AR/WebXR for Public Engagement on NASA's Psyche Mission

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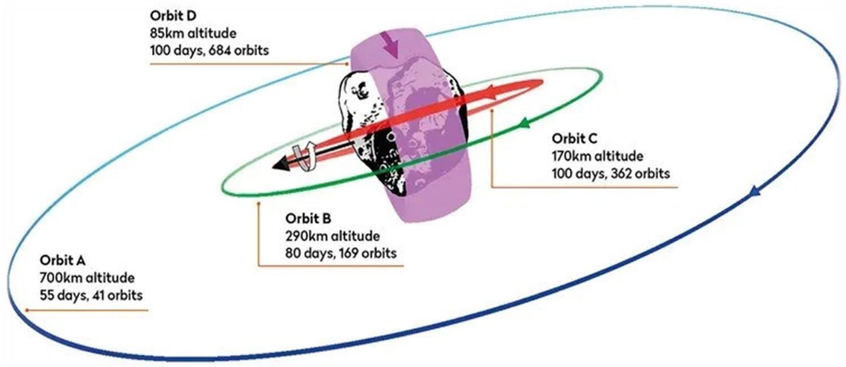

Problem Statement

NASA’s Psyche mission is designed to explore a metal-rich asteroid to uncover insights into planetary formation, but its complexity makes it challenging for the public to engage with and understand. This project aims to bridge that gap by using AR and WebXR to create interactive experiences that bring Psyche’s story to life.

Objective

Develop an immersive AR/WebXR/VR application in collaboration with ASU for NASA's Psyche Mission. This application will offer an engaging, educational experience by allowing users to visualize and interact with Psyche’s surface data. Through simulated exploration users can access insights into the asteroid's composition and orbit, encouraging curiosity and understanding of space science. Our project will aim to bring the mission closer to the public by allowing the experience to be displayed in a museum.

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Requirements

- Produce short experiences related to Psyche
-Showcase Psyche through WebXR/AR
-Use experiences museums / learning environments.
-Create interest related to the Psyche mission
-Create engaging experiences that are easy to interact with and are usable by people of many different ages and backgrounds.

Approach

Unity

-Use Unity XR Interaction Toolkit for compatibility with VR, AR, and WebXR.
-Develop 3D models (e.g., Psyche, spacecraft) to create a realistic experience.
-Create an immersive VR experience for VR headsets like Meta Quest
-Orbit the asteroid, exploring mission-related points of interest with controllers.

AR / WebXR:

- Develop an AR experience for mobile devices with interactive information overlays to enhance learning about the mission.
-Build a WebXR version, accessible through web browsers for broader reach, anyone with a compatible browser can join the mission.

Deployment: VR and AR applications will be installed, while WebXR will be hosted online for easy access.

Educational Outreach: We will collaborate with museums for installation and host live events for user engagement.