Sylhet Engineering College

Department of Computer Science & Engineering



**Title: Car Driving Experience in Virtual Reality**

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Date: 20th February, 2021

**Recommendation Letter from Project Supervisor**

The project entitled “**Car Driving Experience in Virtual Reality**” submitted by the student(s)

1. MD. Amanullah
2. Md Shariful Islam

is a record of research work carried out under my supervision and I, hereby, approve that the report be submitted in partial fulfillment of the requirements for the award of his/her/their Bachelor Degree(s).

Signature of the Supervisor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name of the Supervisor: Dr. Md Forhad Rabbi

Department of Computer Science & Engineering

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Date: 20/02/2021

**Certificate of Acceptance of the Project**

The project entitled “**Car Driving Experience in Virtual Reality**” submitted by the student(s)

1. MD. Amanullah
2. Md Shariful Islam

On 20/02/2021 is, hereby, accepted as the partial fulfillment of the requirements for the award of their Bachelor Degree(s).

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**Abstract**

We have attempted to construct such a in virtual reality application which is able offer assistance to grant a car driving involvement on the street for all intents and purposes. Meaning client can able to drive vehicle on the street in a virtual environment that’s near sufficient to reality. Not only it grants an experience of car driving but moreover it'll offer assistance to get it the essential activity rules on the street.

**Keywords**: Virtual Reality, Car driving, Unity3d, Virtual car driving, VR, Google VR Technology.

**Acknowledgements**

It’s an honor to express our gratitude to some people who made this thesis possible.

First and foremost we would like to direct a special thanks to our honorable and respectful supervisor Dr. Md Forhad Rabbi Sir. We would also like to thank him for introducing us to the interesting field that is Anomaly Detection. His continued enthusiasm, support, inspiration and over-whelming patience made this thesis possible. Throughout our graduate studies, he provided encouragement, good teaching, good company and lots of good ideas. We definitely would have been lost without him.

Then we would like to thank all our friends and family, especially our parents because all our achievements are the outcome of their sacrifice.

In fine, without the mercy and kindness of almighty we could not have done anything. So we would like to thank the almighty for his blessings upon us.

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**Chapter 1**

# Introduction

## 1.1 Virtual Reality

**Virtual reality** (**VR**) is a simulated experience that can be similar to or completely different from the real world. Applications of virtual reality include entertainment (e.g. video games) and education (e.g. medical or military training). Other distinct types of VR-style technology include augmented reality and mixed reality, sometimes referred to as extended reality or XR.[[1]](https://en.wikipedia.org/wiki/Virtual_reality#cite_note-1)

## 1.2 Importance of virtual reality

Experiencing things that have no existence through the computers is now possible with VR technology! Virtual Reality is a trending technology that gives excellent scope to diverse businesses to take a leap and simulate physical presence in the real world as well as the imaginary world. This immersive technology creates a computer-simulated environment, and the advancements offer cutting-edge solutions. The cutting-edge technology crossed the barriers and diverse industrial verticals embrace the technology to create new marketing and communicating strategy. Virtual Reality technology, of course, lifted the gaming experience to an advanced level but, not limited within the gaming industry! The importance of Virtual Reality spreads across the world involving businesses from diverse fields. VR technology offers a new path to success in the modern world.

## 1.3 Application of virtual reality

Virtual reality is most commonly utilized in amusement applications such as video recreations and 3D cinema. Shopper virtual reality headsets were to begin with discharged by video amusement companies within the early-mid 1990s. Starting within the 2010s, next-generation commercial fastened headsets were discharged by Oculus (Fracture), HTC (Vive) and Sony (PlayStation VR), setting off a unused wave of application development. 3D cinema has been utilized for wearing occasions, erotica, fine craftsmanship, music recordings and brief movies. Since 2015, roller coasters and topic parks have joined virtual reality to coordinate visual impacts with haptic feedback.

In social sciences and brain research, virtual reality offers a cost-effective device to ponder and reproduce intuitive in a controlled environment. It can be utilized as a frame of restorative intercession. For occurrence, there's the case of the virtual reality presentation treatment (VRET), a shape of presentation treatment for treating uneasiness clutters such as post traumatic stretch clutter (PTSD) and fears in social sciences and brain research, virtual reality offers a cost-effective device to ponder and reproduce intuitive in a controlled environment. It can be utilized as a frame of restorative intercession. For occurrence, there's the case of the virtual reality presentation treatment (VRET), a shape of presentation treatment for treating uneasiness clutters such as post traumatic stretch clutter (PTSD) and fears

Virtual reality programs are being utilized within the restoration forms with elderly people that have been analyzed with Alzheimer's illness. This gives these elderly patients the opportunity to recreate genuine encounters that they would not something else be able to encounter due to their current state. 17 later ponders with randomized controlled trials have appeared that virtual reality applications are successful in treating cognitive shortfalls with neurological diagnoses. Misfortune of versatility in elderly patients can lead to a sense of depression and sadness. Virtual reality is able to help in making maturing in put a life saver to an exterior world that they cannot easily explore. Virtual reality permits presentation treatment to require put in a secure environment.

In pharmaceutical, recreated VR surgical situations were to begin with created within the 1990s.Beneath the supervision of specialists, VR can give viable and repeatable preparing at a moo taken a toll, permitting learners to recognize and correct blunders as they occur. Virtual reality has been utilized in physical recovery since the 2000s. In spite of various thinks about conducted, great quality prove of its viability compared to other restoration strategies without advanced and costly gear is missing for the treatment of Parkinson's disease. A 2018 survey on the viability of reflect treatment by virtual reality and mechanical technology for any sort of pathology concluded in a comparative way. Another think about was conducted that appeared the potential for VR to advance mimicry and uncovered the contrast between neurotypical and extreme introverted range clutter people in their reaction to a two-dimensional avatar.

Immersive virtual reality innovation with my electric and movement following control may speak to a conceivable treatment choice for treatment-resistant apparition appendage torment. Torment scale estimations were taken into consideration and an intuitively 3-D kitchen environment was created bases on the standards of reflect treatment to permit for control of virtual hands whereas wearing a motion-tracked VR headset. A orderly look in Pubmed and Embase was performed to decide comes about that were pooled in two meta-analysis. Meta-analysis appeared a critical result in favor of VRT for balance.

VR can recreate genuine workspaces for work environment word related security and wellbeing purposes, instructive purposes, and preparing purposes. It can be utilized to supply learners with a virtual environment where they can create their abilities without the real-world results of falling flat. It has been utilized and considered in essential education, life structures teaching, military, space traveler training, flight simulators, digger training, building design,[citation required] driver training and bridge inspection. Immersive VR building frameworks empower engineers to see virtual models earlier to the accessibility of any physical prototypes. Supplementing preparing with virtual preparing situations has been claimed to offer roads of authenticity in military and healthcare preparing whereas minimizing cost. It moreover has been claimed to diminish military preparing costs by minimizing the sums of ammo used amid preparing periods

Within the designing field, VR has demonstrated exceptionally valuable for both building teachers and the understudies. A previously costly taken a toll within the instructive office presently being much more available due to lowered by and large costs, has demonstrated to be an awfully valuable instrument in teaching future engineers. The foremost noteworthy component lies within the capacity for the understudies to be able to connected with 3-D models that precisely react based on genuine world conceivable outcomes. This added tool of instruction gives numerous the drenching required to grasp complex subjects and be able to apply them. As famous, long run planners and engineers advantage incredibly by being able to make understandings between spatial connections and giving arrangements based on real-world future applications.

The primary fine craftsmanship virtual world was made within the 1970s. As the innovation created, more aesthetic programs were delivered all through the 1990s, counting highlight movies. When commercially accessible innovation became more broad, VR festivals started to develop within the mid-2010s. The primary employments of VR in exhibition hall settings started within the 1990s, seeing a critical increment within the mid-2010s. Also, exhibition halls have begun making a few of their substance virtual reality accessible. Virtual reality's growing showcase presents an opportunity and an elective

channel for computerized marketing. It is additionally seen as a unused stage for e-commerce, especially within the offered to challenge conventional "brick and mortar" retailers. In any case, a 2018 think about uncovered that the lion's share of products are still acquired in physical stores.

Within the case of instruction, the employments of virtual reality have illustrated being competent of advancing higher arrange thinking, advancing the intrigued and commitment of understudies, the procurement of information, advancing mental propensities and understanding that are for the most part valuable inside an scholastic context. A case has moreover been made for including virtual reality innovation within the setting of open libraries. This would allow library clients get to cutting-edge innovation and special instructive experiences. This might incorporate giving clients get to virtual, intelligently duplicates of uncommon writings and artifacts and to tours of celebrated points of interest and archeological burrows (as within the case with the Virtual Ganjali Khan Extend)

## 3.4 Selected work

After studying various papers and different approaches of anomaly detection, we have decided to develop a virtual reality application, where a user can able to drive a car. Not only an experience of car driving but also it will help to understand the basic traffic rules on the road.**Chapter 2**

# Background Study

In order to find a specific approach, we have studied quite a number of research papers related to our task. In this section these will be briefly discussed here.

**Chapter 4**

# Methodology

## 4.1 Apparatus

**Chapter 4**

# Performance

We have prepared some graphical analysis for different users by which we can say that

**Chapter 6**

# Future Work

**Chapter 7**

# Conclusion

# References

[1][*"Get Ready to Hear a Lot More About 'XR'"*](https://www.wired.com/story/what-is-xr/). Wired. 1 May 2019. [*ISSN*](https://en.wikipedia.org/wiki/ISSN_(identifier)) [*1059-1028*](https://www.worldcat.org/issn/1059-1028)*. Retrieved 29 August 2020*.