

Author: Adam Jennings (955770)

What can we learn from the visualization?

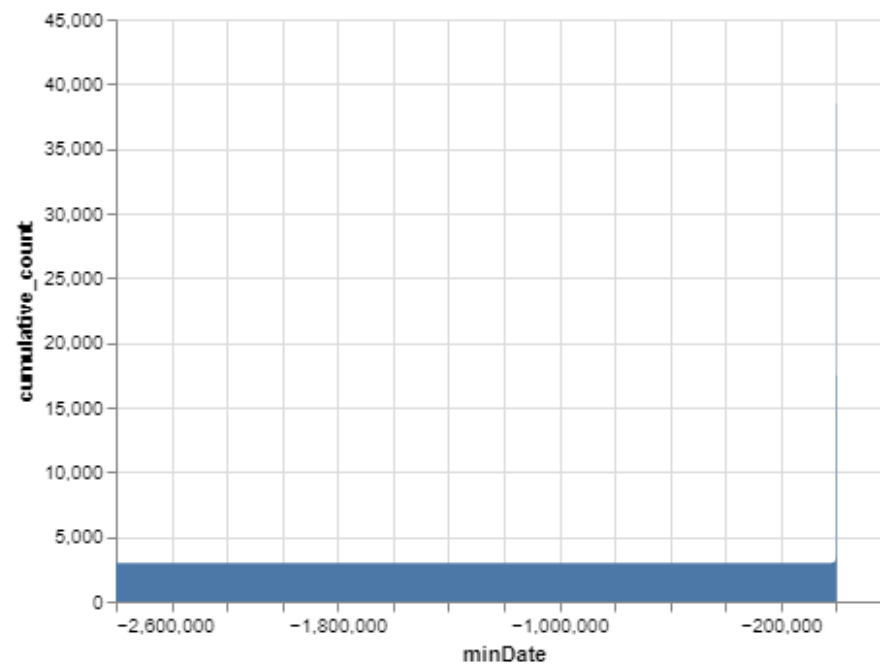
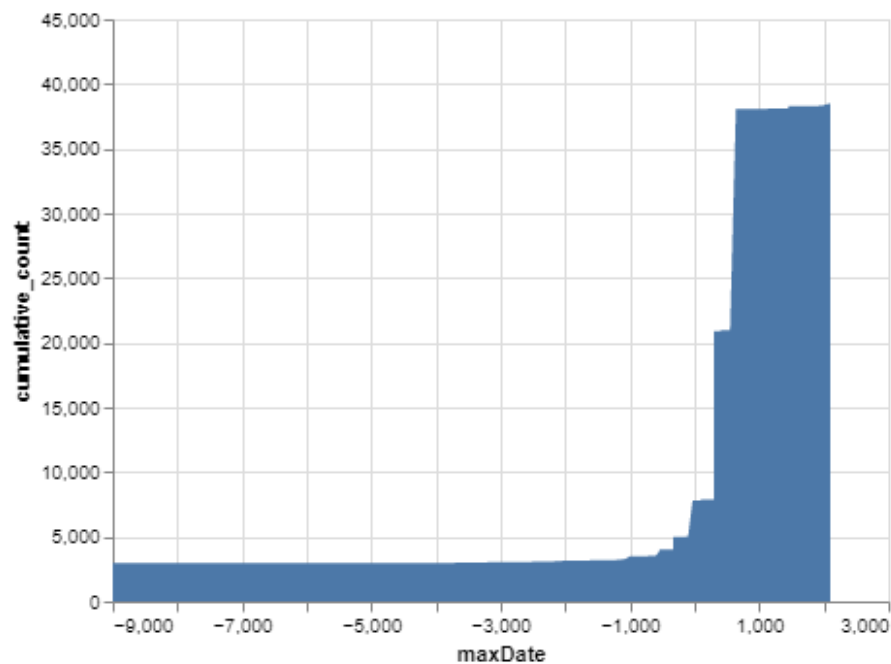
Observing what age of building there is and how frequent they show up around Europe.

What is the name for the type of visualization(s) used?

cumulative graphs with editable Featuretype(changing how many were built in both max date made and min date made)

```
import pandas as pd
import altair as alt
from vega_datasets import data

locations_table = pd.read_csv(r"https://raw.githubusercontent.com/SwanseaU-TTW/csc337_coursework1/master/pleiades-locations-latest.csv")
pd.set_option('display.max_columns', None)
alt.data_transformers.disable_max_rows()
```



Type_featureType

What are all visual mappings used?

x position

maxDate/minDate

y position

cumulativeCount

Was there any special data preparation done?

Data was aggregated by timePeriods and altered by FeatureType

What are the limitations of your design?

Fairly simple design, having both graphs overlap each other would be better as well as creating an average date line

What can we learn from the visualization?

Observing what timePeriod of buildings there are and how frequent they show up around Europe.

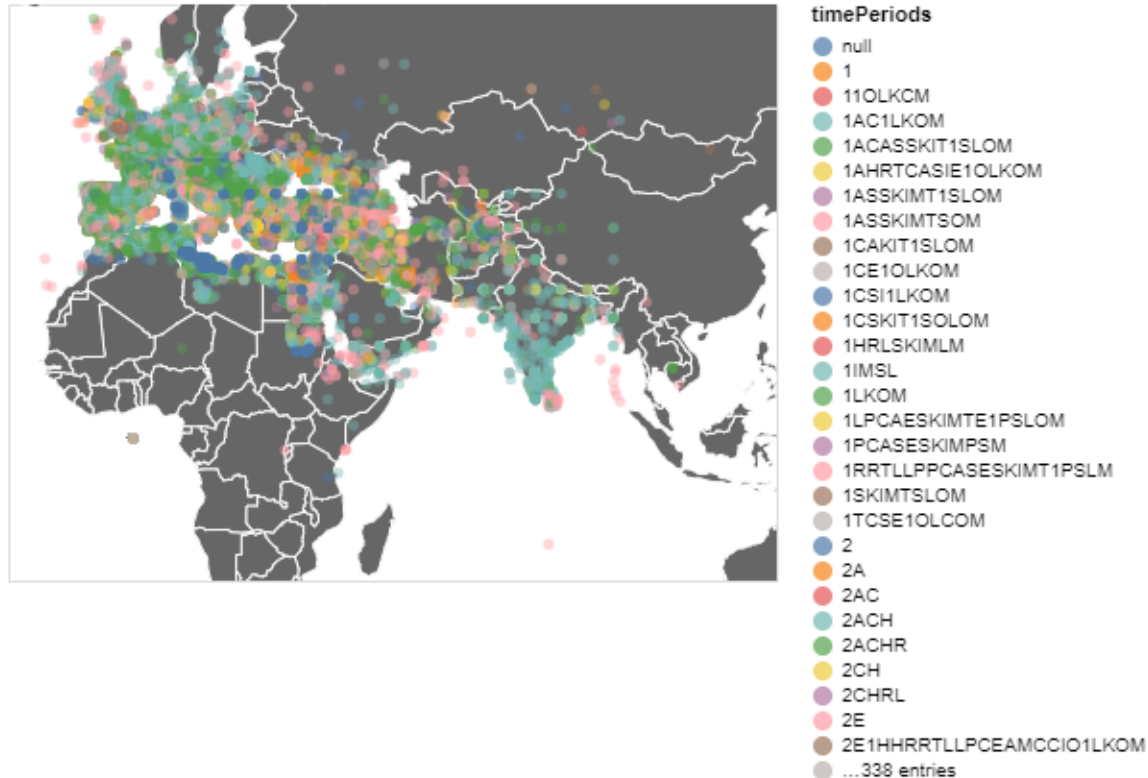
What is the name for the type of visualization(s) used?

ScatterPlot with GeoMap background

```
import pandas as pd
import altair as alt
from vega_datasets import data
```

```
locations_table = pd.read_csv(r"https://raw.githubusercontent.com/SwanseaU-TTW/csc337_coursework1/master/pleiades-locations-latest.csv")
pd.set_option('display.max_columns', None)
alt.data_transformers.disable_max_rows()
```

World (Mercator)



What are all visual mappings used?

x position

latitude of location

y position

longitude of location

Was there any special data preparation done?

Data was aggregated by timePeriods

What are the limitations of your design?

A lot of data points within a small setting, zooming would very much help.

What can we learn from the visualization?

Observing what type of feature there is and how frequent they show up around Europe. (people can click on a specific featureType and then it would show all instances of that featureType in the map)

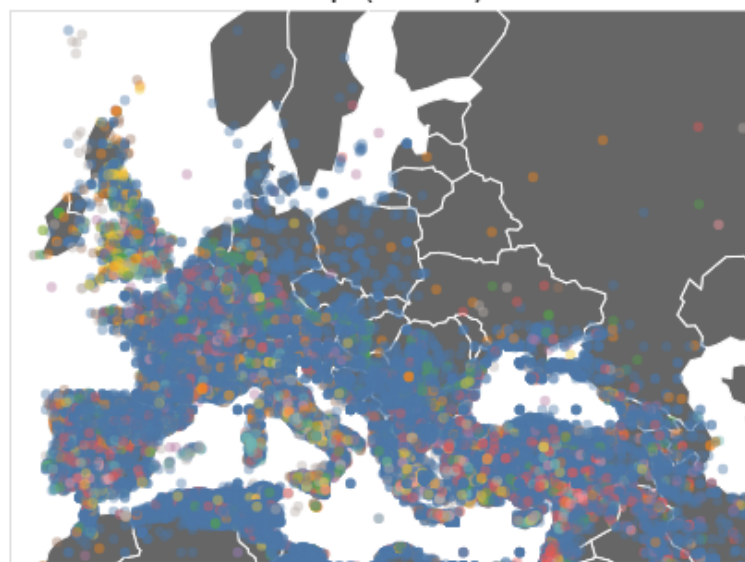
What is the name for the type of visualization(s) used?

ScatterPlot with GeoMap background

```
import pandas as pd
import altair as alt
from vega_datasets import data
```

```
locations_table = pd.read_csv(r"https://raw.githubusercontent.com/SwanseaU-TTW/csc337_coursework1/master/pleiades-locations-latest.csv")
pd.set_option('display.max_columns', None)
alt.data_transformers.disable_max_rows()
```

Europe (Mercator)



featureType

- null
- abbey
- abbey,architecturalcomplex
- abbey,architecturalcomplex,churo...
- abbey,church-2
- abbey,temple-2
- abbey-church
- acropolis
- acropolis,architecturalcomplex,
- amphitheatre
- amphitheatre,
- amphitheatre,theatre,
- aqueduct
- aqueduct,
- aqueduct,bridge,
- arch
- arch,
- archipelago
- archipelago,
- architecturalcomplex
- architecturalcomplex,
- architecturalcomplex,bath,
- architecturalcomplex,fort
- architecturalcomplex,fountain,sto...
- architecturalcomplex,sanctuary
- architecturalcomplex,sanctuary,
- architecturalcomplex,temple-2,
- architecturalcomplex,theatre,
- architecturalcomplex,villa,
- ...309 entries

What are all visual mappings used?

x position

latitude of location

y position

longitude of location

Was there any special data preparation done?

Data was aggregated by FeatureType

What are the limitations of your design?

A lot of data points within a small setting, zooming would very much help. Also creating points to be invisible after selecting one FeatureType would make visualising it easier

What can we learn from the visualization?

Observing frequency of buildings in data set creating a density plotting graph showing what is more frequent where

What is the name for the type of visualization(s) used?

binned heatmap with GeoMap background

```
import pandas as pd
import altair as alt
from vega_datasets import data

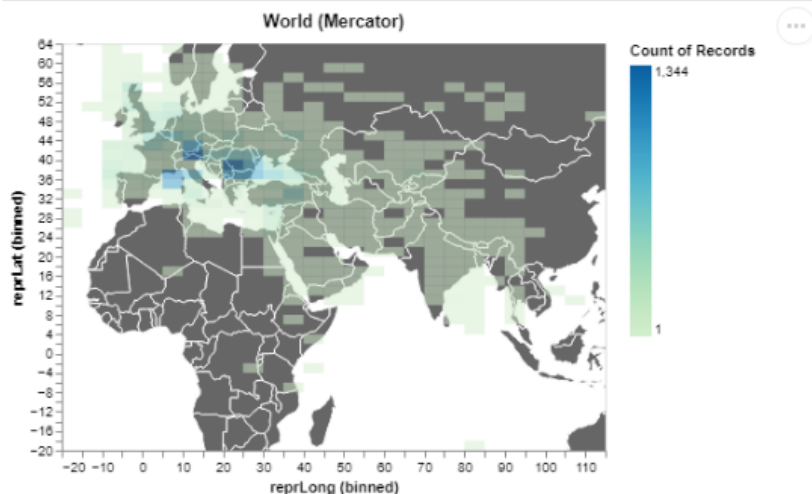
locations_table = pd.read_csv(r"https://raw.githubusercontent.com/SwanseaU-TTW/csc337_coursework1/master/pleiades-locations-latest.csv")
pd.set_option('display.max_columns', None)
alt.data_transformers.disable_max_rows()
locations_table.head()

countries = alt.topo_feature(data.world_110m.url, 'countries')
selector = alt.selection_single(empty='all', fields=['featureType'])
colours_condition = alt.condition(selector, 'featureType:N', alt.value('#666666'))

# Used world cropping map of World inspired from https://stackoverflow.com/questions/61135952/vega-lite-altair-how-to-center-or-crop-a-map-of-europe
background = alt.Chart(countries).mark_geoshape(
    fill='#666666',
    stroke='white'
).project(
    type='mercator',
    scale=155,
    center=[50,27],
).properties(
    title='World (Mercator)',
)

binned_heatmap = alt.Chart(locations_table).mark_rect(
    fillOpacity=0.5
).encode(
    alt.X('reprLong:Q', bin=alt.Bin(maxbins=60)),
    alt.Y('reprLat:Q', bin=alt.Bin(maxbins=60)),
    alt.Color('count(featureType):Q', scale=alt.Scale(scheme='greenblue')),
).properties(
    title='World (Mercator)',
)

background + binned_heatmap
```



What are all visual mappings used?

x position

latitude of location

y position

longitude of location

Was there any special data preparation done?

Data was aggregated by count of records

What are the limitations of your design?

Data easy to read on what is the most frequent areas but not what is the least frequent area. Boxes in the binned heatmap are too big to show particularly denser areas.

What can we learn from the visualization?

Observing what timePeriod the buildings are and how frequent they show up around the UK. (people can click on a specific timePeriod and then it would show all instances of that timePeriod on the map)

What is the name for the type of visualization(s) used?

ScatterPlot with GeoMap background

```
import pandas as pd
import altair as alt
from vega_datasets import data

locations_table = pd.read_csv(r"https://raw.githubusercontent.com/SwanseaU-TTW/csc337_coursework1/master/pleiades-locations-latest.csv")
pd.set_option('display.max_columns', None)
alt.data_transformers.disable_max_rows()
```



timePeriods

- null
- 1
- 11OLKOM
- 1AC1LKOM
- 1ACASSKIT1SLOM
- 1AHTCASIE1OLKOM
- 1ASSKIT1SLOM
- 1ASSKIT1SLOM
- 1CAKIT1SLOM
- 1CE1OLKOM
- 1CSI1LKOM
- 1CSKIT1SOLOM
- 1HRLSKIMLM
- 1IMSL
- 1LKOM
- 1LPCAESKIMTE1PSLOM
- 1PCASESKIMPSM
- 1RRTLLPPCASESKIMT1PSLM
- 1SKIMTSLOM
- 1TCSE1OLCOM
- 2
- 2A
- 2AC
- 2ACH
- 2ACHR
- 2CH
- 2CHRL
- 2E
- 2E1HHRRTLLPCEAMCCIO1LKOM
- ...338 entries

What are all visual mappings used?

x position

latitude of location

y position

longitude of location

Was there any special data preparation done?

Data was aggregated by TimePeriod

What are the limitations of your design?

Creating points to be invisible after selecting one TimePeriod would make visualising it easier. More information on what is selected would be more beneficial