

CELESTIAL AR

AN IMMERSIVE AUGMENTED
REALITY EXPERIENCE OF THE
COSMOS

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ABSTRACT

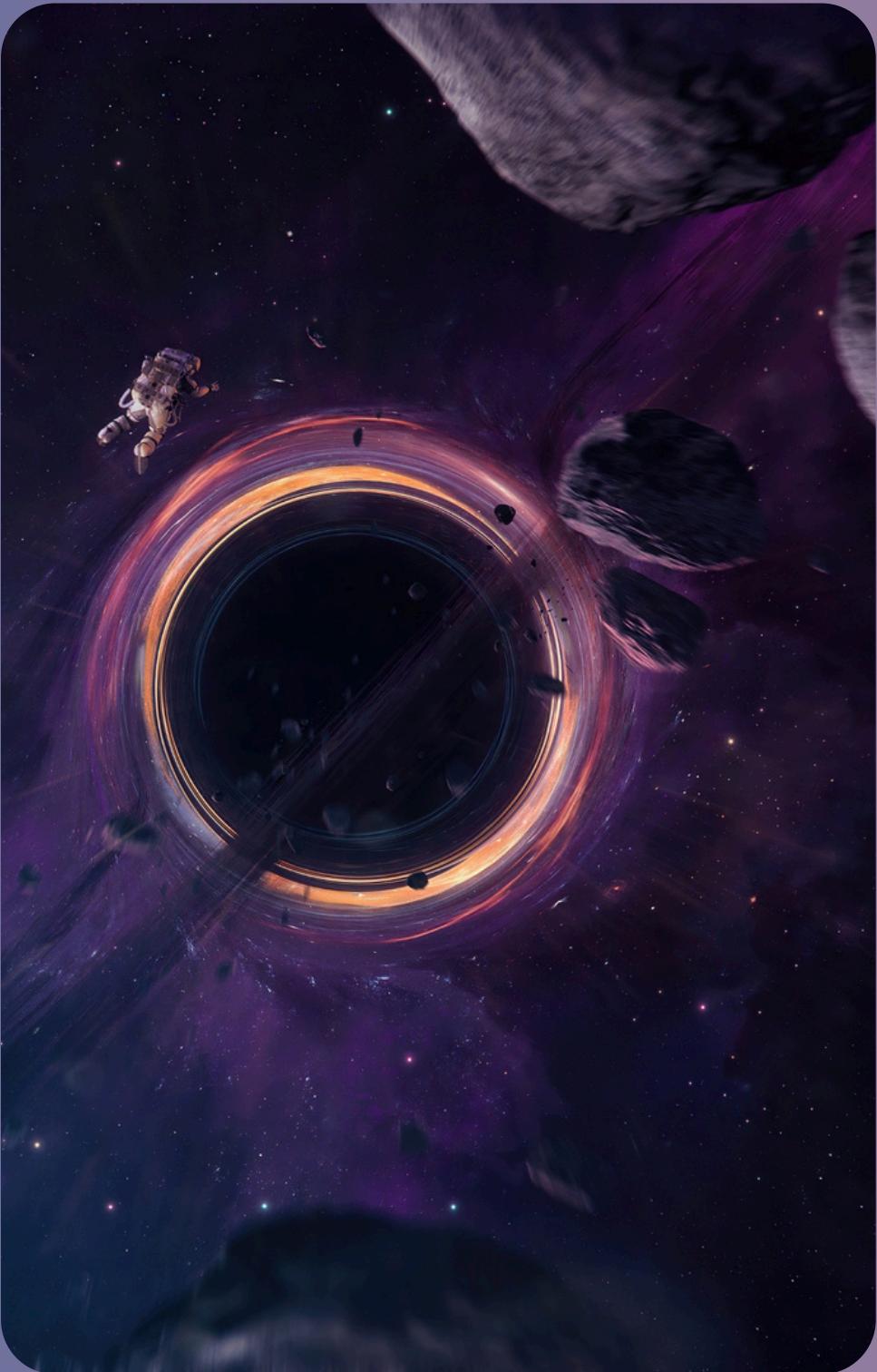
This project focuses on creating an immersive augmented reality (AR) application that brings the wonders of the cosmos into the user's surroundings. Designed for educational and exploratory purposes, the application goes beyond the conventional depiction of the eight planets by including a diverse range of celestial phenomena such as black holes, dwarf planets, asteroids, orbital paths, and more. The app offers an interactive and visually captivating experience, making astronomy's vast and complex realm more comprehensible and engaging for users of all ages. Through dynamic animations, real-time simulations, and interactive controls, the platform serves as both an educational tool and a source of entertainment, providing users with a closer and more tangible connection to space exploration.

INTRODUCTION



Due to its vastness and technical nature, astronomy is a complex and often overwhelming field for the general public. While space is fascinating, most people struggle to comprehend its components and phenomena. Existing tools for learning astronomy, such as books and 2D videos, lack interactivity and immersive engagement. There is a need for an application that bridges the gap between theoretical knowledge and interactive exploration, making space concepts more tangible, relatable, and engaging.

OBJECTIVES



To design and develop a user-friendly AR-based application for space exploration. To include a wide range of celestial objects like planets, asteroids, black holes, and dwarf planets. To incorporate interactive features such as scaling, rotating, and orbit visualization of celestial objects. To provide real-time animations and simulations, such as orbital paths, black hole gravity effects, and supernovae.

LITERATURE SURVEY

CATEGORY	FEATURE OR LIMITATION	NASA'S EYES	SPACE VIEW APP	CELESTIAL AR
AR IN EDUCATION	Expands AR learning into astronomy	NO	NO	YES
	3D visualizations	YES	NO	YES
Existing Space Exploration Apps	Interactive AR features	NO	NO	YES
Astronomy Visualization Tools	Immersive VR or 3D experiences	YES	NO	YES
	Real-time interaction with AR	NO	NO	YES

METHODOLOGY

01

3D Modeling and Animation

Use Maya to create high-quality 3D models of celestial bodies.

Animate rotational and orbital motions, black hole effects, and particle systems for phenomena like supernovae.

03

Testing and Iteration

Test the application on multiple devices for performance and usability.

Collect user feedback and refine interactivity, design, and content.

02

AR Development

Set up Unity with AR Foundation to handle AR functionalities.

Implement AR plane detection for placing celestial objects in the user's environment.

Script interactivity features like pinch-to-zoom, rotate, and tap-to-learn.

04

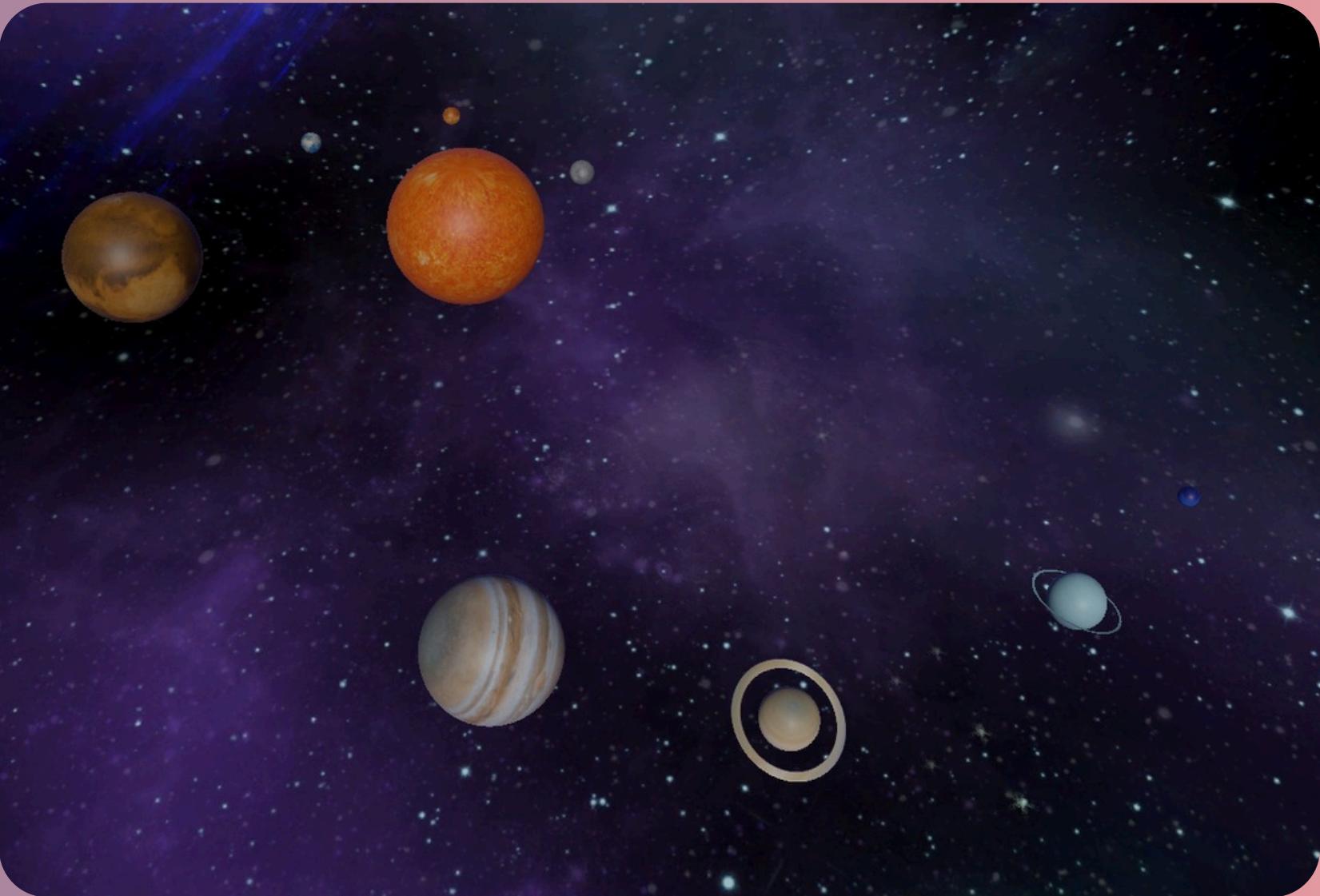
Deployment

Deploy the app on Android platforms via Google Play Store

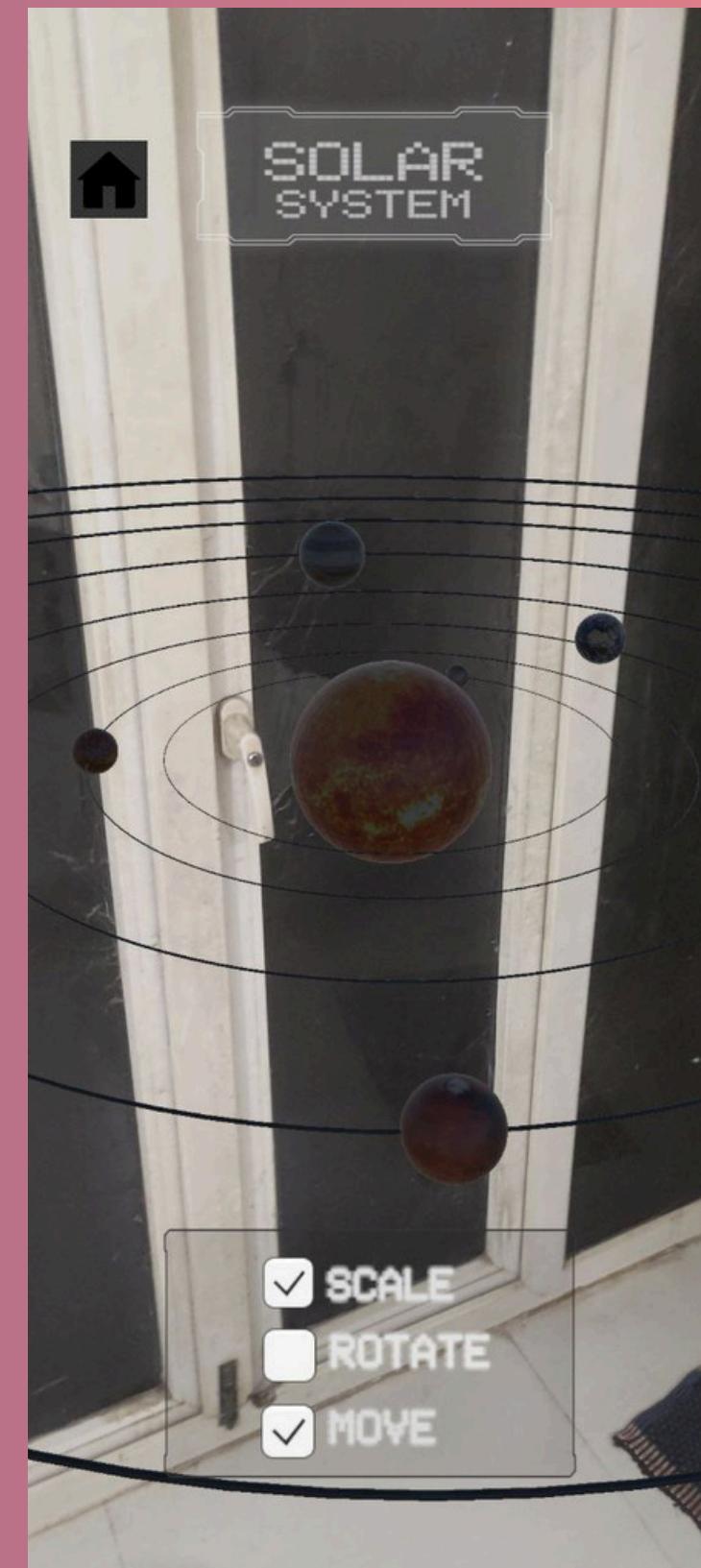
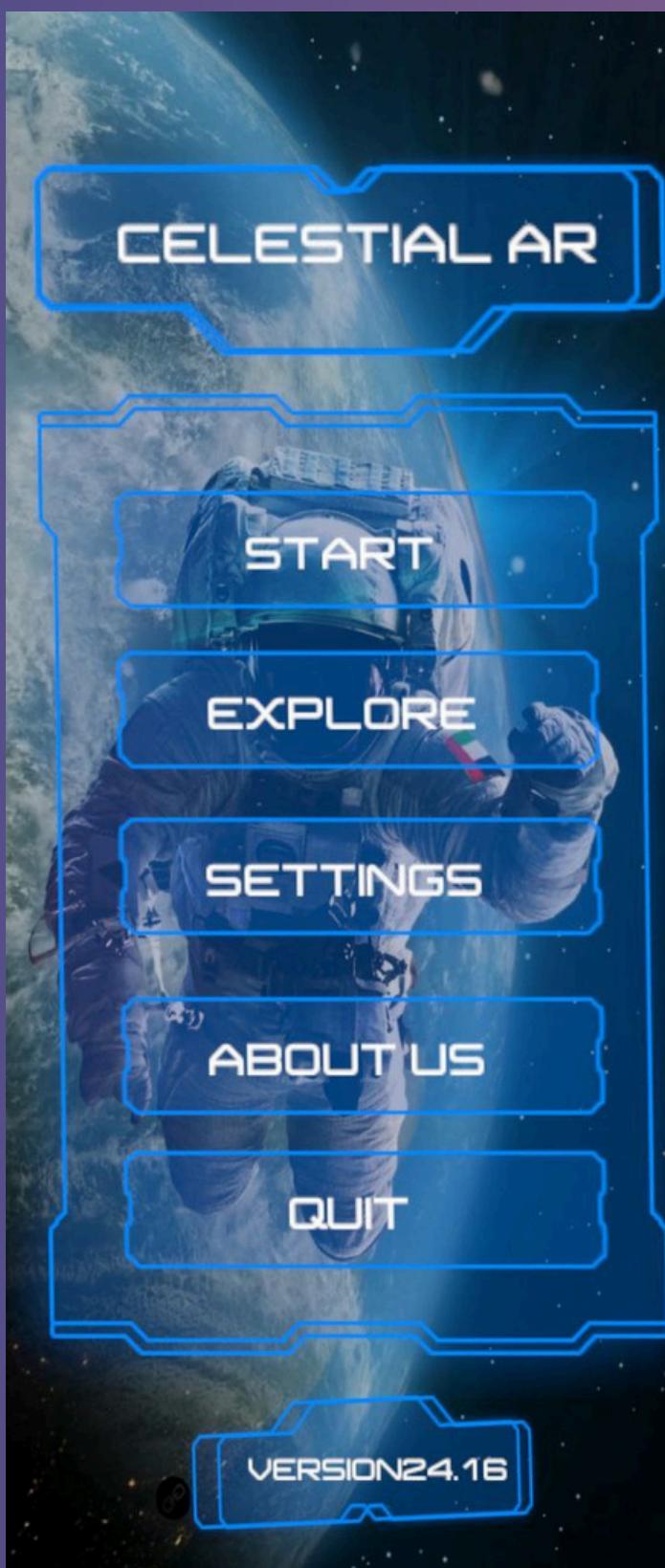
EXPECTED OUTPUT



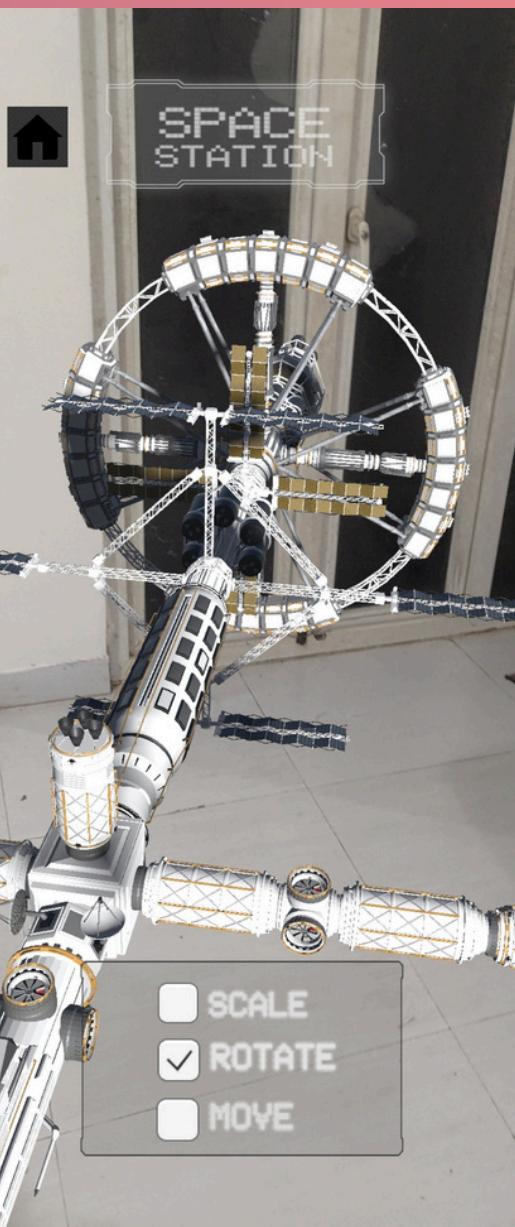
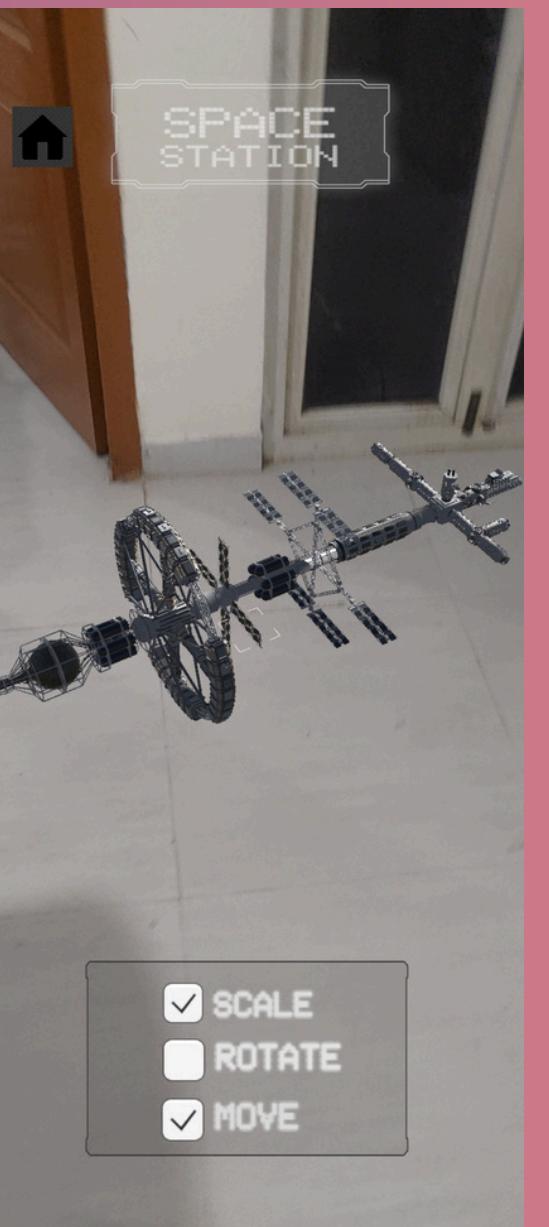
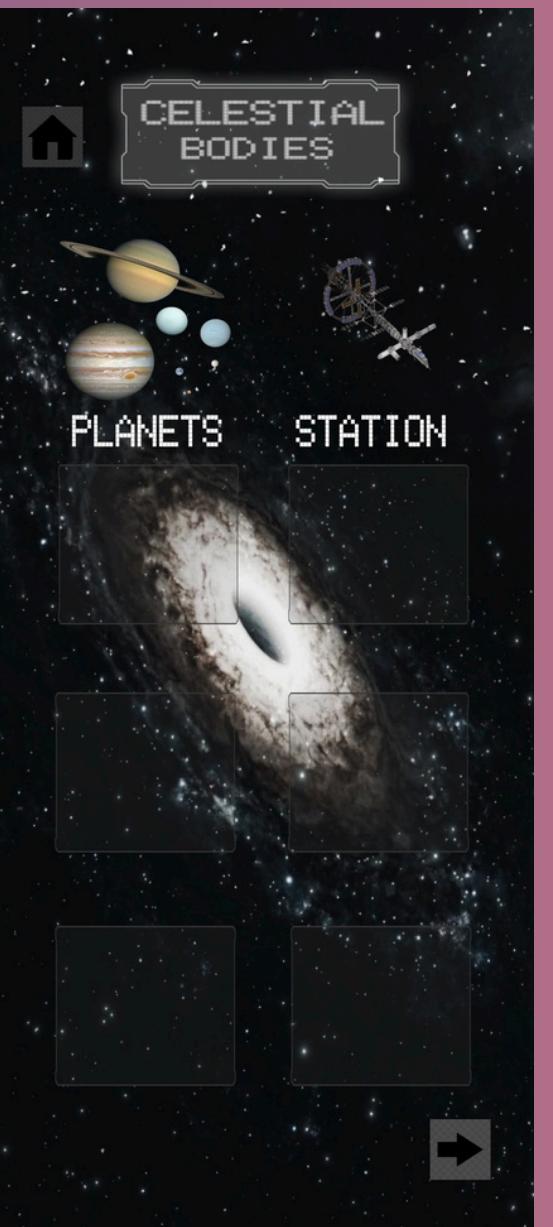
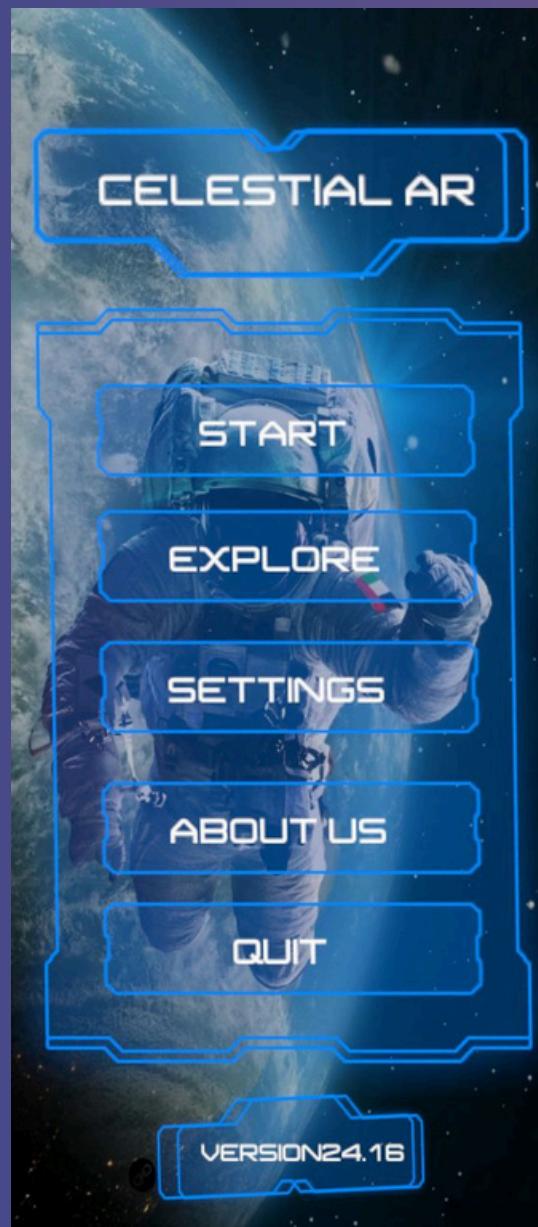
PROGRESS



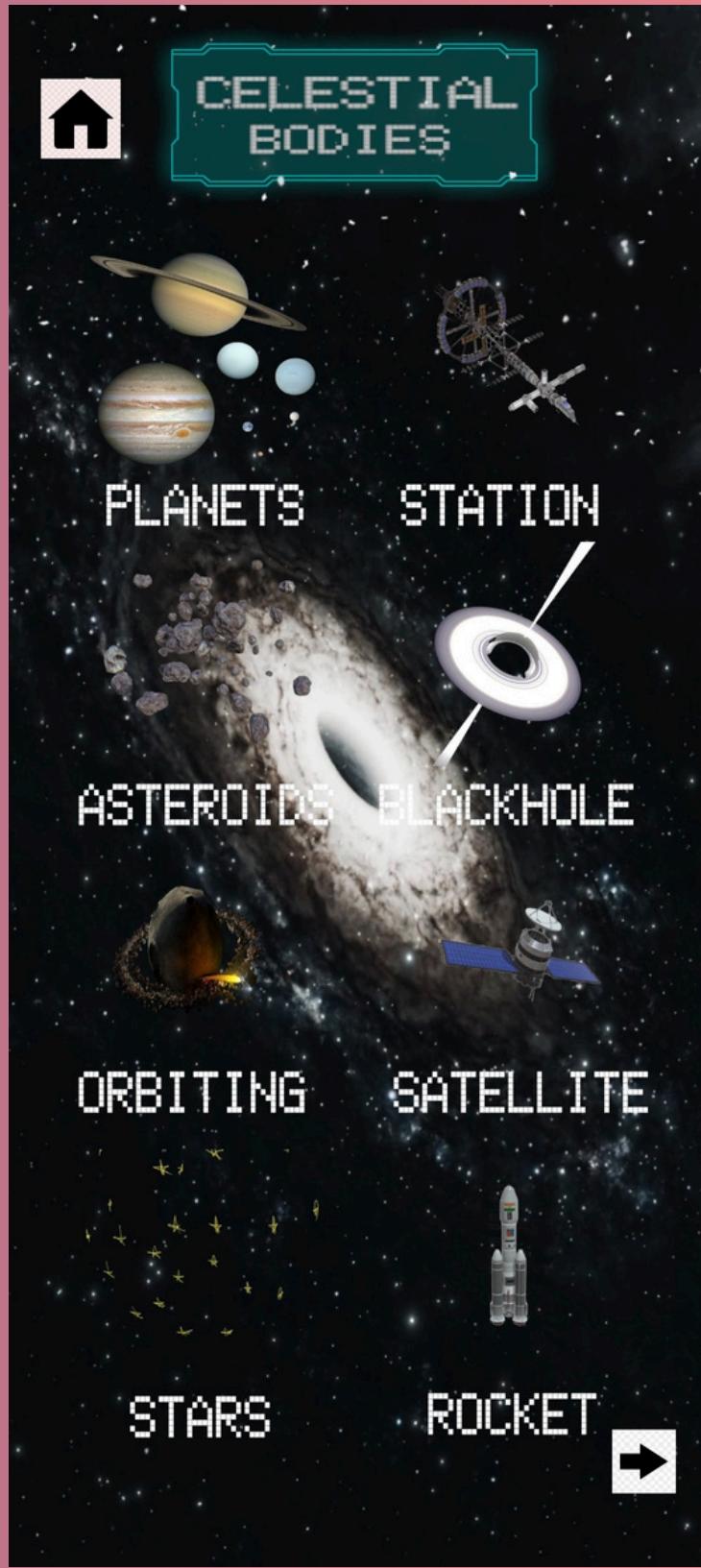
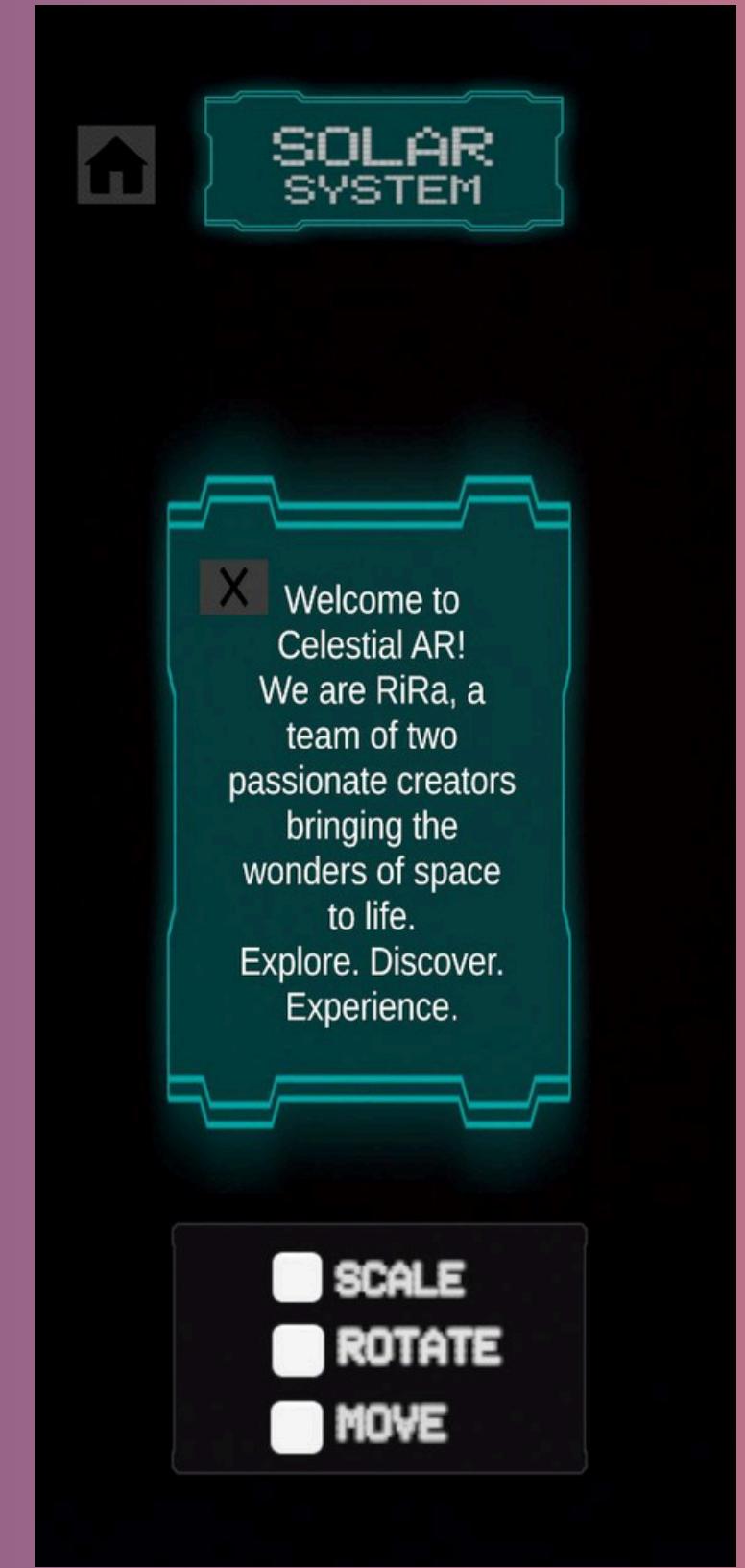
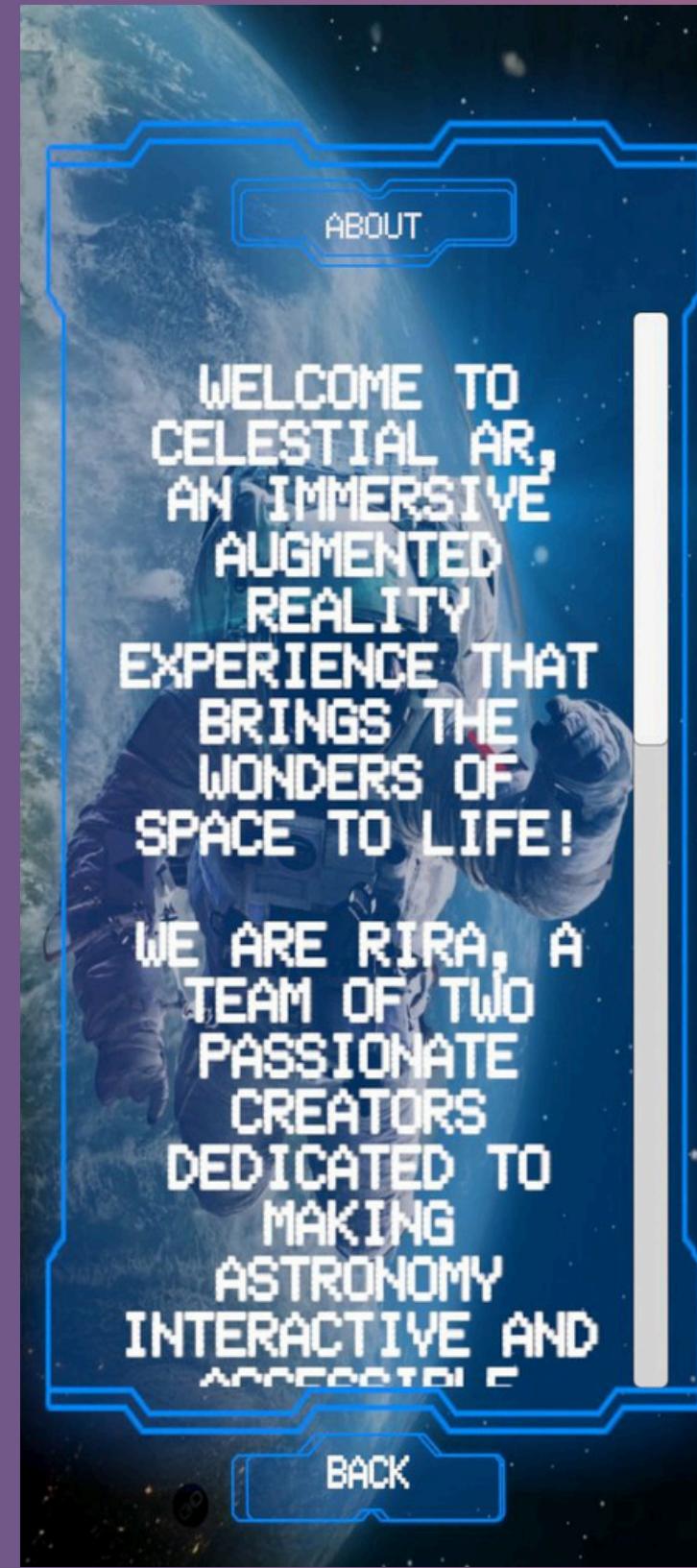
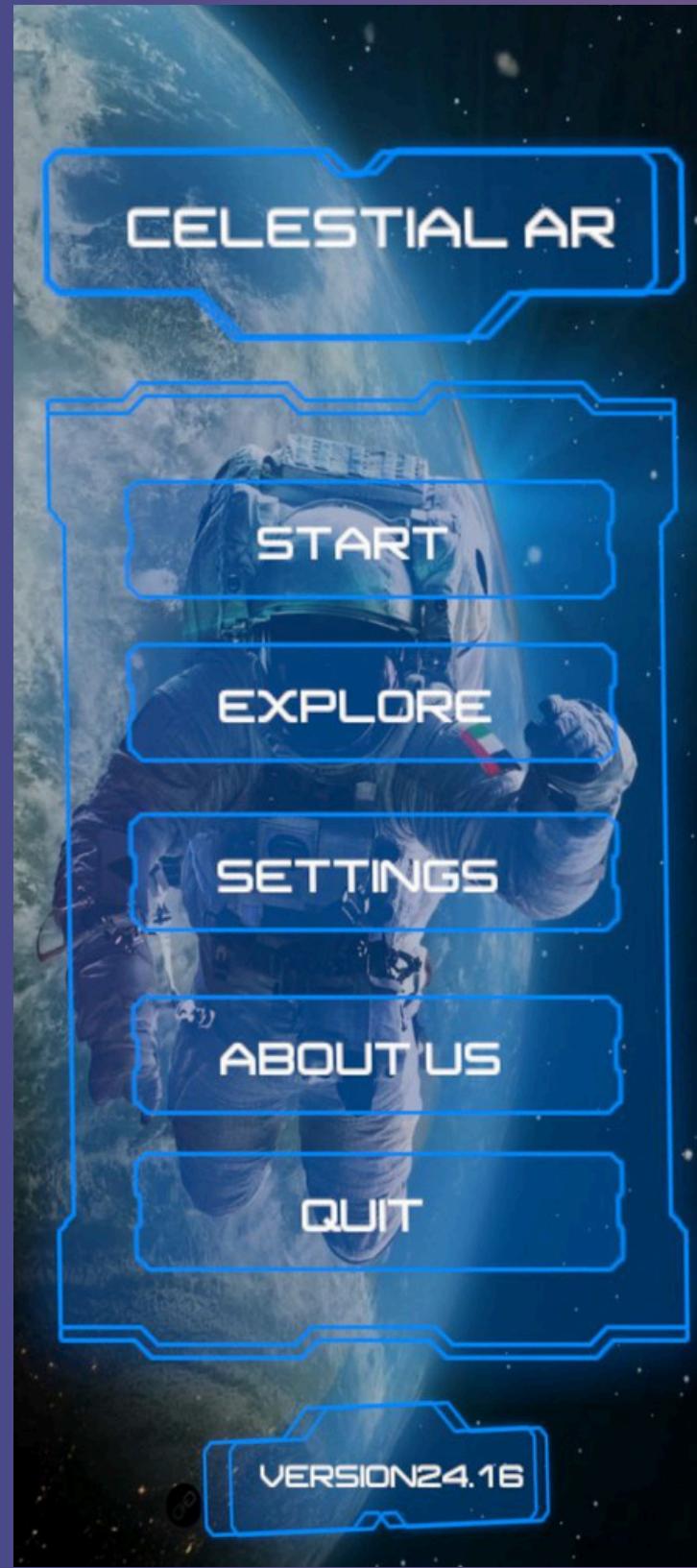
25% PROGRESS



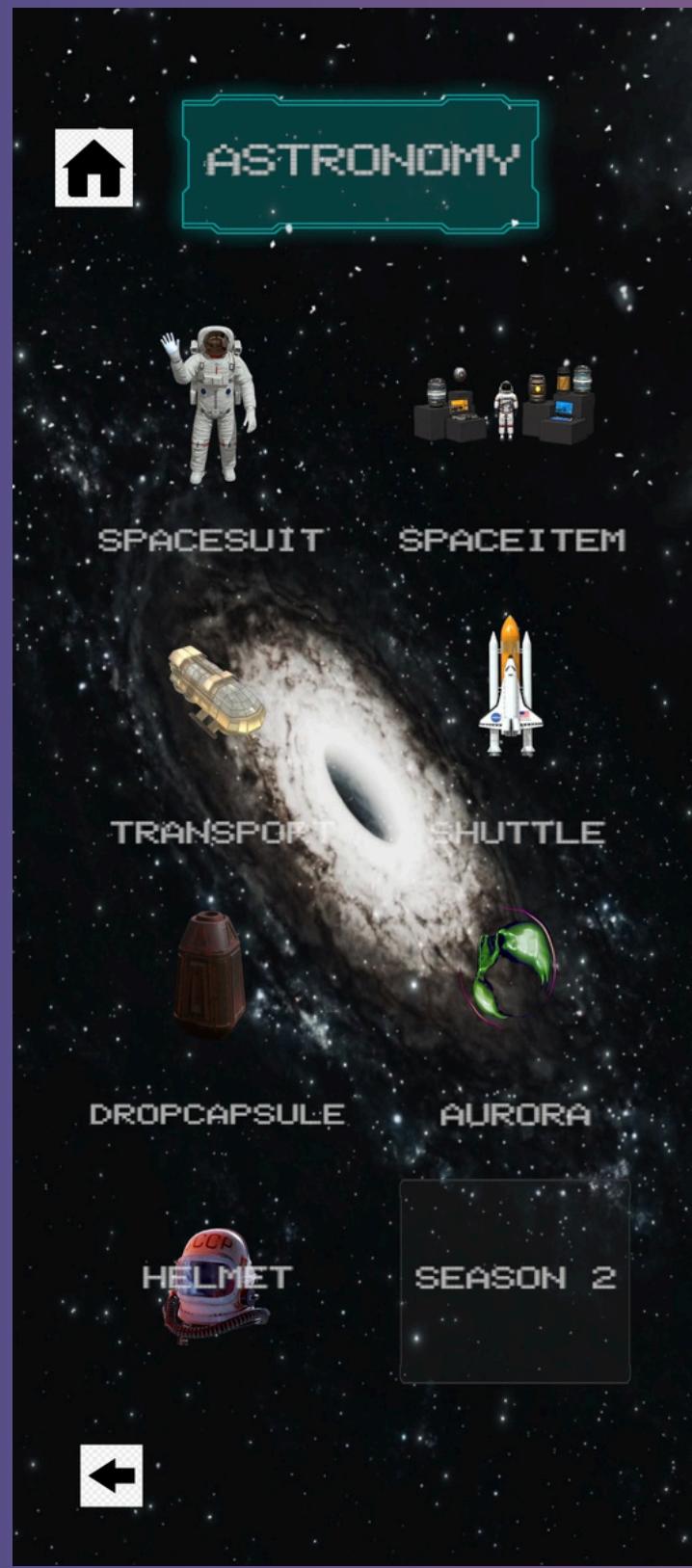
50% PROGRESS



80% PROGRESS



80% PROGRESS



FINAL OUTPUT (100%)



THANKYOU!