

**PET VERSE: VIRTUAL PET ADOPTION & BUYING PLATFORM. ENHANCED WITH AR, VR, AND GAMIFICATION**

**ONE FOR ALL**

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**ABSTRACT**

Pet ownership brings joy and companionship, but various constraints such as allergies, small living spaces, and busy schedules prevent many from experiencing it. While virtual pet applications exist, they often lack realism and fail to provide an engaging, emotionally fulfilling experience. Pet Verse is an advanced virtual pet adoption and buying platform that integrates Augmented Reality (AR), Virtual Reality (VR), and gamification to create a highly immersive and interactive pet experience.

The platform leverages AR technology to integrate virtual pets into real-world environments, allowing users to interact with them through their mobile devices. VR support enables users to step into a fully immersive pet care environment, including play areas, clinics, and personalized pet homes. Gamification elements such as reward-based progression, achievements, and unlockable features keep users engaged while fostering a sense of responsibility toward their virtual pets. The customization options allow users to choose pet species, breeds, and behaviors, making the experience more personal and engaging.

The technical architecture includes a Unity-based game engine, C#-powered pop-ups for information delivery, and backend support for seamless interactions. The system uses ARCore for AR development and is compatible with Oculus VR headsets for an enhanced VR experience.

Pet Verse not only focuses on entertainment but also aims to build a strong community of pet lovers by introducing social features such as virtual playdates, competitions, and collaborative events. Future enhancements include AI-driven pet behaviors that adapt to user interactions, real-world pet adoption partnerships, and expansion to consoles and next-generation VR devices.

By combining cutting-edge AR, VR, and AI technologies, Pet Verse offers a lifelike and emotionally engaging virtual pet ownership experience, redefining how users interact with digital companions while fostering a sense of connection and responsibility.

Future enhancements include AI-driven pet personalities, virtual playdates, and real-world pet adoption collaborations. With its scalability, realism, and emotional connection, Pet Verse aims to redefine virtual pet ownership, fostering a dynamic and engaging community of pet lovers.