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| **Group Information** | | |
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**Project Title:** Red Planet Expedition

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| **Initial Project Description** |
| Our project, "Red Planet Expedition," aims to create an immersive journey through various stages of a space mission, culminating in the exploration of Mars, the red planet. The project will be developed using C++ with GLUT (OpenGL Utility Toolkit) to leverage its capabilities in creating dynamic and visually engaging graphics.  The project will commence with a control room scene, where monitors display different animations pertinent to the mission. Human operators will interact within this setting, setting the stage for the upcoming launch sequence.  Moving to the launch area, situated near the sea, the scene will feature a control room building, a rocket poised on a platform, and a rotating signal antenna. In the front, a patrol ship will glide across the sea, while clouds drift across the sky. The scene will emphasize the anticipation and activity preceding the rocket launch.  As the rocket takes off, viewers will witness the separation of its components, transitioning smoothly to its ascent into space. The rocket's orientation will shift from a vertical to a horizontal position as it enters the space environment. Here, the backdrop will be filled with space objects, including asteroids, creating a sense of peril and excitement as the rocket navigates through space.  Finally, the climax of the expedition will depict the landing on Mars, the red planet. The scene will transition to the Martian surface, where a rover will explore its terrain. Visual elements will convey the desolate yet awe-inspiring landscape of Mars, emphasizing the significance of human exploration beyond Earth. |