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WALK TO MARS: OUR PATH TO THE RED PLANET

Abstract

The Thermal Emission Imaging System (THEMIS) onboard NASA's 2001 Mars Odyssey spacecraft has acquired over 265,000 infrared images of the Martian surface at a resolution of 100 meters/pixel. A global infrared map was previously developed by mosaicking together over 24,000 high-quality THEMIS images and colorizing them using Mars Orbiter Laser Altimeter (MOLA) elevation data. In February 2018, this map was printed on a 47.5ft x 95ft vinyl mat so the general public can physically explore Mars for themselves. The primary goal of the project is to shift the public's perception of Mars from being an abstract concept to being a physical place.

Since the Walk on Mars map was printed, it has been displayed at more than 20 events with over 5,000 people having walked across it. Educational resources developed to supplement the map include: 1) an "Introduction to Mars" presentation to prepare students for their time on the map, and 2) two scavenger hunt activities that allow people to explore the map at their own pace while learning about Martian geography and the history of robotic surface exploration.

The dimensions were originally chosen because they allow the map to be displayed on a standard-size basketball court. Many schools have indoor gyms, which provide a smooth surface on which to display the map. Nearly all other schools have outdoor basketball courts or parking lots, which can be used to display the map with the help of a protective foam mat. However, despite the convenience of these dimensions, they do not allow the full resolution of the map to be presented.

In order to share the full resolution of the map with the public, we began the "Walk on Mars at the Stadium" project, which aims to print the map at the size of an American football field (50 yards x 100 yards). The primary goal is to provide the public with a more immersive experience by allowing them to view the Martian surface in unprecedented detail and scale. Initial funding for this stadium-size map will be raised through a crowdfunding campaign in Spring 2019.

We will discuss the results of the crowdfunding campaign, the production of the stadium-size map, the details of our first event at Arizona State University's Sun Devil Stadium in Fall 2019, and our plans for working with other universities and professional sports stadiums to bring this incredible map to additional communities.