

# **CPT208 Portfolio Group Proposal**

## Home-Agent VR: AN Al-Agent VR Apartment Viewing System for University Campus Vicinity

Module: CPT208 Human-Centric Computing

**Group ID:** Group B4

**Group members:** Chengzhi Liu (2144207)

Zile Huang (2141707) Yixin Ye (2142272)

Xianzhe Zhang (2144962)

Li Fan (2144430)

Submission deadline: 5:00 p.m. Thursday 14 March, Week 3



#### **Project Name**

Home-Agent VR: AN Al-Agent VR Apartment Viewing System for University Campus Vicinity

#### **Project Description**

With the increasing demand for exploring housing options near university campuses, we propose the development of an Al-driven Virtual Reality (VR) apartment viewing system aimed at substituting the process of apartment viewing in the vicinity of campuses with VR technology . The primary stakeholders of this system include prospective university students and their families, real estate agents, and property owners near university campuses.

Our proposed system will empower users to virtually explore apartments near university campuses by combining VR technology with AI agents tailored for real estate-related queries. This system not only addresses the issue of prospective students being unable to physically visit apartments but also promotes the efficiency and convenience greatly for visit and provides a range of simulated apartment viewing interactive features, allowing users to experience the overall layout and interaction of apartments more deeply. For example, showing the change of sunlight in the building through 24 hours and substitution of decoration facilitated by AI agent. This approach enhances the experience of potential residents while providing a novel platform for real estate agents and property owners to showcase their properties.

Existing systems face challenges such as a lack of immersive and interactive platforms for remote exploration and reliance on traditional methods for accessing property information. To address these issues, the new system will support real-time interactive virtual apartment tours facilitated by VR technology. Users will also benefit from natural language communication with Al agents, enabling personalized queries and more personal exploration processes.

The evaluation of the design will involve user testing sessions to assess usability, engagement, and the system's ability to meet user requirements. Feedback will be collected through surveys, interviews, and usage data analysis to refine the system further. Then, design alternatives for the system include implementing VR-driven virtual apartment tours, integrating AI agents for natural language interaction, and developing a centralized database for comprehensive property information. These alternatives aim to enhance user experience and provide a platform that transcends the limitations of traditional property exploration.

In conclusion, the proposed Al-Agent VR apartment viewing system offers a transformative solution to the challenges faced by individuals seeking housing near university campuses. By leveraging VR technology and Al agents, we aim to provide an immersive and interactive experience for users while offering a novel platform for real estate agents and property owners to showcase their listings.

### **Project Plan**

