Creating a KML

KML (Keyhole Markup Language) is a format to describe geographical information (points, lines, polygons). It is an open standard, overseen by the Open Geospatial Consortium (other OGC standards are WMS and WFS). KML files can easily be created in the map maker within Google Maps or in Google Fusion tables.

**A. Google Fusion Tables** is a web-service by Google that can be used to store data and visualize data on a map. To visualize the data on a map, your table should contain a field with a location description like an address, ZIP code, town or lat-long positions. There is a maximum of 100.000 rows of data that can be mapped. The data files may not exceed 100 Mb.

Here follows an example of a map created in Google fusion tables:

1. Create a data table with the following structure

<table>
<thead>
<tr>
<th>ID</th>
<th>Name</th>
<th>Location</th>
<th>Value1</th>
<th>Picture</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hospital</td>
<td>Address</td>
<td>Capacity</td>
<td>Link to picture</td>
</tr>
<tr>
<td>2</td>
<td>VUMC</td>
<td>Boelelaan 1105 Amsterdam</td>
<td>708</td>
<td><a href="https://flickr.xTB7.jpg">https://flickr.xTB7.jpg</a></td>
</tr>
</tbody>
</table>

2. Save the table as xlsx, csv, tsv, txt

3. Open Google fusion tables:
   [http://www.google.com/drive/apps.html#fusiontables](http://www.google.com/drive/apps.html#fusiontables)

4. Click create and upload the table, (when you created a csv, txt or tsv, choose separator character (, or ; for csv, tab for tsv etc.) and the character encoding)

5. Fusion tables **recognizes the location** field and marks it yellow:

6. When you click on ‘map of location’ the table is **geocoded**: the features in the table are located on the map.
7. When the geocode didn't succeed, see this support page: https://support.google.com/fusiontables/answer/1012281
To change a map marker that was geocoded incorrectly: https://support.google.com/fusiontables/answer/171212?hl=en

8. You might want to merge another table to the map. Therefore there should be a field in the mapped table and the new table that have an exact match (like when you join a table to a map in ArcGIS). Merging a map allows you to visualize the information from the added table.

9. You can change the map feature style:
   a. Choose different icons
   b. Choose an icon specified in a column
   c. Numeric columns: you can create classes and set ranges

10. Or create a heat map based on a weight value

11. You can also change the info window layout
   a. Choose which attribute is displayed in the info window (column name)
   b. In the custom tab, customize the layout by HTML code (for example change the names of the attributes displayed, add links, change font style, change size of pictures, etc.

12. To show pictures in the info window, make sure you have the URL to the picture. Your pictures need to be somewhere on the web and need to be public.
   a. You can store pictures for example on Google Drive in a public folder and find the link in the details of the picture (right click) under ‘hosting’ (first open the link and then copy the URL).
   a. You can also store pictures on Picasa, right click on the picture in your Picasa album and copy URL
   b. Paste URL in your table in Fusion table (click on cell)
   c. Refer to the image in the info window editor as follows:

13. To show pictures that are private, add a link to your info window that links to the picture on a photo storing service like Flickr. When the link is clicked, you are directed to a log in screen first.
   a. Find the link of the picture on Flickr
   b. Paste the link in your table in Fusion Tables
   c. Create the link in the info window HTML editor like this:

   ```html
   <b>link to picture:</b><br>
   <a href='{picture}' target='_blank'>link</a>
   ```
14. When you are finished, the map can be saved as KML to your computer.

B. In Google Maps you can create a map by adding markers, lines, polygons or routes. You can add different layers and style the features.

1. To start, open the Google maps engine:
   https://mapsengine.google.com/map/u/0/

2. Load an existing table or create a new map by drawing:

3. Place markers, lines, polygons or directions and change styles:

4. You can choose to show labels next to the features

5. Add extra columns, change title / description

<table>
<thead>
<tr>
<th>name</th>
<th>value</th>
</tr>
</thead>
<tbody>
<tr>
<td>location1</td>
<td>2</td>
</tr>
<tr>
<td>location2</td>
<td>7</td>
</tr>
<tr>
<td>location3</td>
<td>3</td>
</tr>
<tr>
<td>location4</td>
<td>10</td>
</tr>
</tbody>
</table>

6. Add color range for numeric values

7. Open the following link to find information how to create a map in the Google Maps engine:
   https://support.google.com/mapsengine/

8. When finished: export to KML