

Virtual Room Project Summary

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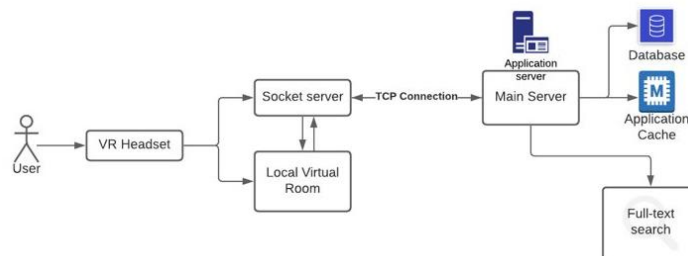
Project Description

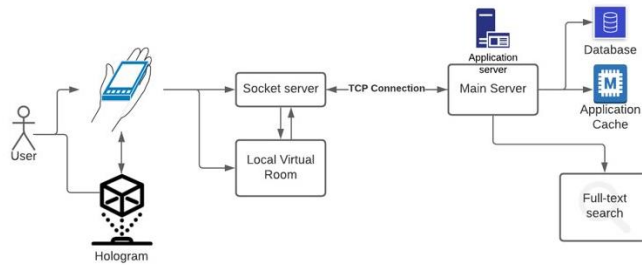
Virtual Room is a virtual reality group meeting application that allows users to engage in virtual meetings that are interactive. Due to the COVID-19 pandemic it has become increasingly difficult for friends and families to meet in person to talk and hangout, and for businesses, schools, and social events to create engaging meetings. The current technologies that provide the ability to host meetings are severely limited as they only utilize the webcam and an audio device. The problem with this approach is that this really limits users in the way they can interact and communicate due to the 2-D nature of the webcam. What Virtual Room will allow users to do is use the sensors currently available in the market and use this data to create virtual meeting rooms with support for multiple concurrent users, making a highly interactive environment for group meetings, family gatherings, live social events, concerts, etc.

Requirements

Virtual Room had a variety of functional and non-functional requirements. Our functional requirements were derived from our use cases. We want to create a reliable product that caters to the professional and personal needs of the users. Our project plans to implement both a Projector-Monitored Virtual Room and a Headset Monitored Virtual Room. With the overlaying Virtual Room interface, the two subclasses had different functional requirements that were addressed in our report. For our FURPS+ non-functional requirements, we wanted our application to be frustration-free while adhering to the complexities of our Machine Learning algorithms for facial recognition and emotion detection.

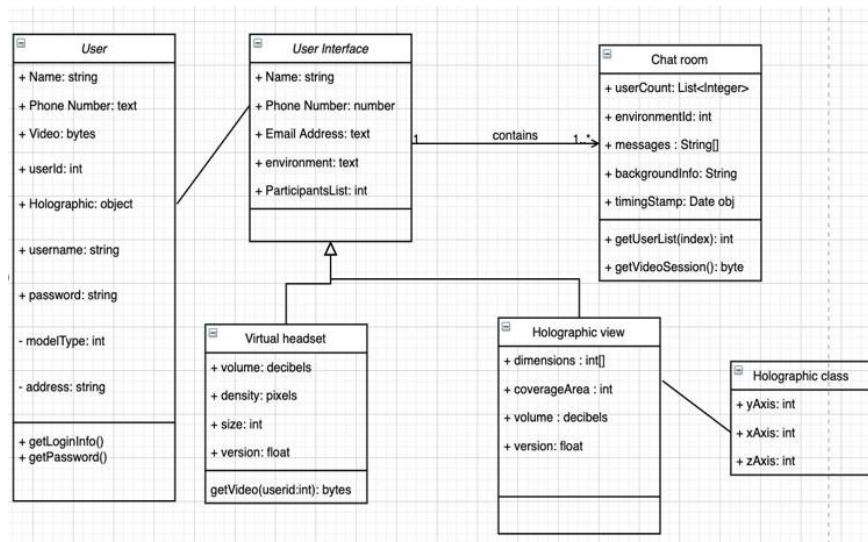
Design





System Diagrams 1 & 2

Virtual Room is based on a client-server architecture, with multiple micro services working together to provide the complete service for a functional implementation of the Virtual Room application. This achieved by tying all services that may contain private or sensitive data to only be accessible by the main server hiding all the data that the user or any other external service may not need.



Class Diagram 1