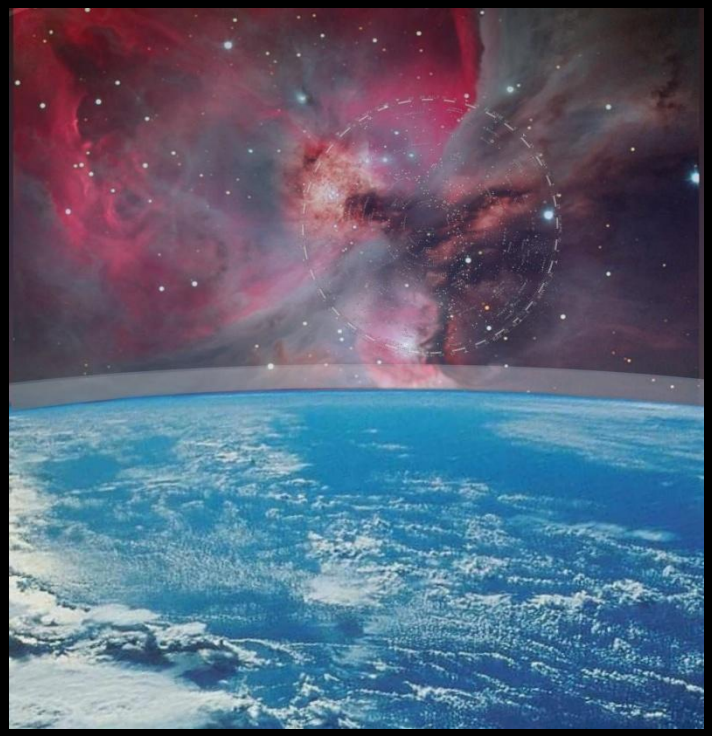


Starship Simulator

v.1.0d

Created by James Shuster

A webpage with animated cockpit controls for space flight, lighting, audio, changing and moving exterior views. Viewscreens for [3D Local Stars], Sky and Earth maps, fly through Sky, Earth, Moon and Mars, a Video Player with a clip collection, a Destinations collection and an auto changing help info panel.

Producerelease.com

smashpen at hotmail

12/20/2021

TABLE OF CONTENTS

THE STARSHIP SIMULATOR

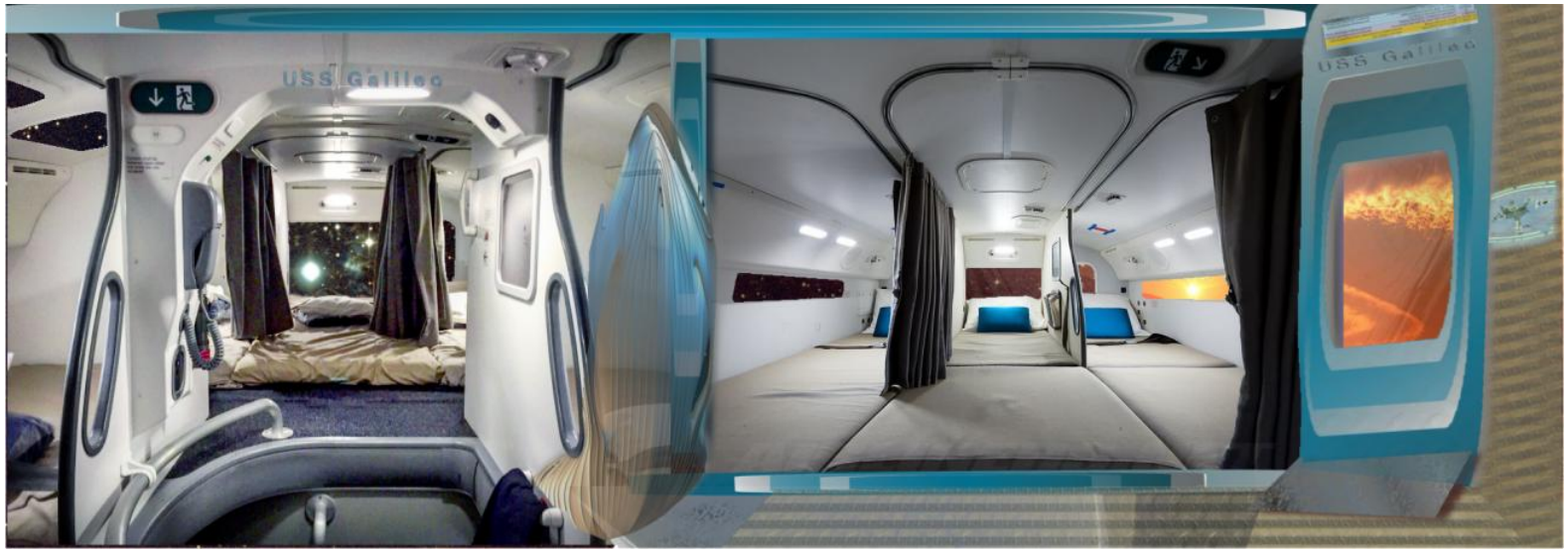
by James Shuster smashpen @(at) hotmail . com

GOAL

To showcase a 3D Local Star Map in a simulator so the user can access Viewscreens, use Navigation Sphere and learn more about our local stellar neighborhood.

PROJECT STATEMENT

To see what was possible to do in a single HTML page. Usually, this many layers and interactive features are never done on a single page, for good reason. Cross browser issues and browser updates, different user computers, all can cause conflicts and problems. Any estimation of such a project for HTML would approach the cost of a 'stand alone' installed software package, so this type of site, normally, is never made online. It would simply just cost too much.



USS Galileo Crew Break Area

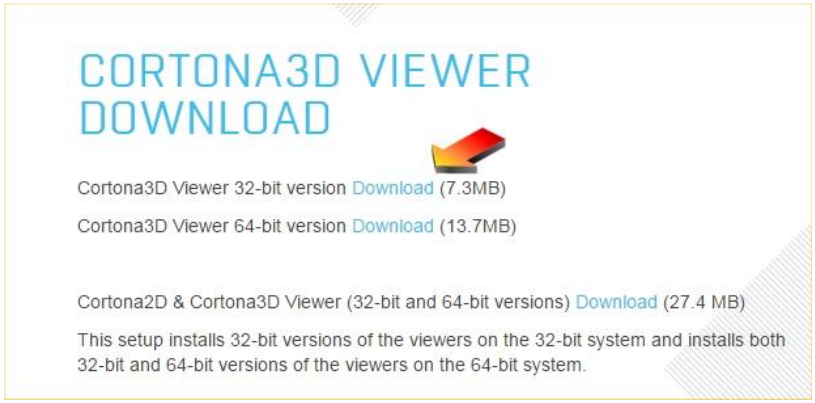
Code used: HTML, CSS, JavaScript, jQuery, Html5, VRML2, Google Maps API
Media use: mp4 videos, png, jpg, m4a, mp3, wrl

Browser 3D Plugin for the Local Stars Fly-through Viewscreen

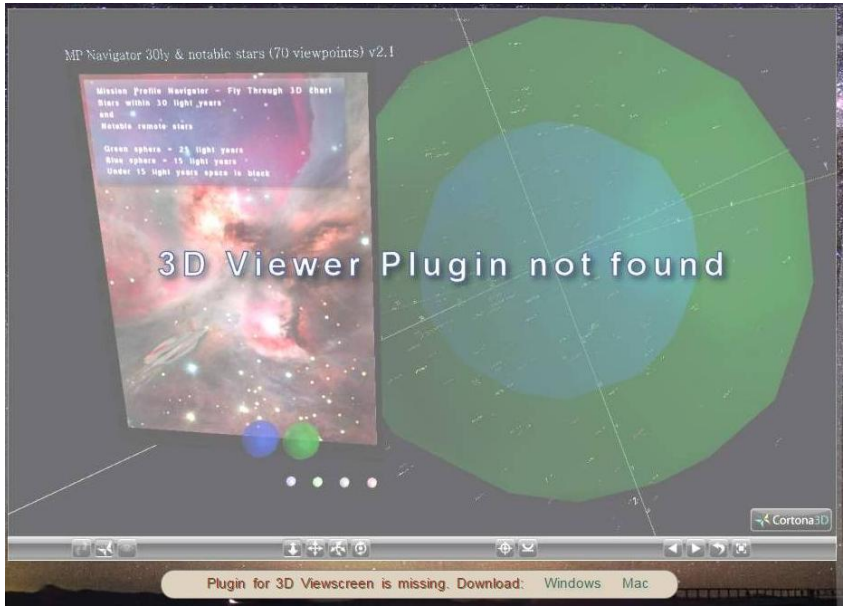
The Cortona 3D Browser Plug-in allows you to fly through the local stars with continuous and smooth 3D in any direction. Unfortunately, only a few browsers still support it. Cortona does not have plans to update and currently there is no better VRML (Virtual Reality Markup Language) viewer available. It is still, simply, the best. Try it out and install it, before browsers change again. It's free.

See the Starship Project Page online, for the latest info on browser compatibility.

Download 3D Viewer
Choose Windows 32 or 64-bit



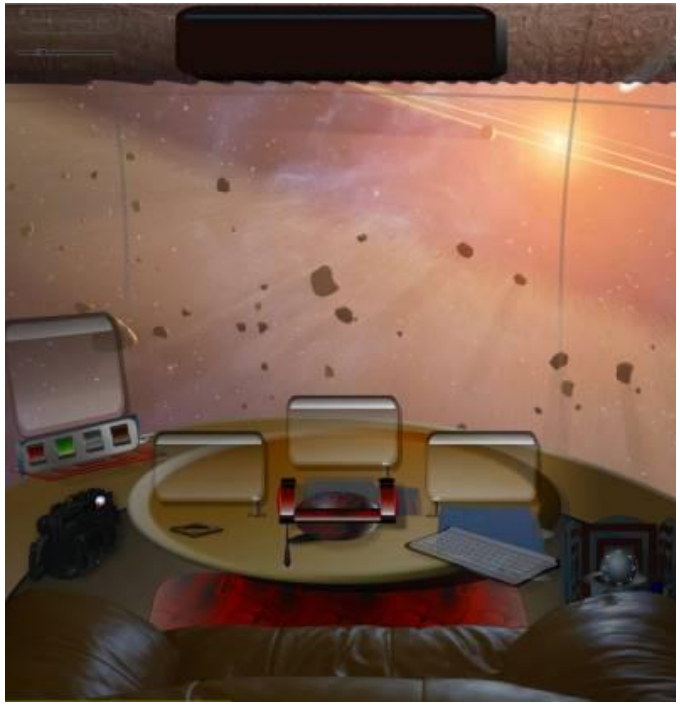
No Plugin found screen – If the Cortona 3D Viewer plugin is missing, a plugin alert screen may appear.

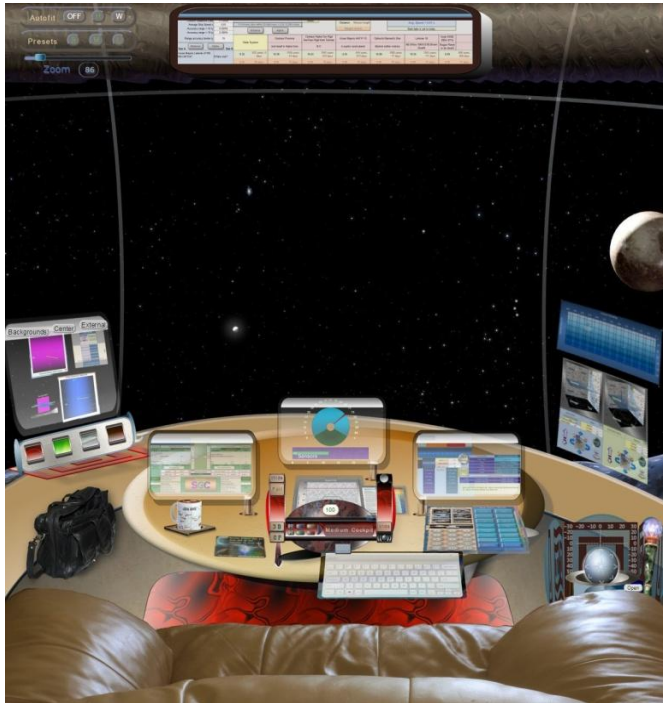


Systems On / Off

System Off

Click the Jeweled Key Lever, in your flight bag, to turn Systems On.

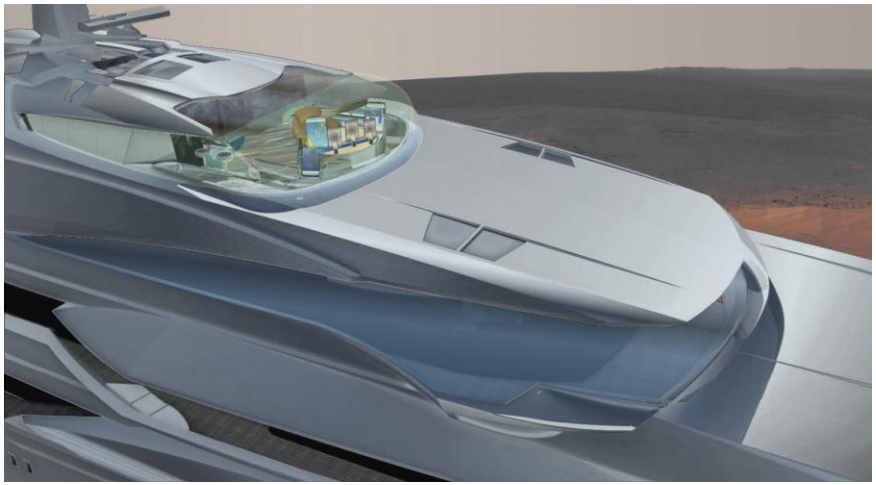




Systems On

Click on the Jeweled Key Lever seated in the Ignition holder, at the far right of the Navigation sphere, to turn Systems Off.

USS Galileo at Gale Base, Mars

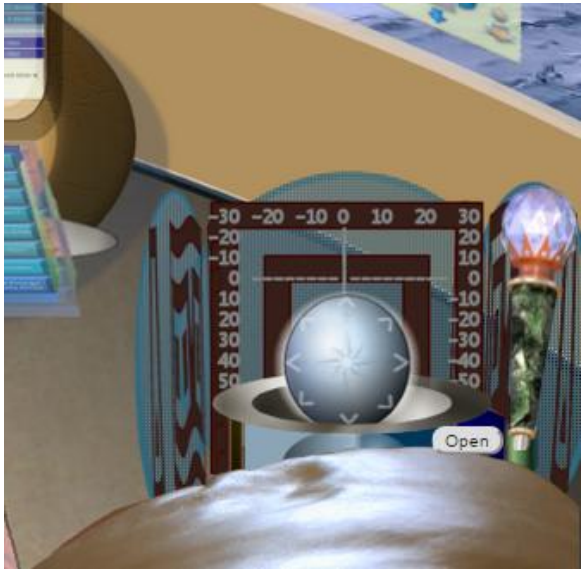


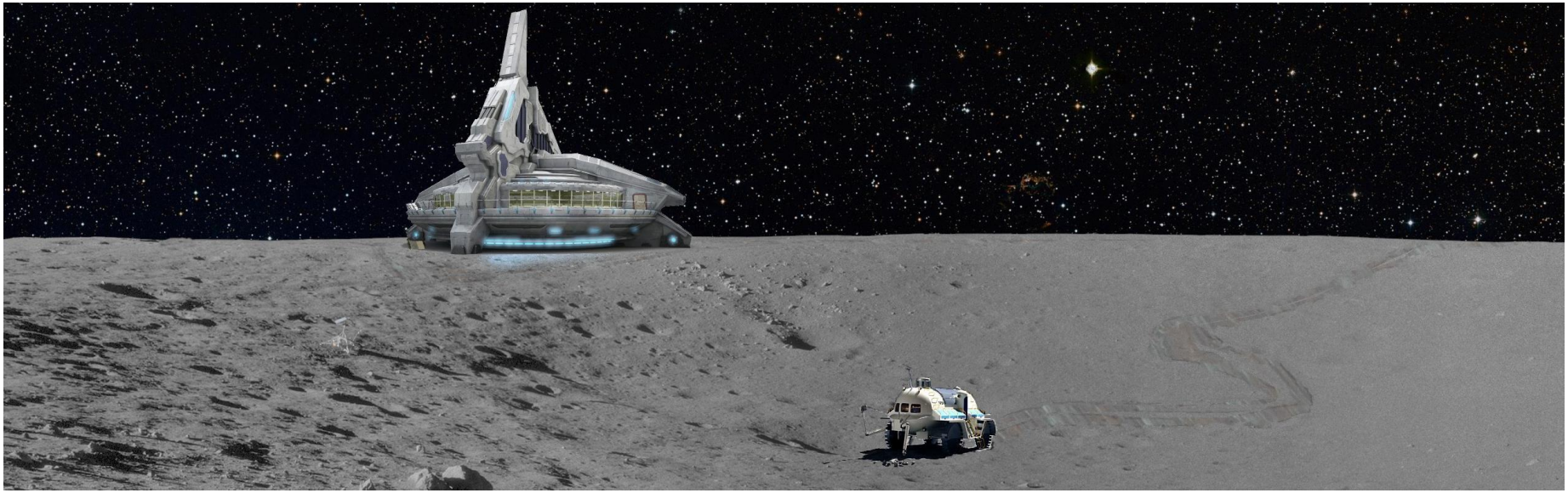
Gale Base, Mars POR Pressurized Off Ramp

Your flight bag is on the floor, cabin lower left. It has the Key Lever to start the Starship. Click on the jeweled top, to engage systems.

Key lever engaged. Systems On.

Click on the Key Lever to turn systems off.



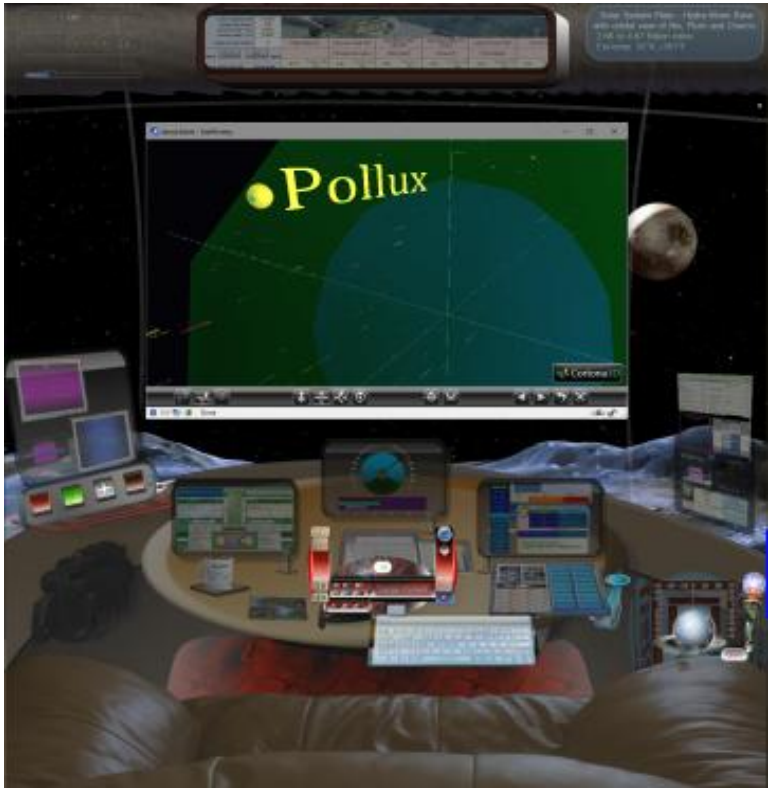


Rhea, Inktomi Lakota Base in the Saturn System

VIEWSCREENS OVERVIEW

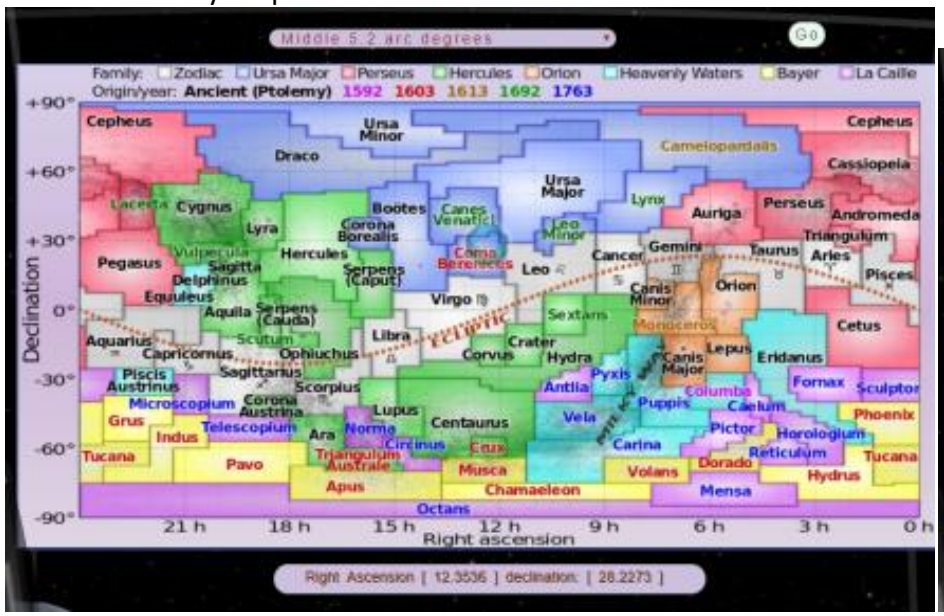
3D Local Stars using Cortona 3D Browser Plug-in

Full 3D Local Stars

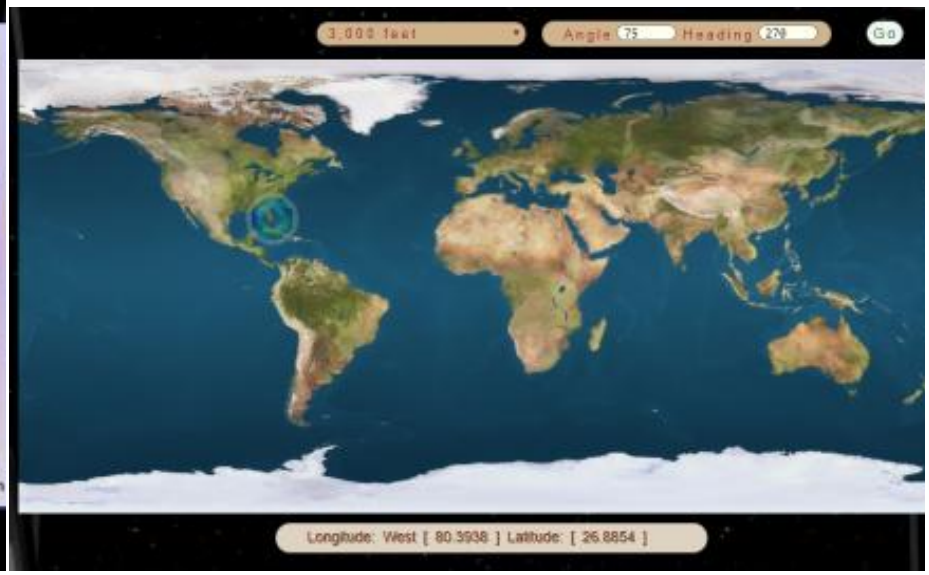


Viewscreen overlay in Cockpit

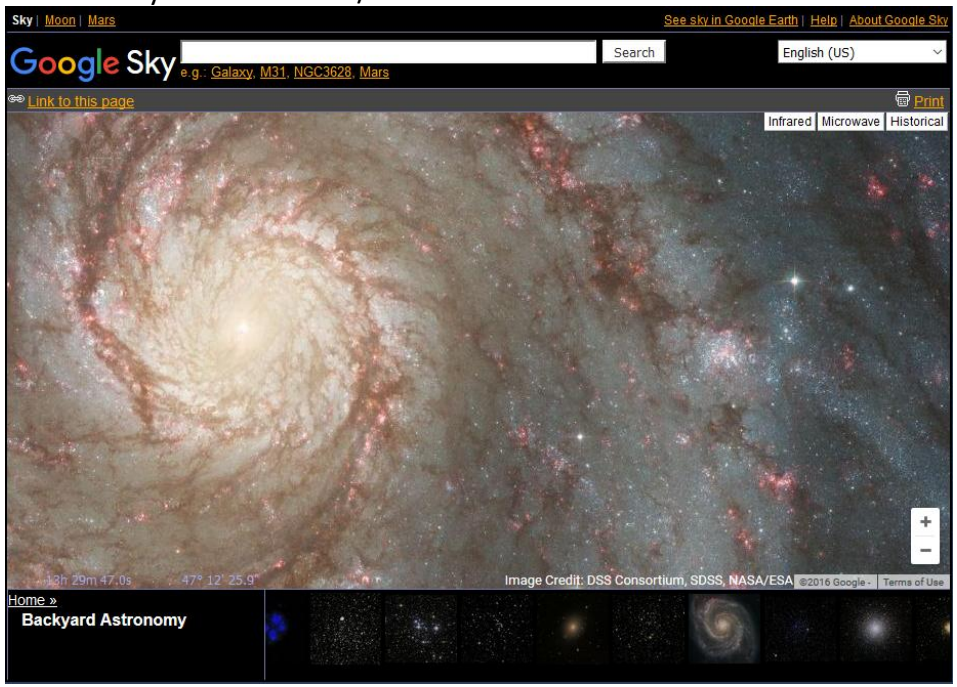
Sky Map



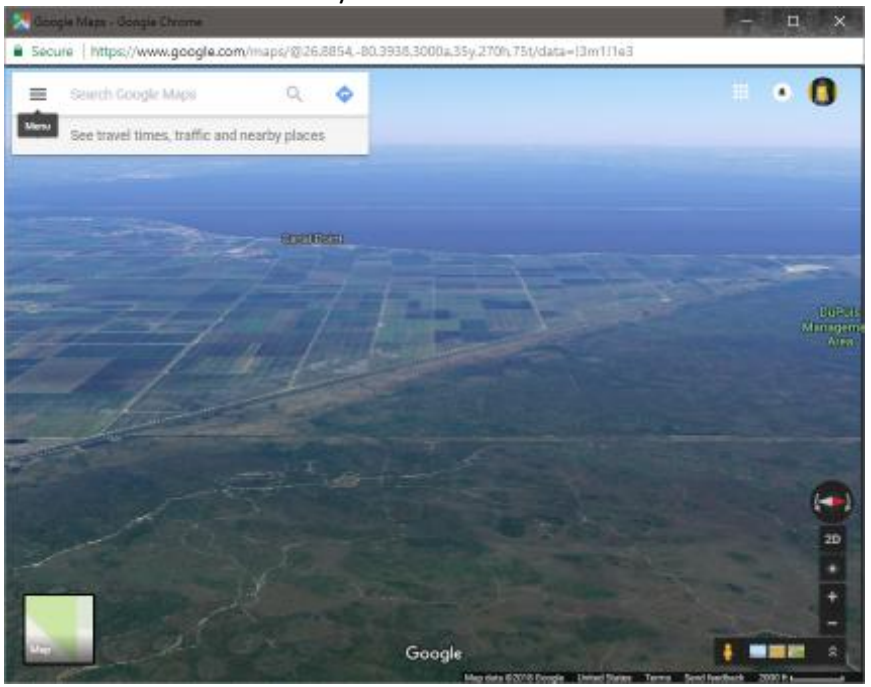
Earth Map



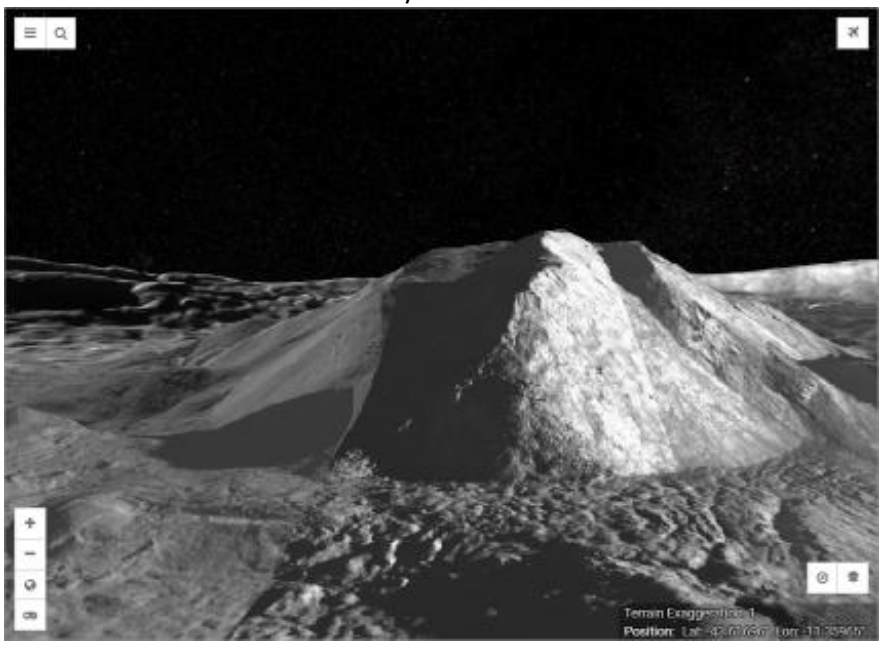
Sky Inactive / Active



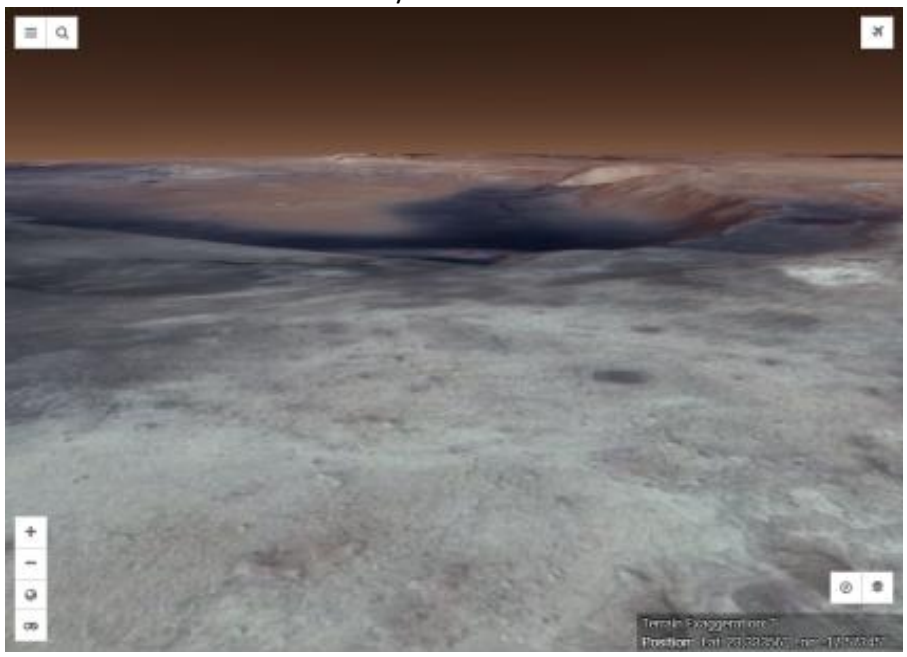
Earth Inactive / Active



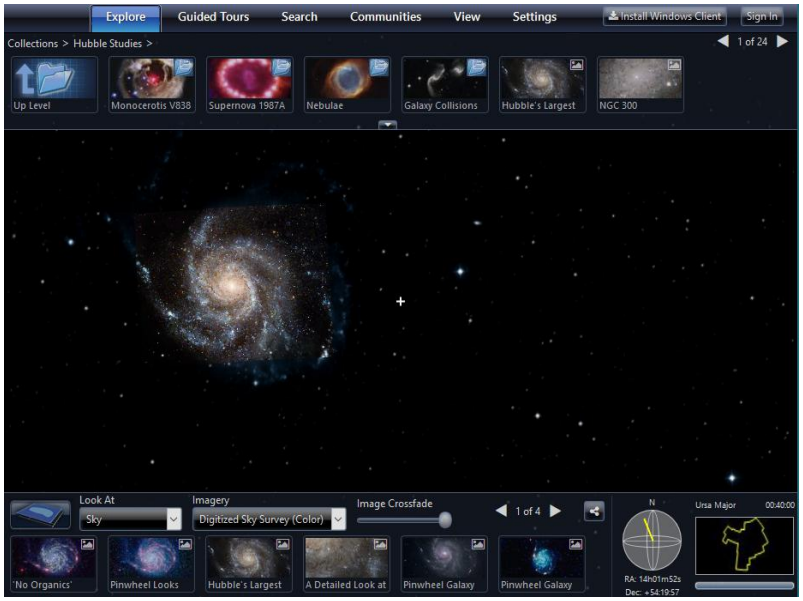
Moon Inactive / Active



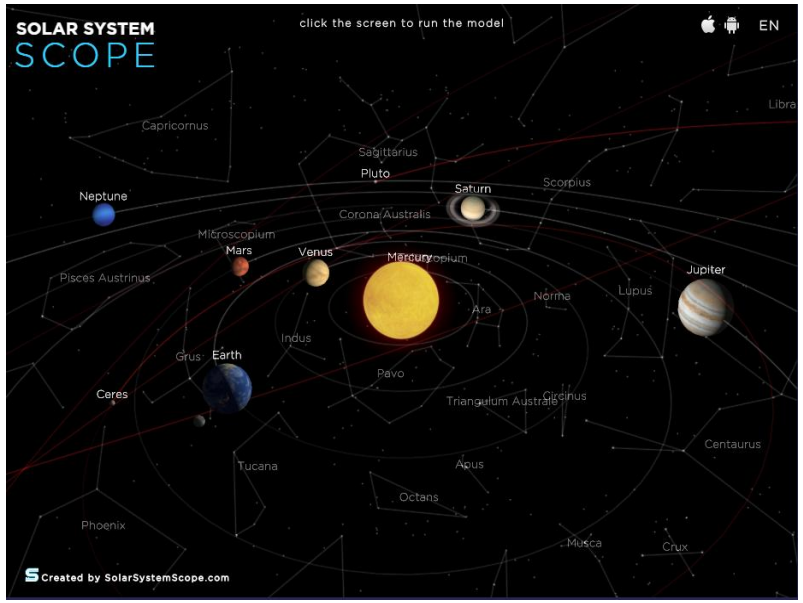
Mars Inactive / Active



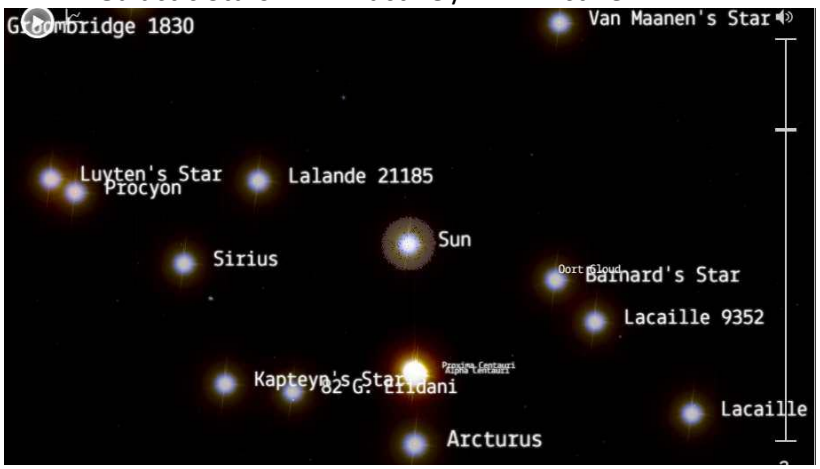
World Wide Telescope Inactive / Active



Solar System Scope Inactive / Active



Galactic Stars Inactive / Active



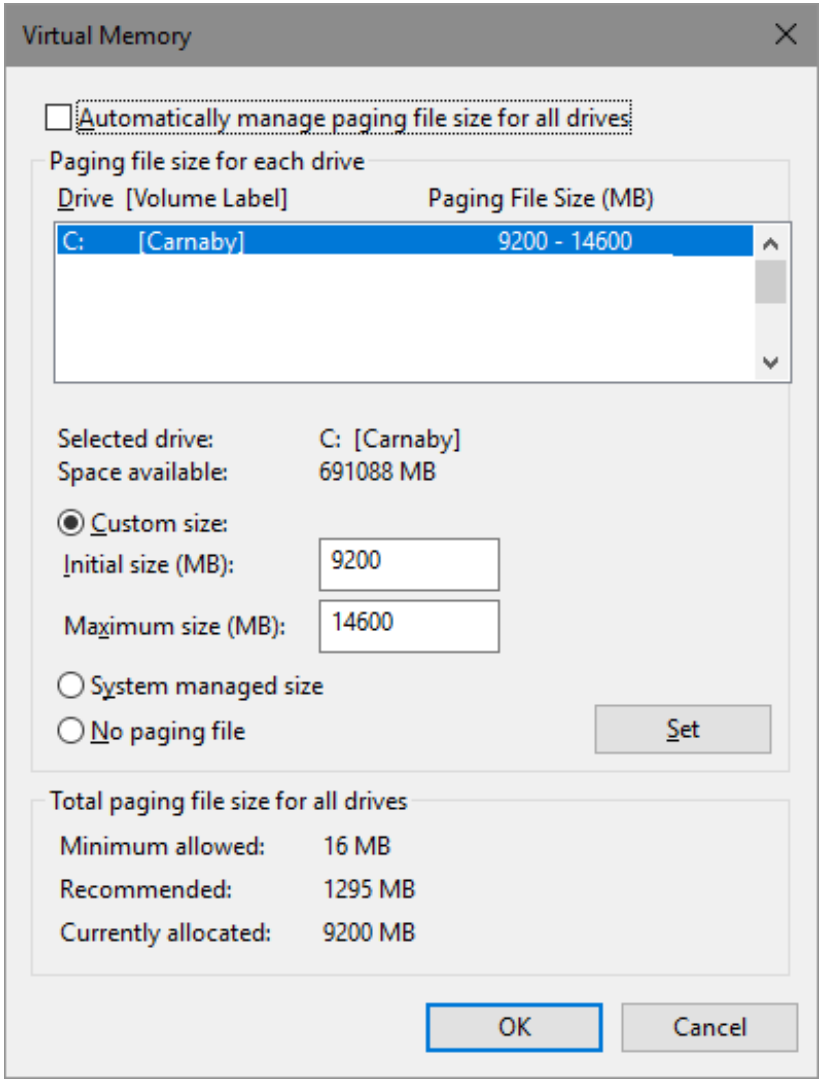
Video Player

- All Viewscreens are Pop-up windows except the Video Player.
- Multiple Viewscreens may be opened at once.
- You may drag Viewscreens to the side, instead of turning them off.
- As soon as you click inside the cockpit again, the Viewscreen will be demoted and layered behind the cockpit.
- All active Viewscreens show a star in their button.
- Clicking a starred button will bring the active Viewscreen to the front again and still be at whatever location in the Viewscreen, where you last left it.
- Since Viewscreens are separate Windows, interaction between the cockpit and the Viewscreens is limited. If you close a Viewscreen, the star in the button will be updated, only when you next open a new Viewscreen.
- Viewscreens are sized automatically, based on the current size of the cockpit. Some Viewscreens have minimum allowed widths. On a small monitor the Viewscreens may cover larger parts of the cockpit. On normal and large monitors, they will auto fit into the center area.

- Solar System Scope requires minimum paging file settings to run: Use a Windows administrator account to change these settings.

This example shows setting a Paging File Size for the C: drive to Minimum 9200 and Maximum 14500 MB.

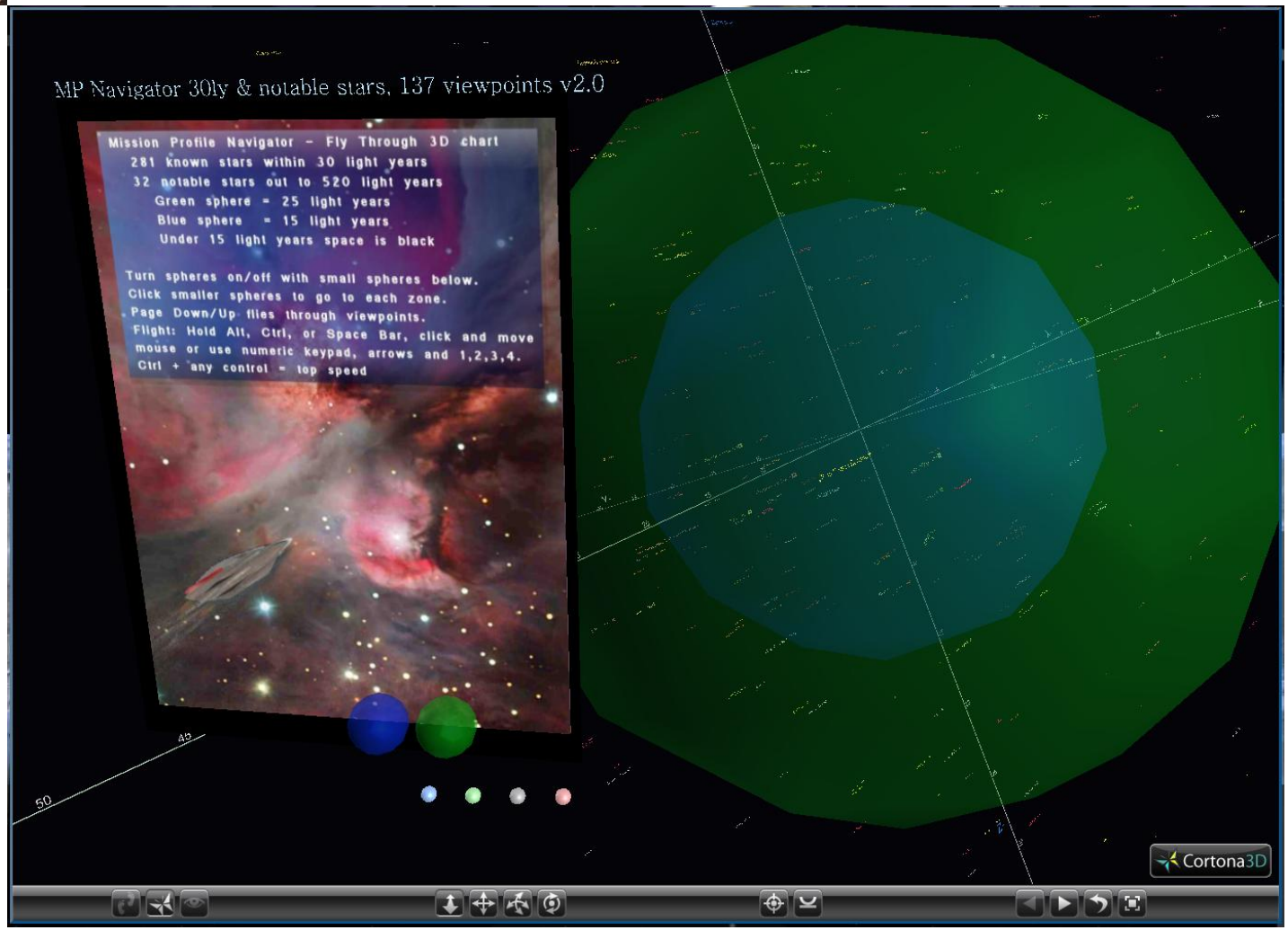
(The C drive happens to be named Carnaby. Volume Labels are optional and different for every computer.)



VIEWSCREENS GUIDE

Wide

3D LOCAL STARS



- The is an original, custom, fly through, 3D World, made for the Starship Simulator.

- Buttons on the upper left, yolk handle for the 3D Local Stars will **ONLY** appear, when using **Internet Explorer version 11** or **SeaMonkey** browsers.
- There are two screen sizes: Widescreen 

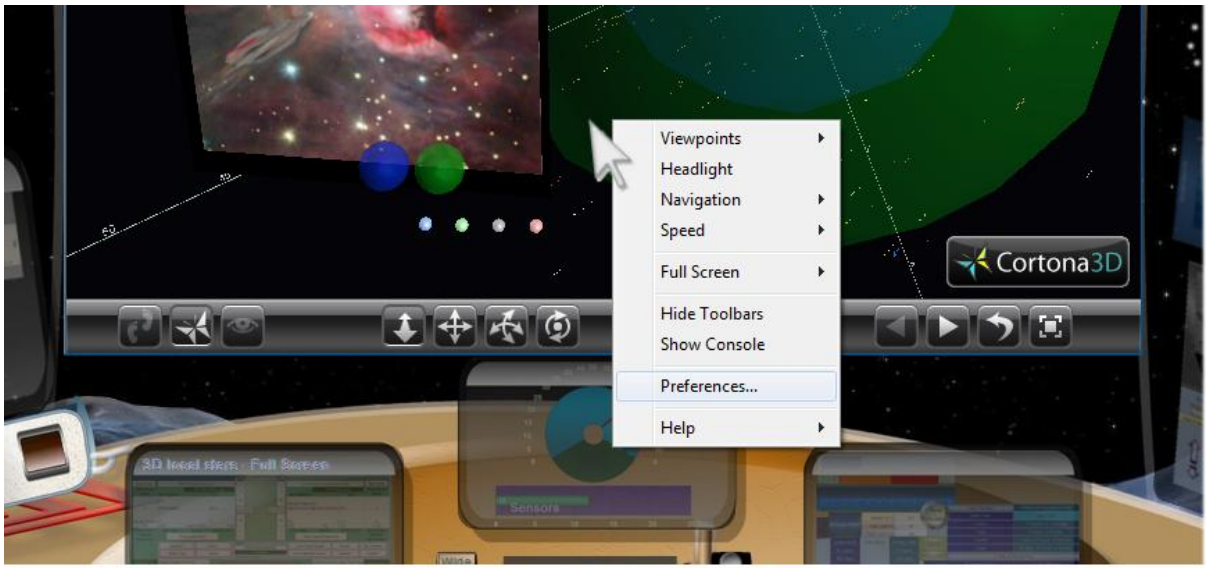
, or Full Screen 

- To move around inside 3D Local Stars, use the controls along the bottom of the viewer. Or, you can right mouse click in the Viewscreen to open options.
- Use the 

button on your yolk to open a guide with more control details.

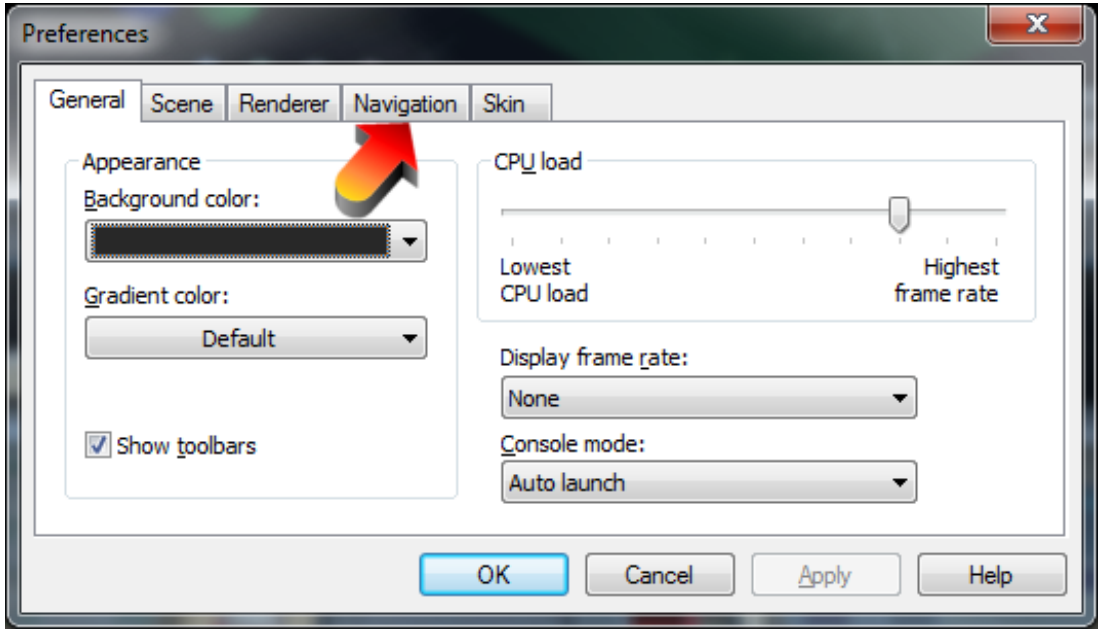
Recommended setup: Smooth out the travel speed between viewpoints in the 3D Local Stars Fly through Viewscreen.

1) Right-click and choose Preferences.



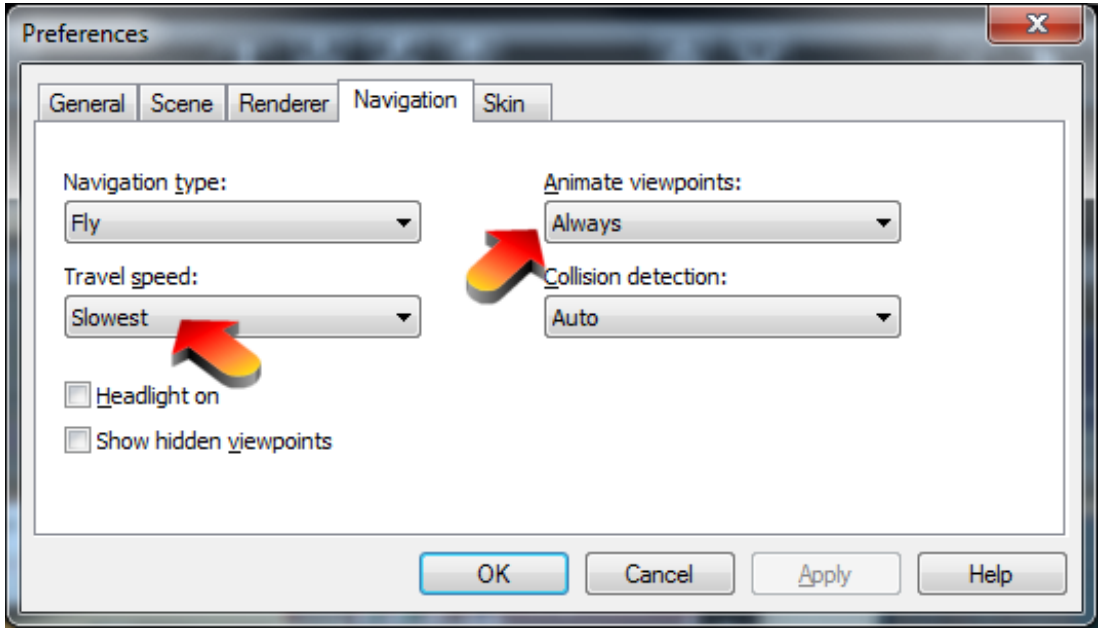
Right click inside the
3D viewscreen to open settings

2) Choose the Navigation tab and set the Travel Speed to Slowest and the Animate viewpoints to Always.



3) Set Travel Speed to 'Slowest'

4) Animate Viewpoints to 'Always' and click OK.



Flying in 3D Local Stars World

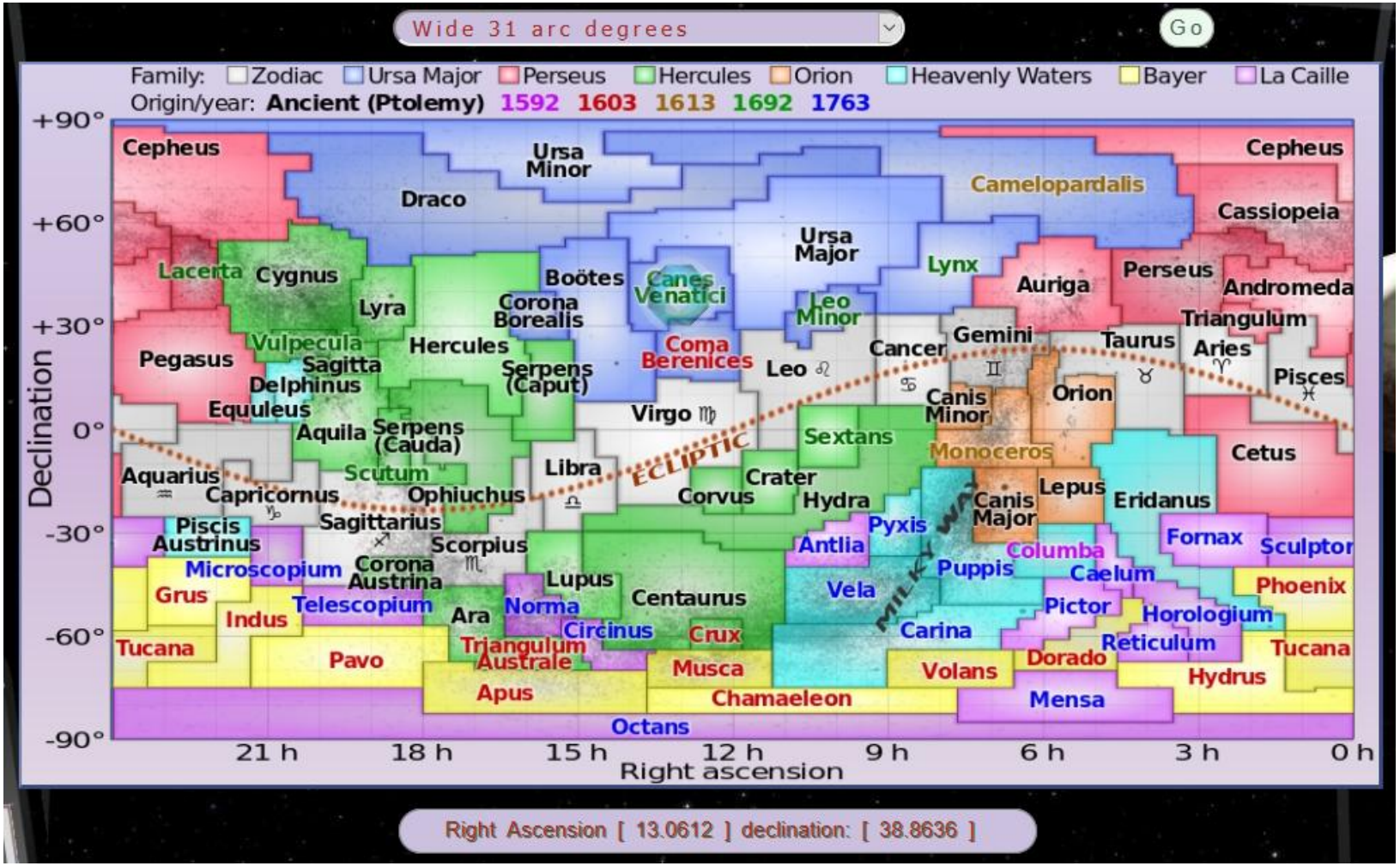
Now you will be able to glide between stars and see how the 3D world looks, as you fly by.

Your keyboard, Page Down key, will go to the next Viewpoint and the Page Up key, return to the previous.

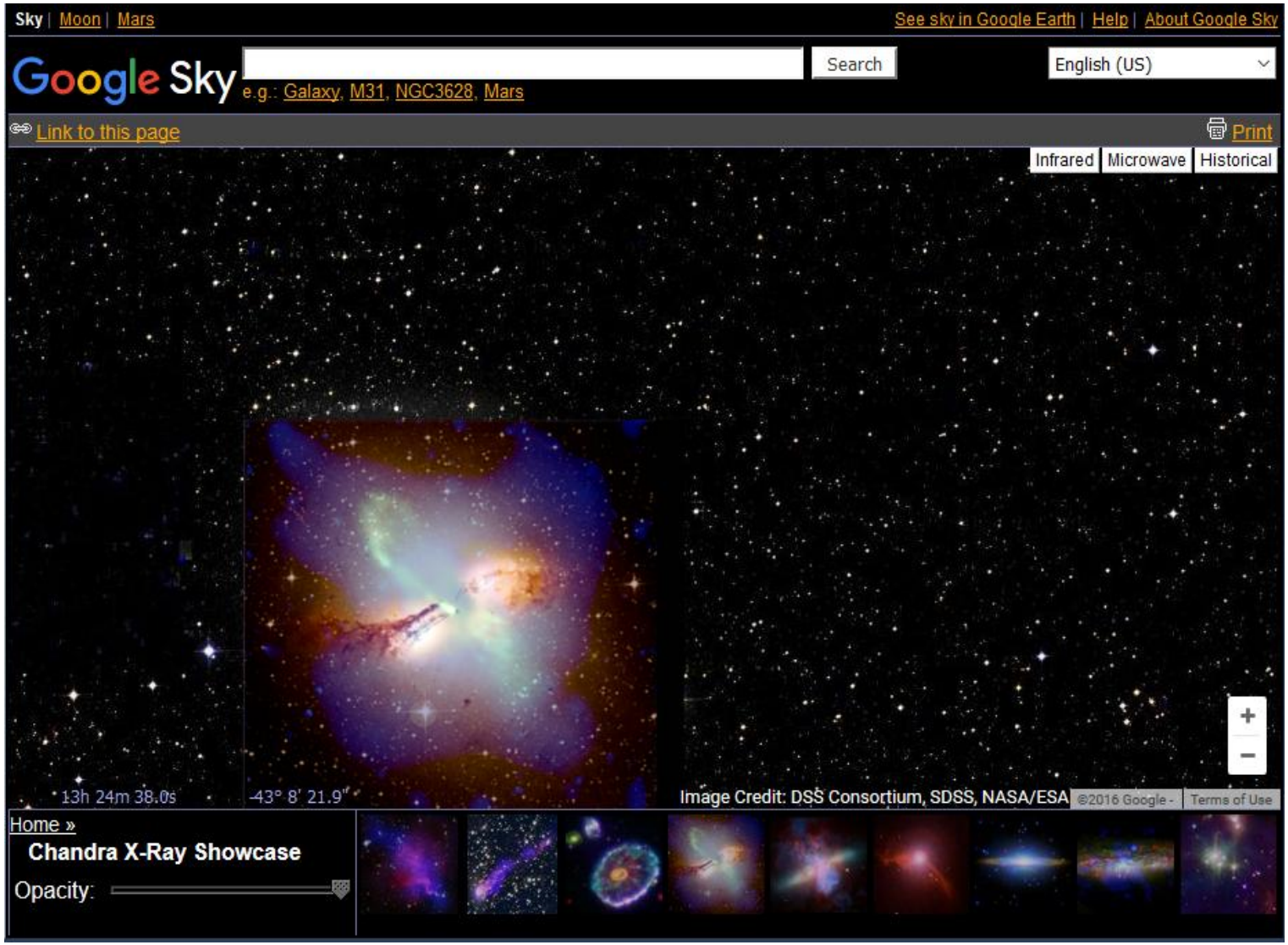
These keyboard shortcuts are only for this world.

Sky Map - Click and Go

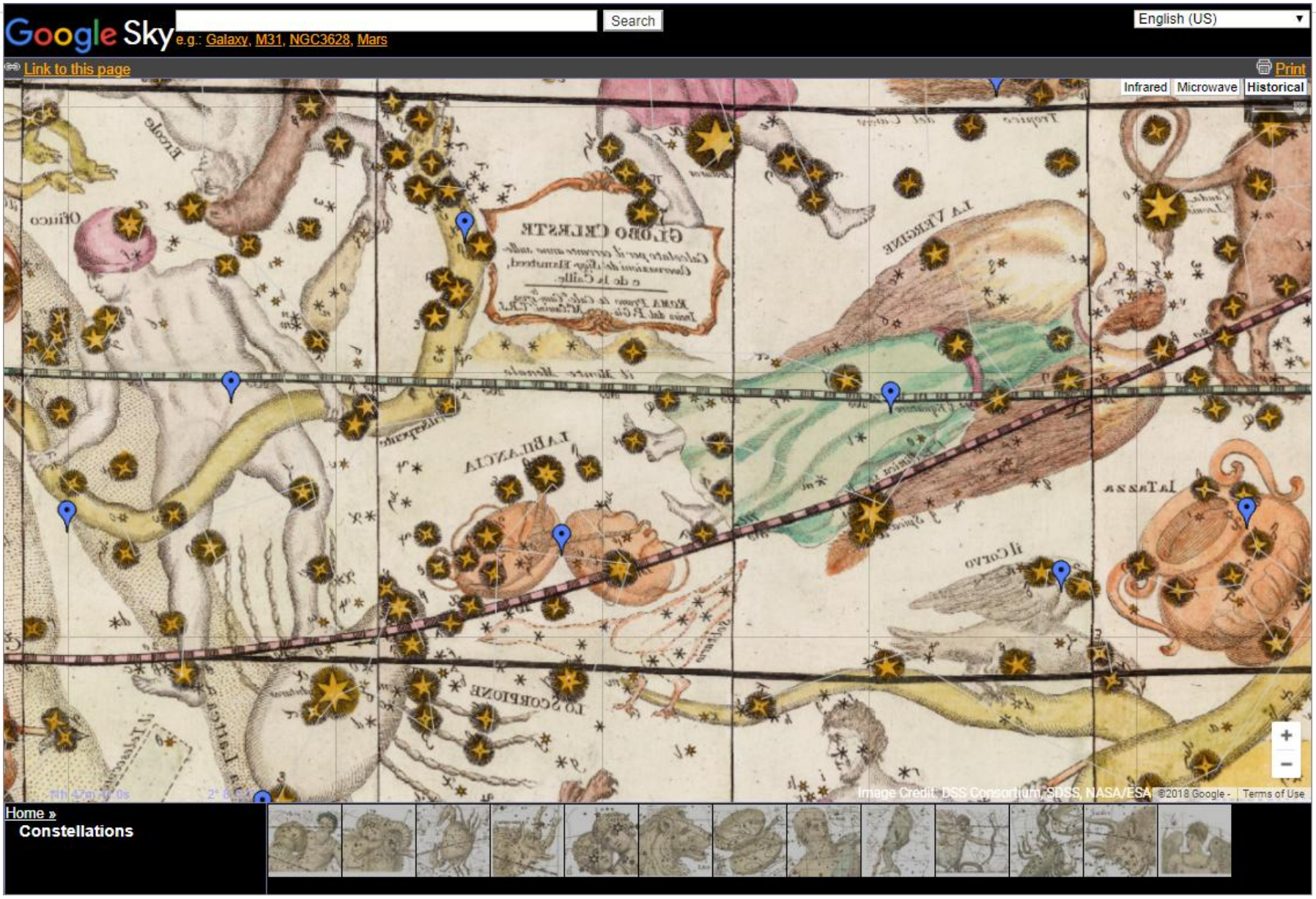
- Sky pull-down map show constellation borders in the entire sky.
- Click in the chart to select a sky location. A hexagon marker, the arc degrees pull-down list , Go button, on top, and the Right Ascension and declination info box, below, will appear.
- Click in the center top pull-down arc degrees to choose size of view (zoom in factor).
- Click the Go button to close the map and go directly to location in the Sky Viewscreen.



Sky



Google Sky version includes sections on the Solar System, Constellations, Hubble, Backyard Astronomy, X-Ray Showcase, GALEX Ultraviolet Showcase, Space Infrared Showcase and Earth and Sky Podcasts.



Google Sky Constellations

Earth Map - Click and Go

- Click in the Earth Map. Earth Approach, Angle, Heading, Go button and lower Longitude and Latitude will appear
- Pick an elevation from the Earth Approach pull-down list.
- Angle tilt of 60 degrees is about a 2/3 up angle and 0 degrees is straight down (Google currently maxes out at 78 degrees.)
- The heading angles are 0 = North, 90 = East, 180 = South and 270 = West.
- Click the Go button to close the map and go directly to location in the Earth Viewscreen.

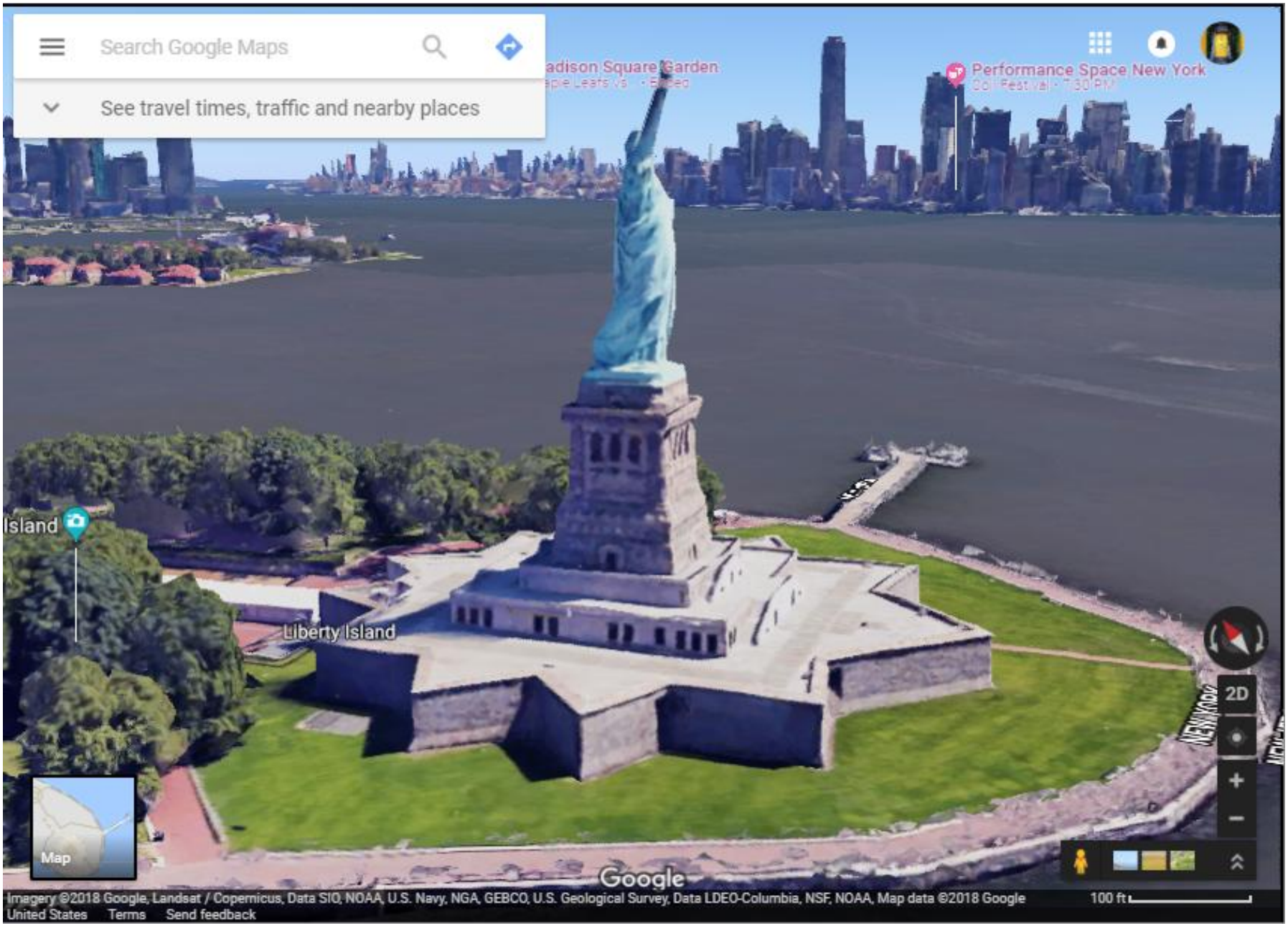
Earth approach (elevation choice) pull down list:

Angle of view: 0 = straight down, 78 = is the highest, allowable, setting in the Earth Viewscreen.

This tilts up, putting the horizon about 20% down from the top of the screen.

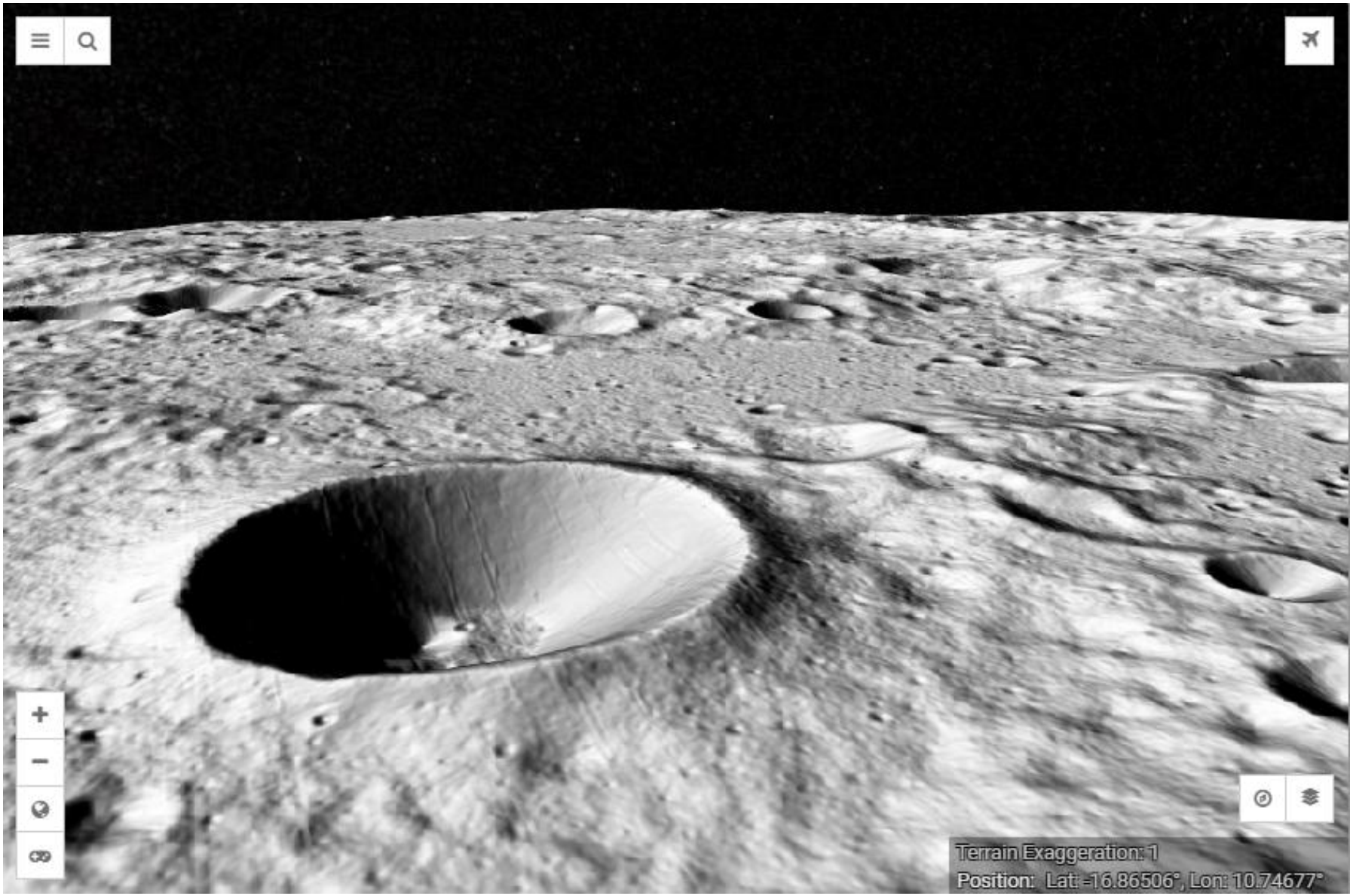
Heading: 0 = North, 90 = East, 180 = South, 270 = West

EARTH

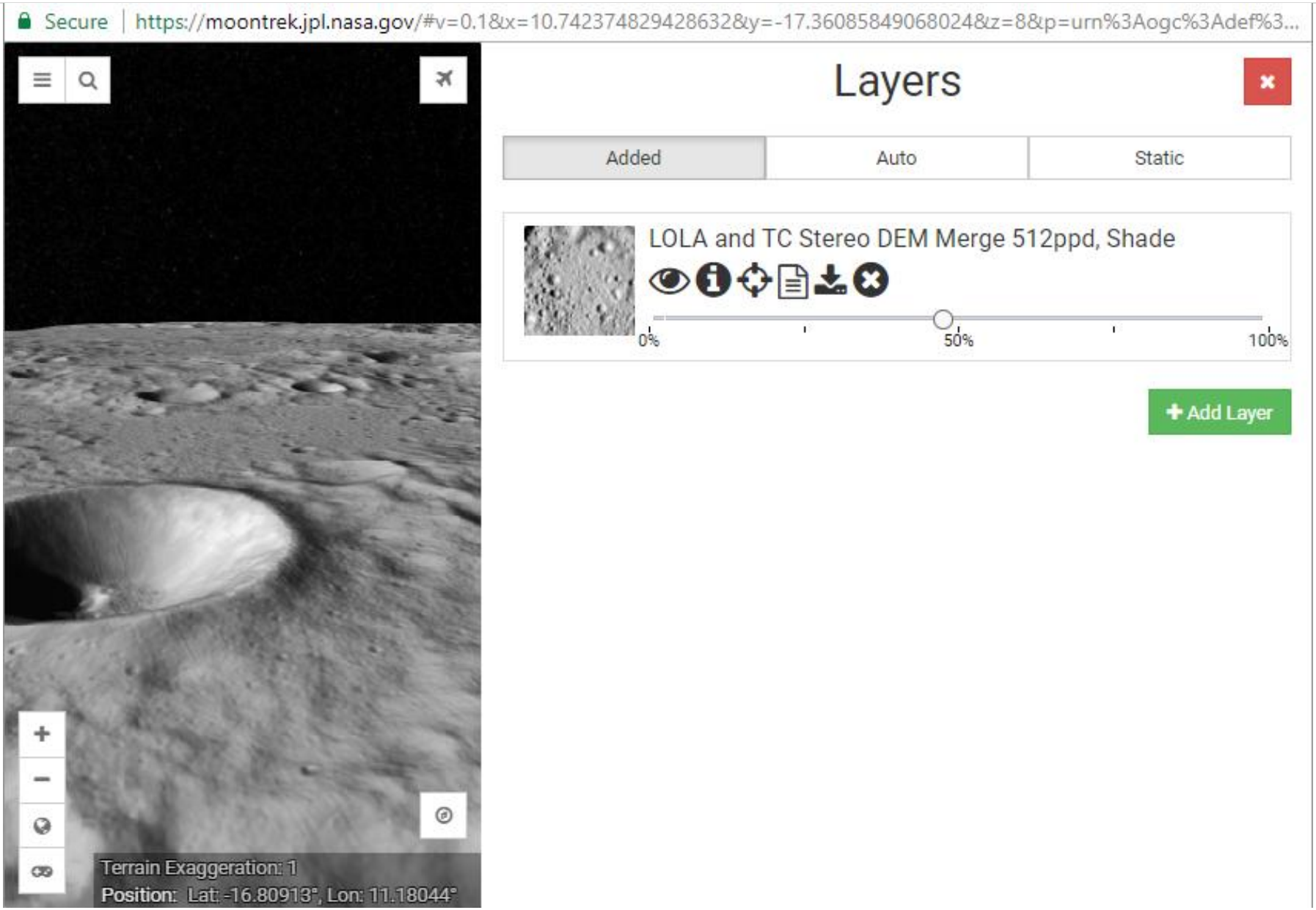

Search Google Maps
See travel times, traffic and nearby places
Performance Space New York
Liberty Island
Map
2D
Google
Imagery ©2018 Google, Landsat / Copernicus, Data SIO, NOAA, U.S. Navy, NGA, GEBCO, U.S. Geological Survey, Data LDEO-Columbia, NSF, NOAA, Map data ©2018 Google
United States Terms Send feedback
100 ft

Street views are 360 degrees.

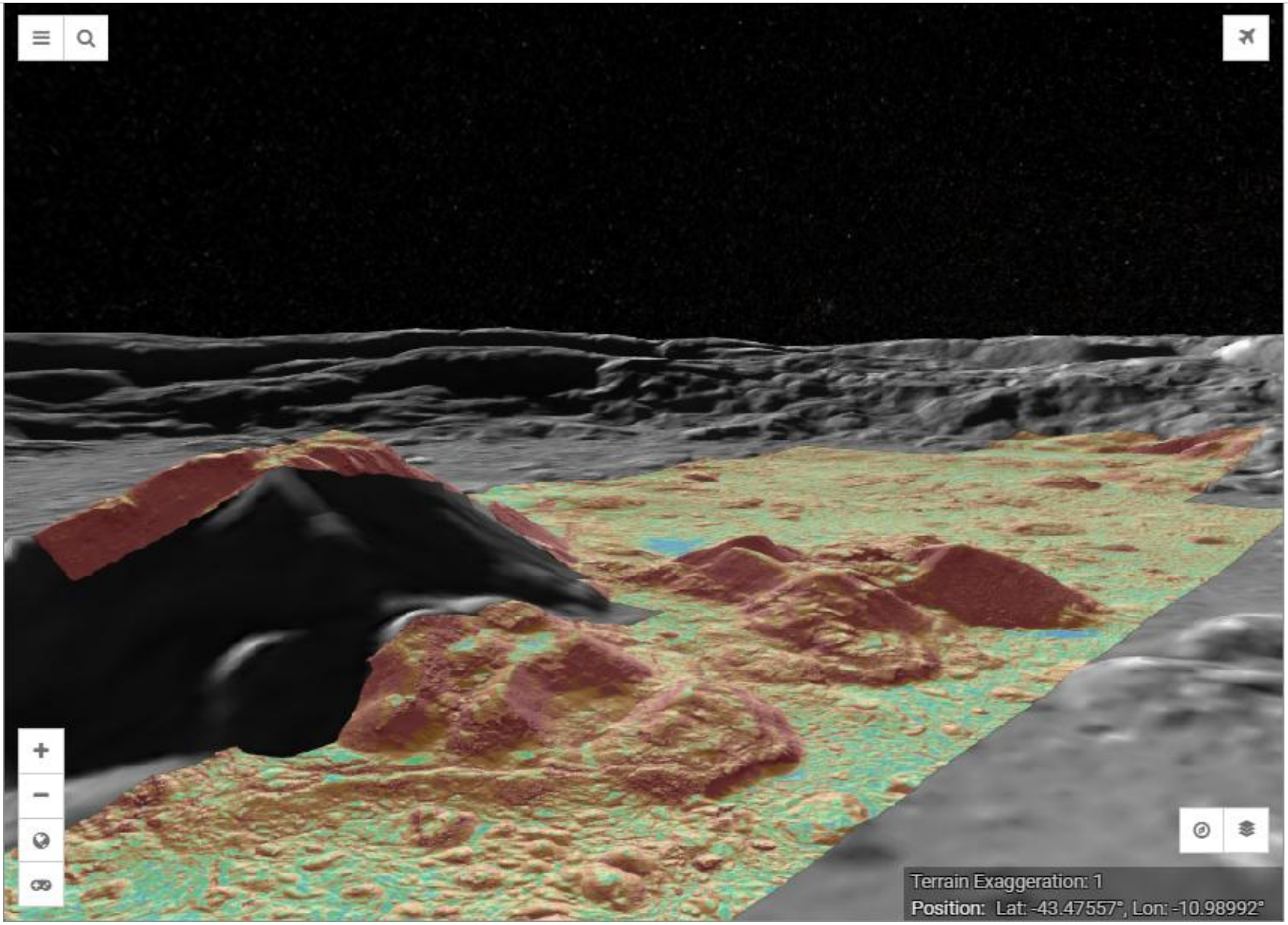
Moon



Moon Trek, 3D views and layers

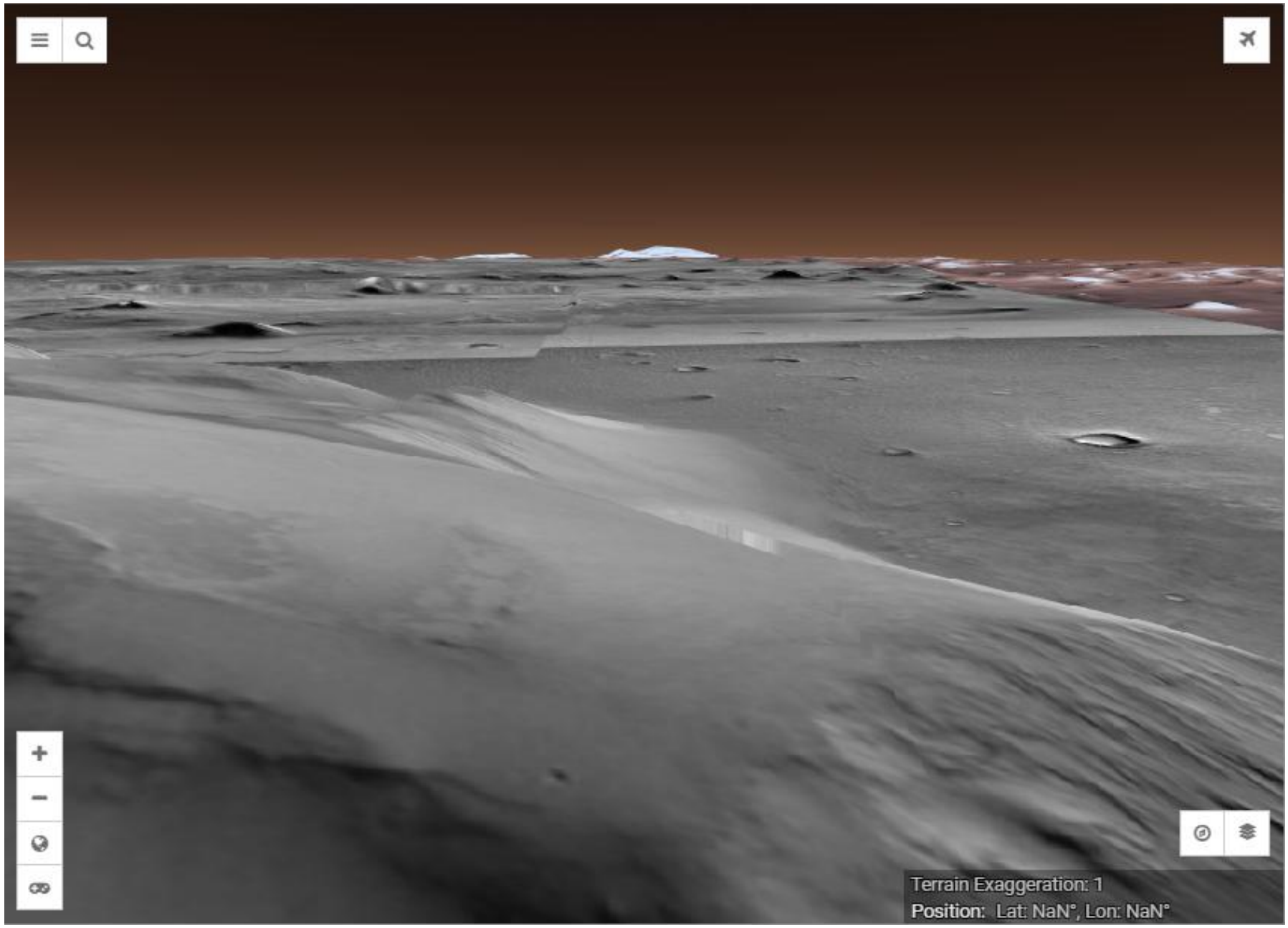


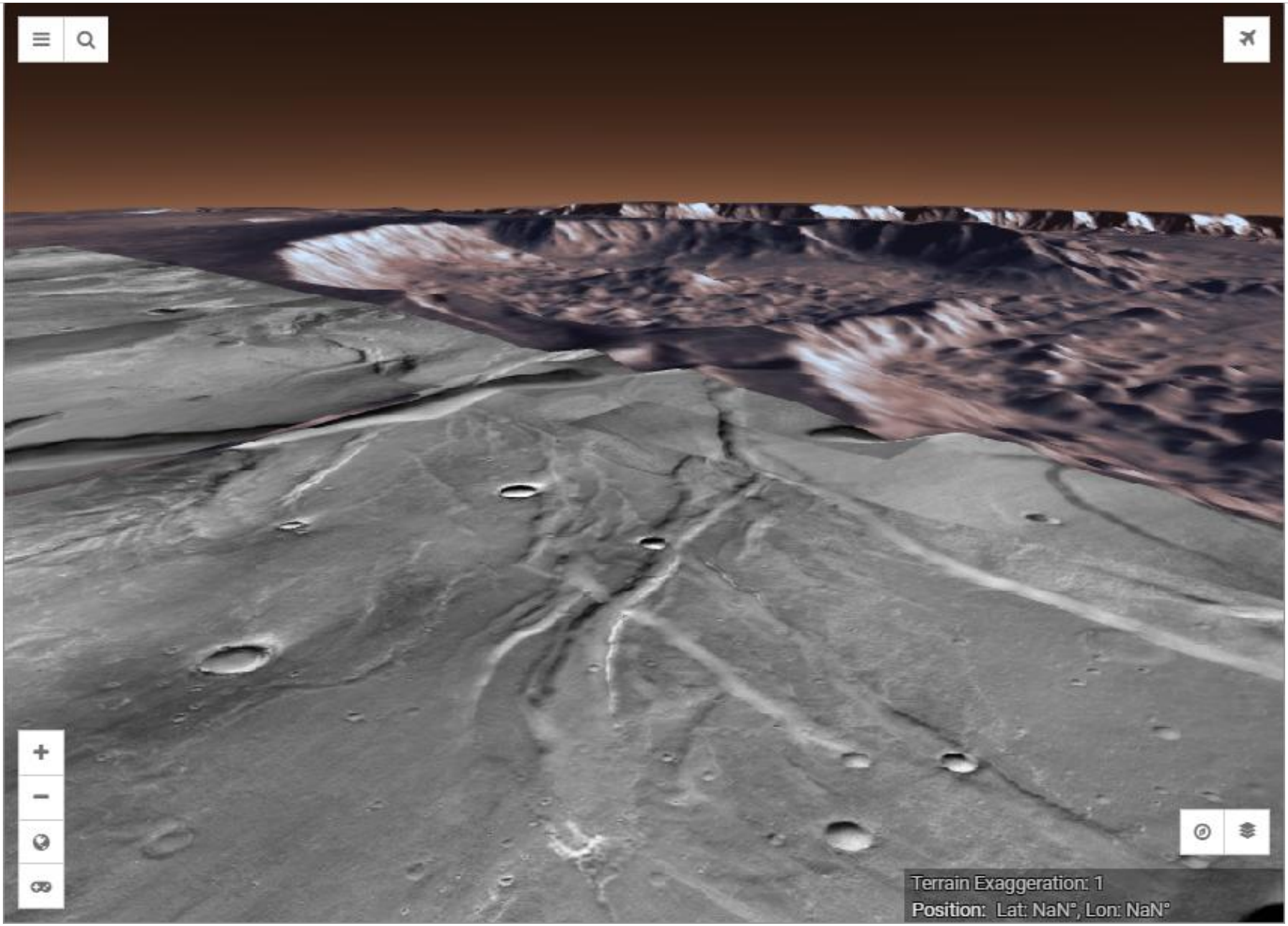
Moon Trek - Layer controls with transparency sliders



Moon Trek - Tycho Crater 3D View with multiple layers and transparency

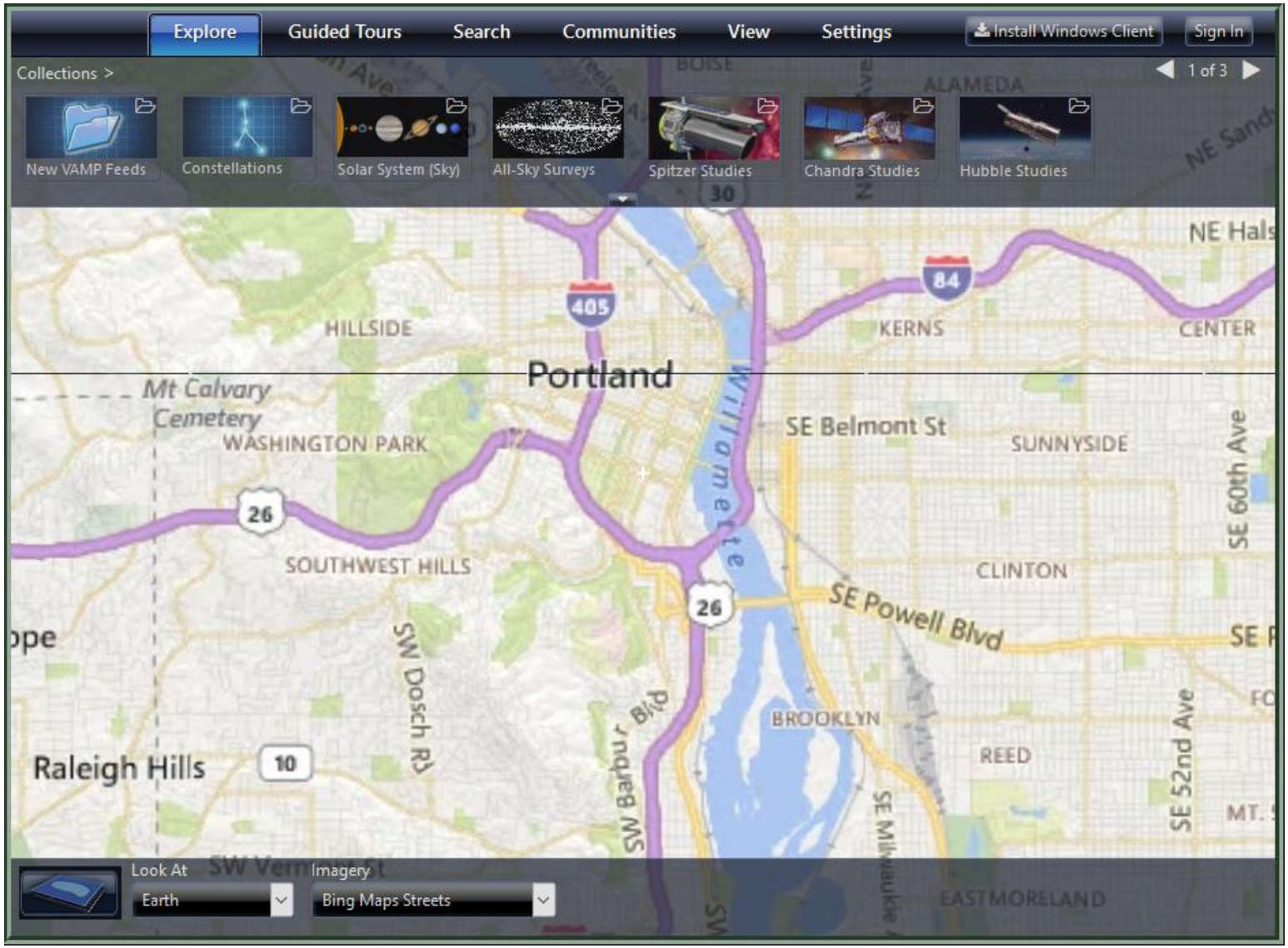
MARS



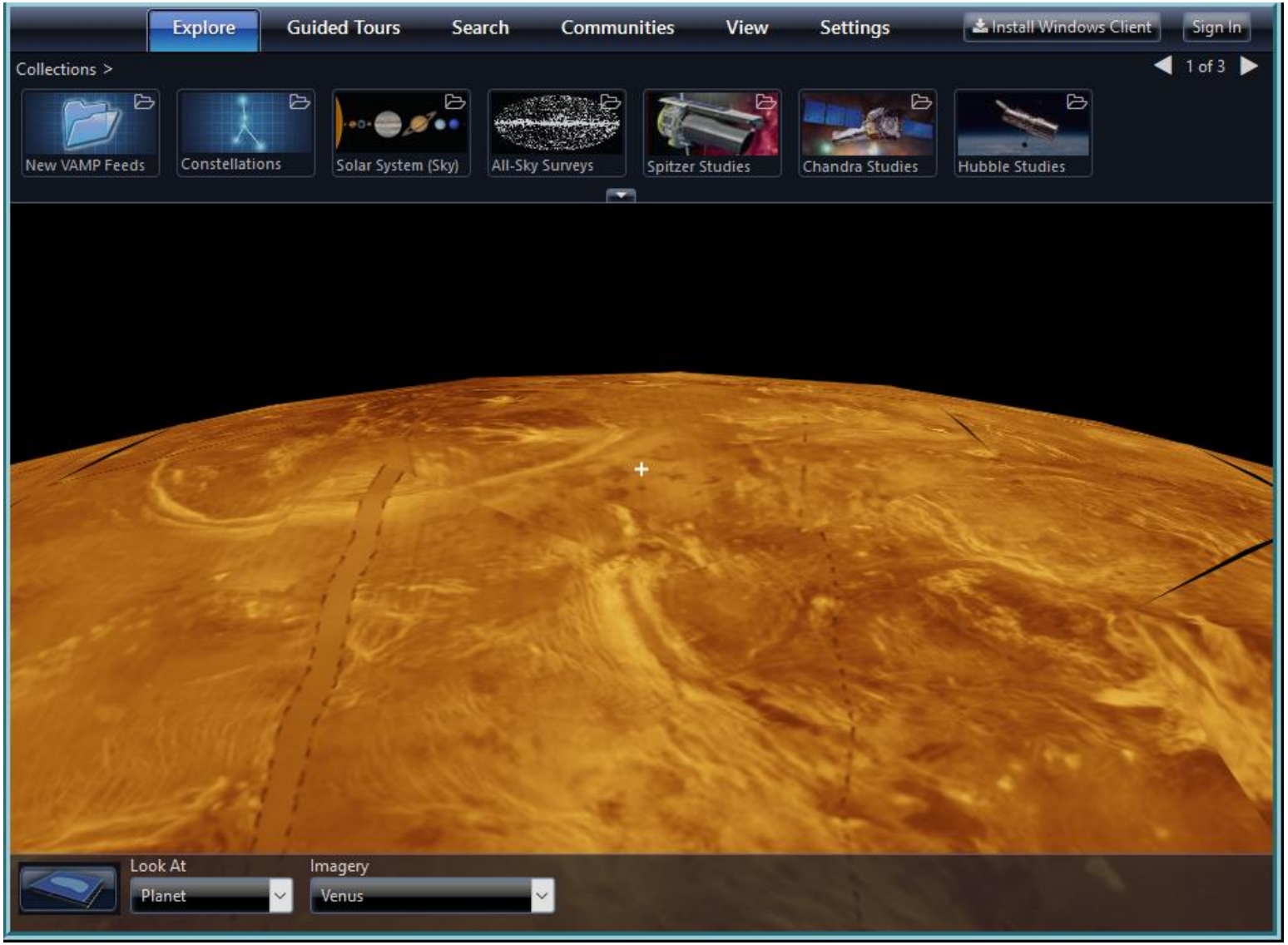


Mars Trek, 3D with layers

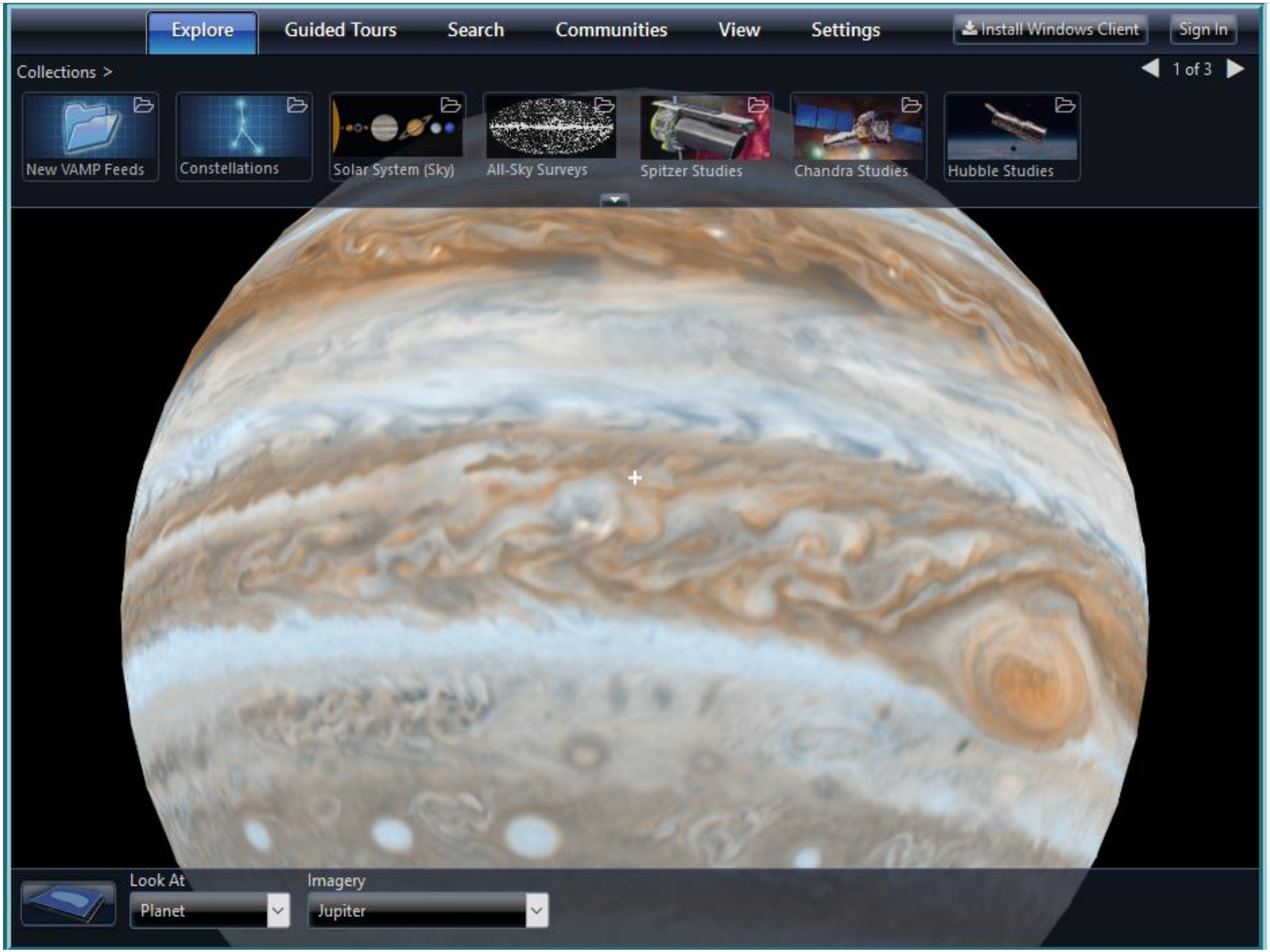
World Wide Telescope



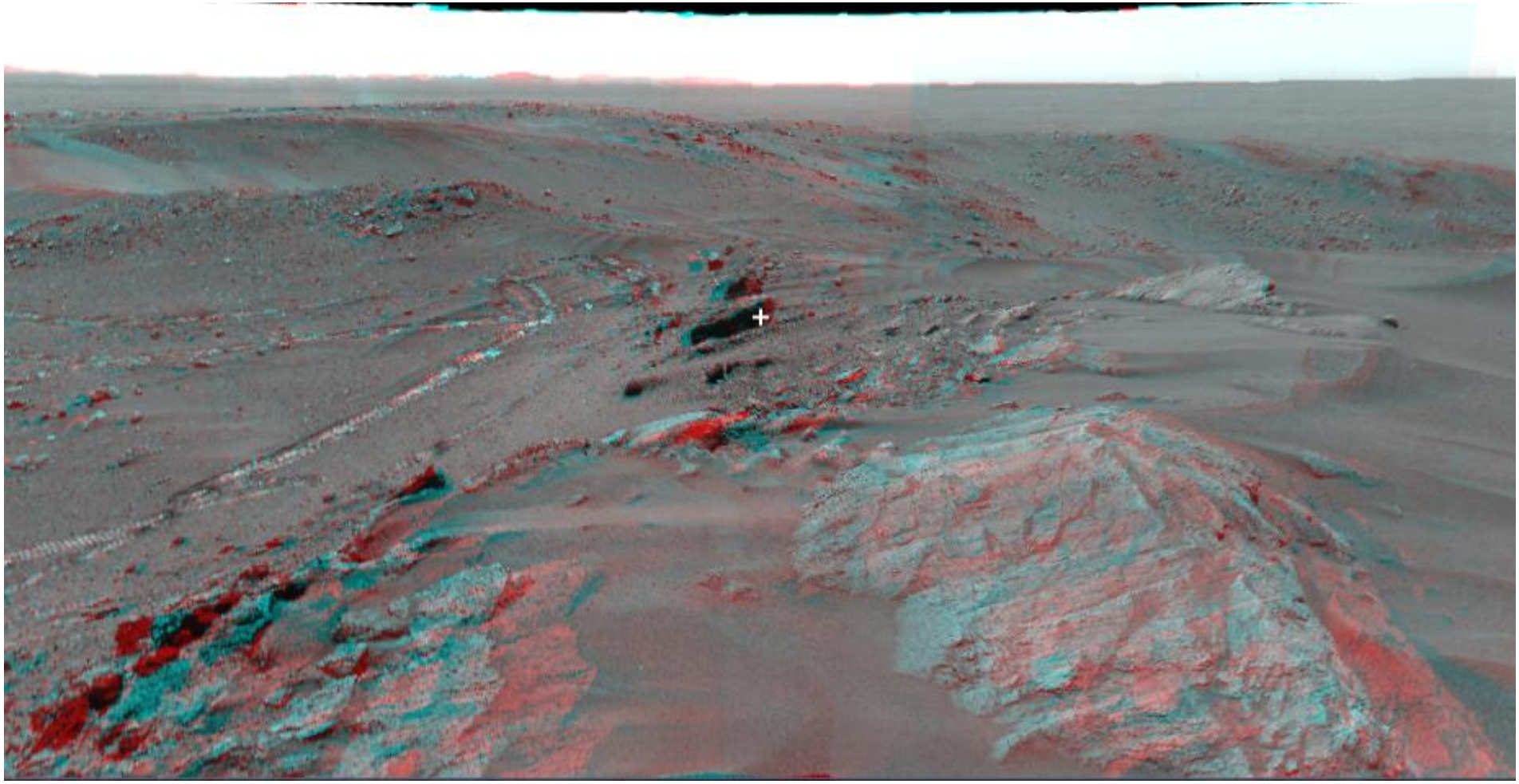
The World Wide Telescope: has many features and screens. There is Bing Maps Streets.



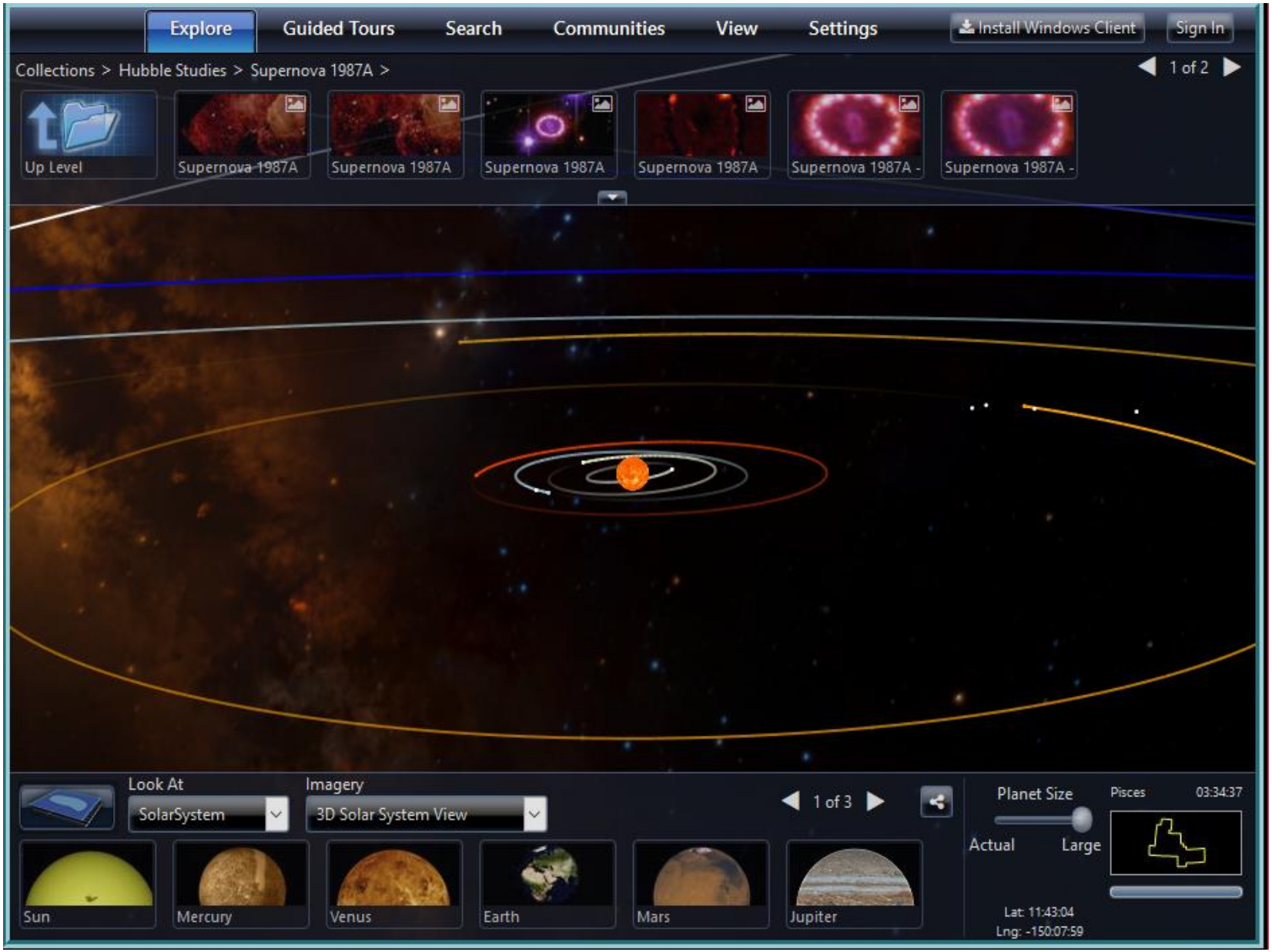
World Wide Telescope:: Resolutions that allow low orbit are available for all planets and moons. This view of Venus can be rotated in 3D.



World Wide Telescope: Jupiter can also be rotated in 3D.



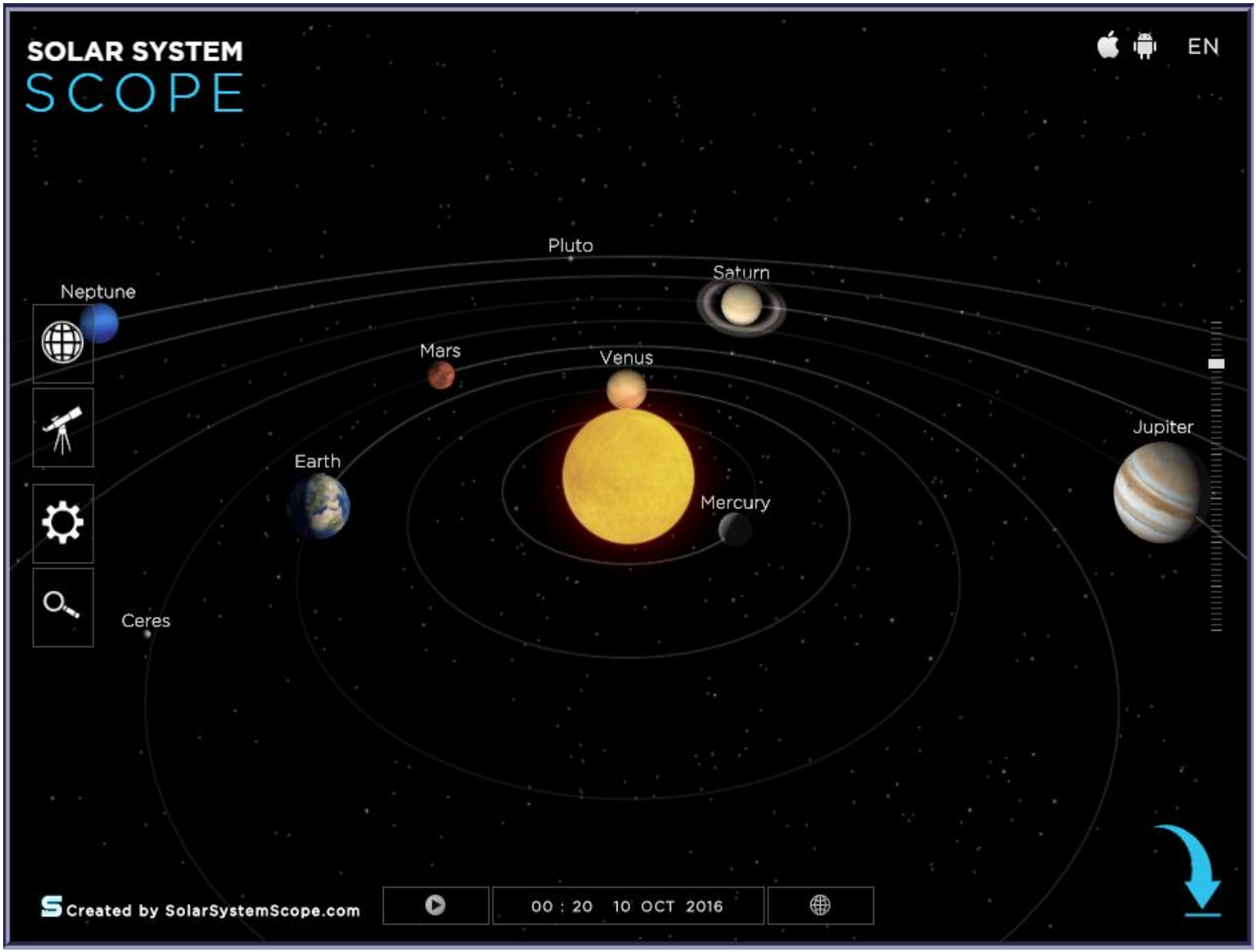
World Wide Telescope: Panorama's and stereo views in 3D of Mars, Spirit Everest. The above image will become 3D through Red / Blue glasses.



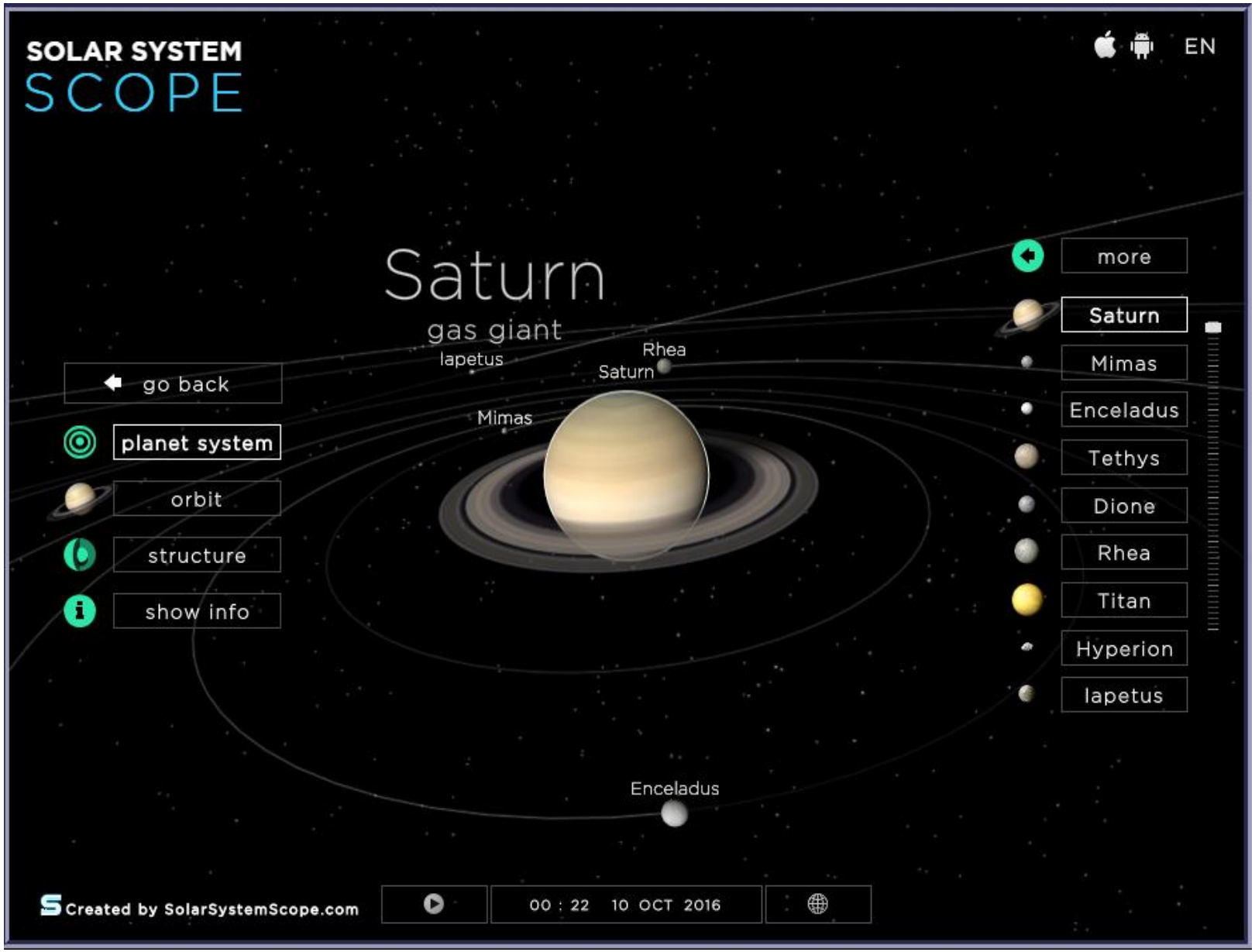
World Wide Telescope: 3D rotatable view of the Solar System with current orbital positions.

World Wide Telescope: Layer settings and Guided Tours.

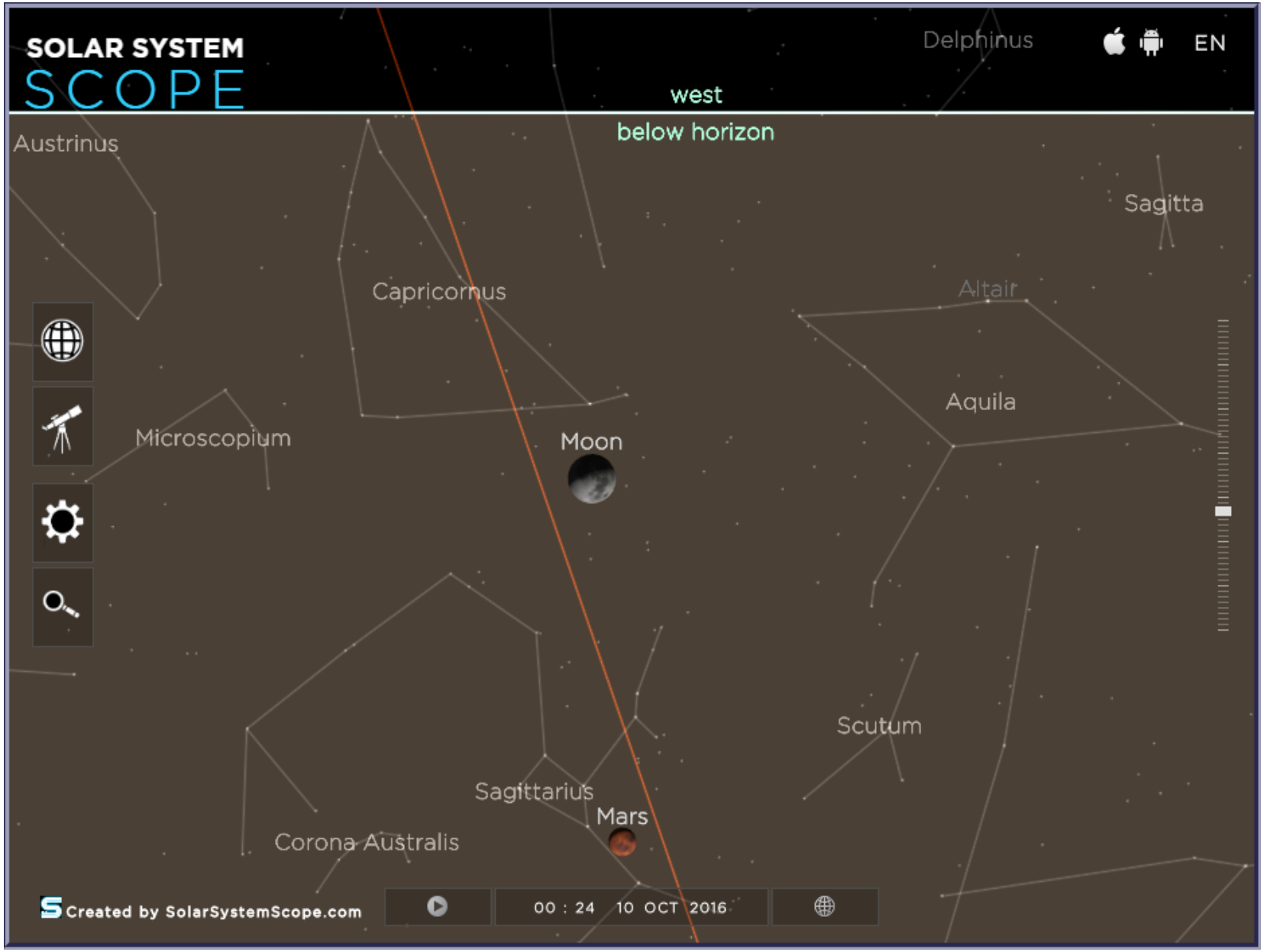
SOLAR SYSTEM SCOPE



3D rotation and detailed information.

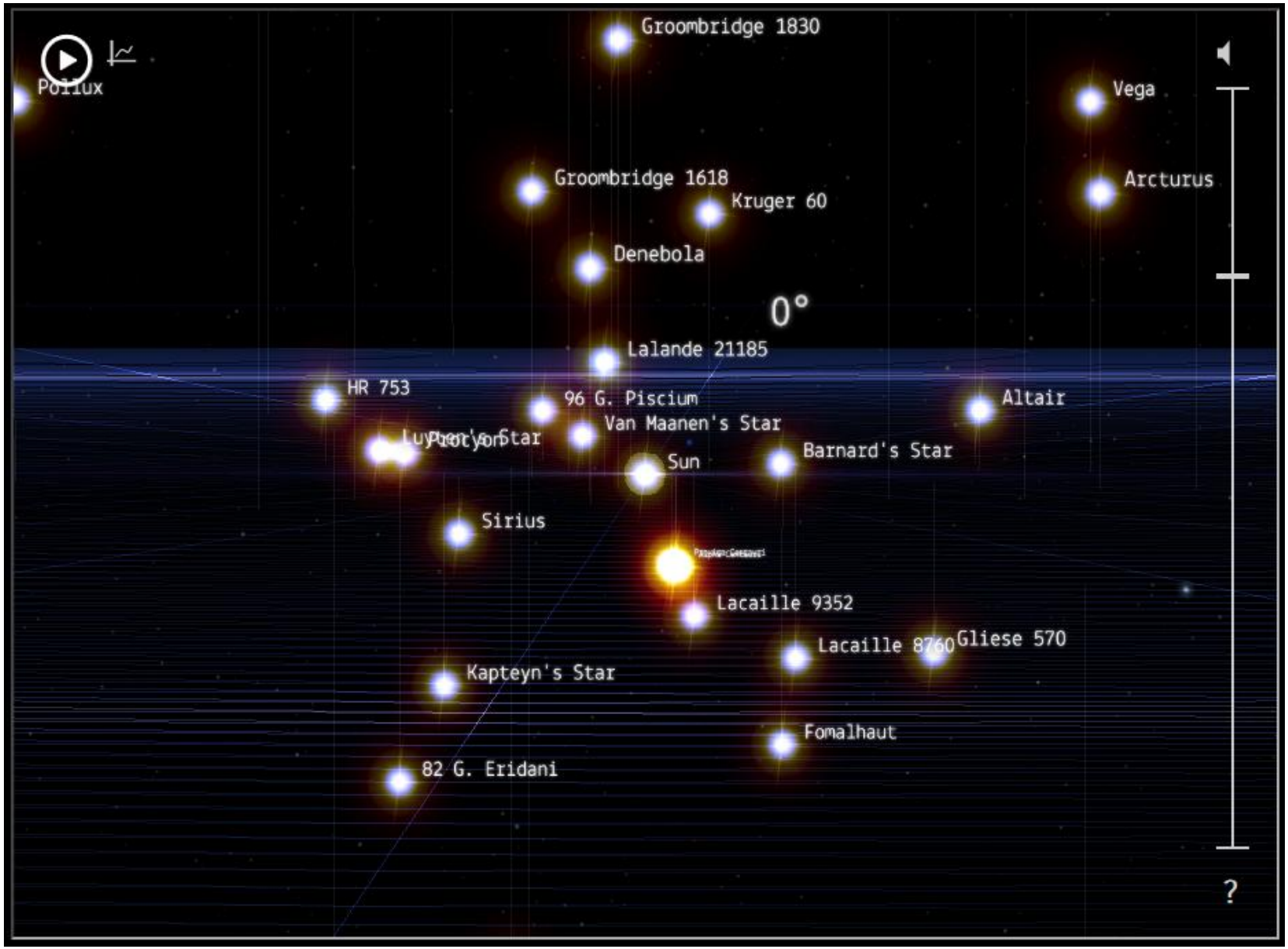


Planetary Systems with Moons and their story details.

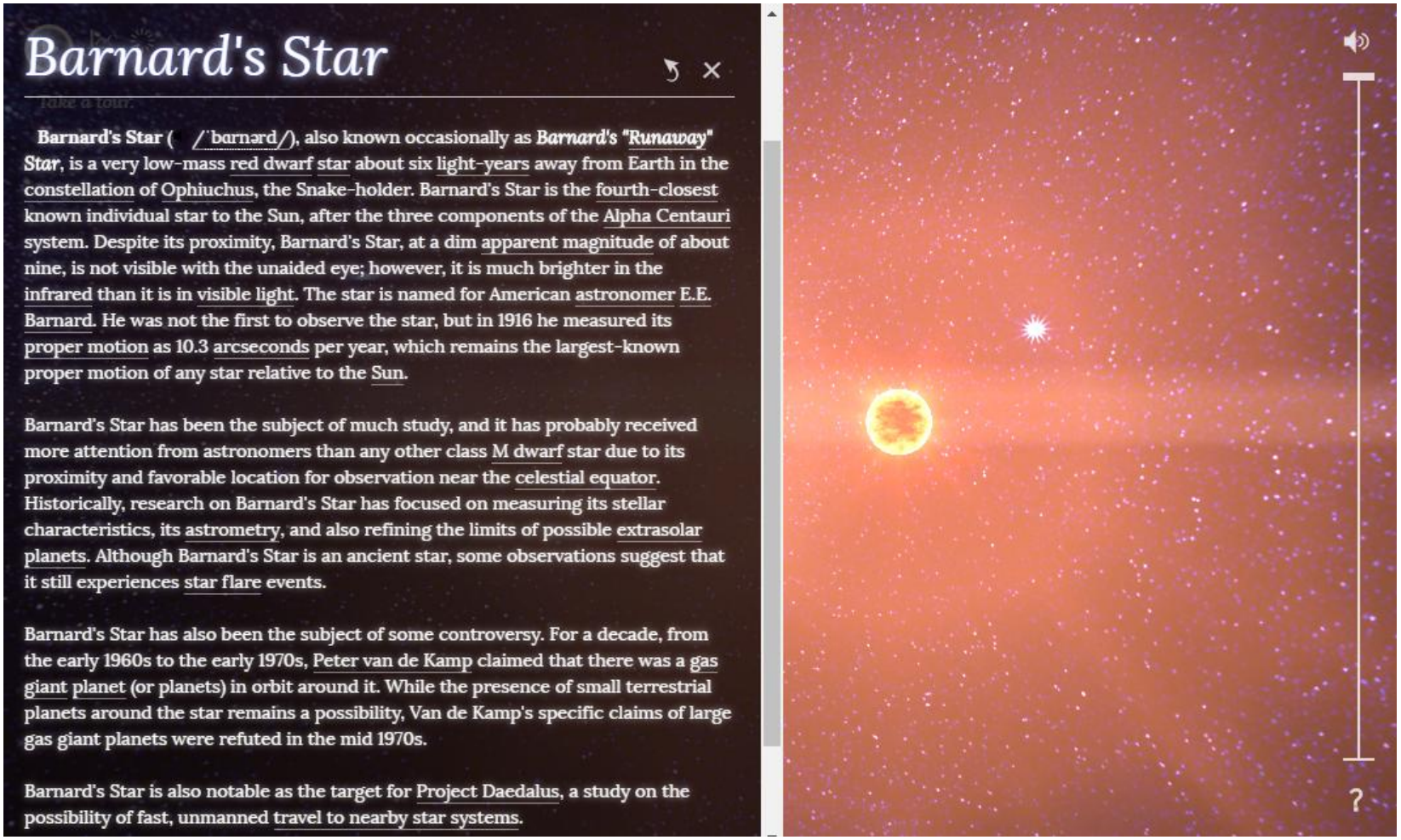


Current position of planets in the sky of the user's current time and location.

GALACTIC STARS

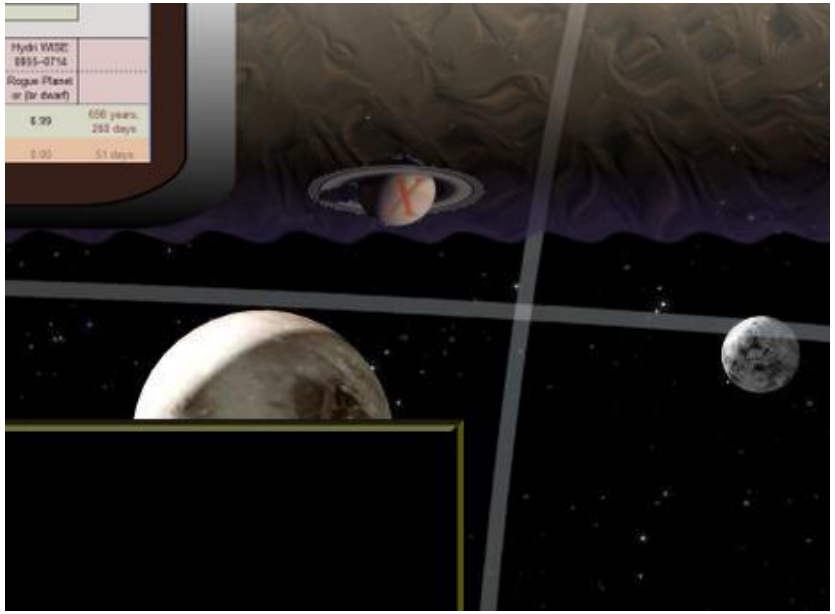


Galactic Stars with 3D rotation. Click on stars for additional information.



Galactic Stars: Details and history of stellar exploration is also available in Galactic Stars, also known as 100,000 Stars from ’s Chrome Experiments site.

CLOSE VIEWSCREENS - Click on the Saturn X Icon (X key on the keyboard image also works). The Saturn X images appears, when needed, when you mouse over the Video Player.

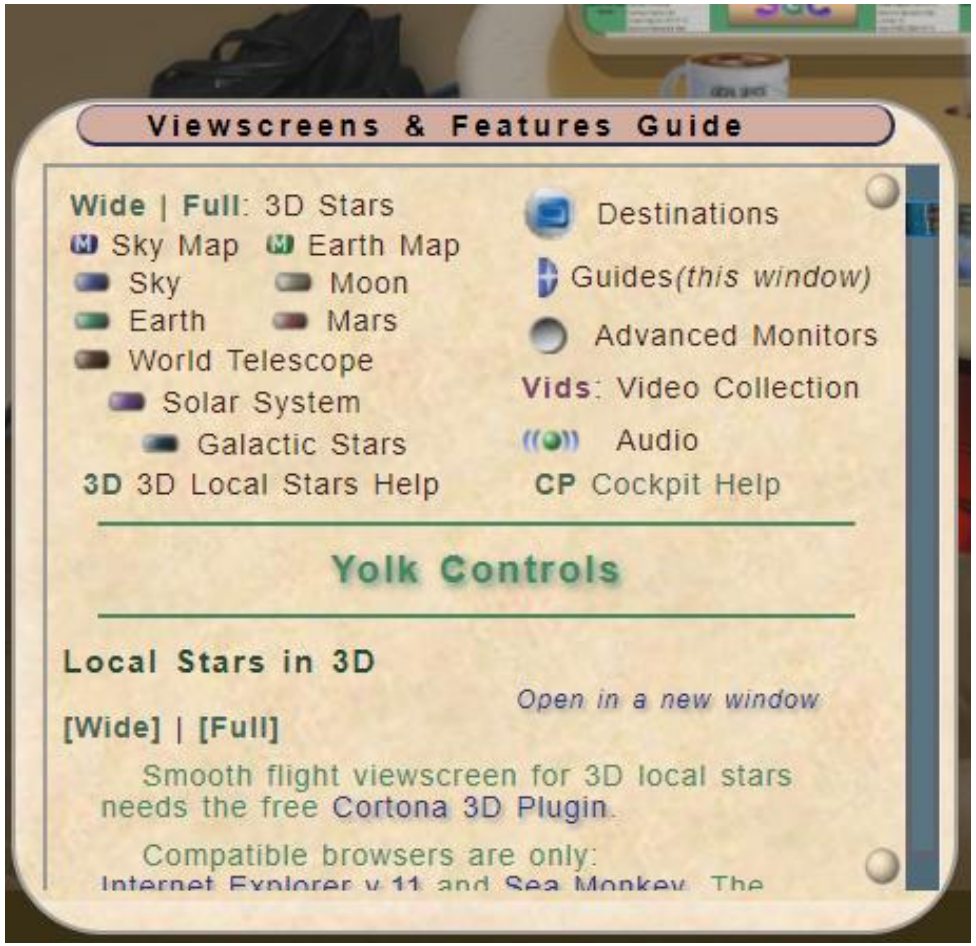


USS Galileo near the Pleiades Cluster

USS Galileo - Central Antimatter Plasma Core APC

Herati Nuba – Occidenterra – in Delta Pavonis C System

GUIDE PANEL



Viewscreens & Features Guide – This support screen appears when no Viewscreen or Video Player are active.


Off

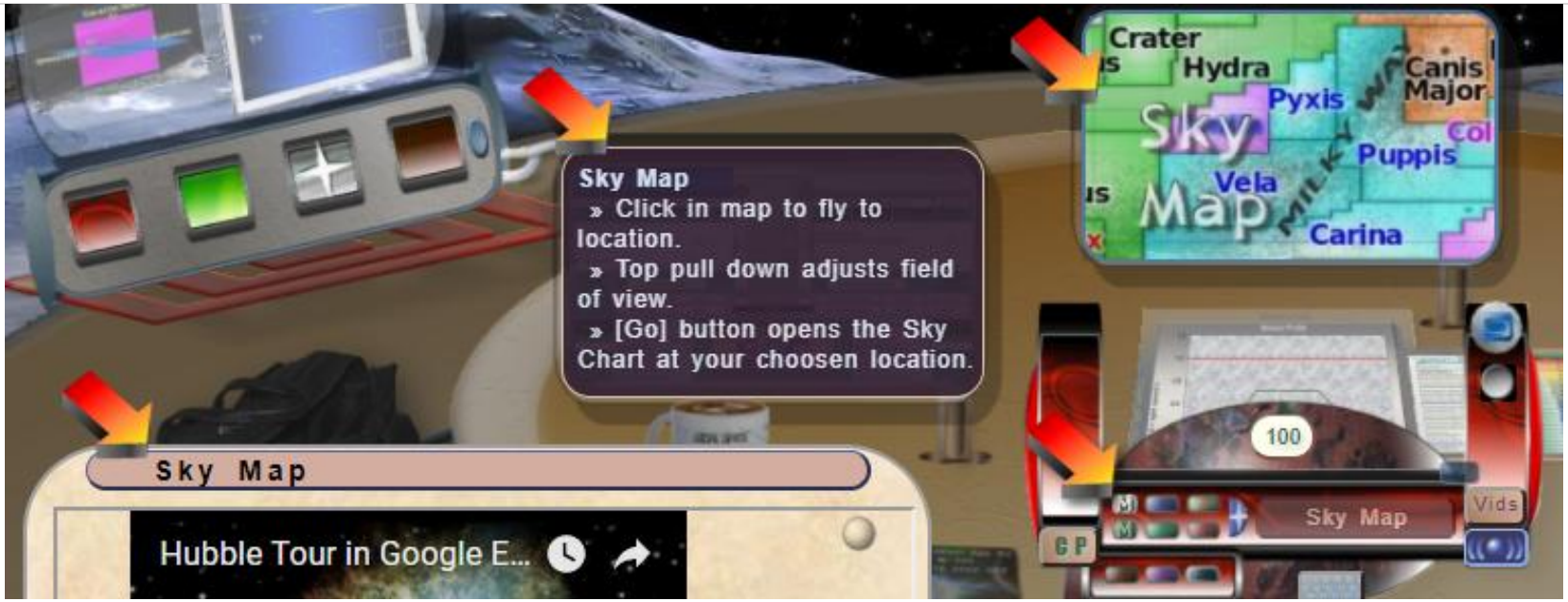

Active

The lower left, Guide Panel is activated by the center Yolk half moon blue button.

The scrollable, open panel changes, automatically, for each Viewscreen or Feature.

Clicking the yellow sphere in the upper right area will enlarge the Guide.

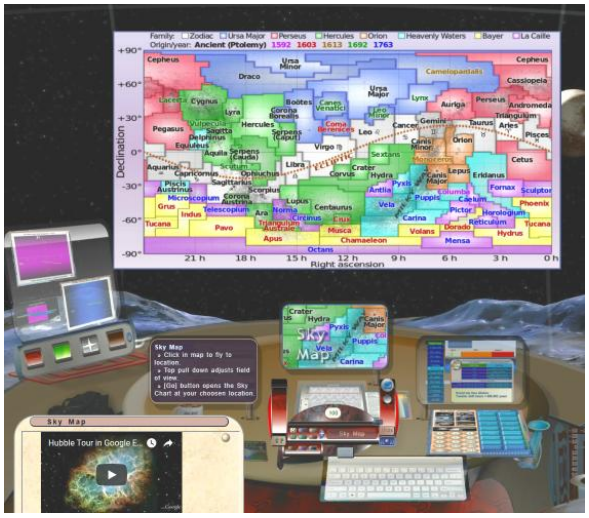
Clicking the yellow sphere button in the bottom right corner of the Guide Panel, opens the Guide Quick Pick. Here you can quickly open any other Guide.



The left center monitor shows a Status Summary for Viewscreens & Features for about 90 seconds. You can remove it by clicking on it.

The Center Monitor shows a quick preview when you mouse over the Viewscreen Button.

The Guide Panel, lower left, auto changes when a new Viewscreen or Feature is clicked on.



Cockpit full view

3D Local Stars Guide

There are many Viewpoints available inside the 3D Local Stars Viewscreen controls. This world is original to the Simulator and does not appear anywhere else online.

A guide is available by clicking the button on the left yolk handle.

Again, this Viewscreen uses a older, free browser plug-in, which **ONLY** works with Internet Explorer version 11 and SeaMonkey Browsers.

If you are not using a compatible browser with the plugin installed, you should not see the 3D Wide or Full buttons at all.

Sky Map

The Guide panel auto senses changes in Viewscreen and shows instructions for the Sky and Earth pull down Maps.

This Guide includes a playable video.

Sky

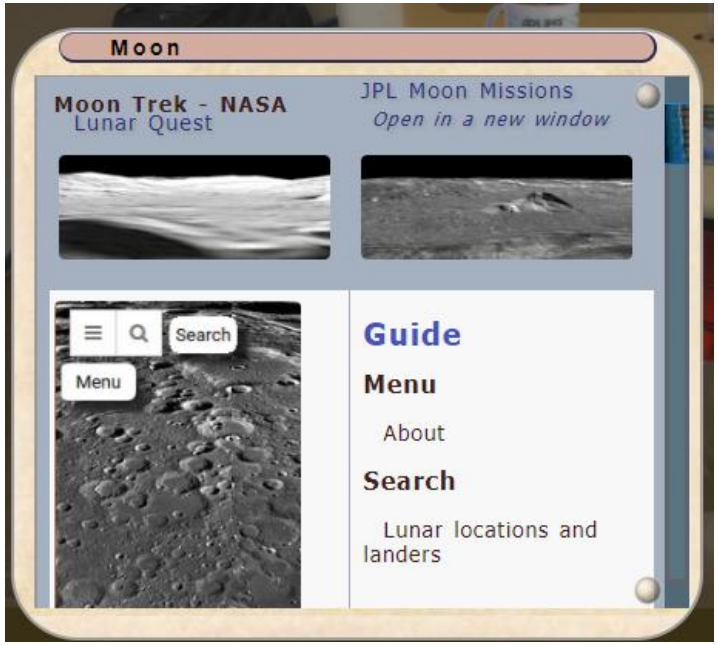
The Sky Viewscreen includes areas on Planets, Constellations and many Astronomical image studies.

Earth Map

This Guide includes a playable video.

Earth

3D view, Street view, History images, Traffic, Distance, Trip Planner, Flight Bookings, Entertainment tickets, Treks.



Moon

Mission locations and other areas

Mars

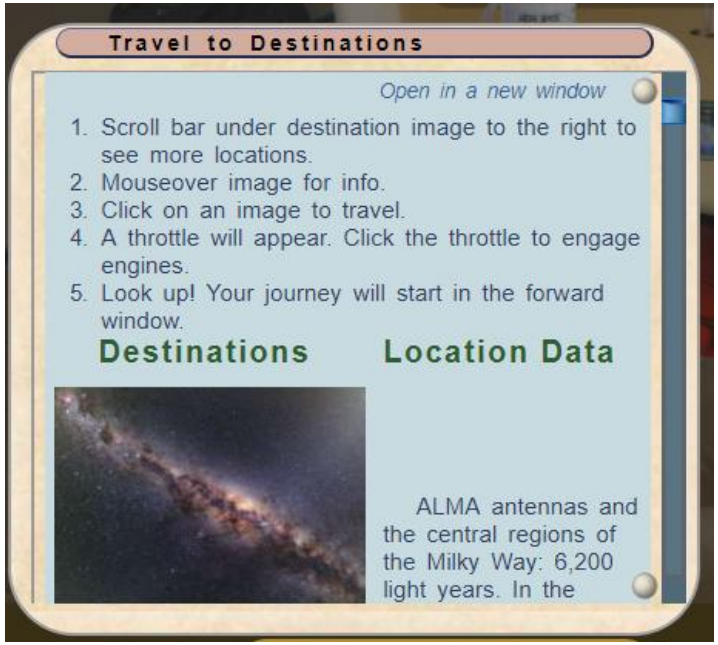
Mission locations and other interesting areas.

World Wide Telescope

Many layers of features. Some controls are listed in the help information. There are also links to online detailed guides.

Solar System SCOPE

Shows 3D rotatable maps of our Solar System and details of Planets, Moons and other objects.



Galactic Stars

A project from Google Chrome Experiments Showcase to highlight JavaScript running on the Chrome Browser. Also known as 100,000 Stars, this is a visualization of our stellar neighborhood with rotatable 3D maps and the ability to select and read details on stars.

Travel to Destination Collection

Details many different destination backgrounds will appear when the Destinations Slider is activated by the blue button on the right yolk grip. Educational links and credits to all destination images are in this bookmark list.

Advanced Monitor Controls

Turning on this feature cycles all 6 monitors through images, showing ship controls, readouts, destinations, internal and external ship views, graphs, navigation and astronomical studies.

Video Player Collection panel

Notes, quotes and links to the original artists, web sites for each video. Support the artists by visiting their sites and seeing the movies in the theater or getting a DVD, blu-ray.

Audio

Cockpit Sounds, Comm Channel and Music Tracks are available with Audio.

When Comm Channle is active, a different, excerpt, music track is featured for each Destination. Promotional image and information, with links to purchase music, appear, whenever a featured selection is played.

Each destination has it's own Comm Channel playlist. Many have historic recordings from actual space flights and mission control audio.

Guide Resize Button to enlarge / reduce guide height
The upper right button makes the guide window larger or smaller.

Guides Quick Picks List

The lower right button opens a Quick Pick List, where you can immediately change to another Guide.

New Fira, Bellerophon – Moon of Gorgon – Osiris System in Pegasus

COCKPIT CONTROLS

COCKPIT RESIZER

(Upper left corner. These buttons brighten with a mouse over.)

- Autofit On / Off – Matches cockpit size to browser width
- Auto Height – Forces full height to fit inside browser
- Auto Width – Forces full width to fit inside browser
- Preset Cockpit sizes; Small, Medium and Large (Auto resize will be turned off)
- Zoom slider 50 to 300 (100 or Preset L button is the original size of all artwork)

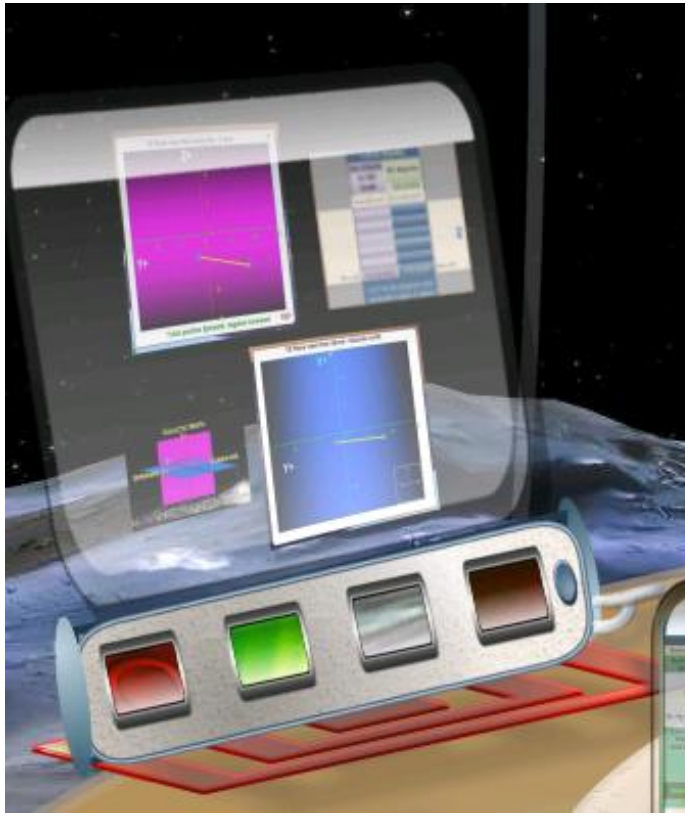
Kimolana Cliff house and Art Institute

Cockpit Lighting

Left Window Console

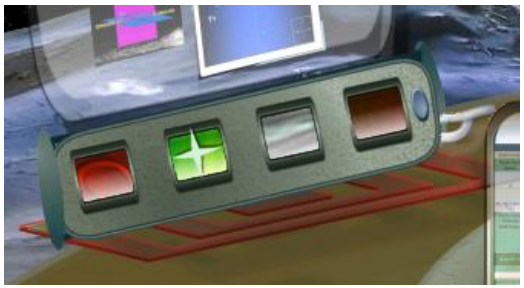
Left Window monitor with Backgrounds, Lighting, Tint Controls and Shield Door lever.

Cockpit Lighting (The 3 buttons on the left, Red Green and Gray).



Only one lighting option works at a time. 4 Point Star allows clicks: Up and Right lightens, Down and Left darkens, Center Star turns off the Mood Lighting.

Mood lighting Red

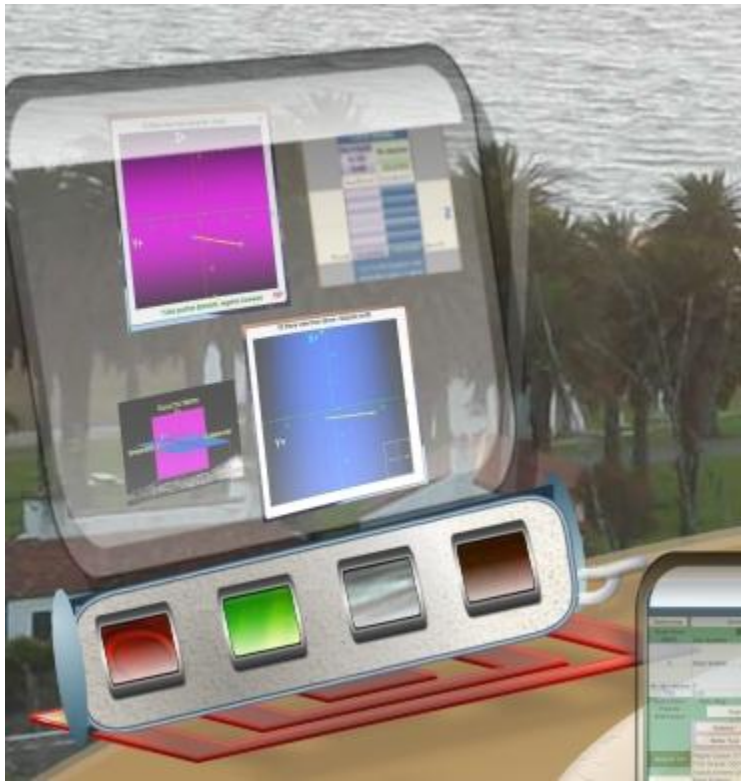


Mood lighting Green

Cockpit dimmed full color lighting

Window Tint

Window Tint Off



Window Tint On (Starting Value = Middle Grey)

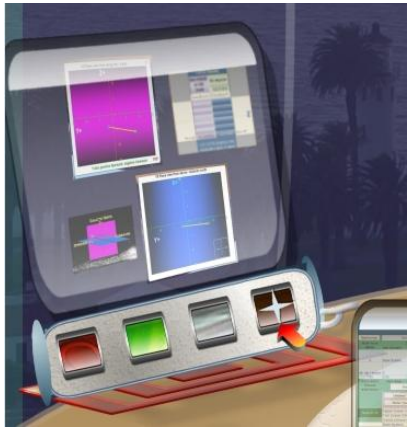
Window Tint 4 point star:

- Top Point lightens - Bottom darkens
- Left point change to Yellow
- Right point change to Blue
- Center On and Off

Tint range

Make Tint Blue (right)

Make Tint darker (bottom)

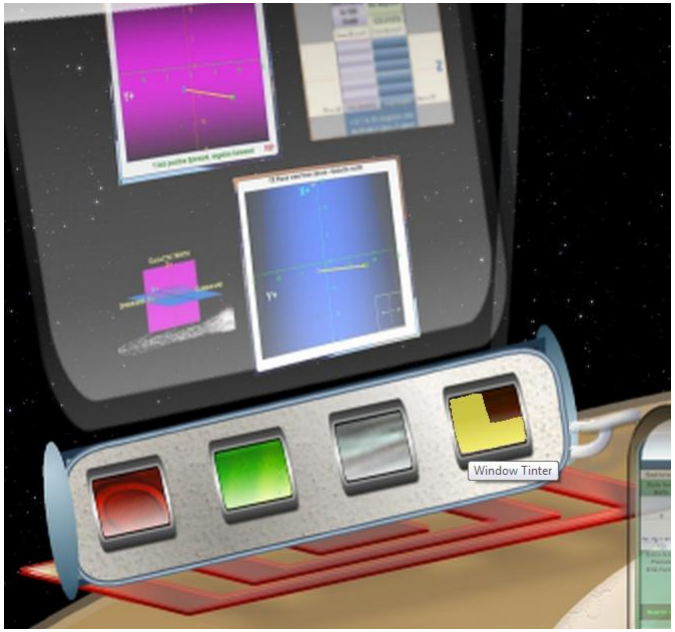


Make Tint Yellow (left)

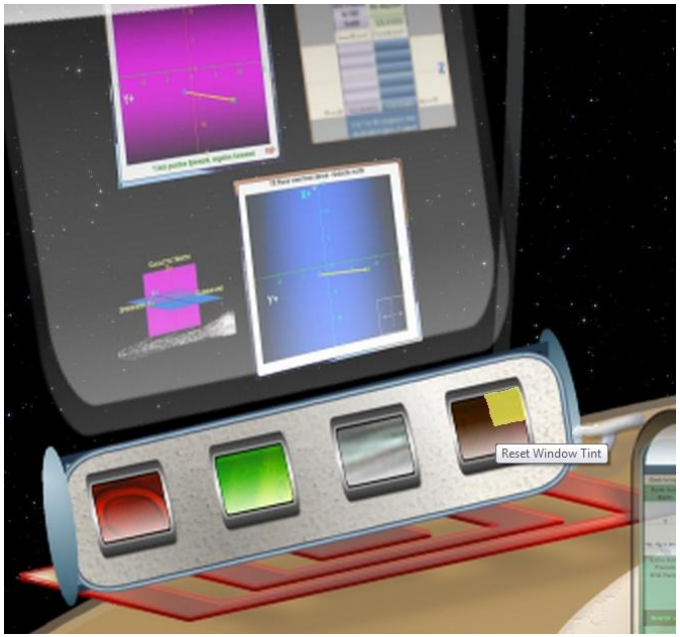
Make Tint Lighter (top)

Center of star turns Window Tint off.

Turning Window Tinter back on:
Click this area to keep your previous Tint Color choice.

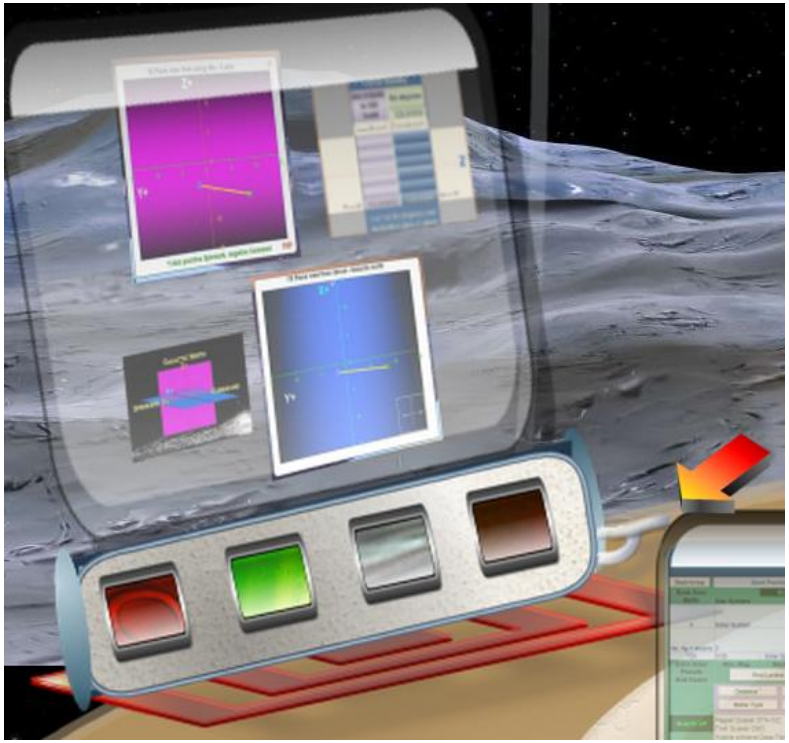


Click in the upper right area to reset Tint to Middle Grey.

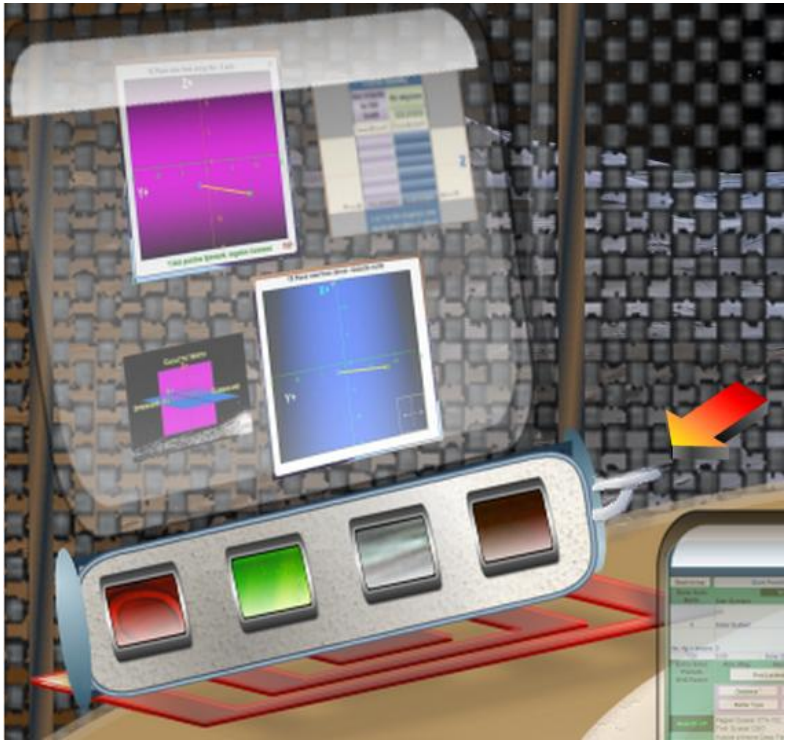


Inner Shield Doors

Inner Shield Doors Open (lever down on right side of console)



Inner Shield Doors Closed (lever up on right side of console)



Inner Shields are closed at the start. You can click and open them, even without the other Systems being on.

Try clicking the Shields lever, with systems off and see the shadow effect on the control console.

Outer Shield

Outer Shield is just outside the main shield. It rises from below and can be used in an emergency to protect the bridge from collisions or life support atmosphere leaks.

The Starship Launches with the Outer Shield up and immediately rolls down to confirm functionality.

The Outer Shield button is to the right of the Window Tint control and to the left of the Shield Doors lever.

Keyboard key S can also be clicked to toggle the Outer Shield.

The Outer Shield can also be lowered by clicking the USS Galileo window button.

Shields and Tint can be used at any time. They all operate separately. The layer order is:

TRANSPARENCY

The Upper Bulkhead, the Space Window Seams and the Lower wall and Floor space may be set to different degrees of transparency, all the way to invisible. There are 5 settings for each area.

When the lower wall and floor are made invisible, the flight bag is removed and stored in a side compartment. It only comes back when the wall and floor comes all the way back to a solid state.

The control sliders appear at the base of the left window monitor when the light dimmer controls are moused over.

Transparency Controls

Upper Bulkhead

Space Window Seams

Lower Walls and Floor

Transparency Example

All three areas set to transparent;

Lower walls and floor, Space Window Seam and Upper Bulkhead.

You may want to use the transparency feature, with caution, if you are prone to have a fear of heights.

Super Ringed Planet J1407b system from New Hellena

FLIGHT YOLK GUIDE

Left Handle

Wide Viewscreen 3D Local Stars (limited to some browser types)

Full size Viewscreen 3D Local Stars (limited)

3D World Viewer Help Guide (limited)

Cockpit Yolk Help Guide

Center Crossbar


(Blue) Sky Map – Click and go - Pull down map


(Green) Earth Map – Click and go - Pull down map

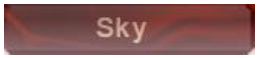

(Blue) Sky


(Green) Earth


(Gray) Moon


(Red) Mars


Guide Panel and scrollable lists



Readout panel (Mouse over to close)


(Brown) World Wide Telescope


(Purple) Solar System SCOPE


(Gray Blue) Galactic Stars

MONITOR BRIGHTNESS

The monitor brightness slider to the left, dims the monitors and guide panels. It is a horizontal slider on the center yolk connector. The brightness value, in percent, is shown.

Occasionally, the slider may disappear, when the cockpit size is changed or other animations happen together. You can get the slider back by either clicking the ? keyboard key area, or the brightness value area, center of the yolk, in the picture above, with the number 42.

DESTINATIONS

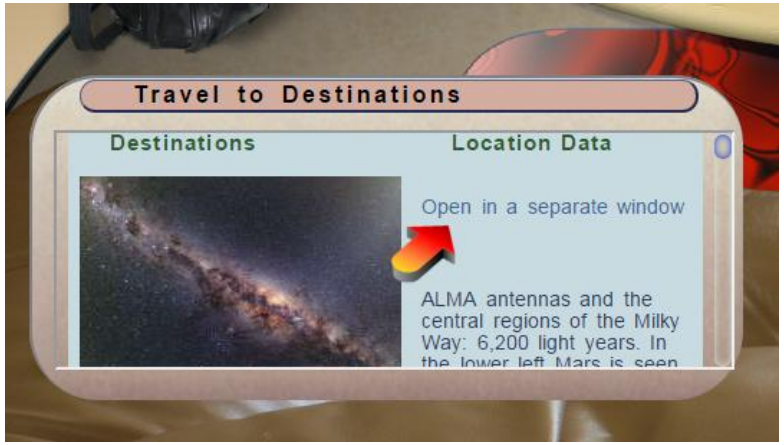
BUTTON AND SLIDER

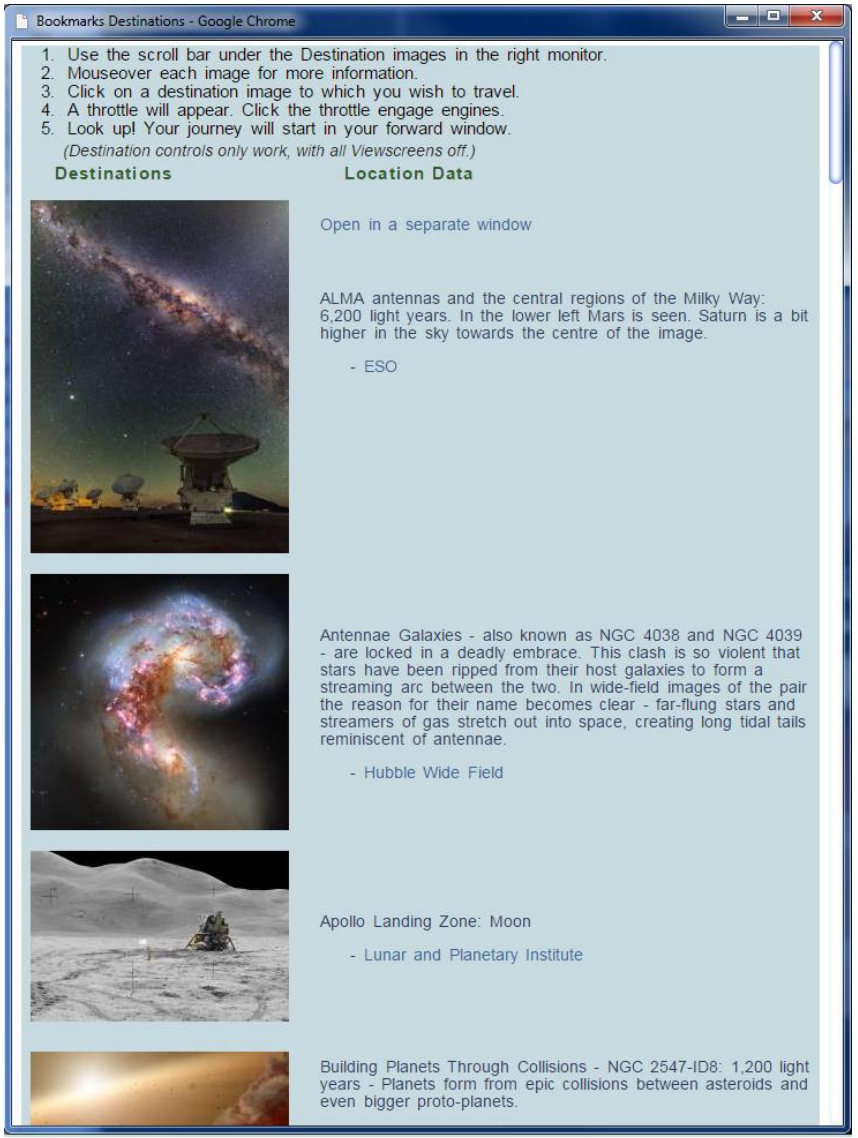
Use the Destination button to open the Slider of destinations in the Right Console Monitor. The slider button can slide to the right, to view all 42 possible destinations.

The Destination Collection button will only appear if no other Viewscreen is active and if the Video Collection is closed. To close all Viewscreens, you may click on the Saturn X icon above the Viewscreen or on the keyboard X key on the small silver keyboard.

Mouse over each image to see a little about the destination:

You may click on the 'Open in a separate window' link in the Destinations Guide Panel. This opens the list in its own window.





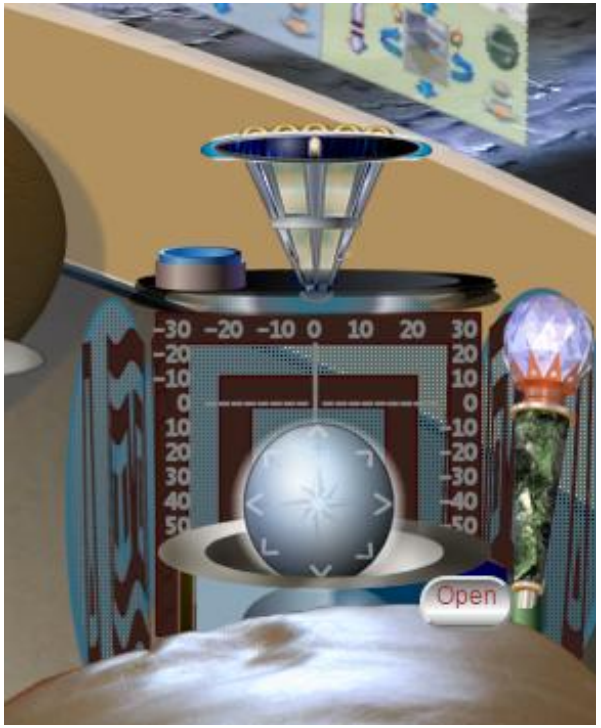
THROTTLE

When you click on a destination in the slider, the throttle controls appear above the right tracking sphere controls.

The throttle will only remain for about 30 seconds. The large blue button on the left can close the throttle.

Click on the Throttle to push it forward and engage engines to start your trip to your destination.

The Space Warp drive engages and you will see the visible entry into warp swirling in the forward viewport. This can be CPU intensive. Do not run other functions in the background, nor split the view window to multiple screens while attempting warp.



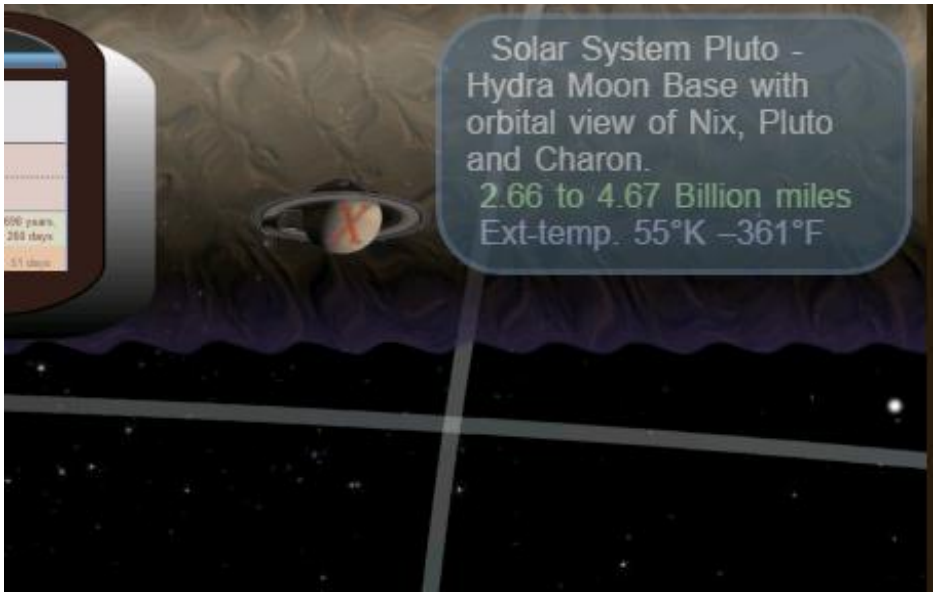
Space Warp Travel

Clicking on the throttle starts the Space Warp. Different warps appear at random to transport you to the new destination.

The New destination will track to a center location on arrival.

Once you arrive at your destination, you may track and zoom around and explore, using the Navigation sphere controls.

Destination Data



The Destination Navigation Slider has many local and interstellar locations. The Destination data information readout in the upper right corner appears on arrival.

Mouse over the area and / or click to toggle the info screen on and off.

Altair 7 Erana Neuvo

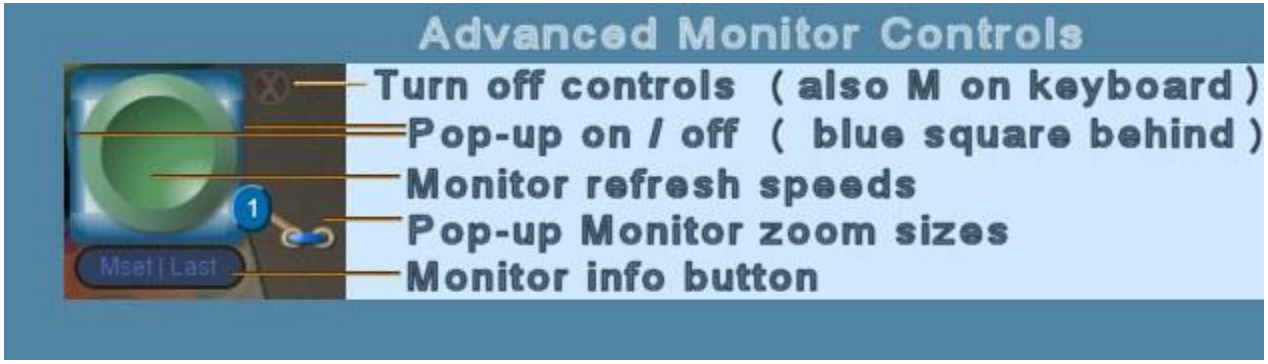
Advanced Monitor Controls

Monitor slide shows and pop-up enlarge views, monitor refresh, fade out speed, stagger for center console monitors, status info screen, last monitor change info, pop-up sizes.

Auto cycle through different screens with mouse over pop-up large views. The upper right yolk grip, 2nd button down turns Advanced Monitor Control module on and off.

Advanced Monitor controls are turned on by the 2nd button down, on the right yolk handle.

The user can pick a preferred setting and turn systems off. When the system is turned back on, the previous advanced monitor settings are remembered.

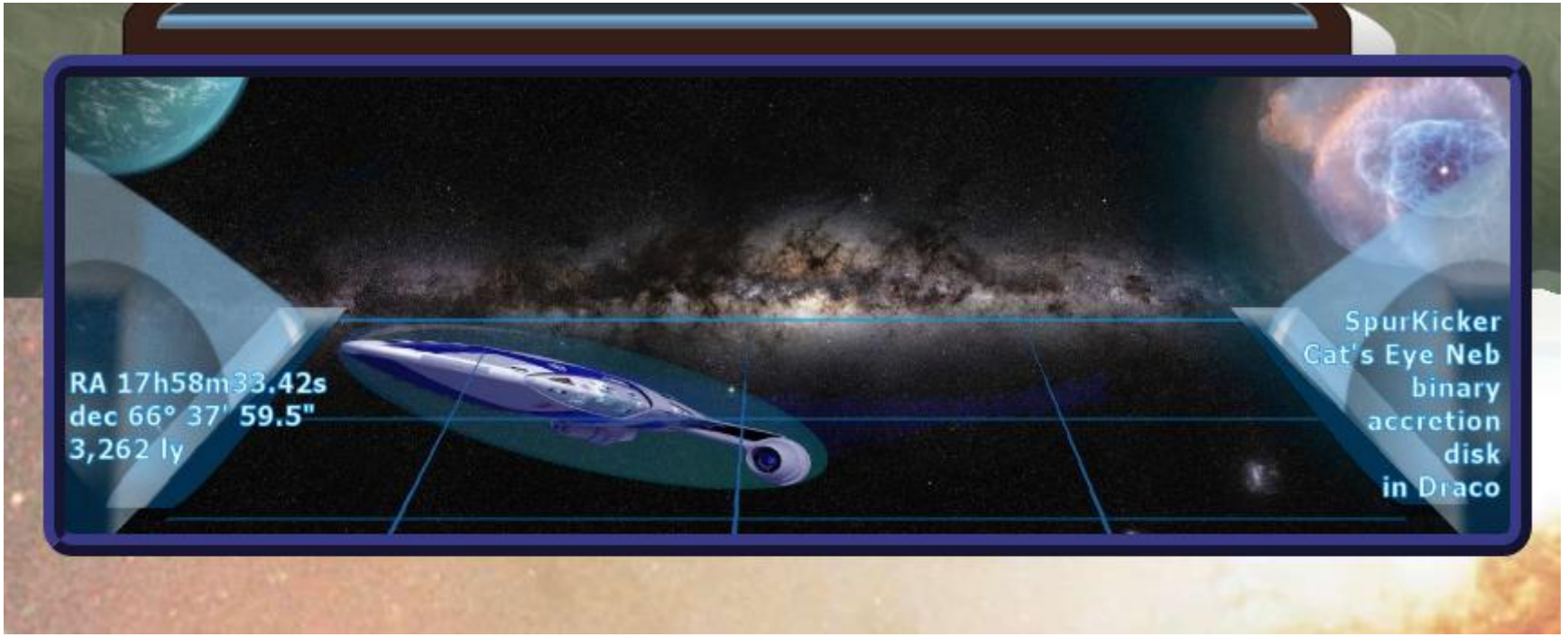


Delta Pavonis C – New Anchorage Base

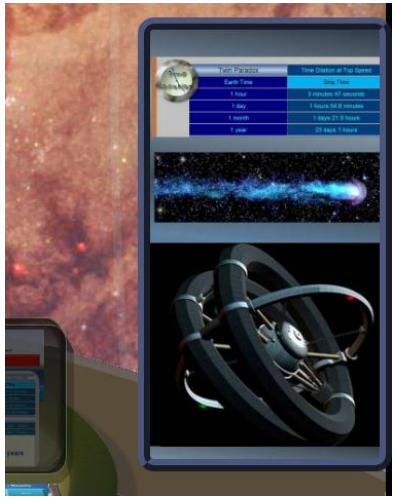
Pop-up Overview

Close up view of each monitor as you mouse over.

The pop-up size lever has 5 settings, 5 being the largest.



Each monitor will pop-up an enlarged solid version of each image as you mouse over the monitor.



Pop-up Sizes

Choosing size 5 makes the pop-up monitor views the largest size available.

POP-UP CONTROLLER

You can turn off the pop-up feature, by clicking anywhere inside the blue square behind the center circle area.

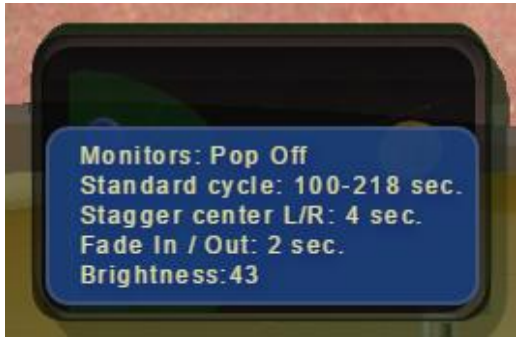
Changes in Advanced Monitor Controls makes an information update message appear for about 30 seconds in the middle console monitor.

Clicking again in the gray box area will bring the pop-up feature back on.

Monitors Info Button

[Mset | Last]

This button shows Monitors info in the center console monitor.



Monitors Refresh Speeds

Button Mouse click Left: (Monitor settings) --|-- **Mouse click Right**: (Last change)
Update information will fade out in 15 seconds.

There are 4 speed settings. Click the **left mouse key** in the center circle area to cycle through.

Slow

Standard

Medium

Fast

Monitors Fade In / Out & Stagger

Console Monitor Stagger

Adjusted by clicking the **center mouse key**. The center monitor changes first and the left and right console monitors change together. This delay or stagger, can be adjusted. (*Most notebooks and iPads will not be able to center click.)*

Center Mouse click

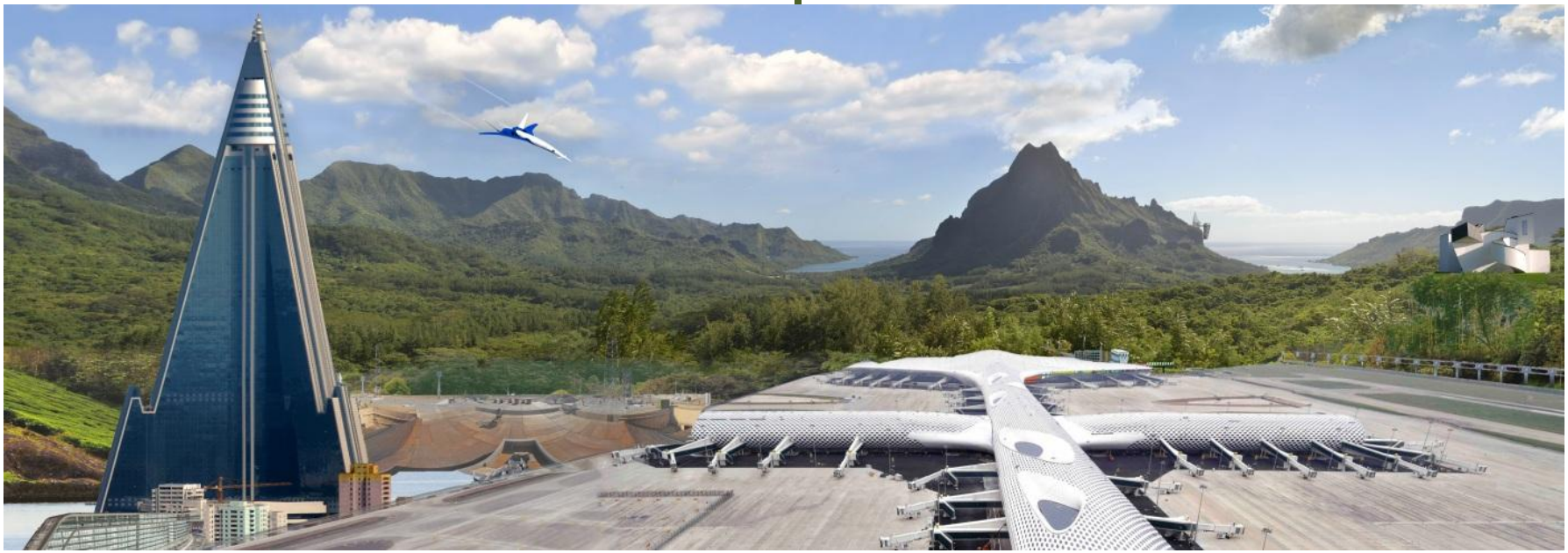
Stagger times are 0, ½, 1, 2, 4, 8 seconds

Monitor Fade In/ Out

Adjusted by clicking the **right mouse key** over the center area.

Right mouse click

Fade timings are 1/2, 1, 2, 4, 8 seconds



Kimolana on MOA 2008 – BLG-53b – 12,046 light years

VIDEO PLAYER

The Vids button opens the Video scrollable list.

(The Destination and Vids buttons cannot be active at the same time.
Turning one on causes the other button to disappear.)

Video list 

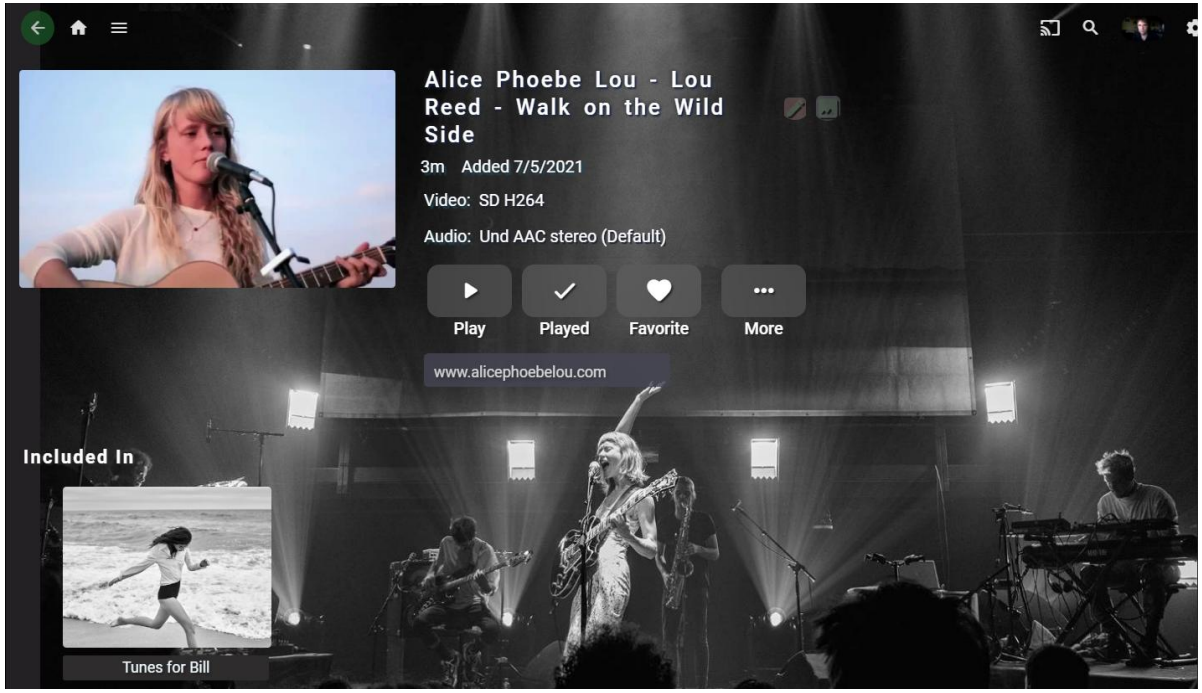
scrollable descriptions open a HTML5 Video Player.

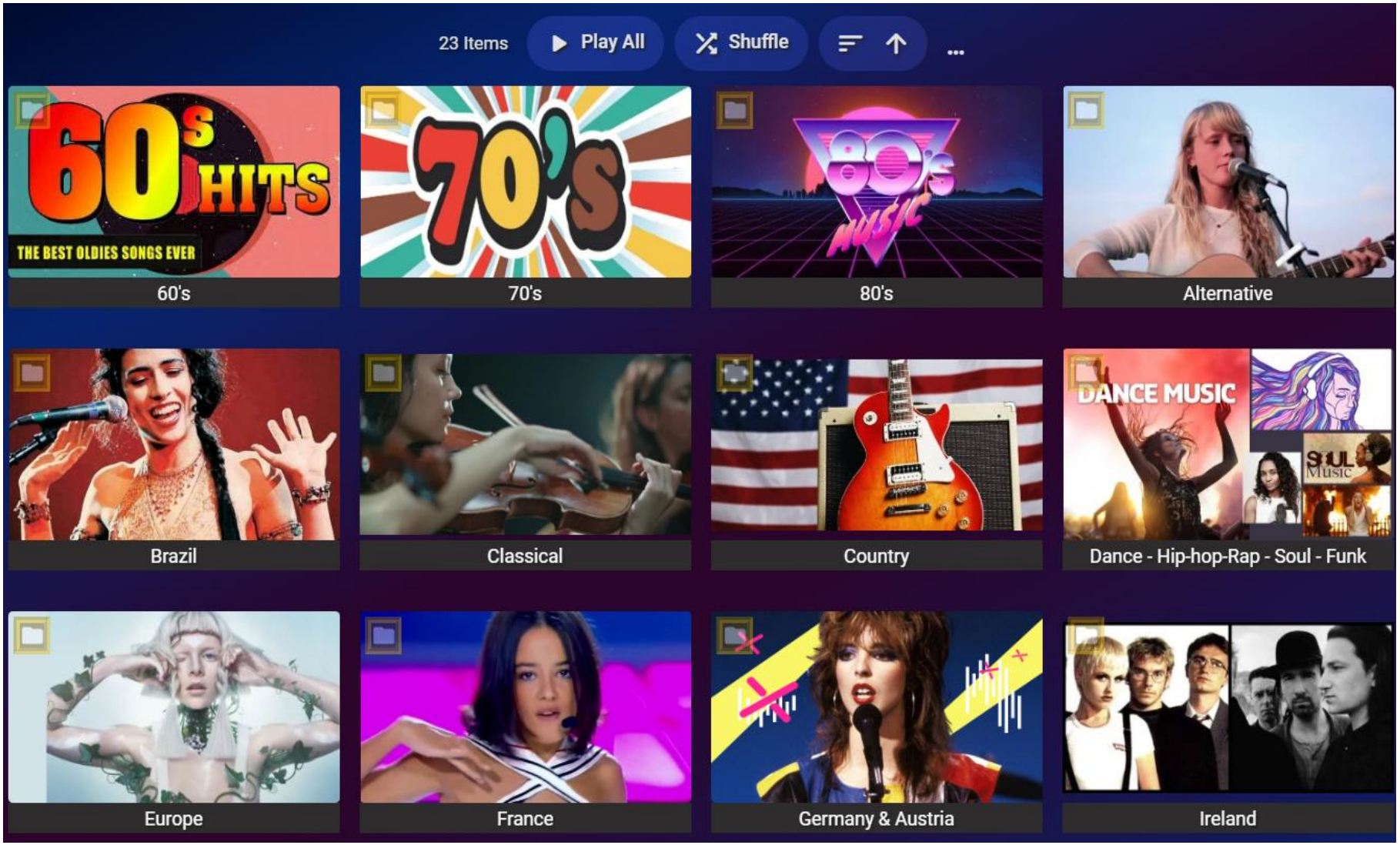
MEDIA SERVER

Media Server feature is for members only. Email for access.

The Video button adds a Mainscreen sizer button to the top left of the keyboard. You can click to change the main screen from mid to large (wide).

This button only appears while the Vids feature is active.

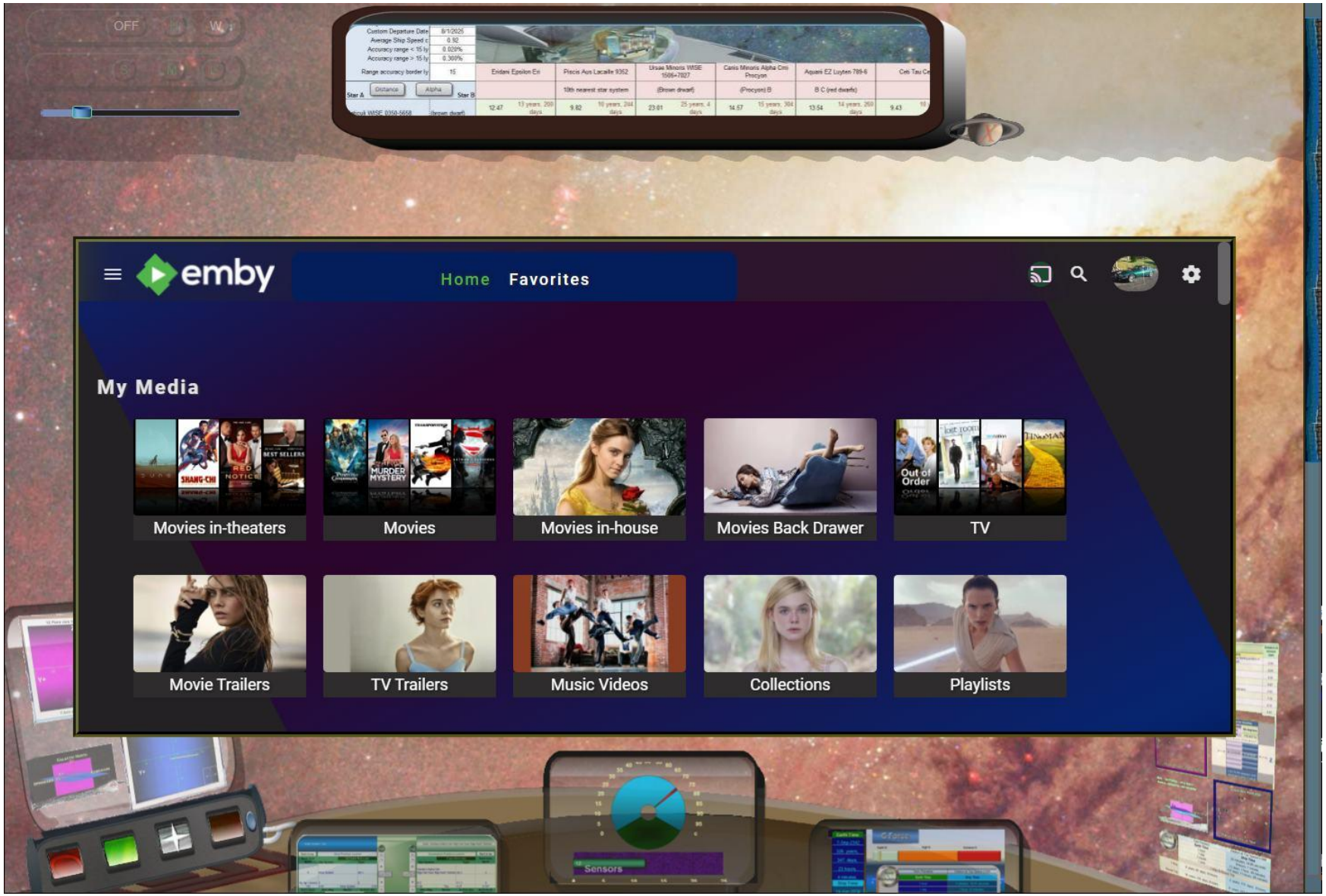




Media Server Music Videos

The Media server channel includes thousands of movie trailers and music videos.

More info: [Media Server Screenshots]



The video list includes many Astronomy educational media.

(The Wanderers)

View from Cereon Tower heated deck on Titan showing Saturn, A and B rings and methane clouds at 90 degrees Kelvin.

Selected videos from the collection

- In Saturn's Rings
- Pan Am Space Clipper – 2001: A Space Odyssey
- Planet Earth - BBC (Music: Sigur Ros)
- Samsara "The ever turning wheel of life"
- The Martian
- Skyfall
- GoPro HERO3 Black Edition
- Tomorrowland
- Avatar Pandora Discovered
- Star Trek – Into Darkness
- Star Trek – Beyond
- Interstellar
- Star Wars – The Force Awakens #1
- Star Wars – The Force Awakens #3
- Rouge One – A Star Wars Story
- Rogue One #2
- Star Wars Episode VIII – The Last Jedi
- Solo a Star Wars story
- Passengers
- Contact – Galactic pullback
- Contact – Trans Galactic Highways
- Richard Strauss – Also sprach Zarathustra
- Mars: Flight Into Mariner Valley
- Scale of Earth, Sun, Rigel and UV Canopus Majoris
- RECONS 25 - Nearby Stars (A. Riedel - recons.org)

- ESA - Guide to our Galaxy - Gaia Measuring exact position of stars in our Milkyway galaxy.
- 10 Strangest Planets In Space
- Kepler 186f – Earthlike Planet in M red-dwarf system
- Space Engine – a simulations demo
- The Wanderers – A short film
- The Most Astounding Fact – Neil deGrasse Tyson
- PBS Digital Studios – Interstellar Travel
- PBS Digital Studios – Alcubierre Warp Drive
- NASA – International Space Station Tour by Sunita Williams
- NASA – Space Shuttle – Atlantis Launch
- Mars Flyover – Mars 3D Project
- Pluto Flyover
- International Space Station View of VongFong Typhoon
- All Alone in the Night - Views of Earth from the International Space Station
- Space Engine – 3D worlds in 360 degrees mouse adjustable view.
- Space Engine – Pure Serenity
- SpaceX – Interplanetary Transport System
- Why should We Go To Mars?
- NASA Tour of the Moon
- Planets discovered similar to Earth
- 3-D Journey Through the Orion Nebula
- Symphony of Science - We Are All Connected
- To The Edge of the Universe
- VR tour of six real Exoplanets
- NASA Missions takes a Look at Superstar Eta Carinae
- Cassini's Grand Finale to Saturn






AUDIO

COCKPIT SOUNDS

Controls and features have their own Cockpit sound effects. The beginning setting is Cockpit Sounds . Clicking the button cycles through the options. Comm playlists will continue to play out any track that is playing. Switching from Comm Only to Audio Off stops the next comm track in a playlist from starting.

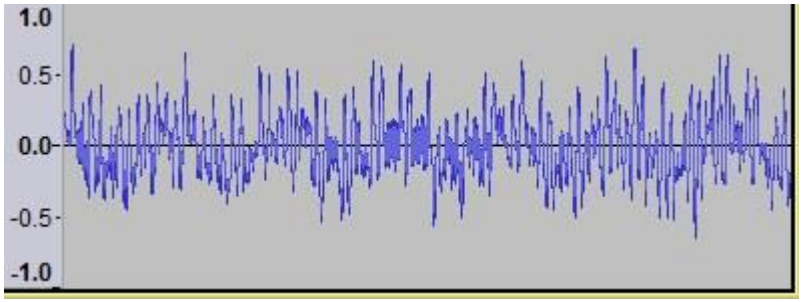
COMM CHANNEL

- Audio Off

- Cockpit Sounds
  Starting setting

- Comm and Cockpit

- Comm Only



There are separate comm channels for each destination. If you travel away and return to Pluto, a different comm channel will begin. Comm channels have playlists of welcome, featured music excerpt and local update info audio that plays for each destination.

Music Tracks

Each destination also has a featured music track as the second Comm audio track. When the music plays, an image and text appear in the left center console monitor. Active links in the text go to the musician's website, where you may purchase music or find a local concert.

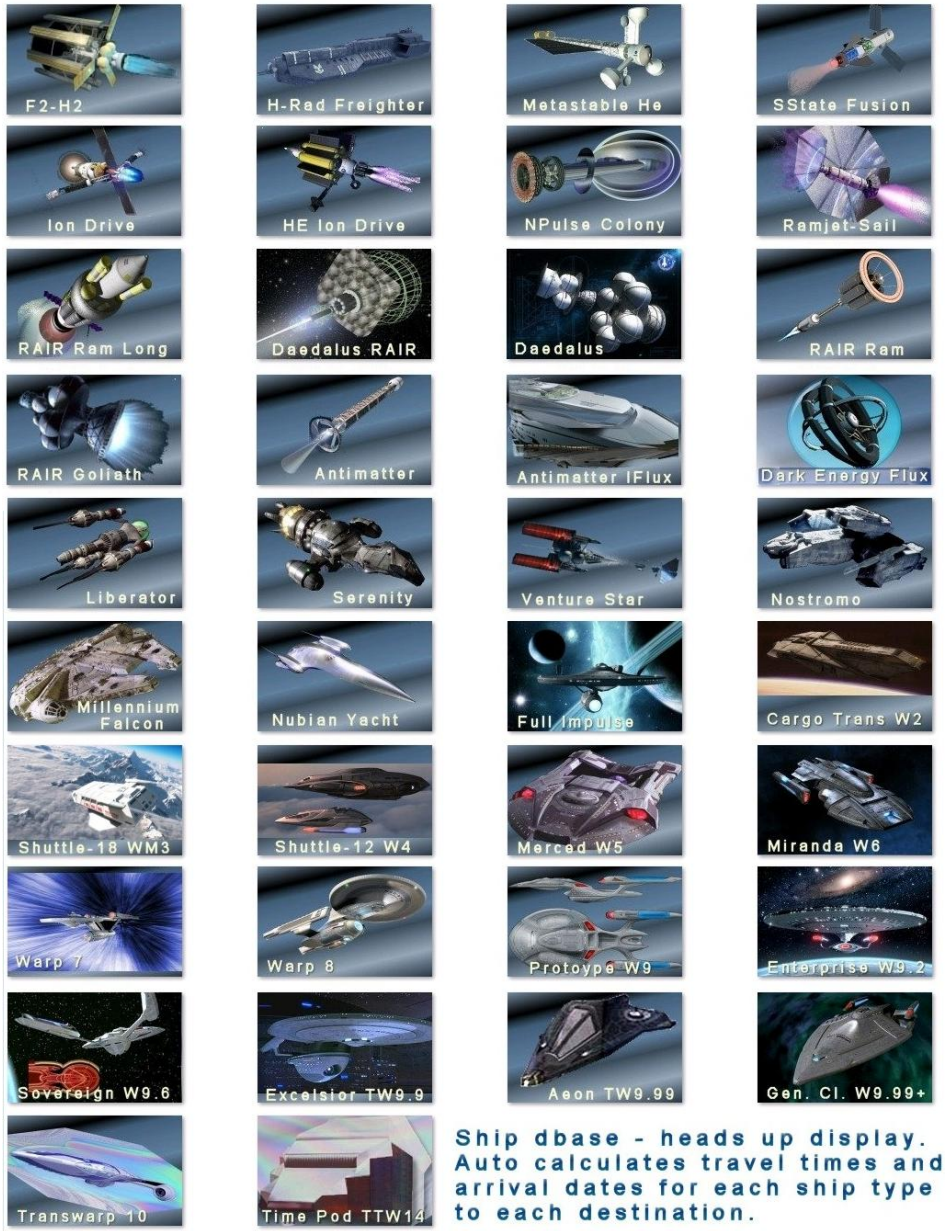
Musician's info can be turned on again in any destination by right clicking the audio button.

Ship Selector

Ships

There are 22 fictional ships (left) and 16 reality based ships (right) with clickable buttons to choose from in the Ship Selector.

Mouse over the controls to activate them. To dim the area again, use the Monitor Brightness horizontal slider on the middle yolk.



Ship Collection

Departure day is the current computer date. Arrival dates will change accordingly.

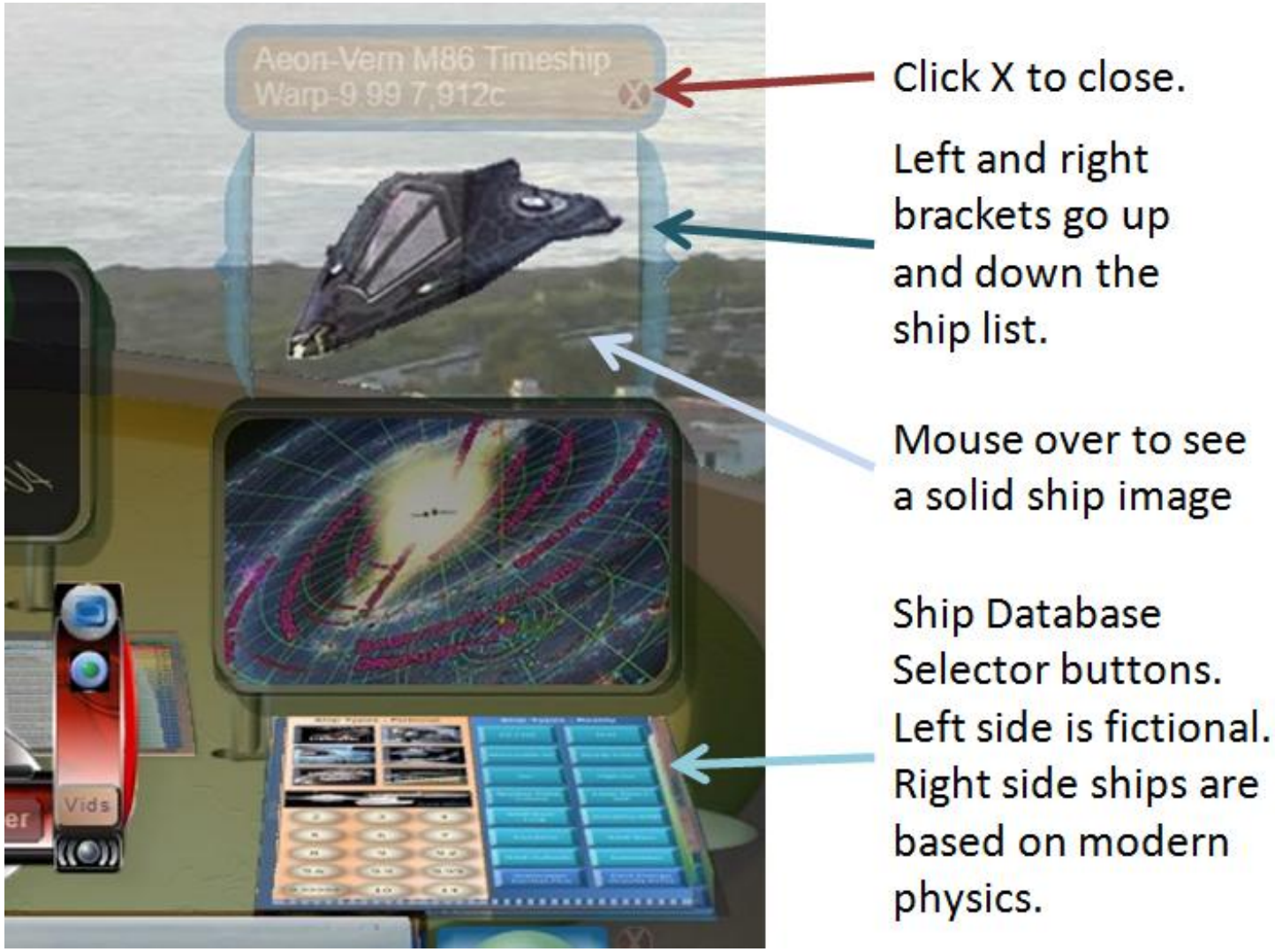
The fastest listed ship, from a Star Trek Episode, a Time Pod T-Transwarp 14 from the 31st century is set to a time dilation of .998.

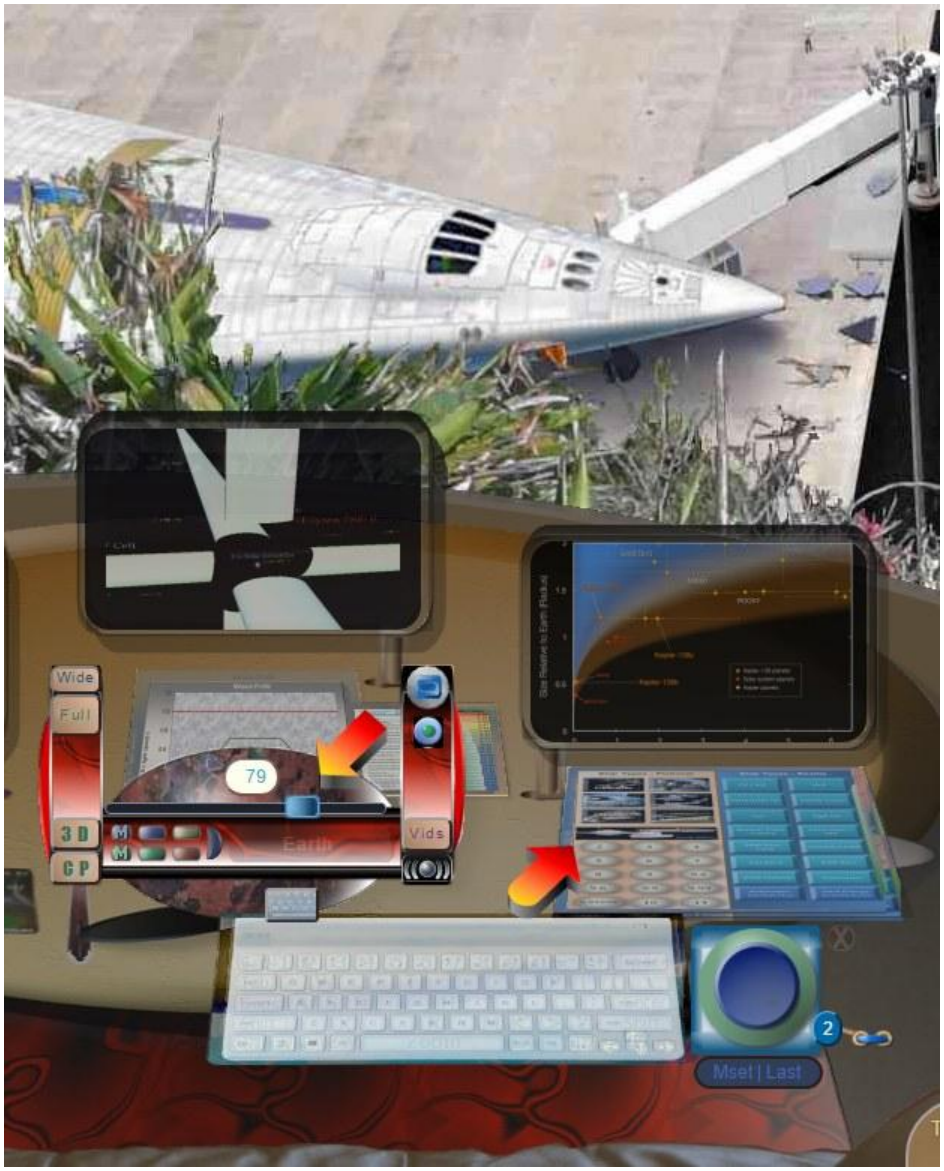
The USS Galileo cockpit simulation ship is the lowest button of the first blue column: the Antimatter Inertial-Flux, with a top speed of .9999c

The Ship collection comes from the Mission Profile Calculator Project, a downloadable Excel spreadsheet.

Spurkicker arrival at LAX

SHIP CONTROLS





Mouseover the Monitor Brightness slider to dim the Ship Selector Controls.

There are 38 total ships. And there are 41 destinations, some are Earthbound. In all, there are about 1300 trip combinations. Trip times are calculated with math formulae and not pulled from a database.

The reality based ships can help you understand travel times that you would face in an actual mission. Even the slowest ship engine in the right side of the chart, reality area, Hydrogen Fluorine - Liquid Propulsion is still a drawing board idea and not a working engine.

The Ion drives have been used in interplanetary missions, but models have not yet reached the listed, possible, top speeds.

All other Reality based ships have velocity based on physics of optimal engines, which have, as yet, not been developed.

The Fiction based ships are based on the original story-lines of various movies.

Destination / Ship Travel Time

Each Destination outside image has a different distance from Earth. The ships all have top speeds. You can see how long it would take for a particular ship to get to the current destination. This information appears in the upper Monitor display.

The Ships Heads up display shows a transparent image of each ship. This changes to a solid image when you mouse over the image. If you mouse over the title above, the solid image stays locked.

The left and right brackets will go to the next ships in the list. You can jump directly to any ship by clicking on the Ship Database Selector buttons.

Travel Time examples of two destination and ship combinations.

A ship running, nearly the speed of light, shows a very long travel time to the M106 Galaxy at 23.7 million light years. Ship Time dilation will appear when it is greater than 1%.

Mars destination - using a H2F2 drive (the slowest ship type). Leap Years are automatically found and adjusted. In a leap year arriving on February 29th is possible. You can also use the keyboard area, T (Travel) to this feature on and off.

Pop-up Excel chart access (to be implemented)

MISSION PROFILER

D1 fx Y

	C	D	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC
1	Use today as start date? Y/N	Y	MP Navigator - Star Distance Matrix				Help									
2	Custom Departure Date	7/1/2020					Notes									
3	Average Ship Speed c	0.86	114 Known stars within 20 light years. v.2.0c 12,996 routes						Distance	Mission length			Avg. Speed = 0.86 c			
4	Accuracy range < 15 ly	0.020%							Margins of error				Start date is set to today.			
5	Accuracy range > 15 ly	0.300%	Distance	Alpha												
10	Range accuracy border ly	15	Solar System		Centauri Proxima		Centauri Alpha Cen Rigil KenTauri Rigil Kent Toliman		Ursae Majoris HAT-P-13		Ophiuchi Barnard's Star		Luhman 16		Hydri WISE 0855–0714	
11	Star A Distance Alpha Star B				(red dwarf in Alpha Cen)		B C		b Jupiter sized planet		(fastest stellar motion)		AB (Wise 1049-5319) Brown Dwarfs		Rogue Planet or (br dwarf)	
22	Solar System				4.24	4 years, 340 days	4.36	5 years, 27 days	5.87	6 years, 301 days	5.93	6 years, 326 days	6.59	7 years, 241 days	7.30	8 years, 177 days
23					0.00	0 days	0.00	0 days	0.00	0 days	0.00	0 days	0.00	0 days	0.00	0 days
24	Centauri Proxima	(red dwarf in Alpha Cen)	4.24	4 years, 341 days			0.20	87 days	8.39	9 years, 275 days	6.53	7 years, 217 days	3.58	4 years, 58 days	7.82	9 years, 35 days
25			0.00	0 days			0.00	0 days	0.00	0 days	0.00	0 days	0.00	0 days	0.00	0 days
26	Centauri Alpha Cen Rigil KenTauri Rigil Kent Toliman	B C	4.37	5 years, 27 days	0.20	86 days			8.40	9 years, 280 days	6.45	7 years, 182 days	3.63	4 years, 82 days	7.95	9 years, 89 days
27			0.00	0 days	0.00	0 days			0.00	0 days	0.00	0 days	0.00	0 days	0.00	0 days
28	Ursae Majoris HAT-P-13	b Jupiter sized planet	5.87	6 years, 301 days	8.39	9 years, 275 days	8.40	9 years, 280 days			6.68	7 years, 279 days	10.08	11 years, 264 days	8.86	10 years, 109 days
29			0.00	0 days	0.00	0 days	0.00	0 days			0.00	0 days	0.00	0 days	0.00	0 days
30	Ophiuchi Barnard's Star	(fastest stellar motion)	5.93	6 years, 328 days	6.53	7 years, 218 days	6.45	7 years, 183 days	6.68	7 years, 280 days			9.87	11 years, 175 days	12.27	14 years, 99 days
31			0.00	0 days	0.00	0 days	0.00	0 days	0.00	0 days			0.00	0 days	0.00	1 days

The working Excel Spreadsheet MP Navigator Star Distance Matrix is available on the Project page.

Navigation Sphere / Tracking / Zoom / Starship Key Lever

Navigation Sphere Module

Click to move the outside view in 8 directions.

Left mouse click on the Center Star Graphic returns to the starting position with no change in zoom.

Right mouse click on the center returns to the starting position with zoom reset to 1x. The center start position is different for each destination.

The Navigation Sphere works, even with Systems Off.

- Tracking Speed in seconds
- Tracking Pan percent of image
- Zoom Speeds

Tracking Speeds & Track Pan

- Track Speed – Speed it takes to move across the background, each time you click a Navigation Sphere pointer or zoom.

- Tracking Pan percent of image moved in one click (Some narrow destination images have slowed down movement, left to right, so you do not cross the edge of the image, so quickly.)
- Tracking past destination image edge is allowed for panorama destinations.

- Zoom Speeds: ES Extra Slow, Slow, Normal, Medium, Fast. Speeds are weighted to go slower for longer zoom changes.

- Settings are saved: Choices here are kept, as current, when systems are turned off and on again. The settings only return to the default values, when the entire page is refreshed.

Kimolana Spaceport on MOA 2008 – BLG-53b – 12,046 light years

DESTINATION ZOOM

Zoom Module

- Full width destinations that fit will show in the cockpit window
- Panorama wide destinations will auto pan to center
- **Green button**
  Full Wide image
- **Yellow Button**
  Standard – no zoom
- **Blue Button**
  Full zoom

- Clickable horizontal Zoom Slider with 37 steps of zoom, 30% to 230%. Mouse over to view values. Some browsers have zoom limits and may not work past about 180%.

- Zoom info updates show in center yolk readout panel.

- Zoom auto finds destination image edges and goes to the edge, but not over.

- Going to another Destination reverts back to standard, no zoom.

- Zoom updates will appear in the center monitor, if you zoom either to the Widest View, Standard View (no zoom) or to Full Zoom.
- Zoom shortcuts are also available on the clickable keyboard:
- Left Alt = Zoom Out (left of spacebar)
- Spacebar = Zoom In
- Right Alt = Standard Zoom 1x (right of spacebar)

Starship Key Lever

Click to turn all systems off. Most all features states are saved for when you turn the system back on.

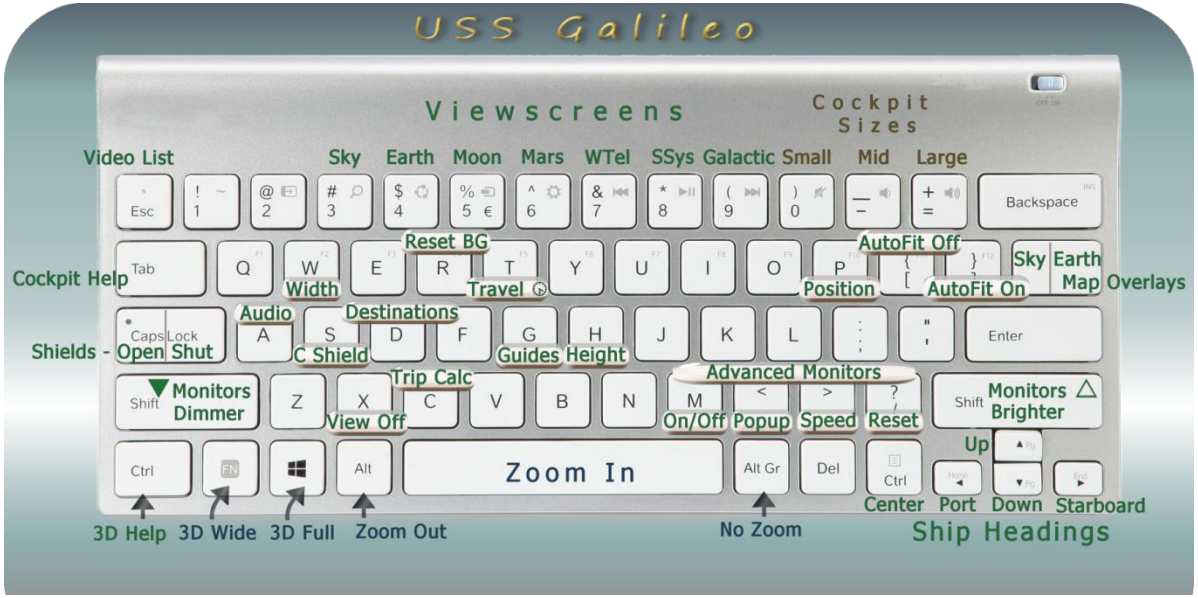
KEYBOARD

GUIDE BUTTON

(Opens slide out keyboard info)

Keyboard with clickable keys.

Short-cut keys mapping to actual user keyboard (to be implemented)

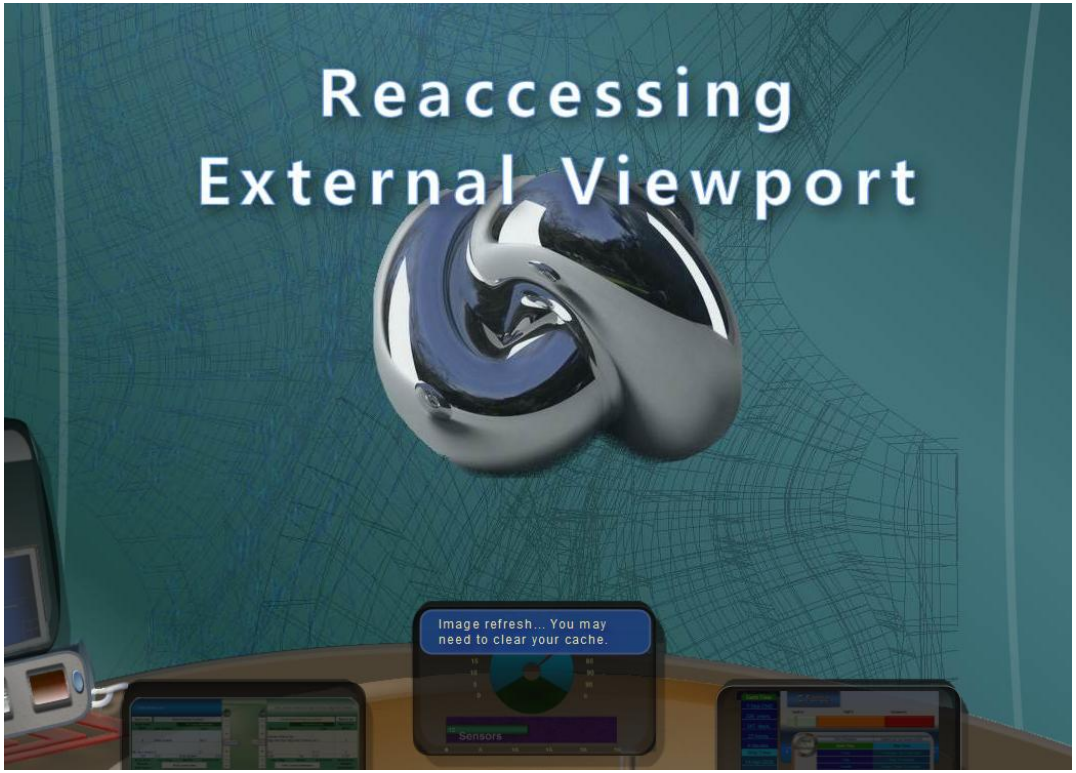


Clicking on the Slide out Keyboard Guide, only closes the guide.

The clickable shortcuts work on the smaller keyboard, above on the center console.

Reaccess Viewport

Keyboard only control: The R key on the keyboard will retry loading a background, which may have crashed. This happens more with computers running other software and memory is already taxed. Sometimes, losing the background can be fixed by turned other applications off, clearing the cache and restarting your browser.



Trip Calculator

1. Chart Title, Start and Destination
2. Chart or location images
3. Trip info Earth and Ship Clocks, arrival dates
4. Mission Distance, Acceleration, Coasting and G-Force trip data
5. Starting Position pull-down lists and custom start date controls
6. Galactic databases, Date options and Reset buttons
7. Destination pull-down lists and custom arrival date controls
8. Star diagram Hertssprung - Russel
9. Ship illustrated scroll down list
10. Active ship type and status
11. Help button and Audio play mode option: Music selection (short or long)
12. Stat Console: Mouseover info status data bar, Start, Destination, Ship choices, Date and Ship Parameters, Rendezvous or Fly-by button, Manual Mode, [Run] button, when needed, to lock in custom dates
13. Ship Selector
14. European Space Organization local stars chart

The Trip Calculator lever, in the Starship Simulator, will open a new window.

Detailed Guides

[Automatic mode]

[Manual mode]

Upcoming Features

Keyboard Shortcuts

- On Off switch to let the user use their actual keyboard for shortcut commands.

External Destination

- Button – Use any background from your computer or online.
- Select center point for destinations. Adjust and save a new center point for any background.
- Live or recorded Video Stream set to background.

Saved Destinations

- User can bookmark a location to email or return to again.

Products

- Mug, posters, photographs…

TICKET MAKER

- Ticket Maker: user can pick departure and destination, date and name of traveler.

  Demo early draft example:

CREDITS AND LINKS

Graphics software: Paint Shop Pro – Latest version: paintshoppro.com/en/products/paintshop-pro/

Code editing software: www.editplus.com/

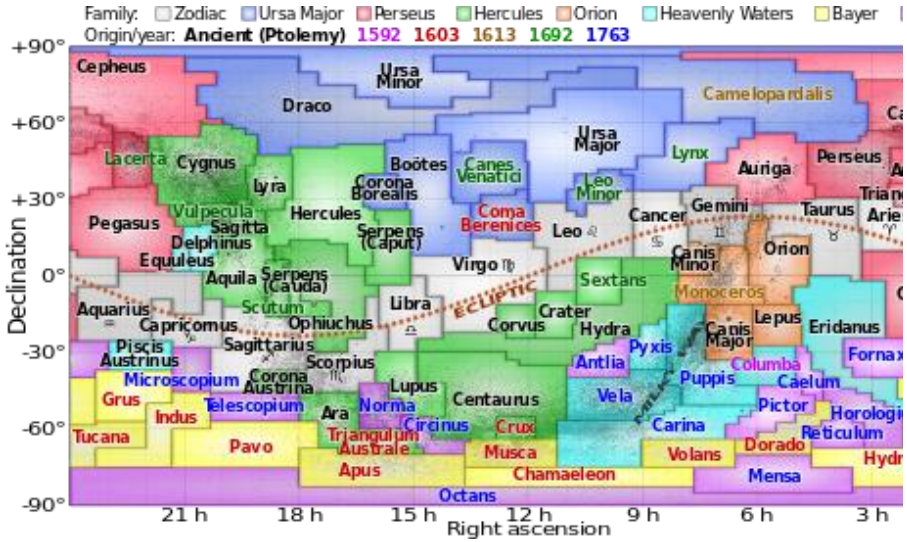
The Starship Key Lever is from the movie the Time Machine. The image was used with permission. A real prop may be purchased from: colemanzone.com/Time_Machine_Project/lever2.htm

The Local Stars mugs are also very real. The image used with permission and the mug can be purchased at: www.cafepress.com/projectrho/2265402

Transition animated gifs were created by Jason. His contact is available, on request, for custom animation work.

The amazing captain's chair is a Benchcraft Leather Dreamer, which has been discontinued and the Mississippi manufacturer has closed up shop. Some are still around. As my friends can attest, it's a little dangerous to use, if you are planning to stay awake.

The keyboard appears to be the Apple Wireless www.apple.com/keyboard/



Constellations ecliptic chart
http://commons.wikimedia.org/wiki/File:Constellations_ecliptic_equirectangular_plot.svg

HTML5 Video player http://www.videojs.com/

A fast, small, and feature-rich JavaScript library. http://jquery.com/

A JavaScript custom library for animated web page design. http://jqueryui.com/

Scottish Highlands with C4 Daedalos IF Flier

Enjoy flying around the local stars. – James

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