How to use WWT to make a tour and related video abstract – v1.0

Overview

Total Time about 6 - 14 hr

1. Draft script: 1 hr
2. Making a story board: 0.5 hr
3. Preparing data: 0 - 4 hr
4. Record draft narration: 0.5 hr
5. Create draft tour: 1 - 3 hr
6. Create draft video: 0.5 hr
7. Feedback: 0.5 hr
8. Record final narration: 0.5 -1.5 hr
9. Refine tour: 1 - 2 hr
10. Create final video: 0.5 hr
11. Test out Tour with web-based tour player – 0.5 hr

1 Draft script

Estimated Time: 1 hr

Drafting a script in either bullet or written form is the first step in the process. The simplest way to do this is to read the written abstract with modest revisions for acronyms, jargon and detailed numerical data. In the first video abstract that Doug Roberts did, this timing was about 2:15. Suggest using a template for script and story board. A template is available here: **Tour Template.docx** and the script for the first video abstract on Proplyds in the Galactic Center is available here: **Video Abstract - Proplyd - v1.1.docx.**

2 Making a story board

Estimated Time: 0.5 hr

The story board is a listing of what is on the screen as a function of time. It can be in the form of descriptions of what is to be shown, or a list of figures from the paper etc. In the case of the Proplyd paper, it was a list of figures. I chose the ones that were directly supporting the words of the written abstract (script of the tour).

3 Preparing data

Estimated Time: 0-4 hr

Tools: FITS Liberator (http://www.spacetelescope.org/projects/fits_liberator/), Adobe Photoshop, Adobe Illustrator

This is potentially the most time-consuming aspect of creating a tour. Some abstracts can be presented with the data in WWT, adding only text and image overlays. Other, more complex tours will want to

represent the original new data presented in the paper. In these cases, significant time might have to be taken to import FITS or other data formats into WWT.

Below is the workflow that Doug Roberts used to get the data into WWT necessary for his video abstract.

1. Use FITS Liberator (http://www.spacetelescope.org/projects/fits_liberator/) to make TIFF from original FITS file.
    a. Had to select "No Flip" (which controls vertical flips)
    b. The image was still flipped horizontally, so…
    c. Loaded output TIFF into Photoshop and did a horizontal flip and resaved
2. Test by loading large TIFF into WWT
3. When final TIFFs are made, post TIF on website e.g., http://jansky.phys.northwestern.edu/Sgr_A_West-Ka.tif (this example should exist)
4. Process TIFF to get collection of tiled image http://worldwidetelescope.org/interact/embed
5. Return collection (WTML file) which has reference to new tiled images that can now be used in a tour.

Doug did this for two images. One was the astronomical VLA image "Sgr A – Ka Band". I also did this for a plot. For the plot I used the coordinates from an image at the same scale. The plot was exported from Illustrator as a PNG with transparency everywhere except where the lines of the plot were to be drawn.

4 Record draft narration

Estimated Time: 0.5 hr

Tools: Audacity (http://audacity.sourceforge.net)

Record draft narration for timing. Don't worry about flubs or mistakes as long as they don't change the time appreciably. Doug used Audacity (http://audacity.sourceforge.net), which is a free tool available on Mac OS and Windows to record and edit audio. There are on-line tutorials to help out:

- http://www.worldwidetelescope.org/Learn/Authoring#dealingwithaudio
- http://www.worldwidetelescope.org/Learn/Authoring#editingaudio

5 Create draft tour

Estimated Time: 1-3 hr

Tools: WorldWide Telescope (http://www.worldwidetelescope.org)

Create a draft tour showing visuals timed to draft narration. You must use the Microsoft Windows Desktop client (http://www.worldwidetelescope.org) to author your tour. There are several tutorials on-line that can help:

- http://www.worldwidetelescope.org/Learn/Authoring#slidebasedtours
- http://www.worldwidetelescope.org/Learn/Authoring#timelineeditor
- http://www.worldwidetelescope.org/Learn/Exploring#AstroImageData
- http://www.worldwidetelescope.org/Learn/Exploring#AddingWMSData

- http://www.worldwidetelescope.org/Learn/Exploring#UsingVOTables

When you are finished with the tour, make sure to save your tours with good naming and versioning information to help organize your files as you refine in the later steps.

6 Create draft video

Estimated Time: 0.5 hr

Tools: Adobe Premiere or Apple QuickTime

You have to use the Windows Desktop client to render the tour to a sequence of image frames (PNG). Instructions on that are available here:

- http://www.worldwidetelescope.org/Learn/Authoring#rendertovideo

Once you have the frames, you need to use a program to take that and the audio narration and encode them as a video. This is straightforward to do with a modern video encoder, such as Adobe Premiere. It is also possible to use the cheap Apple QuickTime program to do this. This process may take a while to complete, but user interaction time is modest. When complete, you will likely want to post your video YouTube or similar video sharing service to share with your colleagues for feedback.

7 Feedback

Estimated Time: 0.5 hr

Share your tour with colleagues (co-authors on paper, journals, and publisher staff). If they have a Windows PC with WWT installed, you can share the Tour file itself, which should be small unless you have many high-resolution images included. You can also share the YouTube video link and the tour could be viewed on any platform. Organize the responses and make clear choices about what you will change to address them. This is likely to be in form that you assumed the viewer would know something and need to add descriptive text on screen or in narration for those that don't.

8 Record final narration

Estimated Time: 0.5 – 1.5 hr

Refine script and record new audio based on feedback. You will use the same tools as you did to record the draft narration. However, you will want to get a high a quality recording as possible (good microphone, quiet room, a fresh voice). You may want to embellish the narration with a music or ambient sound bed. If you do add music, make sure that is low in volume, compared to the narration.

9 Refine tour

Tools: WorldWide Telescope (http://www.worldwidetelescope.org)

Estimated Time: 1 - 2 hr

Refine tour base on feedback. Use the final audio for final timings. Slide lengths may need be changed to accommodate changes in narration timing.

10 Create final video

Tools: Audacity (http://audacity.sourceforge.net)

Estimated Time: 0.5 hr

Using the same work flow as you did to create the draft video, create the final one. The steps are essentially the same.

11 Test out Tour with web-based tour player

Estimated Time: 0.5 hr

Some tours can be played back in a web-based Tour player. You can put your tour on some website (e.g., http://jansky.phys.northwestern.edu/Video_Abtract-Proplyd.wtt) and then point embed the code to play the tour in the web-based Tour player here:

- http://worldwidetelescope.org/interact/embed

You can try to play the tour by embedding this code into a web-site and viewing the page.

Below is a non-exhaustive list of issues about Tours in the web player:

- Audio must be one audio file for complete tour (can't be separate ones per slide and can't be separate music and narration)
- Audio must be in MP3 format.
- Only sky mode is allowed.
- Can't use layered data.
- Can't use timeline.