InterPARES 2 Project
International Research on Permanent Authentic Records in Electronic Systems

Characterization of Case Study
Validated

Case Study 08:
Mars Global Surveyor Data Records
in the Planetary Data System

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Relevance of the Case Study to InterPARES 2

The purpose of this case study is to examine the Planetary Data System Space Science Data Archive in order to obtain information about the creation, management and preservation of digital science data records resulting from a spacecraft mission. The relevance of this case study is to enable InterPARES to reach its goals with respect to the study of scientific activities that are conducted using experiential, interactive and dynamic computer technology.

Information about the Creator

The creator is NASA (National Aeronautics and Space Administration). NASA was established in 1958 under the National Aeronautics and Space Act. NASA's purpose is to carry out aeronautical and space activities of the United States. As such, NASA conducts and funds research in the areas of aeronautics, science and space exploration. The agency's headquarters is located in Washington, DC and falls under the leadership of a head Administrator as well as a Deputy Administrator who acts as the Chief Operating officer. NASA also has ten field agencies in addition to a number of installations conducting work in laboratories, on air fields, in wind tunnels and in control rooms.

Information about the Administrative/Management Function

NASA's activities include the Mars Global Surveyor Mission and the maintenance of the Planetary Data System. The Mars Global Surveyor Mission generates digital science data records that are incorporated into the Planetary Data System. The Planetary Data System acts as a record keeping system that incorporates peer reviewed scientific data. Access to the Planetary Data System is controlled through user authentication

Information about the Digital Entity Being Studied

The digital entities being studied are the Mars Global Surveyor data records held within the Planetary Data System. The data sets in the Planetary Data System are organized according to

mission, spacecraft instrument and target (sun, planet, moon, comet etc.). Each data set volume contains an index table which consists of a set of attributes that describes each data product.

Preservation of the digital entities is achieved through persistent object preservation. This is a technique that ensures electronic records remain accessible over time by making the records self-describing in such a way that is independent of specific hardware or software. The Planetary Data System may be considered a long-term preservation strategy in itself because it has been designed to allow records to remain accessible through technological obsolescence.