

Assignment 1. Story Map with KMLs and Mashups

Due January 31, 2019 at midnight EST

Worth 20 points



In teams of three, create a KML(s) that allows you to tell a compelling story with placemarks, attributes (i.e., balloons, aka info windows or placemark description), multimedia, calls to an application programming interface (api) and a tour. The choice of story should be compatible with your smart city portal, which you should be building with HTML and CSS (your completed portal will not be due at this time).

You will be using Google's software suite (Google Earth visual editor is fine). Open your KML story in a Rich Text Editing environment and modify its features, using in-text comments to document your work. Test your modified KML in the Google Earth environment to ensure your tour remains functional.

Part of this assignment is coming to the realization that when you develop for the web, there is no one correct way to reach your goal. Often, you will be given a task and your clients will be less interested in the process than the final product. You will not be told what software and languages to use along the way; paying close attention to your client's expectations (i.e., the city) is what is important.

Goals

- Link concepts behind traditional GIS to the geospatial web 2.0
- Appreciate how the story drives the use of the Geoweb instead of the converse
- Create data in a tagging standard, KML, which is universally supported by the Geoweb.
- Understand what a Rich Text Editor environment is, how to properly use one, and how it differs from a traditional word processor
- Learn to document your application, both in the code and in a written report
- Mashup applications: Google Earth with a visualization API. Effective story telling may require the mashing up of multimedia like YouTube

- Individually reflect on the assignment

Note for your assignments: The temptation in all assignments is to let the experts or intermediates in the team handle the hard technical details. RESIST THIS TEMPTATION because it will hurt you in the final lab exam, which is individual-based. As you know from working with GIS or programming, knowing the tech ONLY comes from doing (and occasionally, creatively failing) the tech.

Finally, there are many ways to tell your story using Geoweb platforms. You could even build your KML in ArcGIS. You are free to **construct your KML** with any tool you find online, with the understanding that you must be able to export your story as a KML and modify its contents within a Rich Text Editor environment. In this assignment, we suggest staying within the Google software suite (e.g., Google Maps, Google Charts), as they are vertically integrated to use KML and you will have the highest chance of success in completing your assignment. If you choose to “go off the beaten path” and use a piece of software we do not mention here you **MUST** document your experience, or run the risk of having an incomplete assignment grade.

Required Software: (available on all GIC computers, free to download and install on your own)

- Google Earth for Desktop (if downloaded can be unlocked with code “gefreet”)
- Rich Text Editor (e.g., Notepad ++, Sublime Text)
- Filezilla (optional)
- Tour Builder (<https://tourbuilder.withgoogle.com/>). This also is optional.

Tasks

1. Think of an interesting story that can be illustrated using Geoweb applications, in this case Google Earth and KML. This story should contain qualitative and quantitative content.
2. Find datasets and multimedia (e.g., images) to tell your story.
 - a. One of those datasets should already be (or become) a shapefile (e.g., a choropleth map). You will need to convert shapefile into a KML file.¹ 
 - b. You should have a variety of feature types (e.g., points, lines, areas).
 - c. You should have a variety of multimedia (e.g., video and audio).
 - d. You should integrate 3D using extrusions.
 - e. Upload any multimedia that is not accessed via a URL to neogeoweb.ca, via the ftp client, filezilla.
3. Create KMLs to visualize the story using Google Earth.

¹ The camera icon means that you should take a screenshot and submit it with your documentation. In this case, take a screenshot of your shapefile while in ArcGIS.

4. Customize some of your markers (i.e., icons or symbols) beyond the default set provided in Google Earth.
5. Guide the viewer through your story with a tour of your KML (on Google Earth or Tour Builder).
6. Customize your balloons. Remember that KML can be customized to better display different types of content.
 - a. Use HTML in some of your placemark descriptions. Hint: Use Google Earth to build your placemark's description. Use your Rich Text Editor to modify the KML and HTML. You can use the editor to work on your KML and HTML separately before you mash one into the other.² Show the HTML in places where you plan to modify  and after you modified .
 - b. "Sign" the balloon with the name of the individual who worked on the feature. There are five placemarks minimum per individual so there should be five signed balloons per individual.
 - c. Mashup a chart³ into one or more balloons. Recall that the chart api allows for different types of charts.
7. Story telling is an art. Try to find the right balance between creativity and elegance to convey information. The flexibility of KML through markers, extrusions, charts and customizable balloons provides considerable means to present information effectively.
8. Zoom to and open the best placemark design in the project and take a screenshot.
9. Take a photo of an example balloon containing a chart .
10. Open and take a screenshot of the best balloon in the project .
11. Remember that having images requires you to save the files as KMZ. We will run the KMZ. We will look at the KML code so make sure you also save the files as KMLs.
12. Document your KMLs with the use of **comment tags**.
13. Collectively, write documentation (report) for your story.
 - a. All submissions should be single-spaced.
 - b. All screenshots, tables, figures should be included in the body of the text and not in appendices. Tables and figures typically are illustrations of work and not the entirety (e.g., a print out of all the code).
14. Individually (i.e., each person in the team), reflect on the assignment.
 - a. Which step was hardest?
 - b. What were the different KML customization techniques that you used to create the story?

² As a team you should endeavour to create a single look-and-feel for your content. In this assignment, please create a consistent theme to markers and balloons.

³ You may mashup other api's. Chart is the easiest.

- c. Create a table of the customization techniques that can be used in KML and provide a two-line description of what type of information is best conveyed through each technique.
 - d. How did the geospatial technologies augment the narrative process for your particular story?
 - e. How might you improve this assignment?
 - f. The individual reflection should be written as a paragraph (e.g., as opposed to bullet points) and be no more than 2/3 page.
15. All individual reflections must be appended to the written documentation.

Submission

Each team should email our TA, Sam Lumley, sam.lumley@mail.mcgill.ca, and me, renee.sieber@mcgill.ca, the KMZ file and the KMLs. We will need to examine your KMLs during the grading process (primarily to see the commented code). Make sure you **test** your KMLs or KMZ on a machine different from the one you created them on. We often find missing images (e.g., those big red “x”s where an image should appear) when we open them up.

Each team also should email Allen and me the report (documentation), which includes screenshots, descriptions, justifications and individual reflections as requested above. Make sure that any figures (e.g., screenshots) or tables are in the body of the text.