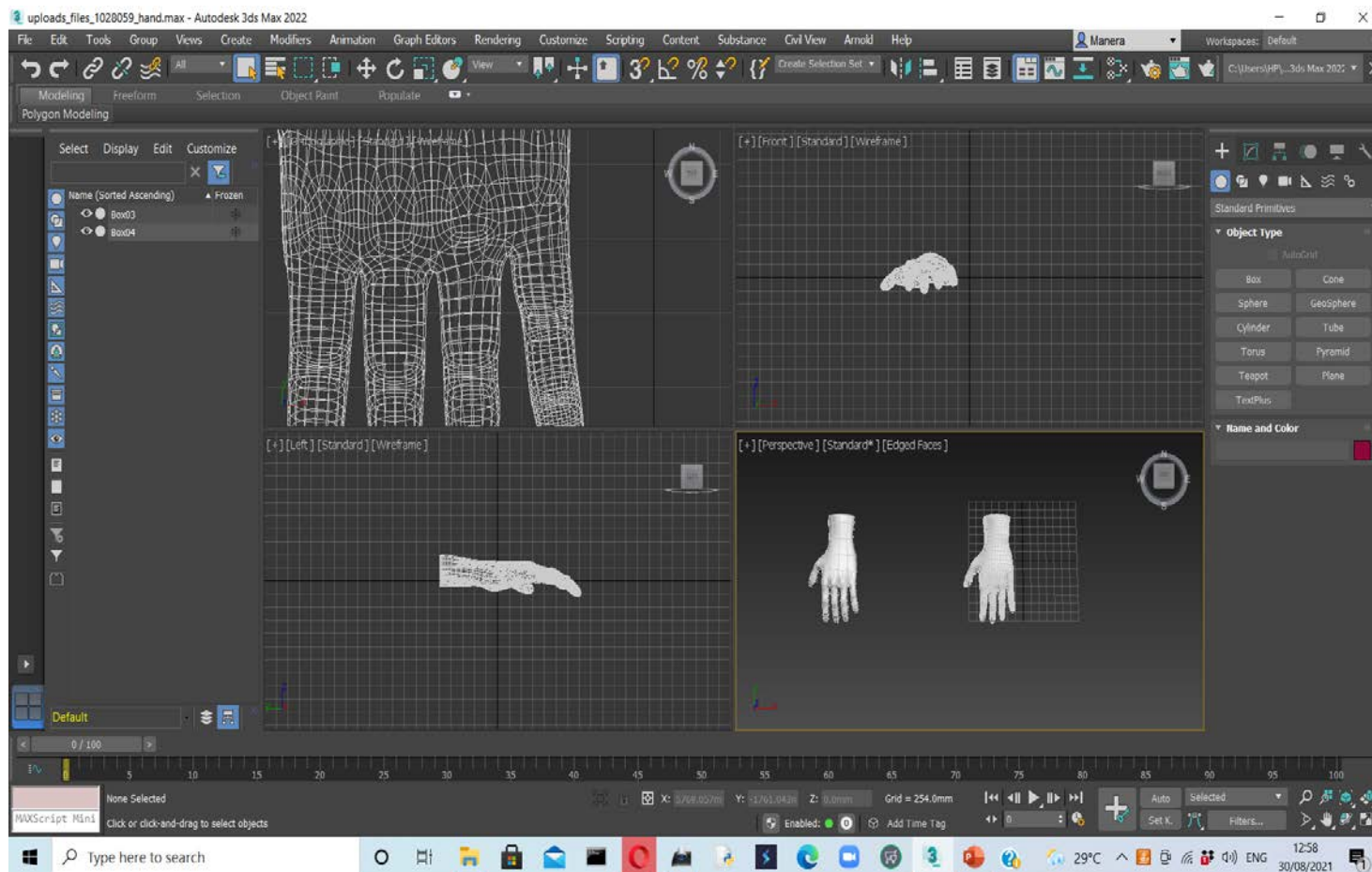
Proposed System Architecture/Working

Input Hardware (Headset)	USER	Output Hardware

Processing Software	VR Store Simulator	Rendering Engine

Web Admin Panel	Database Web Server	Product Information

Prototype Design Demonstration

Gaze Origin
(Center of cornea)

Right lens origin
(0,0,0)

Right angle gaze

Target

System origin

Combined
gaze

Left angle gaze

Left lens origin
(0,0,0)

Prototype Design Demonstration

Objects

Virtual Tracer

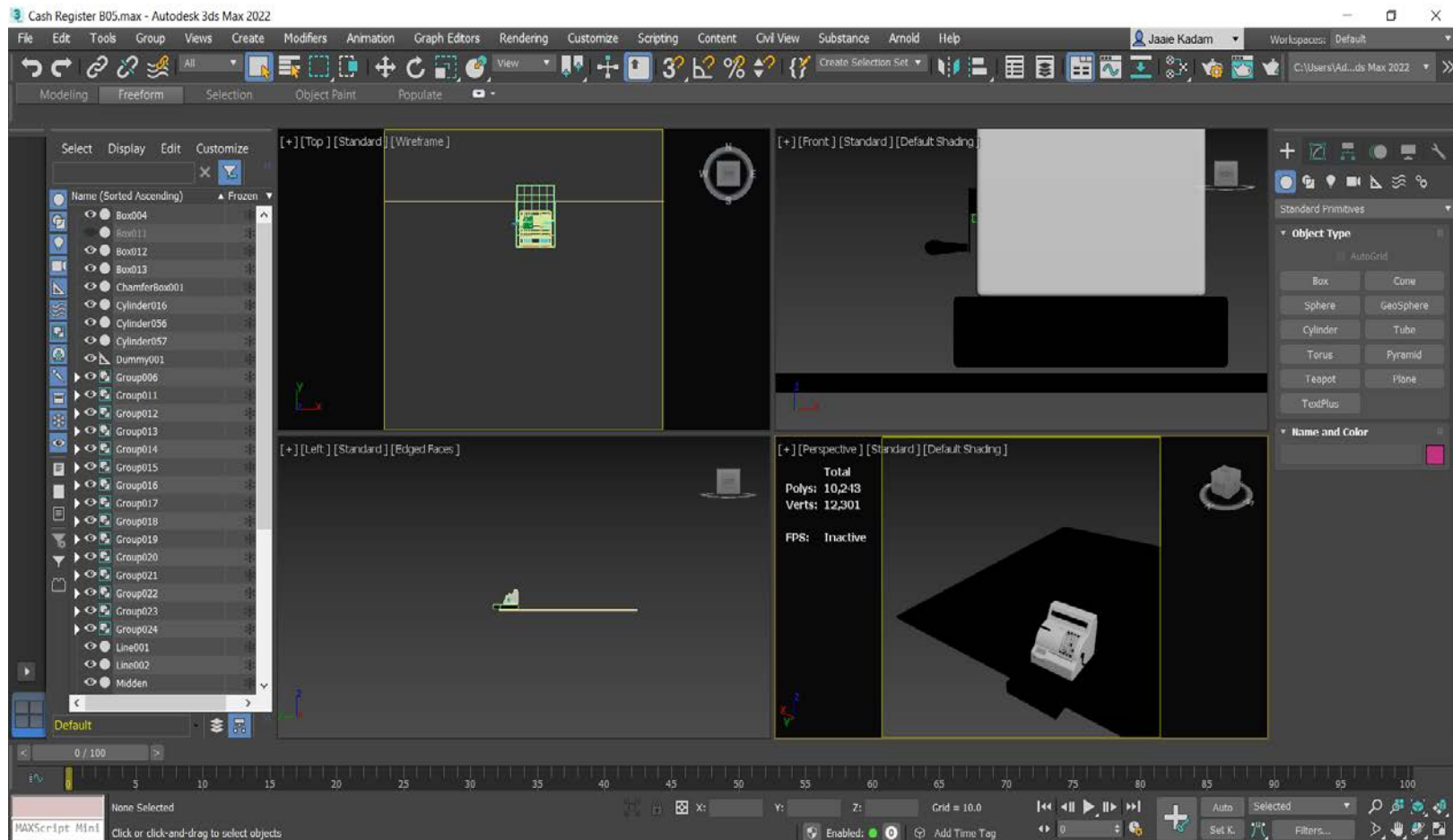Virtual Stick

3D angle in VR

Implementation Status

- Learning Autodesk 3Ds Max.

- Hand Modelling

Implementation Status

- Cash Register

Status of Paper Draft & Targeted Conference

Abstract of Paper done

Targeted Conferences:

    IEEE International Conference on Computational Intelligence and Computing Applications-21

https://easychair.org/cfp/IEEEICCICA21

Thank You...!!