SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)

New Worlds - Innovative Space Education And Outreach (5)

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THE SIMONAUTS – A MARS BASE SIMULATION GAME FOR EDUCATION, OUTREACH AND ENTERTAINMENT

Abstract

"The Simonauts" is a concept for a Mars base computer simulation game, where the everyday chores of future Mars explorers make up the core gameplay. The aim of the game is to increase public interest and awareness of space exploration as well as providing players with a learning experience. A computer game is the perfect medium through which to accomplish these goals, as it provides the opportunity for players to experience events from a first-person perspective. This makes it easier for the player to relate to, and understand, the topic. In The Simonauts, the player takes on the role of one of six astronauts, or "Simonauts", living on a Mars base during the first manned mission to the Red Planet. The goal of the game is to stay alive for the duration of the mission, and to gain as many "Mars Knowledge" points as possible.

Resource management is at the core of the game. The Simonaut must try to survive, i.e. eat, sleep, exercise, etc., with the limited time and resources that are available to the player. In addition to that, the characters perform research, interact with other Simonauts and handle contingency situations. No previous knowledge of space, Mars, or science, is required to play, as players learn as they progress through the game. There are many possible paths through which the game can be completed, which means that the game can be played multiple times, with different outcomes.

The game demonstrates to the player, in a simplified and condensed form, some of the main issues of living and working in space. It also highlights differences and similarities between living on Mars and on Earth. The Mars mission scenario has been inspired by the latest NASA Mars Design Reference Mission Architecture. In-game specifics such as resource management are based on current experience and knowledge of human space missions.

This paper presents a game concept, which is the basis for further development and programming of the game itself. It describes the gameplay, provides guidelines for the graphical user interface, and describes the core game mechanics. The paper also provides suggestions for further development of the game concept by recommending several extended features.