

ANNEX NO.1
BETWEEN THE
MICROSOFT CORPORATION
AND
NASA AMES RESEARCH CENTER
FOR
NASA-MICROSOFT WORLDWIDE TELESCOPE PROJECT

In accordance with the terms and conditions set forth in Space Act Agreement No. SAA2-402322, dated February 23, 2009 (the "Agreement"), the Parties hereby agree as follows. Each capitalized term used in this Annex, but not defined herein, shall have the meaning ascribed to it in the above referenced Agreement.

ARTICLE I. PURPOSE AND OVERVIEW

Microsoft's WorldWide Telescope (or "WWT") application is widely recognized as an exciting new platform for astronomy education. Beyond displaying data, WorldWide Telescope provides groundbreaking educational content authoring tools, combining the power of a geobrowser with story-boarding, presentation, and audio recording capabilities.

Microsoft and NASA share a common interest in increasing literacy and workforce in science and technology. This interest is motivated by the well-recognized need to recruit, train and retain students in the areas of science, technology, engineering, and mathematics (STEM). WorldWide Telescope's capability as a platform to tell the stories of planetary science and exploration is currently limited by the lack of good, integrated planetary data sets. NASA possesses vast quantities of planetary data that are designated as publicly-available, but has historically not taken the steps necessary to make these data sets easily accessible and useful to the public or to interactive applications such as WorldWide Telescope.

NASA has experience in working with planetary data and is uniquely qualified to adjust and format the data while maintaining its accuracy and integrity. Microsoft has requested that NASA make such planetary data available in a format such that it can be used in WWT. NASA ARC has begun to develop the hardware and software infrastructure (and partnerships) with relevant teams of scientists that enable a focused data reprocessing and curation effort aimed at making NASA planetary data widely accessible and useful. NASA plans to design, develop, and test the technology and infrastructure necessary to make certain NASA planetary data sets available to web-based applications entities engaged in web-based astronomy education, such as Microsoft.

The purpose of this project is three-fold:

- Design an infrastructure and processes by which NASA can make its planetary data holdings, especially image data, available and useful to WWT.
- Deploy a pilot implementation of this infrastructure and process capable of storing, processing, and serving NASA planetary data for Microsoft's WorldWide Telescope product.
- Refine and prove this infrastructure by processing and serving two (2) of the most exciting and significant planetary data sets at full scale for use with WorldWide Telescope.

During this pilot project phase, the Parties will focus on the two planetary data sets that are of the greatest current interest to both the general public and the scientific community: HiRISE, High Resolution Imaging Science Experiment, Mars imagery (available today, and being collected on an ongoing basis) and LROC, Lunar Reconnaissance Orbital Camera, Moon imagery (available in the second quarter of 2009). NASA will develop and deploy a simple, flexible architecture and infrastructure for geospatial data reprocessing, initially supporting the TOAST output format native to WorldWide Telescope and the two input data sets described above, with an architectural eye towards supporting other viewing technologies such as Microsoft Virtual Earth and other data sets in a scalable manner in the future. The two expected results are: (a) a pair of exciting planetary data sets that could form the basis for fantastic WWT tours; and (b) an infrastructure and process in place that will allow NASA to process any additional data sets for use with WWT and similar visualization platforms in the future.

ARTICLE 2. RESPONSIBILITIES

A. Partner will use reasonable efforts to:

1. Collaborate with NASA ARC to achieve milestones set forth in Article 3 of this Annex.
2. Provide technical support, as required, for WorldWide Telescope(including TOAST).
3. Provide and/or work with NASA to develop the software necessary for NASA to process the appropriate planetary data for use with WWT.
4. Feature NASA-processed WWT data and related tours to the WWT user community.

B. NASA ARC will use reasonable efforts to:

1. Collaborate with Microsoft to achieve milestones set forth in Article 3 of this Annex.
2. Work with Microsoft to ensure that NASA technology and infrastructure can support the activities contemplated in this Annex.
3. Process NASA HiRISE and LROC planetary data into formats more suitable for use in WWT. NASA ARC will obtain such data from sources agency-wide and will coordinate with NASA's Planetary Data System's (PDS) representatives, a component of the Science Mission Directorate, as appropriate.
4. Store and serve the processed planetary data utilizing NASA technology and infrastructure.
5. Release image processing software developed under this Annex as open-source software, as appropriate, and in accordance with NASA policy and procedures.
6. NASA agrees to release and make all planetary data sets converted for use with WWT freely available to the public for use by Microsoft and the public at large, with no distribution limitations.

ARTICLE 3. SCHEDULE AND MILESTONES

B-4

B-4

ARTICLE 5. TECHNICAL POINTS OF CONTACT

The following personnel are designated as the principal points of contact between the Parties in the performance of this Annex.

Key Technical Personnel	
NASA	Microsoft
Name: Matthew Hancher	Name:
Title: Research Scientist	Title:
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B-6

ARTICLE 6. TERM OF ANNEX

This Annex becomes effective upon the date of the last signature below and shall remain in effect until the completion of all obligations of both Parties hereto, or one (1) year from the date of the last signature, whichever comes first.

ARTICLE 7. LIABILITY AND RISK OF LOSS

B-4

ARTICLE 8. IDENTIFIED INTELLECTUAL PROPERTY; INCLUDING
PROPRIETARY DATA AND RELATED INVENTIONS

1. This Annex is subject to the Intellectual Property provisions contained within Articles 9 and 10 of the Umbrella Agreement.

B-4

b. In accordance with Article 9.10, NASA will provide Partner with the following Proprietary Information, Data or Inventions or NASA Sensitive Data:

NONE

c. In accordance with Article 9.3 of the Umbrella Agreement, Partner requests that the following Proprietary Information first produced by NASA under this Annex shall be withheld for a period of 0 year(s):

NONE

d. Upon completion of all activities under this Annex, Proprietary Information shall be disposed of as follows:

Unless otherwise provided by an applicable End User License Agreement, NASA will promptly destroy all Microsoft proprietary information.

3. Software Developed Under This Annex. In accordance with Article 10.9 (c) of the Umbrella Agreement, Microsoft does not have an interest in commercially distributing software provided or developed under this Annex. In accordance with Article 9.3 of the Umbrella Agreement, NASA plans to release software tools developed under this Annex as open source software.

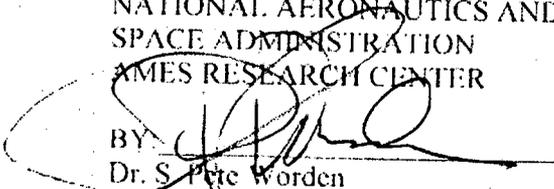
4. Joint Inventions. In accordance with Article 10.4 of the Umbrella Agreement, the Parties do not intend to create any joint inventions under this Annex.

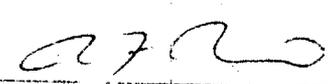
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ARTICLE 9. SIGNATORY AUTHORITY

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SPACE ADMINISTRATION
AMES RESEARCH CENTER

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DATE: 23 FEB 2009