**Data Visualization team project pahse III**

# UniValue

## QS World ranked Universities & Cost of Living Index

**Group 10**
**B104020002** 劉和媛
**B094011033** 盧子涵

# Outline

**01** **Project Topic**

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# **01** **Project Topic**

**The topic of college is highly relevant to us as college students, as we seek to gain valuable insights from this project.**

**In this topic, we aim to explore the relationship between the QS world university rankings and the cost of living index in the locations where these universities are situated.**

**Q1:**

**Is there a correlation between QS university rankings and the cost of living? Including several indices such as rent index, groceries index, and restaurant price index.**

**QS ⟷ Cost of living index**

**Q2:**

**Are universities with similar rankings also geographically close to each other?**

**Q3:**

**Which region tends to have higher rankings? (Is th distribution of rankings normally distributed? )**

**QS ⟷ Gerography**

**Qs rank**

**Cost of living**

# Qs rank

**source**
- https://www.topuniversities.com/world-university-ranking
- https://www.google.com/maps (latitude, logitude)

**data**
- Area: Worldwide
- Time: 2023 - 2024

**size**
- over 500 universities, over 62 country
- 503(rows) + 500(rows)

**data type**
- integer, float, string

**quality**
- 23 missing.

**variable**
- institution, region, country, location code, size, focus, rank display, research, status, ar score, er score, fsr score, cpf score, ifr score, isr score, irn score, ger score, sus score, overall score, longitude, latitude

# Qs rank

| | |
|---|---|
| **ar score** | **Academic Reputation** |
| **er score** | **Employer Reputation** |
| **fsr score** | **Faculty Student Ratio** |
| **cpf score** | **Citations per Faculty** |
| **ifr score** | **International Faculty Ratio** |
| **isr score** | **International Students Ratio** |
| **irn score** | **International Research Network** |
| **ger score** | **Employment Outcomes** |
| **sus score** | **Sustainability** |

# Cost of living

**source**
- https://www.numbeo.com/cost-of-living/rankings.jsp

**data**
- Area: Worldwide
- Time: 2023 - 2024

**size**
- 140 countries, 540 cities

**data type**
- integer, float

**quality**
- 1 data missing.

**variable**
- Cost of Living Index, Rent Index, Cost of Living Plus Rent Index, Groceries Index, Restaurant Price Index, Local Purchasing Power Index

# **Project Data**

**QS city**

↓

**if the city exists in Cost of living**

**YES**

**NO**

**Cost of Living by City**

**(274 + 307 )**

**Cost of Living by Country**

**(229 + 193)**

# UniValue

**short for university**   **provided a perspective**

**04** # Why called UniValue?

WORLD UNIVERSITY RANKINGS

**The name derived from two important key of our system:**
1. **Uni : Short for "university", indicates that the system is focused on education institution.**
2. **Value : We're evaluating universities based on both QS rankings and other living costs, which provided a perspective.**

PHASE II

# Design Overview
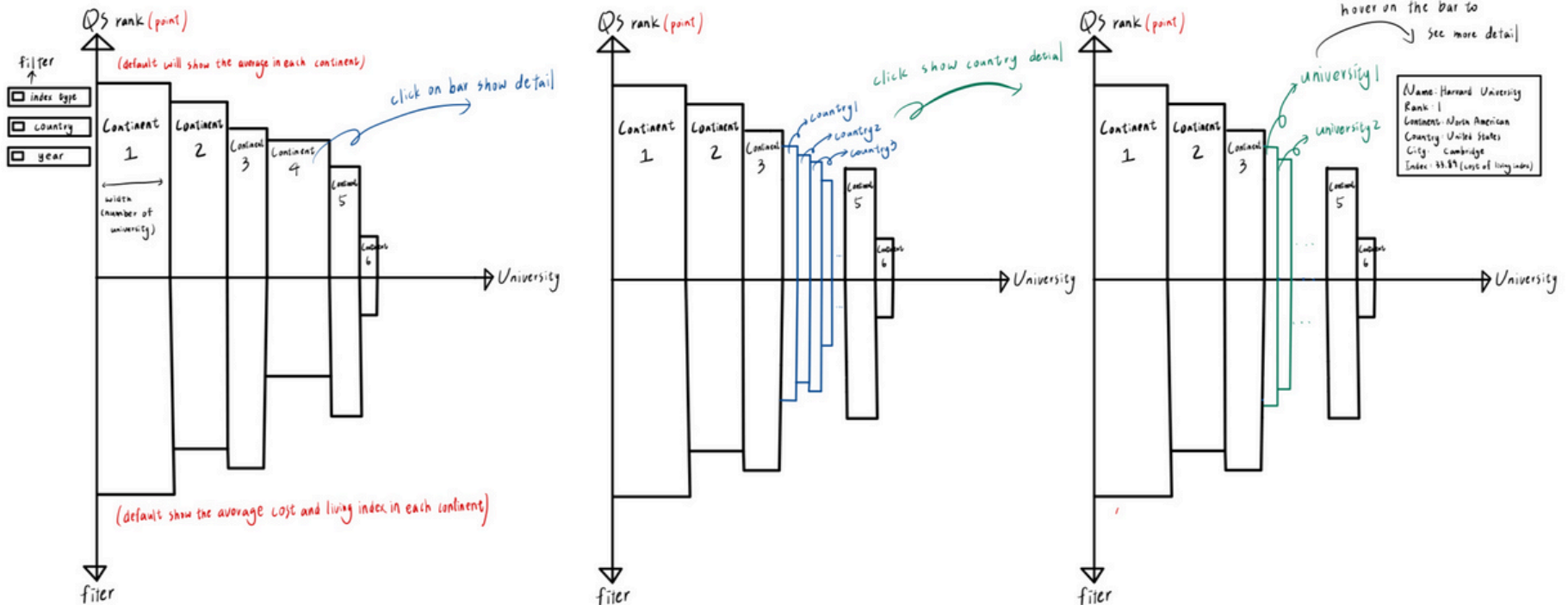
**PHASE II**



Adding layers to map to provide context.

layers
☑ QS ranking
☐ living index
☐ country borders
☐ region

hover over the region
→

When users click on a university marker, display a popup with detailed information.
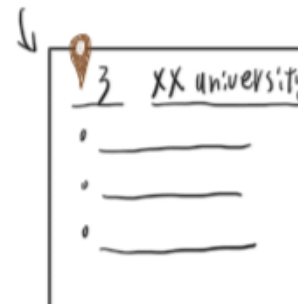
3 XX university

When showing the detailed information, there will be only displaying the university mark on the map that the ranking differs to current school from 5. e.g. in this case, the school is ranking 3, then there will be only ranking 1-8 university will show on map.

# Design Overview

**PHASE III**
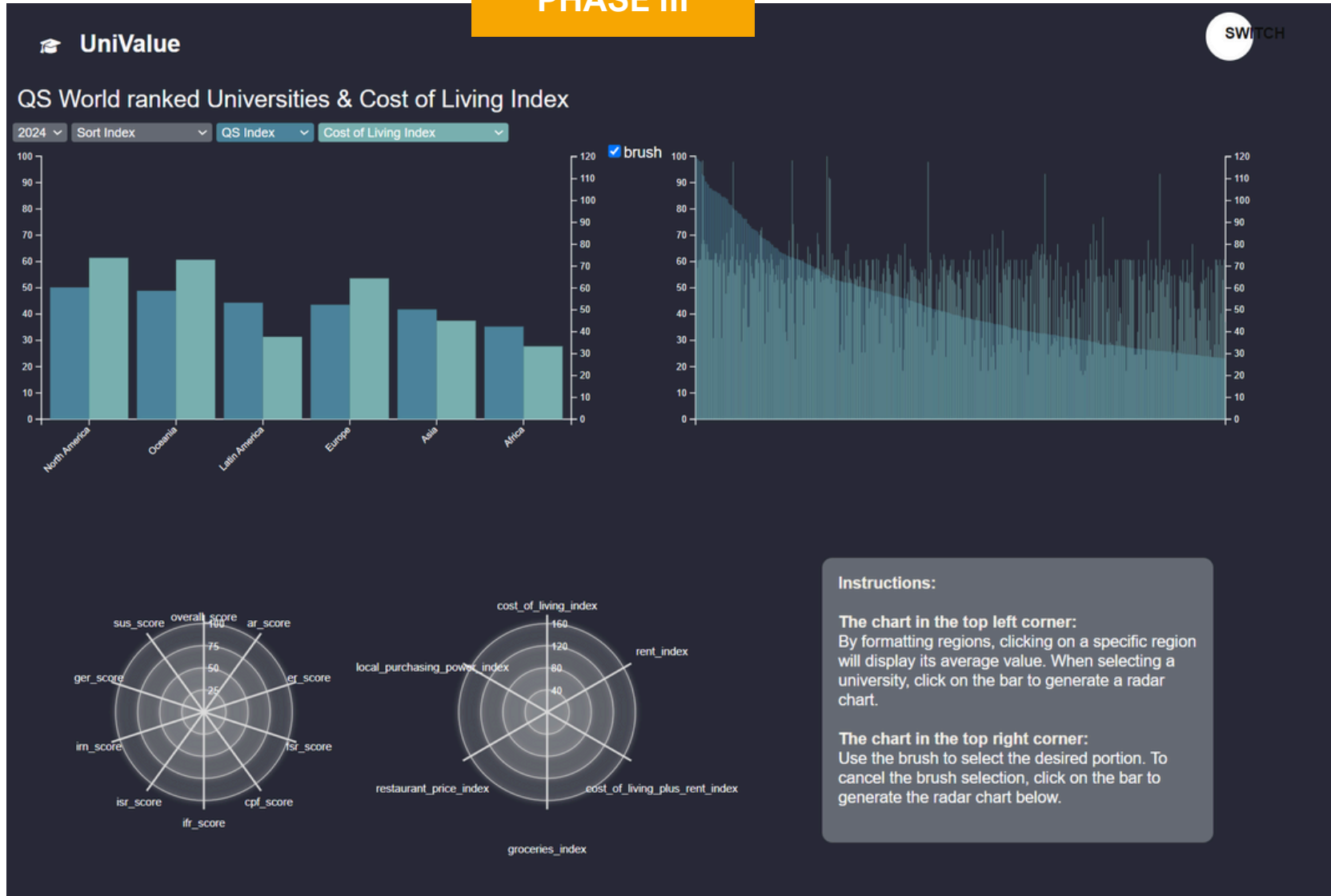
# Design Overview

select button

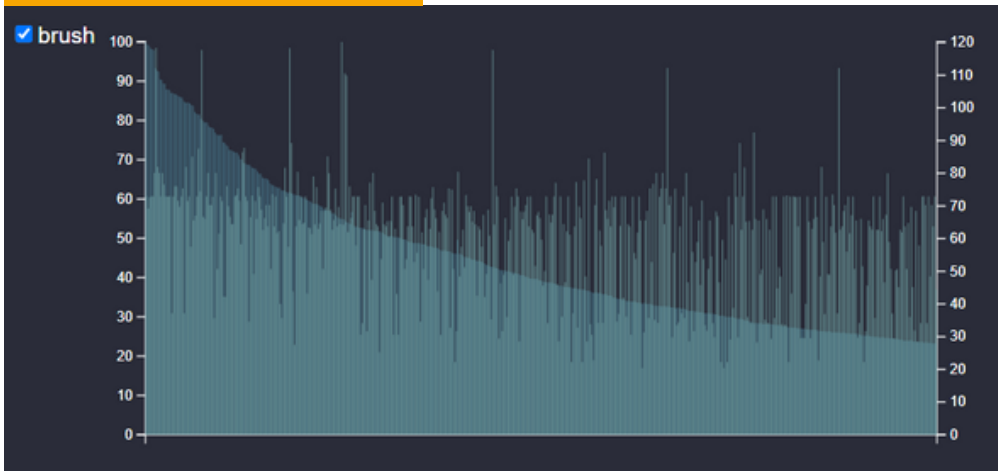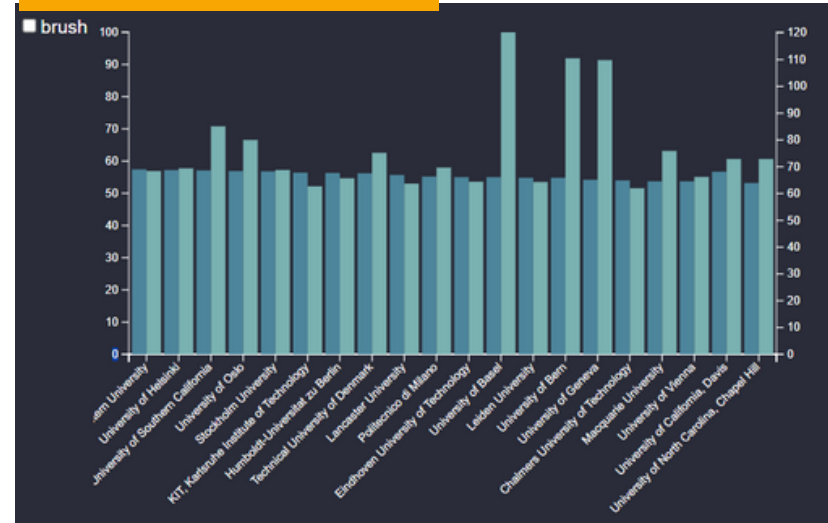| 2024 ▾ | Sort Index ▾ | QS Index ▾ | Cost of Living Index ▾ |

heriarchy bar chart
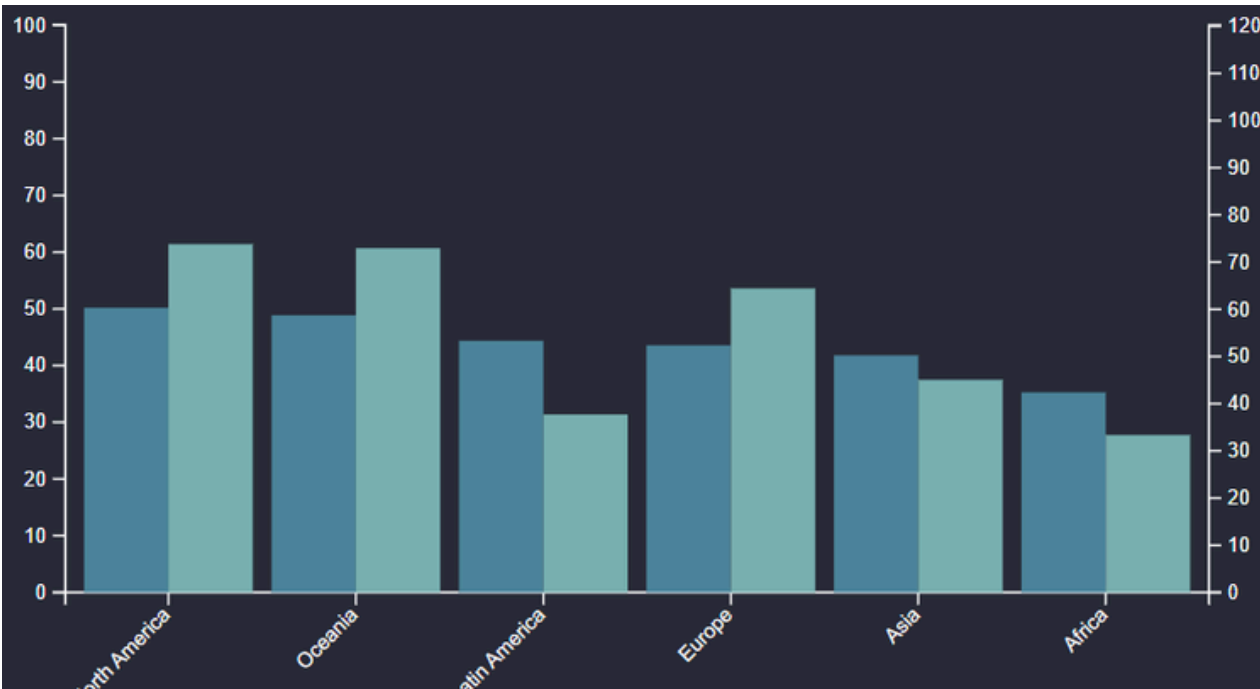
# Design Overview

**overview bar chart**

**brush - zoom in**

**brush - zoom in**
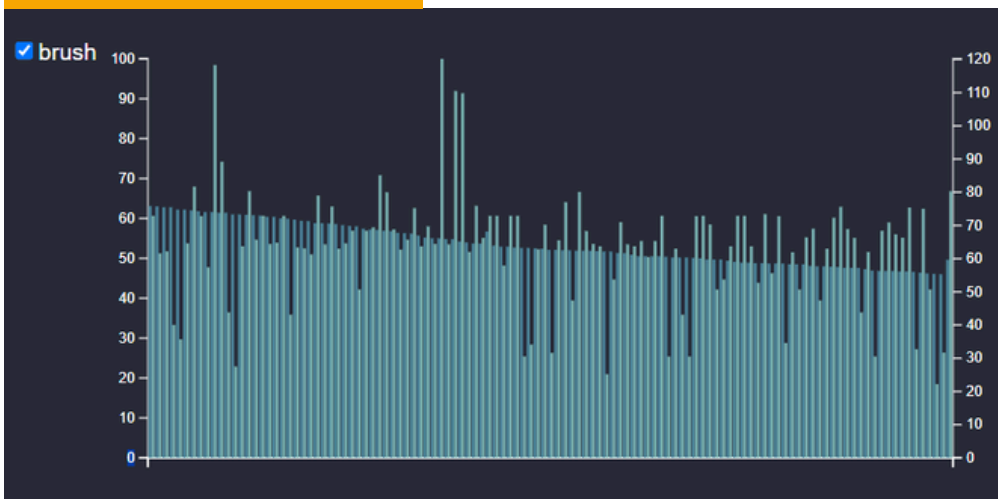
**brush - zoom in**

# Design Overview



radar chart

show detail
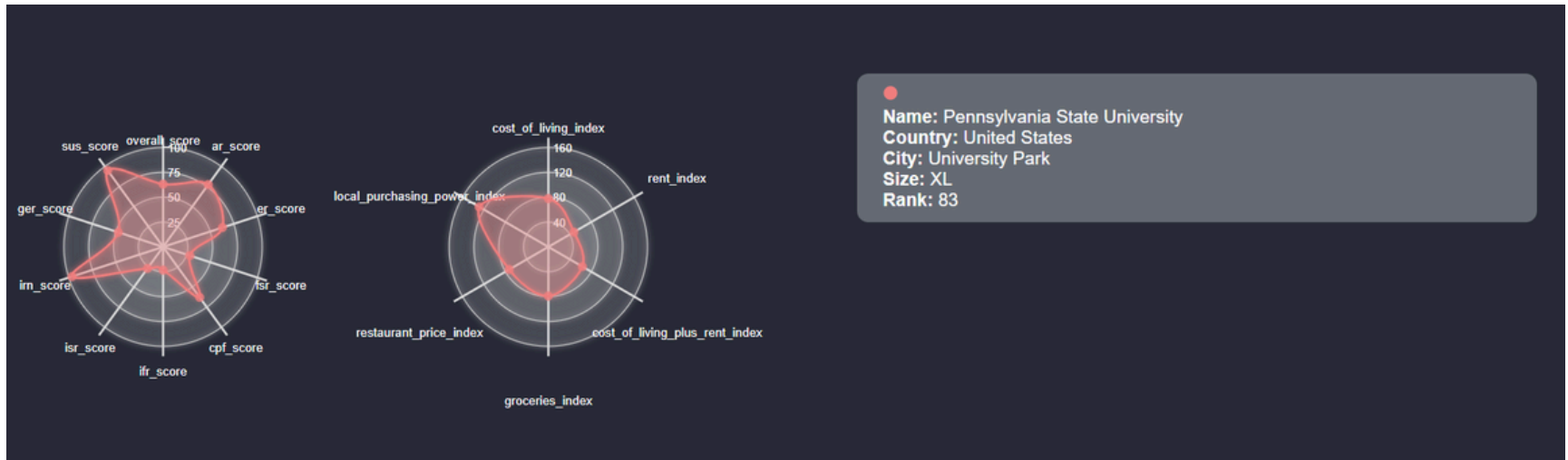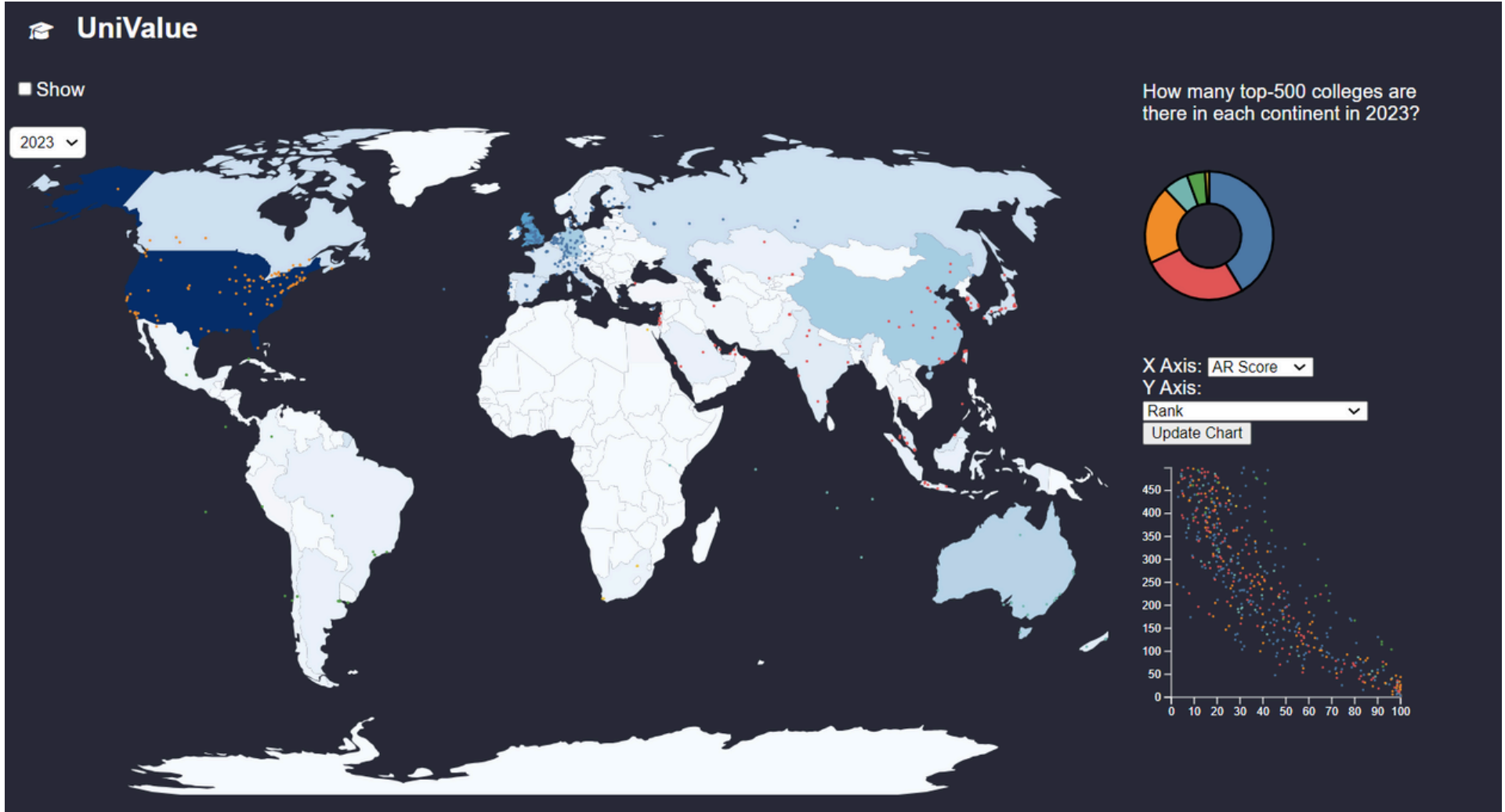
# Design Overview

**PHASE III**

# Design Overview

**06**

# Video Demonstration

## https://youtu.be/GAbRpHFSsic
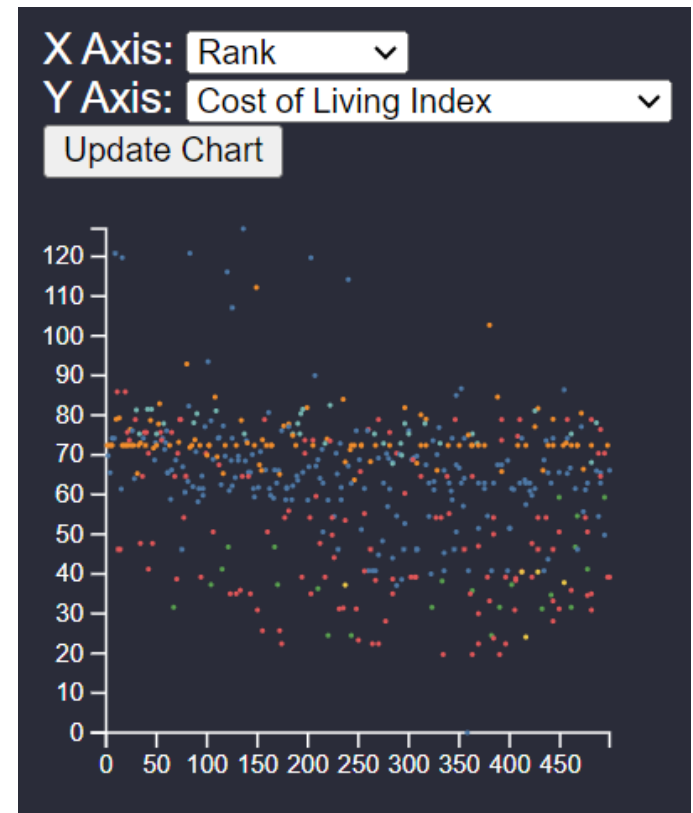
# Member contribution

- 劉和媛: final_project.html, presentation, PPT
- 盧子涵: project.html, demo video

# References

- **https://www.topuniversities.com/world-university-ranking**
- **https://www.google.com/maps**
- **https://www.numbeo.com/cost-of-living/rankings.jsp**
- **https://gist.github.com/nbremer/21746a9668ffdf6d8242(radar chart)**
- **https://d3js.org/d3-scale-chromatic/categorical**
- **https://observablehq.com/@d3/choropleth/2?intent=fork**
- **https://fontawesome.com/icons**
- **https://codepen.io/ssz360/pen/jOPMwme (click to zoom)**
- **https://www.geeksforgeeks.org/d3-js-arc-centroid-function/**
- **https://observablehq.com/@d3/hierarchical-bar-chart**
- **https://d3-graph-gallery.com/graph/choropleth_basic.html**

# Thank you!!