

VisuX AI Based Simulated Reality Tour



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Certification

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External Examiner

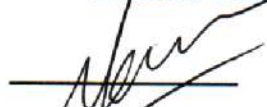


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Project Title (VisuX AI Based Simulated Reality Tour)

Sustainable Development Goals

(Please tick the relevant SDG(s) linked with FYDP)

SDG No	Description of SDG	SDG No	Description of SDG
SDG 1	No Poverty	SDG 9	Industry, Innovation, and Infrastructure ✓
SDG 2	Zero Hunger	SDG 10	Reduced Inequalities
SDG 3	Good Health and Well Being	SDG 11	Sustainable Cities and Communities
SDG 4	Quality Education ✓	SDG 12	Responsible Consumption and Production
SDG 5	Gender Equality	SDG 13	Climate Change
SDG 6	Clean Water and Sanitation	SDG 14	Life Below Water
SDG 7	Affordable and Clean Energy	SDG 15	Life on Land
SDG 8	Decent Work and Economic Growth	SDG 16	Peace, Justice and Strong Institutions
		SDG 17	Partnerships for the Goals



Range of Complex Problem Solving			
	Attribute	Complex Problem	
1	Range of conflicting requirements	Involve wide ranging or conflicting technical, engineering and other issues.	
2	Depth of analysis required	Have no obvious solution and require abstract thinking, originality in analysis to formulate suitable models.	✓
3	Depth of knowledge required	Requires research based knowledge much of which is at, or informed by, the forefront of the professional discipline and which allows a fundamentals based, first principles analytical approach.	
4	Familiarity of issues	Involve infrequently encountered issues	
5	Extent of applicable codes	Are outside problems encompassed by standards and codes of practice for professional engineering.	
6	Extent of stakeholder involvement and level of conflicting requirements	Involve diverse groups of stakeholders with widely varying needs.	✓
7	Consequences	Have significant consequences in a range of contexts.	
8	Interdependence	Are high level problems including many component parts or sub problems	✓
Range of Complex Problem Activities			
	Attribute	Complex Activities	
1	Range of resources	Involve the use of diverse resources (and for this purpose, resources include people, money, equipment, materials, information and technologies).	✓
2	Level of interaction	Require resolution of significant problems arising from interactions between wide ranging and conflicting technical, engineering or other issues.	
3	Innovation	Involve creative use of engineering principles and research based knowledge in novel ways.	✓
4	Consequences to society and the environment	Have significant consequences in a range of contexts, characterized by difficulty of prediction and mitigation.	
5	Familiarity	Can extend beyond previous experiences by applying principles based approaches.	

Abstract

This development and implementation of a simulated reality platform, aimed at reimagining the traditional university tour experience. The goal was to leverage pioneering technology to create a virtual platform that allows visitors to explore the campus in an interactive and engaging manner.

The rise of simulated reality presented an opportunity to bridge the gap between physical and digital experiences, revolutionizing the way people engage with physical spaces. Extensive research and planning were conducted to map out the campus and determine the relevant information that visitors would seek. The project scope includes creating a detailed virtual representation of the campus, integrating an AI chatbot for personalized assistance, and seamless integration with the university website.

Additionally, the future scope of the project, including the potential for a virtual university, virtual tourism, application in the architecture field, and real time field assessment. Overall, the simulated reality tour offers a captivating and immersive experience for prospective students and visitors, enhancing their ability to make informed decisions about the university.

Undertaking

I certify that the project **VisuX AI Based Simulated Reality Tour** is our own work. The work has not, in whole or in part, been presented elsewhere for assessment. Where material has been used from other sources it has been properly acknowledged/referred.



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Acknowledgement

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We are also thankful to our friends and families whose silent support led us to complete our project.

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List of Acronyms

AWS	Amazon Web Services
S3	Simple Storage System
GCP	Google Cloud Platform

List of Equations

Equation 1:Expansion of sum

3

Chapter 1

1.1 Introduction

In the contemporary digital landscape, technology plays a pivotal role in reshaping various sectors, including education, tourism, and real time field assessments. In response to the evolving needs of the times, our group has undertaken a mission to revolutionize the traditional university tour experience. Leveraging cutting edge technology, we aim to transcend geographical constraints and provide an interactive, simulated reality tour for visitors to explore our campus in a dynamic and engaging manner.

1.2 Statement of the Problem

The traditional university tour experience is hindered by geographical limitations and lacks interactivity, making it challenging for prospective students and visitors to fully engage with the campus. There is a significant need for a more immersive and informative solution that leverages technology to provide a realistic and personalized virtual tour experience.

1.3 Goals/Aims & Objectives

Goals:

- Revolutionize the university tour experience through simulated reality.
- Bridge the gap between physical and digital experiences.
- Enhance accessibility and engagement for prospective students and visitors.

Objectives:

- Develop an immersive Simulated Reality University Tour replicating the SSUET campus environment.
- Integrate an AI chatbot for personalized assistance during the virtual tour.
- Seamless integration with the university website for easy accessibility.
- Provide an engaging and informative virtual experience for prospective students and visitors.

1.4 Motivation

The motivation behind this project stems from personal experiences and observations of students, including our team, facing challenges due to a lack of information at the university. The desire to streamline and enhance the university tour process, coupled with advancements in simulated reality technology, has fueled our motivation to create a more efficient and user friendly experience for all.

1.5 Assumption and Dependencies

Assumptions:

- Users have access to a device capable of running simulated reality applications.
- Reliable internet connectivity is available for seamless virtual interactions.

Dependencies:

- Successful integration with Unreal Engine for simulated reality development.
- Availability of 3D models, images, and videos for the SSUET campus.

1.6 Methods

The development process involves extensive research, collaboration with experts in software development, simulated reality, game modeling, 3D modeling, and artificial intelligence. The team conducted thorough research and planning to map out campus details, faculty profiles, program highlights, and amenities. The project utilizes tools such as Blender, Autodesk Maya, Figma, and Unreal Engine for design and modeling. The AI driven process involves custom datasets, Generative Pre trained Transformers, and a vector database.

1.7 Report Overview

The report covers the background, scope, introduction, similar projects and literature review, problem statement, information gathering, expected features, tools and technology requirements, and project planning. Additionally, it delves into the design and development methodology, data collection through survey forms and interviews, and a comprehensive project plan outlining key tasks and future considerations.

Chapter 2

2. Heading

Headings and subheadings with a hierarchical structure:

2.1. Background

2.1 Introduction

In today's digital era, the role of technology in shaping various industries, including virtual education, tourism, and real time field assessment has become increasingly prominent. Recognizing the need to adapt to changing times and provide innovative solutions, our group has embarked on a mission to reimagine the traditional university tour experience. The goal was to leverage pioneering technology and create a virtual platform that would transcend geographical barriers and allow visitors to explore our campus in a more interactive, have information system for solving student queries in an engaging manner

2.1.1 The rise of simulated reality

The rise of simulated reality presents a unique opportunity to revolutionize the way people engage with physical spaces and grab information. By immersing users in a simulated environment that closely resembles the real campus, it became possible to bridge the gap between physical and digital experiences

2.1.2 Our Vision

The idea to develop a simulated reality platform that can address and solve queries and problems at SSUET with just a few clicks on your phone or computer comes from personal experiences. Many students, including our team, have struggled with a lack of information about various issues at the university. This lack of information often leads to students wandering around from one place to another without a reliable source of guidance. As a result, resolving even simple queries can take days.

The development of the Simulated Reality University Tour required a collaborative effort involving experts in the fields of software development, Simulated reality, game modelling, 3D modeling and designing, user experience design, and artificial intelligence.

2.1.3 Research and Planning

Extensive research and planning went into mapping out the various blocks and points of interest on campus that would be included in the simulated reality tour. Each block was carefully analyzed to determine the most relevant information that visitors would seek, such as detailed descriptions, faculty profiles, program highlights, and campus amenities. The team also prioritized accessibility and user customization, ensuring that the tour catered to the diverse interests and preferences of prospective students and visitors

2.2. Scope

2.2 Scope

The scope of the project is to develop an immersive Simulated Reality University Tour that replicates the campus environment of Sir Syed University. It includes creating a detailed virtual representation of the campus, integrating an AI chatbot for personalized assistance, and seamless integration with the university website for easy accessibility. The goal is to provide an engaging and informative virtual experience for prospective students and visitors to explore the campus and make informed decisions

2.1.1 Future scope

2.1.1.1 Virtual university

Our simulated reality is not just a visiting tool for new students, it also provides platform for students to take classes virtually while sitting at home. It'll provide ease of access and a sense of achievement. This virtual university aims to provide accessible and flexible education to students which are away from the city campus. This will expand our university's network of education

Key characteristics of a Virtual University may include:

1. **Online Learning:** All courses and educational resources will be delivered through the simulated reality, allowing students to study from anywhere with an internet connection.
2. **Flexibility:** it'll offer self-paced learning options, allowing students to study at their own convenience and adapt the learning schedule to fit their personal or professional commitments.

3. Diverse Course Offerings: Virtual university may provide a wide range of courses and degree programs across various disciplines, like traditional universities.
4. Digital Resources: Students will have access to extensive digital libraries, research databases, and other online resources to support their studies

2.1.1.2 Tourism

A new way of travelling is being emerged and it is virtual tourism where a user can just visit any place in world with just few clicks and gadgets. Our simulated reality is also the part of this type of tourism which have the potential to capture market rapidly, with our high 3D graphics will give user an immersive way of touring popular places of his desire

2.1.1.3 Architecture field

It'll provide a helping hand to the architect engineers to simulate and to bring their projects to a new level of reality. It'll not only help the architect engineers to simulate their projects to the users, but it will also help the users to imagine their apartments or property in order to help them buy with the best imagination

2.1.1.4 Real time field assessment

There are times in the field job when the technical staff is not available on the field to solve a problem but through our simulated reality software it will be helpful to those technical staff to help the field member to solve the issues of their job

2.3. Similar Projects and Literature Review

3.1 Introduction

Drawing an inspiration from well appreciated projects is imperative to explore the vast potential of mobile augmented reality avatar chatbots, a synergistic amalgamation of artificial intelligence and augmented reality, crafting interactive and captivating tools to enhance the overall experience for visitors [2]. Prepare to spearhead a revolution in the way individuals explore and engage with the extraordinary offerings of your prestigious university.

3.1.1 Project: 01 Hamdard University 360

Elevating the paradigms of virtual exploration, the 360 tour of Hamdard University, meticulously developed by **360 Folio Saudi** in **January 2017**, bestows an enthralling virtual experience that impeccably brings the esteemed institution to life. Through the seamless integration of state-of-the-art technologies, users are now bestowed with the opportunity to meticulously explore the picturesque campus, all from the comforts of their own abode. The 360 tour impeccably captures the very essence of Hamdard University, fostering an unwavering connection for prospective students, esteemed alumni, and cherished visitors, thereby enabling them to embrace the institution's rich heritage and unwavering commitment to academic excellence

3.1.2 Project: 02 Hunar Foundation Tour

The simulation reality-based tour of Hunar Foundation Karachi presents a well appreciated way to experience the transformative work of this esteemed institution. Developed with meticulous attention to detail, this virtual tour offers an immersive journey through the foundation's diverse vocational training programs and impactful initiatives.

Through cutting-edge technology, users are transported into realistic simulations that showcase the classrooms, workshops, and hands-on learning experiences offered by Hunar Foundation.

3.1.3 Project: 03 Explore Harvard

Embark on an extraordinary and unparalleled journey with Explore Harvard, an immersive virtual reality tour meticulously crafted to bring this esteemed institution to life in a captivating and immersive manner [5]. This meticulously designed tour developed by **Robin Parker**, Associate Director of Harvard's Visitor Center in **2020**, offers a unique and unprecedented opportunity to explore Harvard's hallowed corridors, world-renowned libraries, illustrious lecture halls, and vibrant student spaces, thus granting a tantalizing glimpse into the prestigious academic environment that has indelibly shaped the minds of countless scholars.

3.1.4 Project: 04 SSUET 360°

Representing a sterling example of a simulation reality tour that has garnered immense admiration, SSUET 360° meticulously offers an unparalleled virtual experience of the illustrious of Sir Syed University of Engineering and Technology (SSUET), developed by the students of SSUET Batch 2018.

Leveraging cutting-edge technology and sophisticated techniques, this immersive tour seamlessly facilitates exploration of the university's state-of-the-art facilities, groundbreaking research labs, and vibrant campus in a highly interactive and captivating manner. Whether one is a prospective student, an esteemed alumnus, or an inquisitive visitor, this meticulously designed tour enables individuals to delve into the unparalleled academic and research excellence that defines SSUET. By skillfully bridging the gap between the virtual and physical realms, SSUET 360 is indisputably revolutionizing the way individuals engage with the university, rendering it accessible to a broader audience while fostering an unwavering sense of connection and exhilaration.

3.2 This is what our project makes a difference!!!

The Simulated Reality University Tour project makes a significant difference by revolutionizing the traditional university tour experience. It offers a transformative and immersive virtual platform that transcends geographical limitations, enabling prospective students and visitors to explore and engage with Sir Syed University from anywhere in the world. By combining simulated reality technology with an AI chatbot, the project provides a personalized and interactive tour experience, delivering accurate and relevant information in real time.

This innovative approach enhances accessibility, deepens engagement, and empowers users to make informed decisions about their academic journey. Ultimately, the project sets a new standard for university tours, making a difference in how institutions connect with prospective students and showcase their campus offerings in an inclusive and dynamic manner.

2.4. Problem Statement

2.4.1 Problem Statement

The traditional university tour experience is limited by geographical constraints and lacks interactivity, making it challenging for prospective students and visitors to fully explore and engage with the campus. There is a need for a more immersive and informative solution that leverages technology to provide a realistic and personalized virtual tour experience. The goal is to create a Simulated Reality University Tour with an AI chatbot that offers a seamless and interactive platform for users to navigate the campus, access comprehensive information, and make informed decisions about Sir Syed University.

2.4.2 Information Gathering

It was noted that there was a lack of availability of information in SSUET, to tackle that problem extensive research was conducted and vast amount of information was gathered to train our model in order provide information to our new students.

2.4.3 Physical Stress

Travelling to university for multiple queries everyday can be frustrating and can lead to extensive physical stress. To counter that physical stress our simulated reality software which can be easily embedded into SSUET's website is best source to get answers to student's queries with just few taps

2.4.4 Psychological Assessment

Psychological assessment is necessary for students because sometimes they can get into some confusion whether their selected department is right for them or not. To clear that confusion from their head psychological assessment is necessary.

4.1.4 Convincing Power

Convincing a student to get admission and they're in their desired department is not an easy task that's why we have collected vast amount of data to build a

convincing power to our model to convince the newcomers for the admission in the Sir Syed University of engineering and technology

2.5. Features

2.5.1 Immersive Simulated Reality Environment

Our Simulated Reality University Tour offers a fully immersive experience that replicates the look, feel, and atmosphere of our actual campus. Users will be able to navigate through each block of the university, including academic buildings, libraries, dormitories, sports facilities, and more. The virtual environment will be meticulously designed to provide a realistic and visually appealing representation of our campus.

2.5.2 Detailed Information Blocks

Within the simulated reality environment, each block of our campus will contain rich information related to its purpose and significance. By clicking on various points of interest, visitors can access comprehensive details, including building descriptions, faculty profiles, program highlights, extracurricular activities, and campus amenities. This feature ensures that users can delve deep into the specifics of each location and gain a comprehensive understanding of our institution.

2.5.3 Built in AI Chatbot Assistance

To further enhance the user experience and provide instant support, our simulated reality tour incorporates an advanced AI chatbot that serves as a knowledgeable virtual guide. Visitors can interact with the chatbot to ask questions, seek guidance, and obtain personalized information about our university.

Leveraging the power of natural language processing capabilities, the AI chatbot adeptly understands user queries and responds with accurate and relevant information. This personalized assistance adds a human-like touch to the virtual experience, fostering a sense of connection and engagement among visitors.

2.5.4 Psychological Assessment

It'll be a questionnaire form in which multiple questions will be asked to students to capture student's responses about their habits, their favorite subjects, their previous experiences in school and colleges. Then our system will learn from their responses and will generate a set of recommendations of programs that will fit well for those students who have submitted the questionnaire.

2.5.5 Urge to make a visit after having a virtual tour

Through the immersive simulated reality experience, students are exposed to the captivating aspects of our university, such as the breathtaking architecture, vibrant student life, and state-of-the-art facilities. The virtual tour showcases the bustling energy of our campus, the interactive learning environments, and the vibrant social spaces, creating an emotional connection that fuels the urge to personally explore and engage with the real-life setting.

2.5.6 Convincing power

2.5.6.1 Student Satisfaction

To instill confidence and assure undergraduate students about the exceptional quality of education and experiences offered at SSUET, our simulated reality platform provides a compelling array of research-based facts and figures. These data-driven insights are meticulously curated to showcase a comprehensive comparison between SSUET and other institutions that offer similar programs and facilities.

By presenting this evidence to undergraduate students and their parents, we aim to highlight the undeniable value and caliber of education imparted at SSUET. Through this information, students gain a deeper understanding of the numerous advantages and opportunities that come with pursuing their undergraduate degree at our university.

Moreover, our simulated reality platform offers insights into the dynamic and innovative teaching methods employed by our esteemed faculty members. Students can explore the cutting-edge research projects, hands-on learning experiences, and industry collaborations that contribute to the immersive and practical nature of their education at SSUET.

2.5.6.2 Master's Student Satisfaction

For students pursuing a master's degree, our simulated reality platform goes even further in assuring them of the outstanding quality of education and experiences available at SSUET. We provide an extensive range of research-based facts and figures that showcase the distinct advantages and opportunities that come with pursuing a master's degree at our institution.

Furthermore, we highlight the impressive achievements and contributions of our faculty members who possess extensive expertise and research prowess in their respective fields. The platform showcases the advanced research facilities and resources available for master's students, providing them with an immersive and stimulating environment to pursue their scholarly interests.

Additionally, we showcase the success stories of our master's graduates, who have made significant contributions in academia, industry, and research. These examples serve as a testament to the transformative impact of a master's degree from SSUET and the vast opportunities it presents for personal and professional growth.

2.5.7 Tailored and Customizable Experience

Recognizing that different users have diverse interests and goals; our simulated reality tour offers customization and personalization options. Users can select their preferred tour path based on their specific interests, whether it's focusing on academic departments, exploring campus facilities, or discovering extracurricular activities. By tailoring the experience to individual preferences, we strive to provide a comprehensive overview of our university that resonates with the unique needs and aspirations of each visitor.

2.5.8 Seamless Integration with University Website

Our Simulated Reality University Tour seamlessly integrates with our official university website, ensuring easy accessibility for visitors. By hosting the tour on our website, we eliminate the need for additional software or downloads, making it hassle-free and accessible to a wider audience. This integration also allows users to seamlessly transition between the simulated reality tour and other web resources, such as admission information, contact details, and application processes

The future use case scenarios are vast and economically beneficial, once our model using SSUET tour is completed then it'll be automatically ready for our future use case scenarios.

2.6. Expected Tools and Technology Requirements

2.6.1 Designing

- **Blender:** For 3D modeling, Sculpting, and surface modeling.
- **Autodesk Maya:** For modeling, Sculpting, and surface modeling.
- **Figma:** For 2D designing.
- **Picsart:** For animated model image.
- **MetaHuman:** For Sculpting & Modeling 3D Character.
- **KeenTools Face Builder:** For Face Sculpting of 3D Character.
- **Avatar SDK:** For Sculpting and Designing of Character Head
- **MakeHuman:** For Sculpting & Modeling 3D Character.
- **MB-Lab:** For Sculpting & Modeling 3D Character Body.

2.6.2 Modeling And AI

- i) **Unreal Engine** For blueprint, logic building, and artificial Intelligence
- ii) **AI model** Generative Pre-trained Transformer

2.6.3 Our AI Driven Process

In today's era of modern Artificial Intelligence which helps so many institutions to complete their desired tasks, each institution has its own requirements and customizations, so our project. We have used customized data sets to train our model for not only different scenarios but also for different departments and conditions as well.

We will be using Generative Pre-trained Transformers to enhance our user's experience because Generative Pre-Trained Transformers is able to provide answer to the same question but asked in different conditions with clear understanding. First, data when we break into and number of chunks then we will apply ADA-002 model, a leading embedding model which can embed approximately 6,000 words into a 1,536-dimensional vector it merges five different models into one single model, and it also helps to directly embed with OpenAI.

First of all, our model will be trained on variety of parameters which will be then stored in our vector database after that then the user going to ask some question about different scenarios then the our system will check about that question in our database if that

material is available on our database then those vectors and parameters will be given to the Generative Pre-Trained Transformers after that the Generative Pre-Trained Transformers will answer that in a perfect manner with understandable wording.

2.7. Design and Development Methodology

2.7.1 Researching and selecting the appropriate simulated reality development platform or framework.

2.7.2 Gathering data and assets.

2.7.3 Designing the user interface and interaction elements.

2.7.4 Implementing navigation controls and user-friendly features.

2.7.5 Testing and debugging

2.7.6. Iteratively improving the application.

2.7.7 Data Collection

2.7.7.1 Survey Forms

We have designed our survey form using **JotForm**, incorporating various input fields such as participants' names, their respective departments, and a section where they can share their queries which they commonly raised during their time at the university. Additionally, we are seeking their valuable suggestions on whether our project would be beneficial for the university.

- Student Survey

Survey Form for students to gather their queries.
Link: [Simulated Reality Tour Survey for Students \(jotform.com\)](https://www.jotform.com/survey/simulated-reality-tour-survey-for-students)

- Staff Survey

Survey Form for staff to gather queries which are commonly raised by students.
Link: [Simulated Reality Tour Survey for Staff\(jotform.com\)](https://www.jotform.com/survey/simulated-reality-tour-survey-for-staff)

- Visual Survey

Capturing & gathering Faculty and Staff images for making realistic 3D characters.

2.7.7.2 Interviews

- Specialist Interviews

One-on-one interviews of specialists for convincing power and psychological assessment.

- Student Interviews

One-on-one interviews of students to gather their queries & issues in detail.

- Staff Interviews

One-on-one interviews of Staff to gather Student queries & issues in detail.

2.8. Project Planning

2.8.1 Project Planning

Our project involves several key tasks and subtasks. During the initiation and planning phase, tasks include creating a Software Requirements Specification report, developing animated videos, and designing a project brochure. The design phase focuses on 3D modeling using software like Blender or AutoDesk Maya, 2D design using tools such as Picart or Figma, character design using various tools, and texture design using resources like Poly Haven or Unreal Texture.

The project also includes simulated modeling and AI integration, where simulated models are developed, Unreal Engine is used for game mode creation, and AI chatbot functionality is integrated using tools like Generative Pre-Trained Transformers. In the wrap-up phase, the focus is on refining the design and models, as well as preparing a comprehensive project report. Future work includes exploring different use cases for the project and developing a business model for commercial viability.

This hierarchical structure organizes the document logically, creating a clear roadmap for readers to follow. Headings and subheadings are appropriately nested, providing a systematic flow of information.

Chapter 3

3. Figures

3.1 AI chatbot system

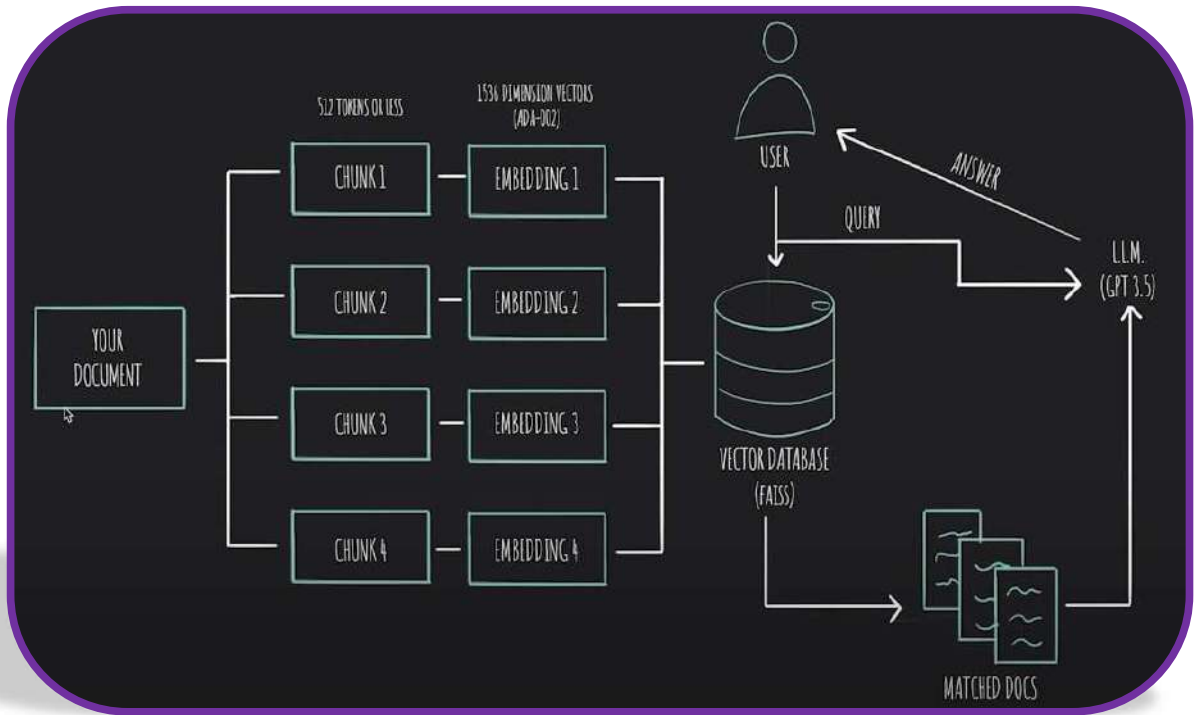


Figure 2: AI chatbot System

3.2 Virtual Tour

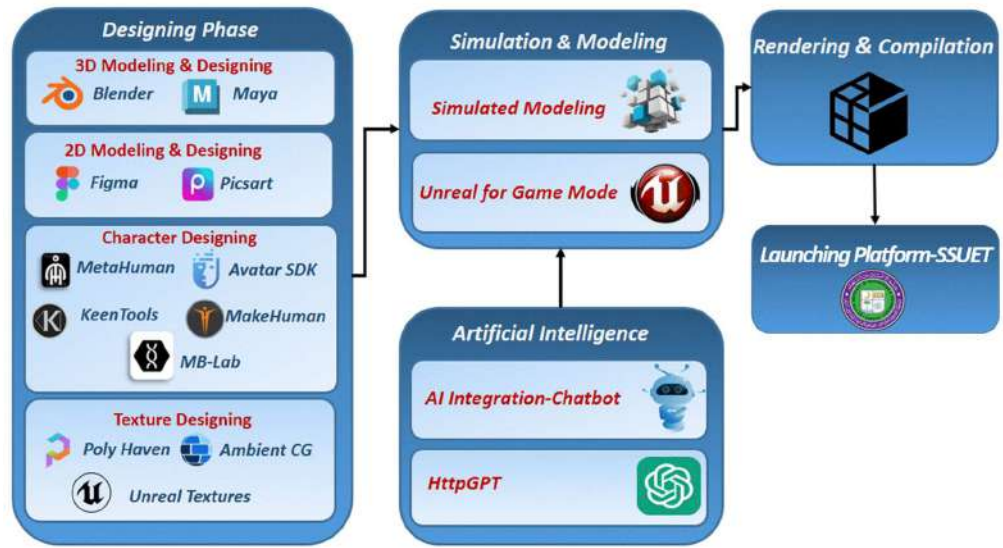


Figure 3: Virtual System

Chapter 4

4.1 Proposed Solution/Results & Discussion

Your proposed solution should relate the current situation to a desired result and describe the benefits that will accrue when the desired result is achieved. So, begin your proposed solution by briefly describing this desired result.

Task	Optimistic Time (O)	Most Likely Time (M)	Pessimistic Time (P)	Expected Time (TE)	Variance (V)	Dependency
Project Proposal	2 weeks	3 weeks	4 weeks	1.67	0.33	-
Literature Review	3 weeks	4 weeks	5 weeks	3.5	0.33	Project Proposal
Project Planning	2 weeks	3 weeks	4 weeks	1.67	0.33	Literature Review
Development Phase	8 weeks	10 weeks	12 weeks	5	0.67	Project Planning
Documentation	4 weeks	6 weeks	8 weeks	3	0.67	Development Phase
Finalization	2 weeks	3 weeks	4 weeks	1.67	0.33	Documentation
Project Presentation	2 weeks	3 weeks	4 weeks	1.67	0.33	Finalization
Submission	1 week	2 weeks	3 weeks	1	0.33	Project Presentation
Evaluation	1 week	1 week	2 weeks	1.17	0.17	Submission

Table 1: PERT Activity Time estimate table

Chapter 5

5 Summary and Future work

5.1 Summary:

The Simulated Reality University Tour project is a groundbreaking initiative aimed at revolutionizing the traditional university tour experience. In the contemporary digital era, the project leverages cutting-edge technology, including simulated reality, AI chatbots, and advanced 3D modeling, to transcend geographical limitations and provide an immersive virtual tour of the Sir Syed University of Engineering and Technology (SSUET) campus.

The thesis explores the development process, methodologies, and tools utilized, such as Blender, Autodesk Maya, Figma, and Unreal Engine, to create an interactive and visually appealing simulated reality environment. The integration of an AI chatbot further enhances user engagement, providing personalized assistance during the virtual tour.

Through extensive research and planning, the team mapped out various blocks and points of interest on the campus, ensuring comprehensive coverage of relevant information, including faculty profiles, program highlights, and campus amenities. The project's innovative approach enhances accessibility, deepens engagement, and empowers users to make informed decisions about their academic journey.

5.2 Future Work

The Simulated Reality University Tour project opens avenues for future exploration and development. As we move forward, several key areas warrant attention:

5.2.1. Expansion to Virtual University:

Explore the potential of the simulated reality platform as a tool for virtual classes, providing accessible and flexible education beyond the traditional campus setting.

5.2.2. Integration with Tourism:

Extend the platform to become part of the emerging field of virtual tourism, offering users the ability to explore popular places worldwide with high-quality 3D graphics.

5.2.3. Application in Architecture:

Collaborate with architects and engineers to enhance the use of simulated reality in the field. The platform could serve as a tool for simulating architectural projects and aiding users in visualizing properties.

5.2.4. Real-time Field Assessment:

Further develop the platform to assist technical staff in real-time problem-solving during field assessments, addressing challenges even when on-site expertise is unavailable.

5.2.5. Continuous Improvement and Customization:

Implement user feedback mechanisms to continually improve the simulated reality experience. Customization options can be expanded to cater to diverse user interests and preferences.

As the project advances, these potential future directions align with the overarching goal of creating a dynamic, versatile, and continually evolving simulated reality platform that transcends the boundaries of traditional university tours.

Chapter 6

6. Conclusion & Recommendation

Conclusions

In conclusion, the Simulated Reality University Tour project successfully addressed the need for a transformative and immersive solution to the limitations of traditional university tours. The research question focused on how to enhance the university tour experience through simulated reality and AI chatbot integration. The methods employed included extensive research, collaboration with experts, and the use of advanced technologies such as 3D modeling tools and Unreal Engine.

The highlights of the results underscore the creation of an engaging simulated reality environment, providing users with an in-depth exploration of the SSUET campus. The integration of an AI chatbot further enhances the user experience by offering personalized assistance and information. The platform's potential future applications in virtual education, tourism, architecture, and real-time field assessment showcase the versatility and innovation embedded in the project.

In essence, the Simulated Reality University Tour project not only redefines the university tour experience but also paves the way for future developments in the realm of virtual education and immersive technology. As we conclude, the significance of this project extends beyond academia, presenting an innovative approach to addressing the evolving needs of prospective students and visitors in the digital age. The journey does not end here; it opens doors to further exploration and advancements in the dynamic field of simulated reality and its diverse applications.

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