In Brief

A powerful set of development tools and sample applications that enable data to be easily imported and visualized in WorldWide Telescope.

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WorldWide Telescope SDK

develop custom applications, create communities and share data in WorldWide Telescope

The WorldWide Telescope Software Development Kit (SDK) enables the creation of applications that allow you to import and visualize your data in the WorldWide Telescope Windows Client and share it with others.

Using the SDK you can convert flat images of the entire Earth, a section of the Earth, or of any other planetary body, into a format that will render in full 3D in WorldWide Telescope. If digital elevation model (DEM) data is also available for the image, then that too can be applied to the spherical body. These spectacular visualizations can be viewed on their own, or as background for scientific data which can be layered on top and visualized to investigate an hypothesis or illustrate a result.

Using the SDK you can:

- Convert your source data into the projections supported by World-Wide Telescope in order to visualize them
- Learn how to set up your own service to easily share your visualizations
- Learn how to create your own communities
- Learn how to use the Layer Control API to build interactive applications that push point or geometry data into the WorldWide Telescope visualization engine

The SDK simplifies data import and collaboration, lowering the entry barrier so that we can more easily experience and share the visualization and storytelling capabilities of Worldwide Telescope."

Rob Fatland
Microsoft Research Connections

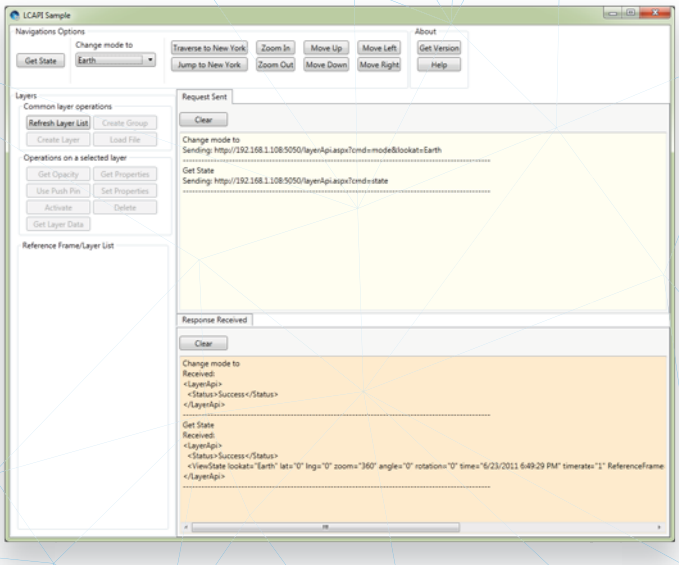
Included in the SDK

- Layer Control API (LCAPI) Sample Application
- Tile Pyramid SDK (Imagery and/or Topography) Samples and Documentation
- Tile Generator
- Sharing Service Samples
- Sphere Toaster and Study Chopper tools

Layer Control API Sample (LCAPI)

The Layer Control API provides an extensive range of functions to transmit and receive data to and from WorldWide Telescope.

Included in the SDK is a sample application that depicts how the APIs are used. Use this as a reference to build your own applications to support various scenarios around the transmission of your data to WorldWide Telescope.

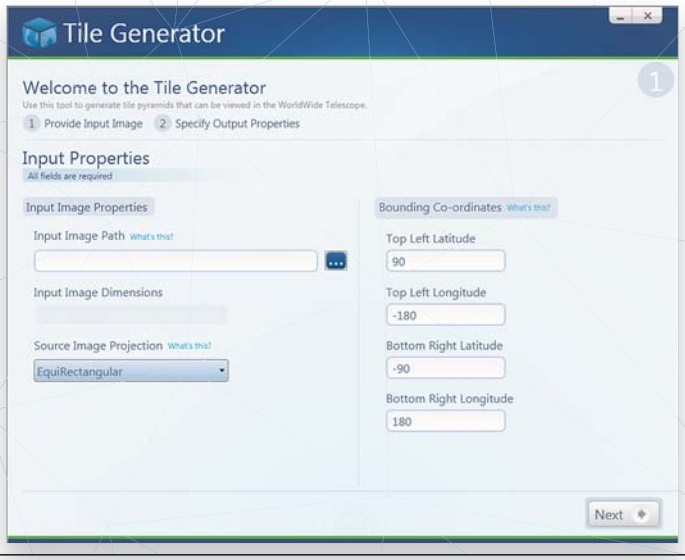


Tile Pyramid SDK

This SDK provides samples and source code that enable the tiling of one or multiple images into a format suitable for WorldWide Telescope. The working samples show how to handle a single image, multiple images, DEM (altitude) data representing the entire planet or a specific region of the planet. Use the SDK to convert your data into a tile pyramid for optimized visualization of your data. The SDK also allows you to create plate files instead of a tile pyramid enabling easy transfer and handling of the SDK output.

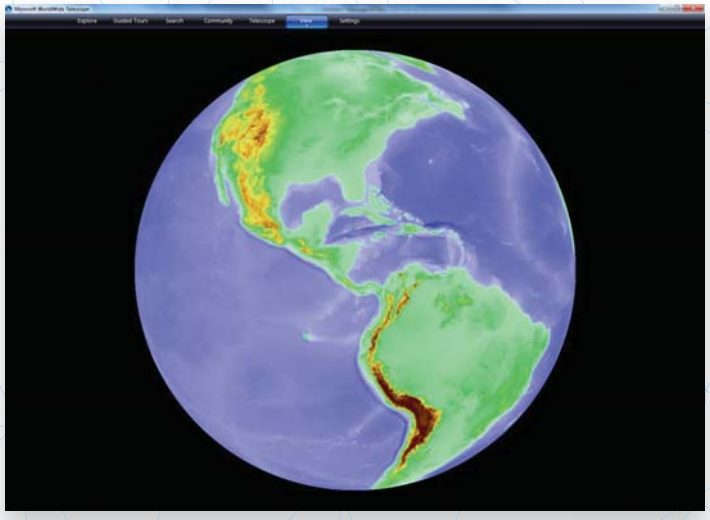
Tile Generator

The Tile Generator is included as a fully functional UI-based application that uses the SDK to convert single source images into spherically projected tile pyramids which can be viewed in WorldWide Telescope. The source code for the Tile Generator is available, along with the rest of the Tile SDK samples, as a reference that you can use to build your own SDK-based applications.



WorldWide Telescope SDK Samples

- **BlueMarbleApp:** This sample demonstrates how a single image in Equirectangular projection or set of images in Equirectangular projection can be transformed to TOAST or Mercator projection image pyramids that can be visualized in WorldWide Telescope.
- **SpecificRegionDataSet:** This sample demonstrates how an Equirectangular dataset in XYZ format, for a specific region of the world can be transformed to TOAST or Mercator projection image pyramids that can be visualized in WorldWide Telescope. This sample also supports the Digital Elevation Model (DEM). A digital elevation model is a digital representation of ground surface topography or terrain. DEMs are used often in geographic information systems and are the most common basis for digitally-produced relief maps. This sample needs the Sharing Service application to be set up. The data needs to be comma separated containing latitude, longitude and depth values.
- **WorldDataSet:** This sample demonstrates how a data set in XYZ format, for the entire world can be transformed to TOAST or Mercator projection image pyramids that can be visualized in WorldWide Telescope. The data needs to be comma separated containing latitude, longitude and depth values.



Visualization of the land topography and ocean bathymetry data provided by NOAA (National Oceanic and Atmospheric Administration)

Sharing Service

This is a combination of two sample services that demonstrates how easy it is to share the visualizations that you create and how to set up communities that your users can subscribe to. The samples included in the SDK are:

- **Tile Service Sample:** This sample shows you how to create a service that allows you to share entire tile pyramids generated by your your SDK based application with your users, simply by exposing a url.
- **Community Service Sample:** Communities are public folders that can be shared with your users. New content placed in these folders are immediately available to all subscibers of your community. This sample shows you how to create a service that lets you build communities and share community contents.