SUMMER INTERNSHIP TRAINING REPORT

METAVERSE-VIRTUAL REALITY WITH UNITY

PROJECT ON VIRTUAL SHOPPING MALL- "ShopVista"

INDIRA GANDHI DELHI TECHNICAL UNIVERSITY FOR WOMEN (IGDTUW)
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UNDERTAKING REGARDING ANTI-PLAGIARISM

We, Aayushi Sinha, Ayushi Dubey, Amishi Kumar, Anwita Sinha, and Tanvi Saroha, as members of the team VR bits, for the Summer Internship on "METAVERSE-VIRTUAL REALITY with unity," hereby confirm that the information and content presented in this report is completely original and free from plagiarism. We have diligently cited all sources used and have expressed the ideas and concepts in our own words.

We take full responsibility for the authenticity and integrity of this report. In the event that any form of plagiarism is detected at any stage, we acknowledge that we alone will be held accountable for it.

We have made every effort to ensure that this report is an accurate representation of our work and that all sources have been properly acknowledged. Our commitment to academic honesty and ethical conduct is paramount, and we assure you that the content of this report is a product of our own efforts, research, and analysis.

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ACKNOWLEDGEMENT

<u>DECLARATION</u>

We, Aayushi Sinha (0601012022), Ayushi Dubey (01601192022), Amishi Kumar (02401012022), Anwita Sinha (03901012022), and Tanvi Saroha (14501182022) hereby declare that this project report is the result of our own work conducted during our 8-weeks internship training under the supervision of Mr. Dharm Raj Panwar, Dr. Rashmi, Mr. Sachin and the internal guidance of Mr. Gaurav Indira, Assistant Professor, IGDTUW, Dr. Alongbar Wary. We confirm that the statements and conclusions presented in the report are the outcome of our research. Furthermore, We certify the following:

1. The work included in the report is original and has been conducted under the guidance of our supervisor.

2. The work has not been submitted to any other institution for any degree, diploma, or certificate, either in this university or any other university in India or abroad.

3. We have adhered to the university's guidelines for writing the report.

We affirm that this declaration is our own and has been written without plagiarism.

ABSTRACT/SUMMARY

ShopVista is an innovative virtual shopping mall project that utilizes A-Frame, Blender, and HTML technology to revolutionize the online shopping experience. This project aims to replicate the immersive and interactive nature of physical shopping malls in a virtual environment. By making use of A-Frame, we can access ShopVista through web browsers and navigate through a visually stunning and user-friendly interface. Blender is employed to create realistic 3D models of stores, products, and mall infrastructure, ensuring a captivating and visually appealing experience. HTML language serves as the foundation, providing structure and functionality to seamlessly integrate A-Frame components and Blender assets. ShopVista offers personalized recommendations, virtual try-on, and interactive product demonstrations to enhance the shopping experience. With its versatility, it caters to various industries, making it a comprehensive destination for all shopping needs. This project aims to redefine online shopping by creating a virtual mall that offers convenience, interactivity, and a visually immersive experience. The blend of learning and knowledge acquired during our practical studies at the company is presented in this Internship Report.

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ABOUT SUMMER INTERNSHIP ON "METAVERSE-VIRTUAL REALITY WITH UNITY"

The summer internship on "Metaverse - Virtual Reality with Unity" focuses on exploring and creating applications in the field of virtual reality (VR) using the Unity. The internship provided us with hands-on experience in creating immersive virtual environments and interactive experiences.

During the internship, we learned the concept of the metaverse, which refers to a collective virtual shared space that incorporates elements of augmented reality, virtual reality, and the internet. In addition, we also learned how to employ Unity, a powerful and widely used game development platform, to build virtual reality experiences within the metaverse.

Overall, the "Metaverse- Virtual Reality with Unity" summer internship offered an exciting opportunity to explore the field of virtual reality and develop skills in creating immersive experiences within the metaverse using Unity.

SOFTWARE REQUIREMENT SPECIFICATION

Visual Studio Code: It is a user-friendly code editor that helps developers to Develop tasks. It has features like faster code-build and debug cycle and leaves the complex workflows for featured IDEs.

HTML (Hypertext Mark-up Language): The structure and content of web pages are created using HTML, which is a common mark-up language. It is a mark-up language, not a programming language, that specifies the hierarchy of the elements on a web page.

BLENDER: A free and open-source 3D modeling and animation program is called Blender. For the creation of 3D models, animations, visual effects, video games, and other things as well. Both novices and experts in the field of 3D graphics can benefit from Blender's wide set of tools and features.

A-FRAME: Mozilla created the A-Frame web framework to let developers create virtual reality experiences on the internet. It makes use of Web-GL, a web standard for generating 3D visuals, and is built on HTML and JavaScript. With the use of declarative HTML syntax and a component-based architecture, A-Frame enables developers to easily build and interact with VR sceneries and applications.

CONCLUSION

In conclusion, creating a virtual shopping mall using virtual reality (VR) technology has the potential to revolutionize the online shopping experience. By using the immersive and interactive capabilities of VR, users can be transported to a virtual environment that replicates the physical shopping mall experience. This allows for a more engaging and personalized shopping experience, with features such as virtual try-on, interactive product demonstrations, and personalized recommendations. Additionally, the use of VR technology can provide a visually stunning and realistic representation of stores, products, and mall infrastructure, enhancing the overall aesthetic appeal. Overall, a virtual shopping mall using VR has the potential to redefine online shopping, offering convenience, interactivity, and a visually immersive experience for customers.

<u>LEARNINGS</u>

The internship taught us:

- ➢ Introduction to Virtual Reality
- ➢ How to work with blender and a-frame
- ➢ Designing Virtual Environments
- ➢ User interaction and navigation techniques within virtual reality environments, such as hand tracking, teleportation, and object manipulation.
- ➢ Meta-verse Concepts
- ➢ Project Development

By the end of the internship, we have developed a strong foundation in virtual reality development using Unity and gained insights into the possibilities and challenges of building experiences within the meta-verse.

Project Link: https://dubeyayushi.github.io/ShopVista/

Web-VR Report GitHub Repository Link: https://github.com/Aayushi-Sinha/ShopVista-Report

Web-VR Report Link: https://aayushi-sinha.github.io/ShopVista-Report/

Project GitHub Repository Link: https://github.com/dubeyayushi/ShopVista

Demo Video Link:
https://drive.google.com/file/d/1AUZ0xPA3FgioaSgG8mzFq1hFHX_fCJGw/view?usp=sharing

Pitch Video Link:
https://drive.google.com/file/d/1yFOPUrBdnUgqUyWlvPmYuKKUrikIyX2c/view?usp=sharing

REFRENCES

- https://aframe.io/
- https://www.khanacademy.org/computing/computer-programming/html-css/web-development-tools/a/hosting-your-website-on-github
- https://docs.blender.org/
- https://git-scm.com/docs/git
- https://hacks.mozilla.org/2017/09/i-built-something-with-a-frame-in-2-days-and-you-can-too/

3d models:

- https://sketchfab.com/features/free-3d-models
- https://www.cgtrader.com/3d-models
- https://www.turbosquid.com/
- https://free3d.com/
- https://archive3d.net/
- https://3dsky.org/

images and textures:

- https://unsplash.com/
- https://www.pexels.com/