Google Earth Studio GSA short course

Agenda



- Introduction
- Special stories
- Google Earth Studio
 - What is it?
 - Timeline editor
 - Publish the created content easily
 - Artwork creation
 - Animation creation
 - Other assets
 - User settings
 - Styles
 - Workgroups
- Tips & tricks
- Questions

Special links - stories



Many discoveries were done with Google Earth

This week: 1 billions download was celebrated with this:

http://www.oneworldmanystories.com/index.html

One story I was a bit involved with:

Found in South Africa: Key Link in Human Evolution?

a 2 million year old hominid

Introduction



We are constantly improving our tools according to your feedback!

Please help us to by letting us know what good or bad things you find!

All feedback is good! We like the good but want to hear the bad as well!

Google Earth Studio



Google Earth Studio addresses the following aspects (to name a few):

- An 'end to end solution' for Google Earth presentations
- Collaborative editing (you can manage your own workgroup of students)
- Quick creation of great content, going beyond Google Earth's capabilities and eliminating the need for external tools (like 'Photoshop', video post processing, ...)
- A timeline editor like 'Final Cut Pro' for Earth content
- Creation of high quality geo related animations
- Data storage in the cloud accessible only by workgroup members
- Tool state gets saved into the cloud you can work from any machine
- Publish your work and get usage statistics

Google Earth Studio: The Timeline Editor



What is 'Touring'?

- It lets you tell stories to be used life on air and / or online!
- A story can be wrapped / transferred / played easily
- The user is 'in charge' and can interact with the tour while it plays

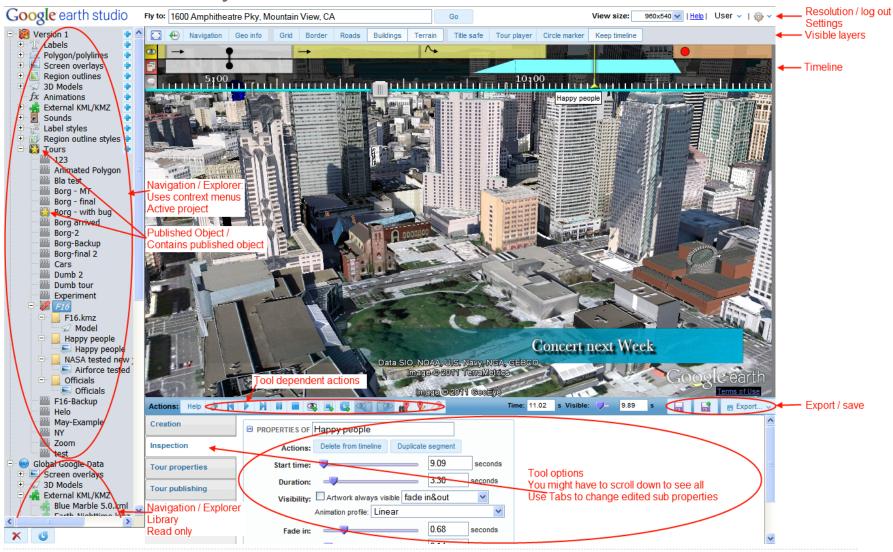
- => It gives an immersive experience to the user
- => It also allows to get rendered as movie



Google Earth Studio: The artistic tool for you!



General screen layout



Google Earth Studio: The Timeline Editor



See the timeline in

- Multi track / single track / story mode
- Scale it for long or short sequences
- Position timeline as desired
- See the title safe areas (for video out)

Add the following segment types:

- Views, (helicopter) recordings
- (Hard) pauses
- Various camera animations
- (Animated) placemarks
- (Animated) screen overlays
- (Animated) polygons and poly lines
- (Multi) country outlines
- Other tours (& scale in time)
- 3D models
- Track animations
- External KML's, KMZ's and sound

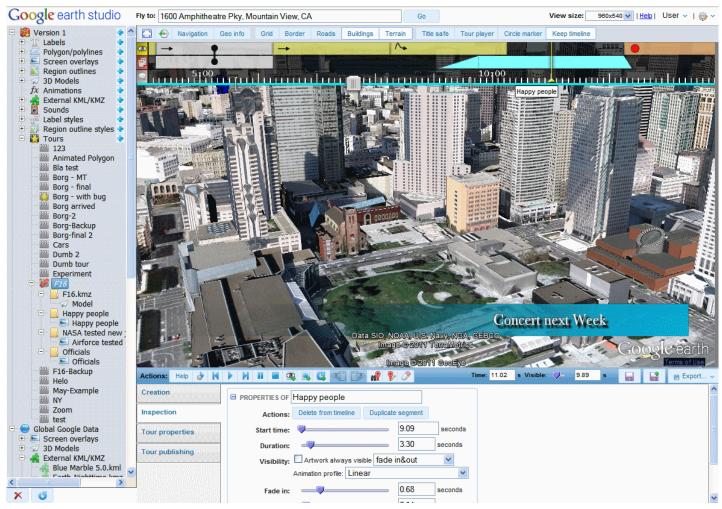
Then for each segment change the:

- Duration
- View
- Historical imagery time
- Transition type:
 - Earth build in animations
 - Ease in / ease out of animations
 - pre-canned animations (e.g. frog leap)
 - Helicopter hand flight / recording
- Asset visibility / animation over time
 - Fade in / out
 - Slide in / out
 - Zoom in / out
 - Polygon grow / shrink
 - All animations linear or profile driven
- Track animations
 - 3D model
 - Label
 - Balloon
 - Line animation
- Balloon visibility over time

Google Earth Studio: The Timeline Editor



Demo!



http://gearthstudio.appspot.com

Google Earth Studio: Publish your work (with one click...)

Inspection

Tour properties

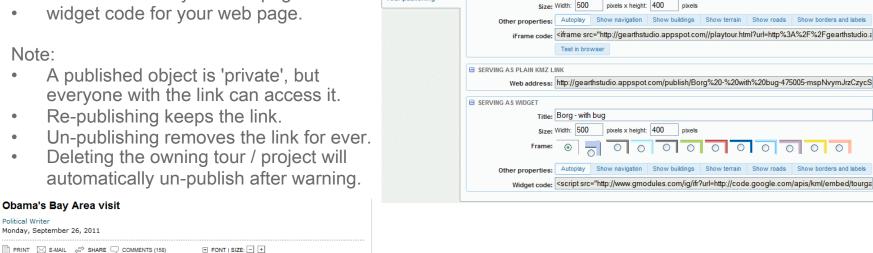


Publishing archives all tour assets in its current state into one KMZ.

Once published Studio offers..

- a direct KMZ download link.
- iFrame code for your web page.
- widget code for your web page.

- Deleting the owning tour / project will



PUBLISHING OF THIS TOUR

SERVING AS IFRAME

Actions: Re-publish tour Un-publish tour

Statistics: Tour got accessed 9 times. The current revision is 2

PRINT E-MAIL SHARE COMMENTS (158) IMAGES

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Quisque facilisis, neque at vulputate eleifend, sapien leo cursus urna, eu ornare lectus arcu 22 nec ipsum. Curabitur faucibus vulputate +1 augue, in ornare lorem ullamcorper non. Ut arcu turpis, vulputate a fringilla a, pulvinar quis lorem. Integer eu velit enim. Donec libero ipsum, egestas a pharetra eu, dictum fermentum quam. Aliquam erat volutpat.

The statistics for all published tours can be found in the "configure workspace / system information's" section:

Published objects:	Tour name	Part of project	All accesses	Deployments	Accesses to current deployment
	San Jose News	Studio	1712345	1	1712345
	Overall:		1712345	1	1712345

Google Earth Studio: Basic Artwork Creation



Artwork is customizable by...

defining most common defaults and combine them into "styles"

• adding animations, dynamic and static artwork libraries for overlays, icons, logos,

bugs..

- collaboration in your workgroup / team
- tailoring it to your output resolution
- defining dynamic text vs. image sizing rules
- defining the default object creation style
- using high quality fonts

Google Earth Studio's output can be used for / exported as...

- creation of KML content which can be immediately used
- creation of fully packaged KMZ content for immediate use
- creation of JavaScript snippets for interactive web page use
- creation of tours which can be rendered or interactively used
- saving in the cloud
- collaborative editing (but beware: "the last save wins")



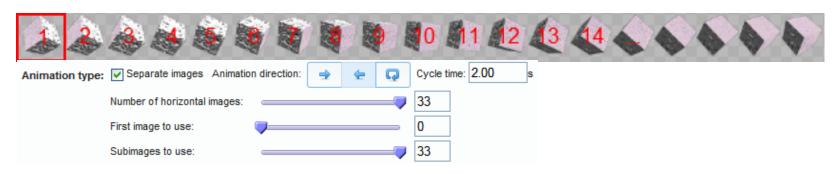


Google Earth Studio: Artwork - 2D Animations



There are two types of animation:

1. 'Bug' like animations (hard moving window)



All sub images are stored in one image left to right (see in this example the red square) and each sub image needs to have the same size.

2. 'Plasma' like animations (*smooth* moving window)

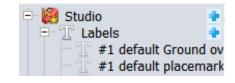


Check out our free of charge Google animations! Use them by dragging them from 'Google global data' into your timeline!

Google Earth Studio: Basic artwork creation tools

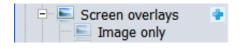


1. Labels





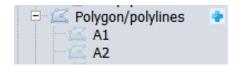
- Offers different presentation types
- It lets you create text labels and / or icons in different ways
- Offers different high quality text features (fonts, shadow, ...)
- It lets you define balloons, visibility, view and much more
- 2. Screen overlays



Create screen space constant elements



3. Polygons / polylines



Creation and editing of poly objects



Google Earth Studio: Basic artwork creation tools

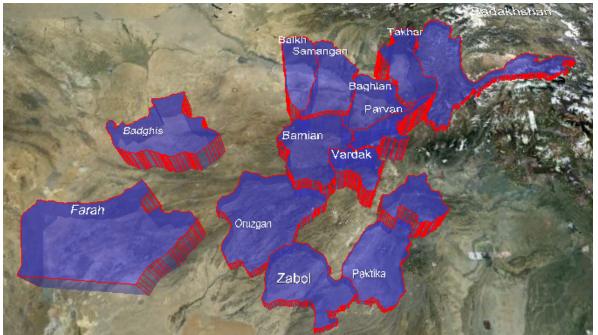


4. Country / region / county outlines



- Easy creation of outlined geographical areas (countries, states, counties, voting districts, zip codes)
- Lets you stylize single outlines or multiple outline sets dependent on datasets and / or (pre)defined algorithms



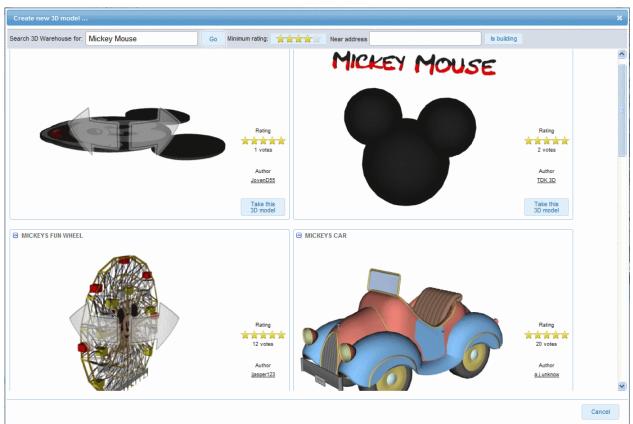


Google Earth Studio: 3D models



Import 3D warehouse models per mouse click!





Search and select

Change place and basic properties before or after adding to timeline

Google Earth Studio: Location animations



Animations can be created by..

- "Hand drawing"
- Importing from a GPX / TCX file (with time padding / cropping)
- Dragging and dropping a polygon / polyline onto it
- Hand editing the points / times in a spreadsheet

Additionally you can add / change...

- a balloon
- a 3D model
- a placemark
- The polyline properties

In the timeline you can ..

- modify the (dis-) appearance
- modify the animation length
- position multiple animations



Google Earth Studio: Advanced location animations Google



There are two ways to handle complex GPS animations:

- Let Google Earth Studio do the heavy lifting
- Change the visibility over time by changing segment pos. & length
- Make them appear / disappear in time
- Synchronize multiple tracks use padding / cropping on import
- Each animation segment plays only once from start to end
- Manage animation progress yourself
- Import all animations in question as always visible
- Change camera view times to match desired GPS times
- Different GPS tracks will automatically be synchronized

Google Earth Studio: Other assets



In addition to the integrated content creators you can also..

- Import KML / KMZ files
 - · After imported it will appear in the list from where you can drag & drop it into the timeline
 - Upon import they will improve the visual attributes (e.g. nicer placemark labels)
 - If the KMZ/KML file contains a tour, the first found tour will get added to the timeline
- Import MP3 audio files
 - After imported it will appear in the list from where you can drag & drop it into the timeline
 - Note: Audio files have only a start position in the timeline.
- Use something form the 'Global Google Data' library
 - Here are some useful KMZ's, label styles, screen overlays and demo tours

Google Earth Studio: General User Preferences

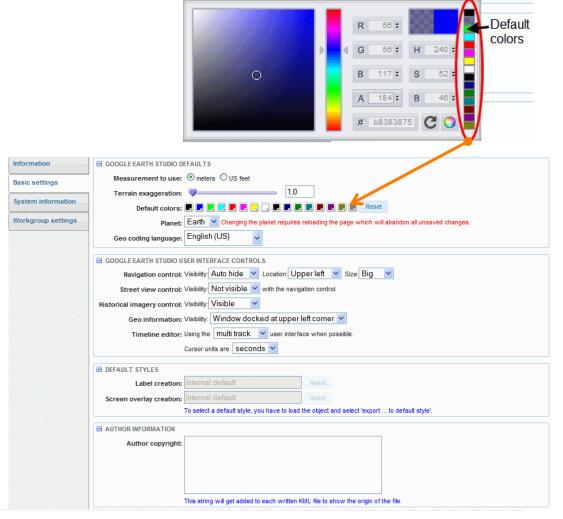


General settings can be set via the upper left corner menu:



Change general settings like:

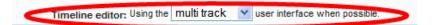
- · Which planet to use
- Default color picker colors
- · Default object creation style
- Measurement units
- Behavior of controls
- Timeline interface settings
- Copyright string for KML content
- · Language for Geo coding
- .. and more.



Google Earth Studio: General User Preferences



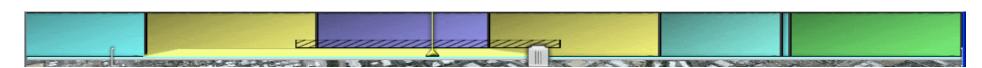
Three timeline editor choices



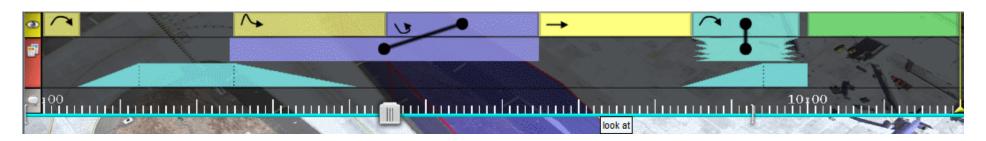
1.) Story mode (special single track editing mode)



2.) Single track



3.) Multi track (default)



Google Earth Studio: User preferences - styles



1. Default creation style

Edit a placemark or screen overlay, click export as 'default style'

2. Direct styling: Style folders

Create a style by...

- a. dragging an item from label / region outline folder into a style folder
- b. creating an item in a Style folder
- c. copying an item per context menu into the clipboard and paste it

Use a style by..

- a. dragging a style onto an object in the explorer tree
- b. dragging a style onto the 3D view when an editor is active
- c. copying an item per context menu and then paste it into an object
- 3. Indirect styling: Click map / (multi) country outline

Set up the first item as you want it to be. Then

- a. Label editor: Use Alt + Shift to create a new item and add 'old' to timeline
- b. Region outline: Create a multi region outline.

Google Earth Studio: Workgroups



What are workgroups?

- A group of people which can work together to create one or more projects
- Every stored item is visible / accessible by every member of the group
- Each workgroup has an administrator which can add or remove members

Note: It is only possible to make changes to the active project. It is therefore advisable that every member has his / her own project within the workgroup to avoid accidental changes.

Note: All other projects of the workgroup are treated as 'library' – read only access.

Limitations of workgroups:

- Each user can only be a member of one workgroup.
- There is no protection against accidental operations by other members.
- Edited objects will not update (from actions of others) until reload.
- If multiple people edit and save the same object, the last save will 'win'.
- There is no tracking of what each user was creating / doing.

Tips & tricks: Google Earth Studio



- 1. Google Earth Studio seems to be slow You REALLY should use FireFox 3.6.x. It is **by far** the fastest way to use Studio at this time.
- 2. How to get help / training to use Google Earth Studio?

 You can always click on a help button. It is context sensitive and there is a lot of help available.

 Once the help is opened, you can also pick training videos from the list. Need still more help? Ping us!
- 3. You want to edit 1080p but you have only a 1920x1200 monitor.

 You can work in 'Full screen mode' by setting FireFox into full screen and then click studios screen maximize button.

 Alternatively you can work in quarter res mode (960x540) however artwork might look a bit blurry in the end.
- 4. An exported KML tour does only show big red X's instead of my artwork! Why?

 All assets are hosted from Studio and you might not have access from your location and / or the artwork got deleted.

 => Export the tour as KMZ this will include all assets.

 View size: □ynamic ▼ | Hebp | User ▼ | ◎▼
- 5. How to edit assets (e.g. a label) in relation to other items of the tour?

 When you have a loaded tour, and are in a non tour editor, a 'timeline visibility' slider will appear which lets you fade in the timeline in its current state. You can use the same trick in conjunction with the click map feature to quickly create complicated personalized maps with some specific street names.
- 6. How to get natural movements for hand drawn animations?

 Car: When creating such an animation, you want to use the 'distribute time evenly' option.

 When going around corners, draw more points and when going faster draw less points.

 Plane: For such a case you want to use the 'use constant speed' option.

Tips & tricks: Google Earth Studio



- 7. Can I use Google Sketchup self created models in Studio?
 - Yes. You can export them as KMZ. Once done you can import the KMZ into Google Earth Studio. When you drop the model into the timeline, it will be editable as 3D model.
- 8. When working with external 3D editors in video post production (e.g. Maya), you might want camera positions for each rendered frame.

You can get these by choosing 'export' and 'as keyframes'.

Tips & tricks: Sources for content



General web sources (there are many more)

http://google-latlong.blogspot.com/

http://www.gearthblog.com/

http://www.google.com/earth/index.html

Special data sources which might be of interest

Flight tracking: http://flightwise.com/

CIA World factbook: http://www.kmlfactbook.org

Tips & tricks: The 3D Connexion device



It lets you control Google Earth smoothly.

Personal suggestion "the 'Descent*' mode":

- In Google Earth:

Under Options / Navigation / "Non-mouse controller"

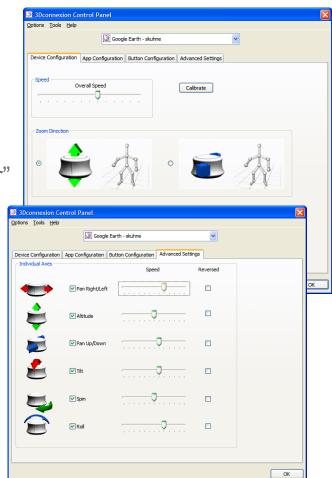
Select: "User based"

- In Connexion Control panel:

See images.

* After an old Interplay 3D Game from 1996...

Google Earth Studio does currently not support this input device.



Tips & tricks: Google Earth



- 1.) If you need multiple Earth versions on your system
 - Install a different flavor (Pro / EC / free) for one version
 - or rename the old version to e.g. "Google Earth Pro 6.0", create a desktop link and install 6.1 as normal
- 2.) I cannot create a HQ movie (Google Earth 6.0 and before) the option is always grayed out!
 - a.) Load the tour and double click it
 - b.) Seek to the first frame you want to have
 - c.) Exit the touring mode
 - c.) Start the "Moviemaker"
- 3.) I want to fade my artwork automatically in and out how can I do that?

You cannot edit that with Google Earth, but with Google Earth Studio. There are two possible ways:

- a.) The timeline offers artwork fade in / fade out options.
- b.) The visibility tab in Studio. However note that this is screen resolution dependent.
- 4.) How can I add 3D models to Earth?

You can use Sketchup to model your own model or you can go to the "3D warehouse" and import one.

Place it with Sketchup to the proper Earth location and paste it to earth.

Alternatively you can use Google Earth Studio to simplify the process greatly.

Tips & tricks: When using Earth for tour generation



I would strongly suggest to use Google Earth Studio for this, but if you have to use Google Earth, here are some tricks:

- 1.) When creating a tour from a folder, the tour does not properly follow my given placemarks (does not move, etc.)

 When creating placemarks, you have to right click on the it in my places and select "snapshot view" for each!
- 2.) Linestrings

The good: Linestrings in Google Earth use splines which give you a smooth animation.

The bad: Linestrings are now splines which smooth .. and might produce overshoots!

The solution: Add more points into sharp corners to make the spline algorithm follow better your path

3.) When creating a "folder tour" with Earth, I see a pause at the beginning which is annoying

The problem is that the tour generator inserts a "fly to" to the first location with the same length as every "fly to".

- ⇒ Copy the tour to the clipboard, change the first <duration>x</duration> to 0 to make it a teleport.
- 4.) When creating a "folder tour", it moves from an arbitrary point to the start before it starts playing the tour! Same as before.
- 5.) I have a linestring (e.g. from flightwise), but when I create a tour from it and play it back it "pops".

The problem is that your points are relative to ground and not absolute.

When the terrain is loaded the local height might change. You should therefore use absolute when ever possible.

- ⇒ Studio does this for you automatically.
- 6.) I have created a "folder tour" and the timings are all wrong (equal). I want to change them individually!

 Copy the tour into the clipboard, paste it to your editor, change the gx:duration tags (see 4.), paste it back.

Tips & tricks: Other tools of interest



Fusion tables



http://www.google.com/support/fusiontables/bin/topic.py?topic=29372

Google Sketchup
Importing & creating 3D models / 3D Text
http://sketchup.google.com/

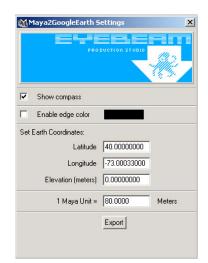
Google building maker
http://google.com/buildingmaker

Maya2Google: A Maya 3D model importer http://production.eyebeam.org/tools/maya2google

Other world wide data linked regions: http://www.kmlfactbook.org/

Arc2Earth
Various Google Earth related data conversion tools



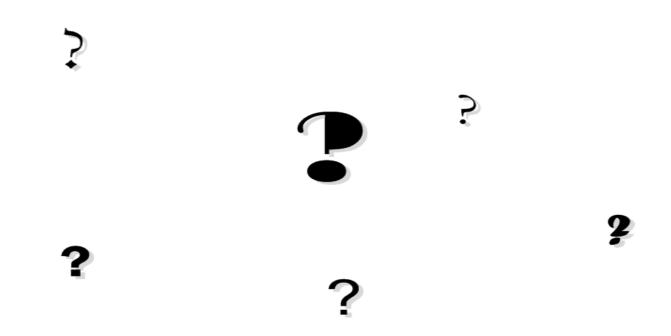




Questions?



If you have any questions, comments or feature requests...



Please let me know! http://gearthstudio.appspot.com skuhne@google.com gestudio-edu@googlegroups.com mediatools@google.com Thank you!