

DEPI Graduation Project Proposal

Project Title:

My Super Morning VR

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1. Executive Summary:

This project proposes the design and development of My Super Morning VR, an immersive Virtual Reality (VR) application aimed at helping children aged 6-12 years with ADHD build independence, improve executive functions, and enhance sustained attention during daily morning routines.

The application guides children step-by-step through realistic activities like waking up, making their bed, brushing teeth, dressing, eating breakfast, washing dishes, sorting trash, and managing unexpected events (e.g., cleaning after a pet).

By integrating adaptive prompts, guided practice, multimodal feedback, and a reward system, this VR experience combines therapeutic support with gamified reinforcement. The final prototype will demonstrate a fully interactive morning routine in a child-friendly, low-distraction environment built in Unity, with 3D assets and animations created in Blender.

2. Problem Definition and Educational Rationale:

Children with ADHD often struggle with executive functions, impacting their ability to complete daily routines independently:

- **Sustained Attention Deficit:** Difficulty focusing on sequential tasks.
- **Working Memory Challenges:** Trouble remembering steps in routines.
- **Emotional Regulation & Motivation:** Frustration or loss of engagement during repetitive tasks.

Traditional approaches (e.g., parental guidance, checklists) are inconsistent and often fail to provide real-time feedback, measurable progress, or engaging practice.

My Super Morning VR addresses these deficits by providing a structured, immersive, and interactive environment that encourages repetition, skill-building, and positive reinforcement, helping children develop independence while supporting cognitive and emotional growth.

3. Proposed VR Solution:

3.1 Immersive Morning Routine Module

- **Step-by-step Guided Routine:** Wake up, make the bed, brush teeth, dress, eat, wash dishes, sort trash, and handle unexpected events.
- **Adaptive Assistance:** Guided or independent mode adjusts difficulty based on user performance.
- **Reward System:** Praise and stars provide positive reinforcement for completed tasks.
- **Focus Mini-Game:** “Catch the Comet” trains sustained attention with measurable performance metrics.

3.2 User Interface

- **Child-Friendly UI:** Simple, low-distraction interfaces with high readability, color-safe palettes, and predictable layouts.
- **Multimodal Feedback:** Visual, auditory, and haptic cues support learning and emotional regulation.

- Session Summary Screen: Tracks time taken, errors, assistance requests, focus %, and distractions for therapists, parents, and researchers.

3.3 Customization & Monitoring

- Therapist/Parent Dashboard (Future): Toggle activities, adjust sensory load, export logs, and set personalized routines.
- Performance Logging: Tracks progress, errors, attention levels, and behavioral responses.

4. Technical Methodology and Deliverables:

4.1 Tools and Technologies

- Unity (VR Engine / XR Interaction Toolkit): Scene assembly, VR interactions, triggers, and teleportation.
- Blender / Maya: High-fidelity 3D environments, characters, and object modeling.
- Animation (Unity / Blender): Interactive animations for game mechanics and UI feedback.

4.2 Expected Deliverables

- VR Prototype: Fully interactive Unity-based VR morning routine with integrated “Catch the Comet” mini-game.
- 3D Asset Library: Optimized models for all environments, characters, objects, and interactive tools.
- Animation Package: Key animations for daily activities, feedback loops, and mini games.
- Technical Documentation: Detailed report on VR design methodology, usability, accessibility, and ADHD-focused considerations.

5. Safety and Ethical Considerations

- Session Duration: 5-10 minutes to prevent fatigue and maintain engagement.
- VR Comfort Settings: Teleportation, minimal motion, and simplified UI to reduce motion sickness and visual strain.
- Child-Friendly Design: Low-sensory, predictable, and emotionally supportive environment.
- Data Privacy: Performance logs collected and stored securely with parental/therapist oversight.

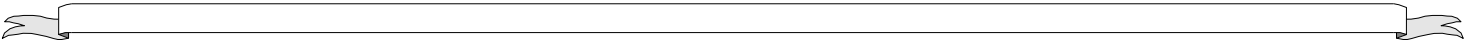
6. Conclusion and Future Scope

My Super Morning VR offers a design-centric, therapeutic approach to help children with ADHD gain independence, improve executive functions, and practice real-life morning routines in a safe, engaging VR environment.

Future directions include:

- Expanding routine modules and mini games
- Adding advanced therapist dashboards and adaptive learning algorithms
- Clinical trials and real-world testing to measure effectiveness

This project demonstrates expertise in VR design, child-cantered UX, 3D modelling,



animation, and Unity integration, providing a foundation for future development of therapeutic VR tools for ADHD intervention.