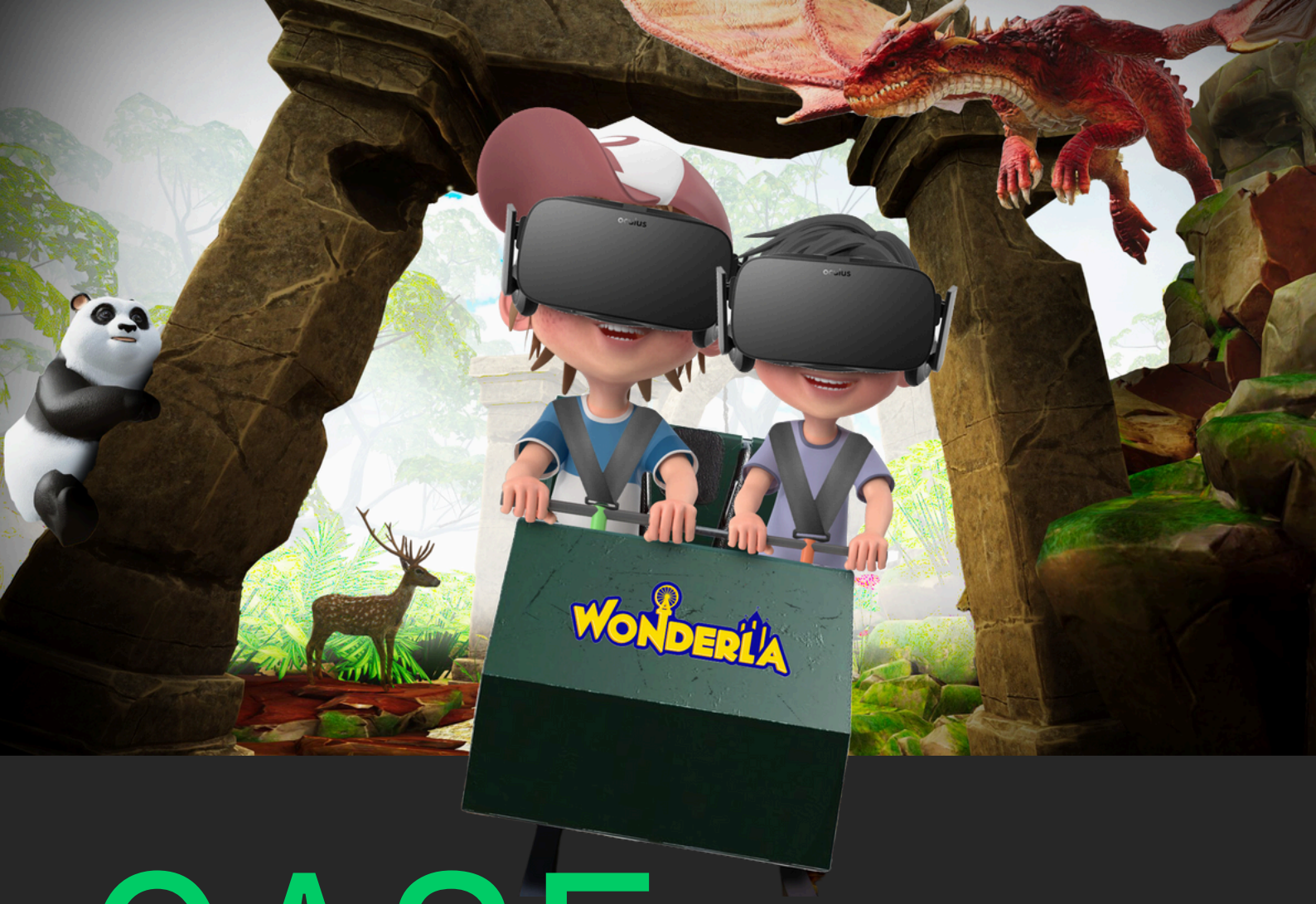

CASE STUDY

VR Application Development for

WONDERLA Amusement Park

TILTLABS
A PRODUCT REALIZATION COMPANY

EXECUTIVE SUMMARY

TILTLABS collaborated with Wonderla Kochi to develop an immersive VR application for their rollercoaster ride. The project aimed to enhance the thrill factor by synchronizing dynamic environmental effects with the coaster's physical movements while creating a vivid fantasy environment with interactive characters.

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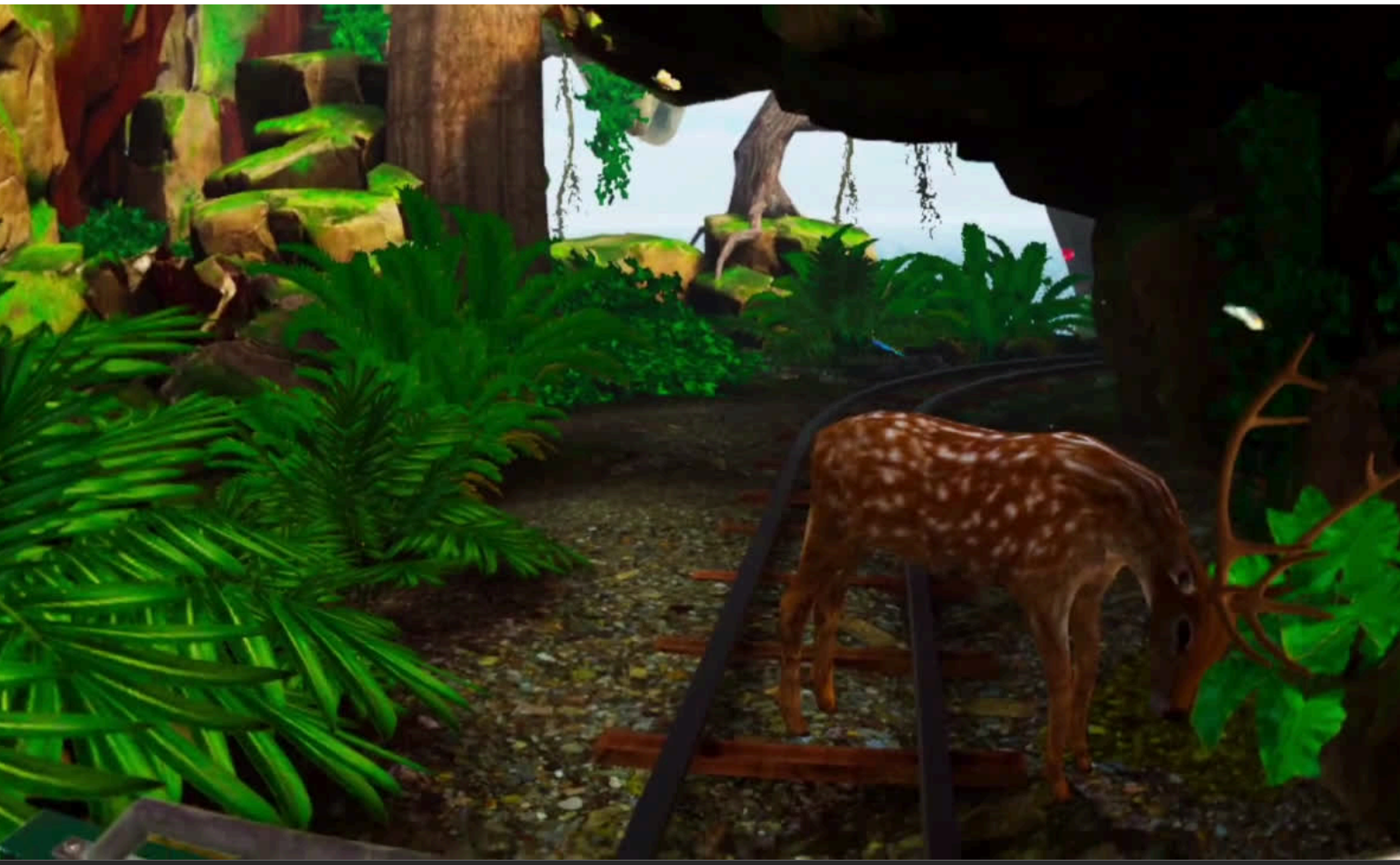
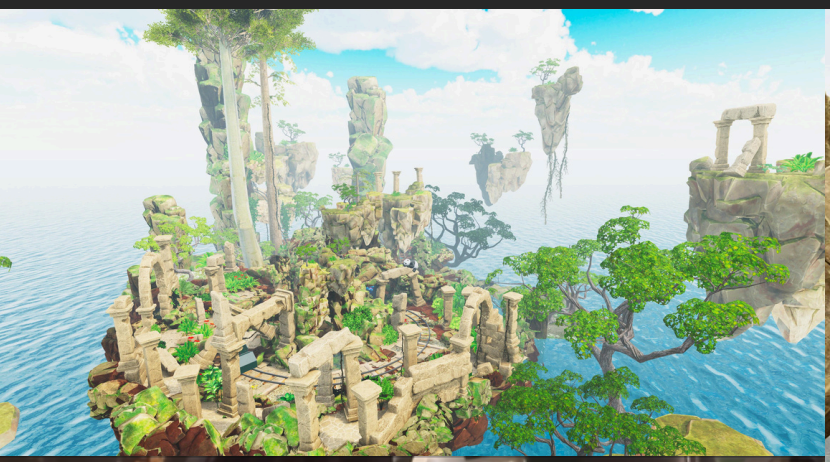
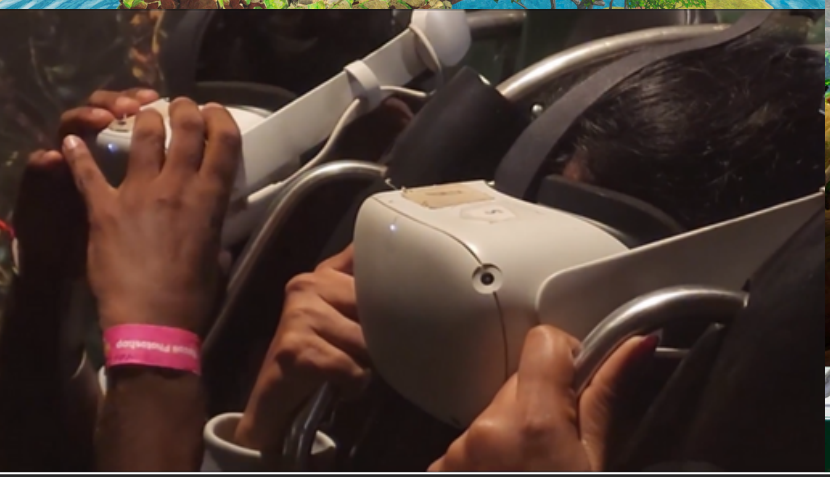
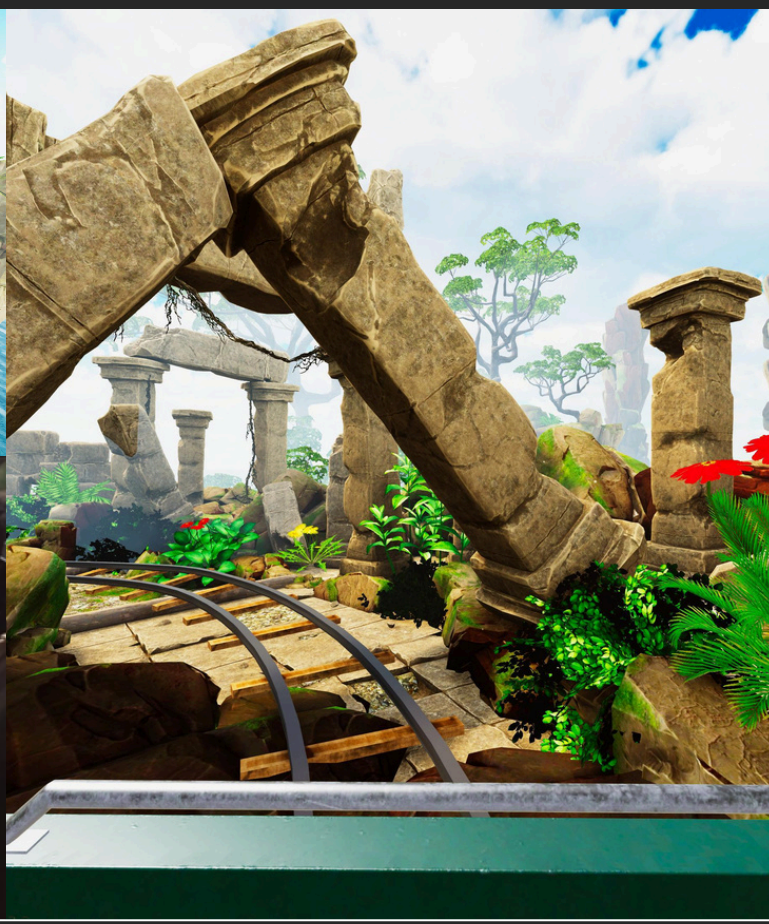


PROJECT CHALLENGES

- Smooth integration of VR technology with a high-speed moving ride.
- Development of dynamic VR effects synchronized with unpredictable coaster motions.
- Ensuring precise rider synchronization across shared VR experiences to avoid motion sickness triggers.
- Creating vibrant fantasy scenes and characters while optimizing for performance and visual fidelity.







GOALS & OBJECTIVES

- **Enhance rider experience:**
  The primary goal is to elevate the rollercoaster experience by immersing riders in a synchronized VR environment that enhances thrill and excitement.

- **Scalability for future expansion:**
  Develop a scalable template system to easily incorporate new VR environments and attractions in the future, ensuring long-term relevance and engagement for park visitors.

- **Story-driven immersion:**
  Create a captivating fantasy narrative with interactive characters to engage riders and provide a memorable and immersive experience beyond traditional rollercoaster rides.

- **Operational efficiency:**
  Implement a ride-monitoring dashboard application to streamline operations, monitor ride status in real-time, and optimize gear assignment, ensuring smooth and efficient park management.

SOLUTIONS & METHODOLOGY

Unity platform utilization

Leveraged Unity for cross-platform VR application development, ensuring compatibility with various devices and systems.

Custom motion synchronization system

Developed a bespoke system using coaster engineering inputs to synchronize VR effects with coaster movements, ensuring seamless immersion and reducing motion sickness risks.

Rigorous quality assurance testing

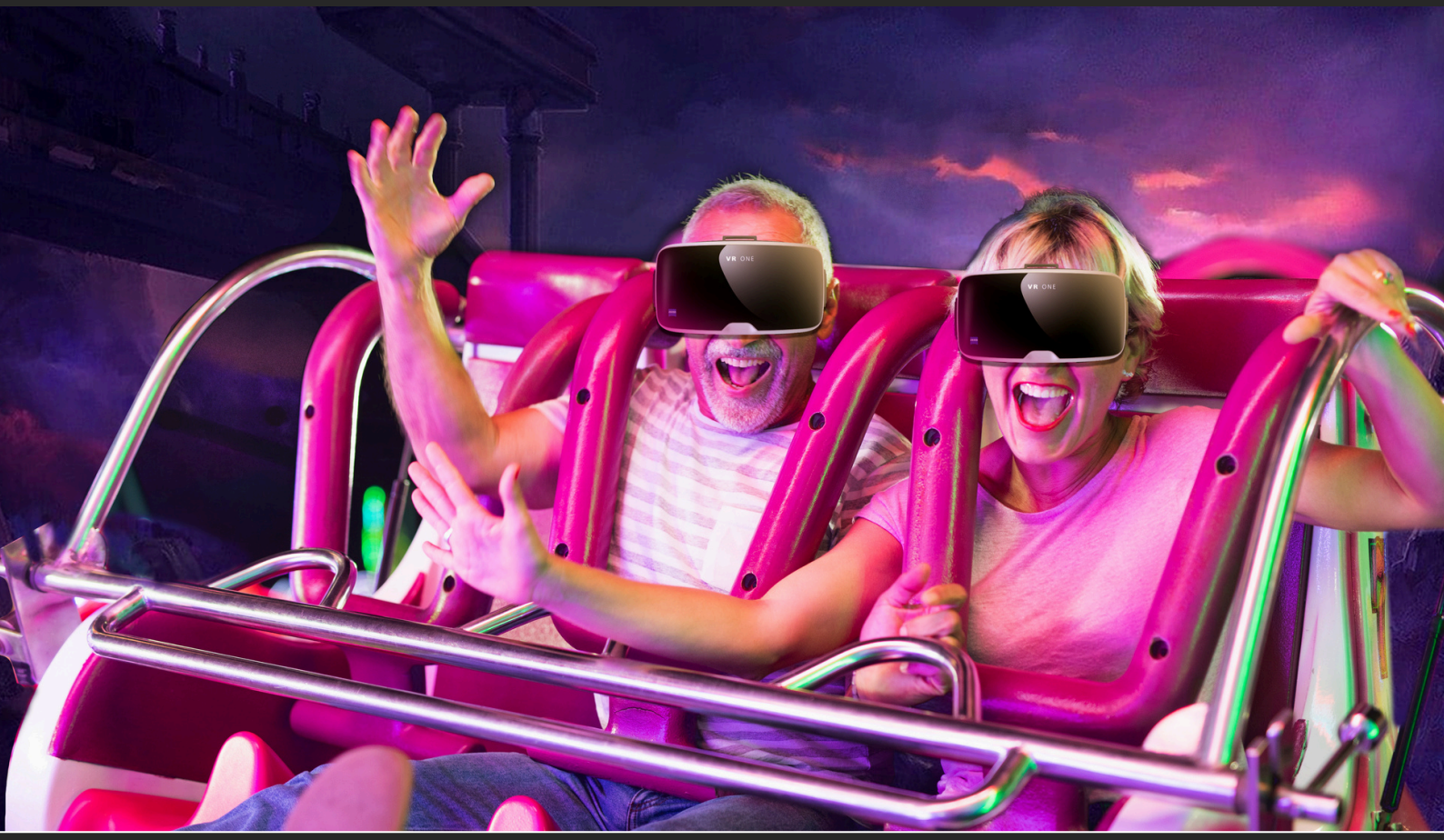
Conducted thorough testing for visual fidelity and motion effects to ensure riders' smooth and enjoyable experience.

Agile methodology adoption

Embraced agile methodology for project management, facilitating rapid iterations based on stakeholder feedback and ensuring timely delivery of milestones.

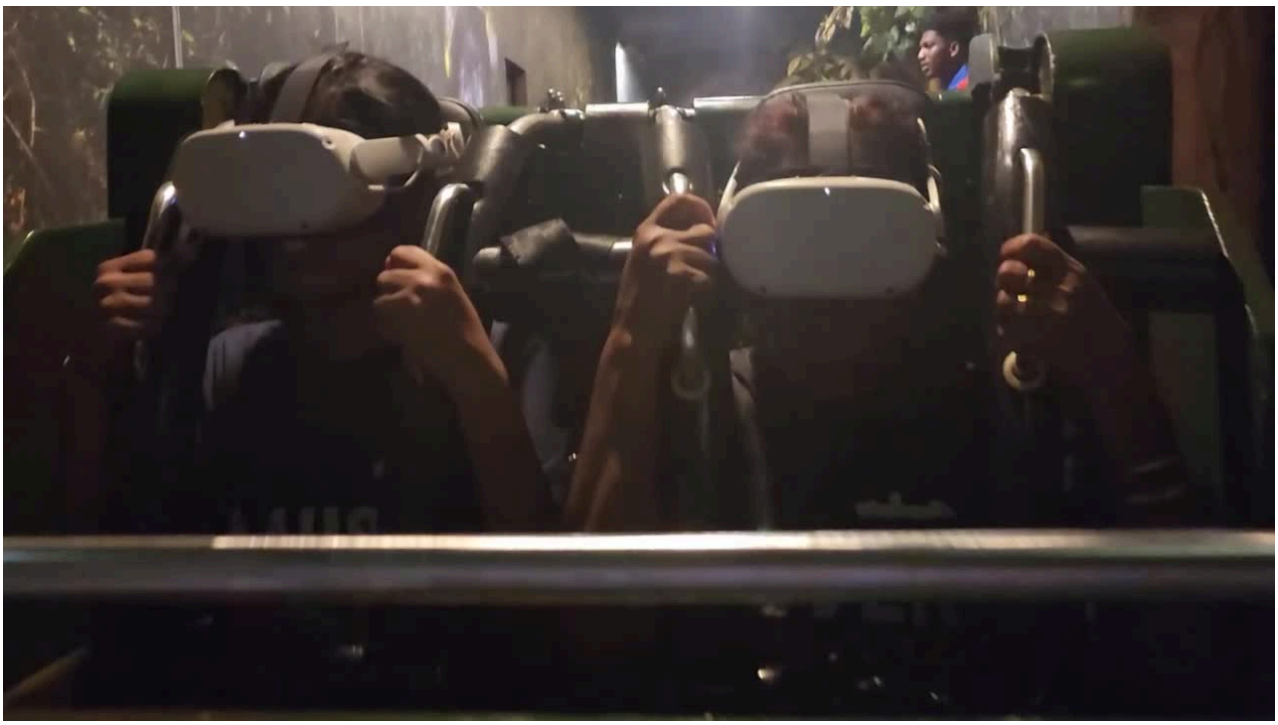
PROJECT EXECUTION

- Proof-of-concept development for rollercoaster VR: **3 weeks**
- Fantasy environment modeling: **6 weeks**
- Character animation: **8 weeks**
- Dashboard application development: **4 weeks**
- Final testing and launch: **3 weeks**



OUTCOMES & RESULTS

- Successful synchronization of VR environment with rollercoaster motions, enhancing the ride experience.
- Creating vibrant fantasy scenes and characters met project objectives, leading to positive visitor feedback.
- Implementation of a scalable template system enabled easy addition of future VR environments.
- Deployment of a ride-monitoring dashboard facilitated real-time monitoring and gear assignment, improving operational efficiency.



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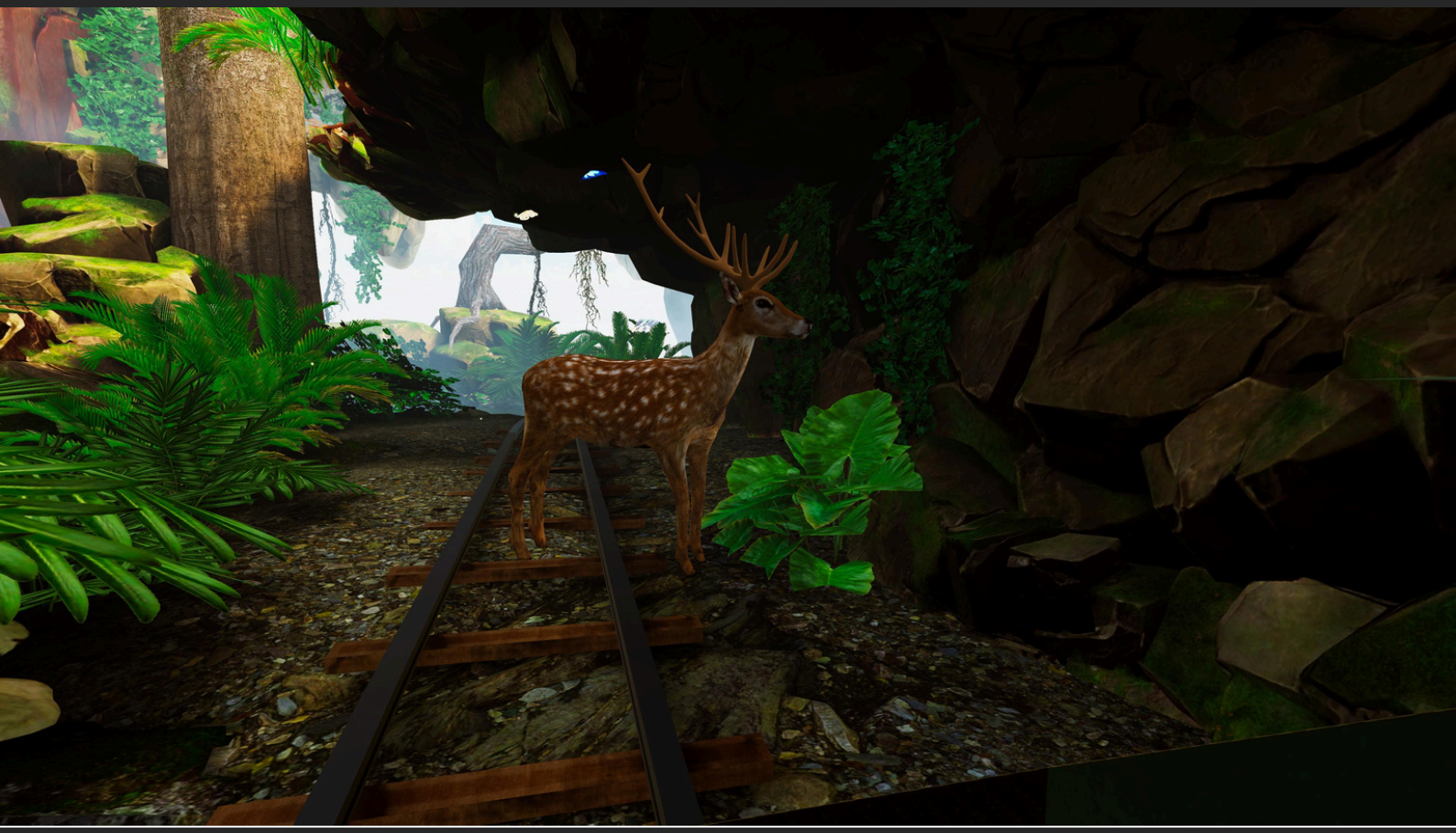
CONCLUSION

TILTLABS successfully delivered an innovative synchronized VR application, elevating Wonderla Kochi's rollercoaster experience. The collaborative process, coupled with scalable solutions, ensured the project's success and set the stage for future VR environment additions. The immersive experience, dynamic motion effects, and captivating visuals exceeded client expectations and enhanced visitor satisfaction.



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