

**2<sup>nd</sup> International Conference on  
Advances in Technology and Management (ICATM -2024)**  
**April 5-6, 2024**

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Organized by  
A. C. Patil College of Engineering & Management,  
Kharghar, Navi Mumbai

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**PAPER ID: 284**

**VIRTUAL REALITY HORROR GAME**

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## Outline

Introduction

Literature Review

Problem Definition/ Objective

Methodology

Results and Discussions

SWOT Analysis

Conclusion/Future Scope

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## Introduction

Virtual reality (VR) horror games offer an unparalleled immersion by leveraging first-person perspective, realistic graphics, and interactive gameplay. Players experience the game world through the eyes of the protagonist, enhancing the feeling of presence and intensifying the horror experience. Detailed environments, coupled with atmospheric lighting, create a sense of dread, while interactivity allows players to manipulate objects and solve puzzles. Jump scares are effectively utilized to startle players, taking advantage of the heightened sense of immersion in VR. Compelling narratives further engage players, drawing them deeper into the terrifying world of VR horror gaming.

**VR horror game**

**immersive environment**

**promote VR**



## Introduction

### Why opted for Horror Genre ?

Horror genre consistently rank highly across demographics and gaming platforms, showcasing their widespread appeal and engagement. Horror games excel in delivering an immersive experience that truly transports users to another world, creating a sense of fear and suspense that showcases VR's capabilities effectively. The use of spatial audio further enhances this sense of immersion, drawing players deeper into the game environment. In India, where horror stories and supernatural themes hold cultural significance, VR horror games have the potential to resonate strongly with audiences across all demographics who are enthusiastic consumers of horror content. By leveraging the universal appeal and emotional impact of horror games, VR technology can be effectively promoted and embraced as a powerful medium for immersive experiences and storytelling in the future.

**widespread appeal**

**powerful medium**

**thrill & adrenaline**



## Literature Review

### Level of Fear, 2018

- Categorize fear levels

### Horror Game Design, 2020

- Game level design patterns

### Analysis of the design aesthetics and player emotions of horror games, 2022

- Players' experience levels

### So scary, yet so fun, 2018

- potential in handling fear influences enjoyment

### Virtual Reality Horror Games and Fear in Gaming, 2023

- Psychological aspects of horror games

### Research on the Progress of VR in Game, 2023

- Recent trends

### Research on the Application of VR in Games, 2023

- Current technological advancements and potential

### Adaptive virtual reality horror games based on Machine learning and player modeling, 2022

- Dynamic adjustment based on behavior



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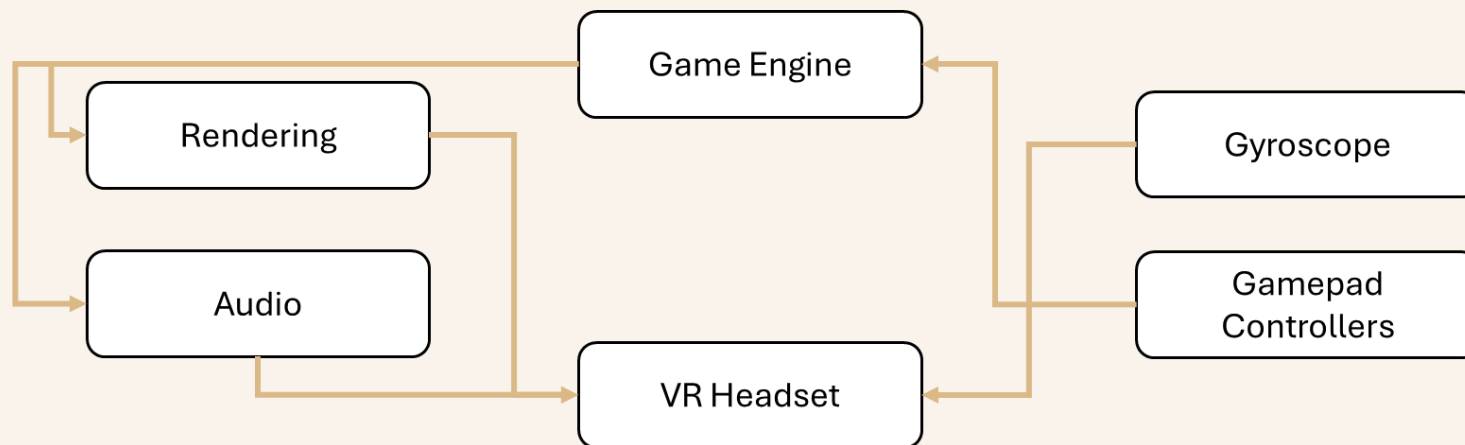
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## **Problem Definition**

- Virtual reality (VR) is an emerging technology that has the potential to revolutionize the way we interact with games and other experiences. However, VR is still relatively new and expensive, and many people lack the understanding of how it works. This limits the reach of VR technology and prevents it from becoming an integral part of our lives.
- One way to introduce VR technology to a wider audience is to develop VR games. Gaming being one of the biggest industries in the world will allow VR to get a platform where it can showcase its endless possibilities to the world. Horror Games are some of the biggest games in the industry as they allow the player to get immersed with the environment. This makes the horror genre one of the best genres to showcase the capability of VR.



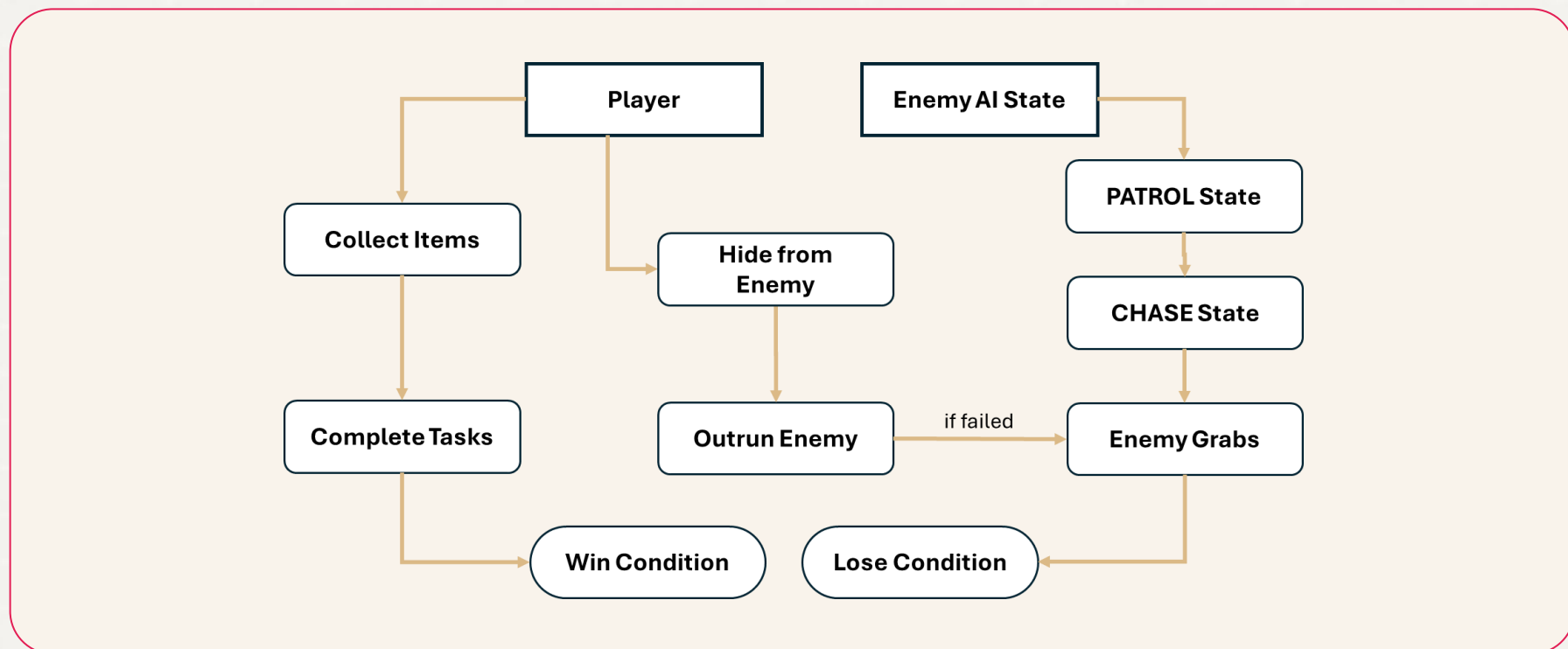
## Methodology







## Methodology





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## Methodology

**Google Cardboard SDK:** Integrates VR functionalities on Android devices, including stereoscopic rendering and headtracking.

**Gyroscope:** Utilizes sensor data to track players' head movements, enhancing immersion.

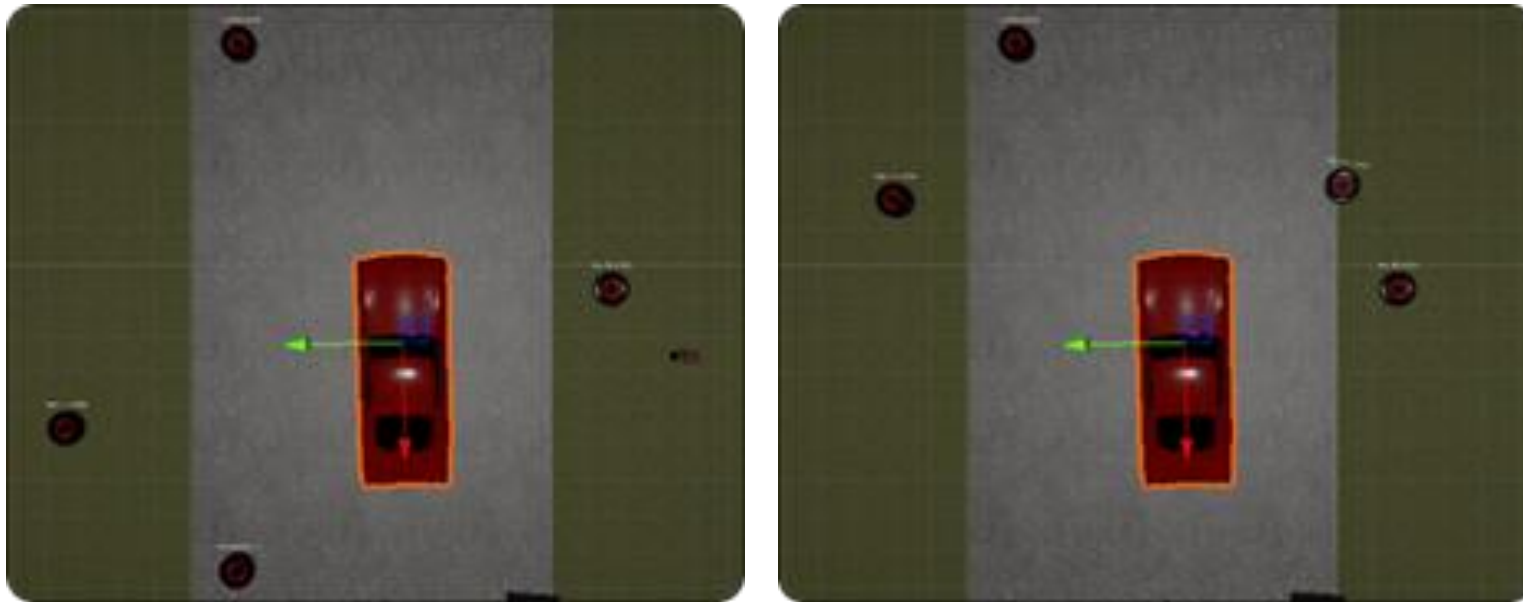
**Item Spawner:** The algorithm enhances game replayability by randomly spawning items from strategically positioned points across the map.

**Audio Management:** Implements 3D spatial audio, ambient music, and eerie sounds for a heightened atmosphere.

**User Interface (UI):** VR-friendly UI elements provide essential information and enhance player interaction.



## Results & Discussion



Item Spawning at Random Spots

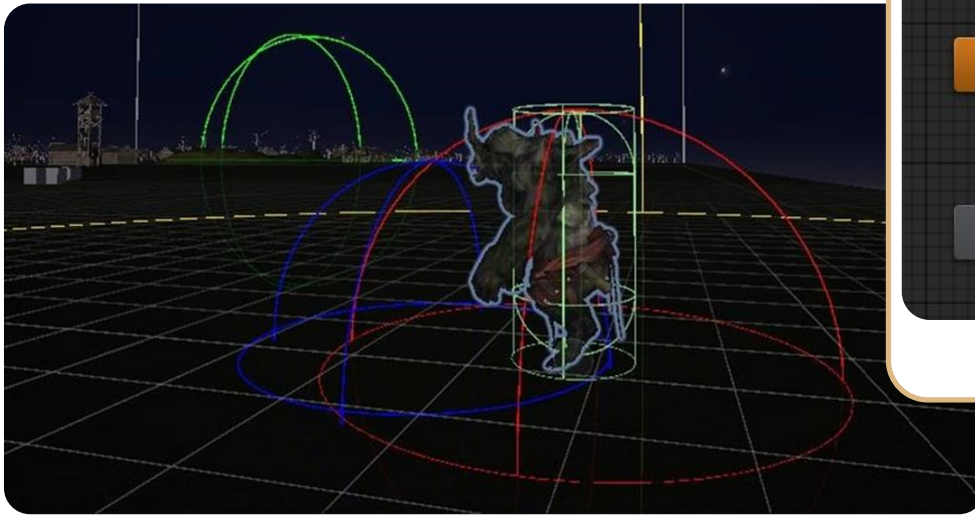


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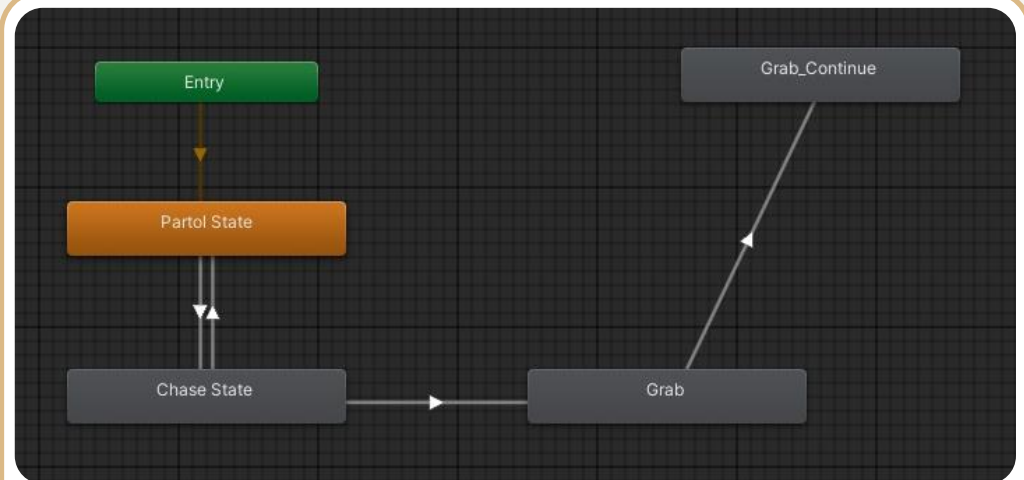
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## Results & Discussion



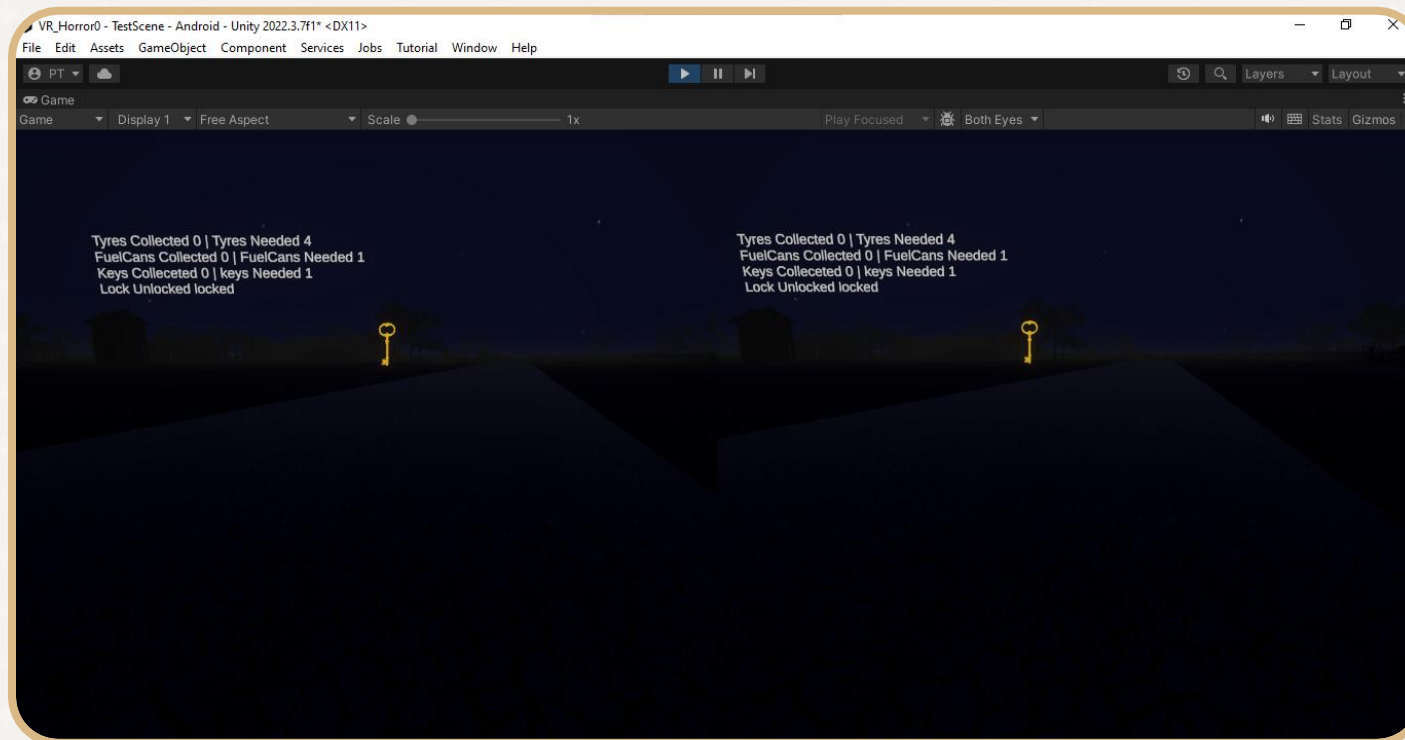
Enemy in PATROL State



Enemy <Animator> Component



## Results & Discussion



Stereoscopic Game Interface





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## SWOT Analysis

### Strengths:

- Immersive Experience
- Gameplay Mechanics
- Market Demand

### Weakness:

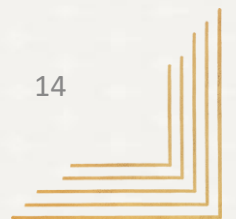
- Hardware Dependency
- Motion Sickness
- Cost of Entry

### Opportunities:

- Expanding VR User Base
- Gameplay Features
- Cross-Platform Integration
- VR Community Engagement

### Threats:

- Innovation
- Health Concerns
- Economic Factors





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## Conclusion

Our VR horror game incorporates a holistic approach to gaming, seamlessly blending immersive environments with advanced technology while catering to the traditional enthusiasm for consuming horror stories. It represents a *fusion of past, present, and future elements*, presenting VR seamlessly into daily life experiences. Adhering to VR rules and integrating cohesive features, our game sets a new standard for immersive entertainment.

introducing interactive  
computing

integration into day-to-day  
life

blending past-present-future





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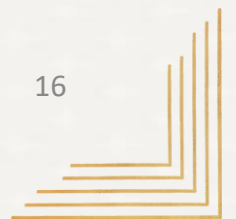
## Future Scope

### w.r.t. VR

- Limitations of VR
- Reduce Motion Sickness
- Dynamic Mechanics

### w.r.t. Game

- Multiplayer
- DLC
- Optimization
- Community







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# Thank You

