



AsylumLoupe

EU Asylum Demographics and Movement
Information Visualization

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Agenda

Motivation

AsylumLoupe

Demo

Limitations

Q&A

Overview

Data Abstraction

Implementation



Motivation

- Oil crisis, wars and geopolitical issues led to displacement
- European migrant crisis in 2015 made EU Parliament crave for changes in migration policy
- General system for asylum seekers across the globe
- Information visualization (Vis) help with capture movements and trends



A world map with a grid overlay. The map is color-coded, with most landmasses in shades of brown and tan. France and a small portion of South America are highlighted in a dark blue color. The text "What is AsylumLoupe?" is overlaid in a large, bold, orange font across the center of the map.

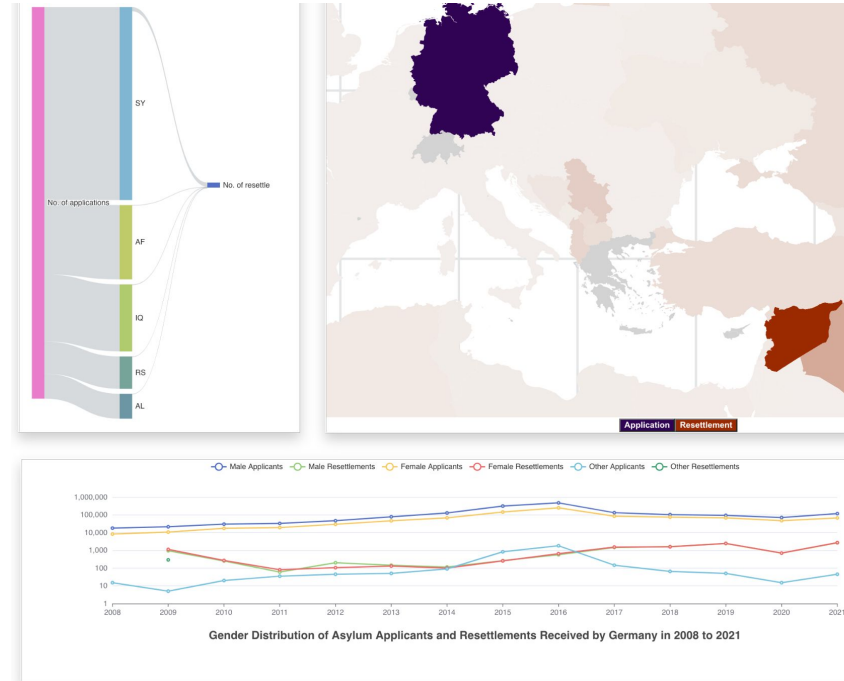
What is AsylumLoupe?

Overview

Shows asylum applicant and resettles received by major European countries.

Allow users to interact with the Vis tool to elicit specific asylum data across Europe.

Extend from Europe and MENA regions, compare annual aggregated data with multiple attributes.



Data Abstraction

Council Regulation (EC) No 862/2007 to unify migrants metadata collected by EU+ countries since 2008.

Eurostat archives the data and provide simple Vis tools to elicit data and interface for downloads.

Asylum Types are more granularly categorized, we capture only applicants and resettlement data.

The screenshot shows the Eurostat Data Browser interface. The title is 'Asylum applicants by type of applicant, citizenship, age and sex - annual aggregated data'. The online data code is MIGR_ASYAPPCTZA, last updated on 05/12/2022 at 14:00. The source is Eurostat. The interface includes a selection panel with 'Geopolitical entity (reporting)' set to '34 values displayed' and 'Time' set to '10 values displayed'. The table below shows data from 2012 to 2020 for various countries and the European Union.

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
European Union - 27 countries (from 2020)			538 560	1 216 860	1 166 815	620 265	564 115	631 285	417 070	537
Belgium	18 335	11 965	14 045	38 990	14 250	14 935	18 130	23 105	12 905	19
Bulgaria	1 230	6 980	18 805	28 160	18 908	3 470	2 465	2 875	3 468	18
Czechia	585	490	905	1 235	1 200	1 140	1 350	1 570	790	1
Denmark	6 045	7 170	14 535	28 825	6 055	3 125	3 465	2 685	1 420	1
Germany (until 1990 former territory of the ...)	64 410	109 375	172 945	441 805	722 270	198 255	161 885	142 450	102 525	148
Estonia	75	95	145	225	150	180	90	100	45	
Ireland	940	940	1 440	3 270	2 235	2 910	3 655	4 740	1 535	2
Greece	9 575	7 860	7 585	11 370	49 875	56 940	64 975	74 910	37 860	22



Data Abstraction

Data entry collected from Eurostat are annually aggregated

Per data entry contains applicants/resettlement's gender, age group, original citizenship and EU+ countries that made the intake

Clear unnecessary attributes, remove outliers, aggregated entry and data with suspicious errors

Transform to JSON with NumPy/Pandas and ./jq

```
{
  "citizen": "AE",
  "sex": "F",
  "age": "TOTAL",
  "geo": "GB",
  "type": "ASY_APP",
  "numbers": [
    0,0,0,0,0,0,10,0,0,0,5,5,0,0
  ],
  "sum": 20
},
{
  "citizen": "AE",
  "sex": "F",
  "age": "TOTAL",
  "geo": "DE",
  "type": "MASY_APP"
```



Build Project

Proposal and Collect Data

Switch from original idea to the AsylumLoupe, crawl interesting data from Eurostat and confirm the topic.

Nov.

Project Update, Sketch and Learn to Code

Sketch our ideas and create refined user scenarios in project update, create ReactJS template and learn d3.js, etc.

Dec.

Final Touch, Write Up and Present

Final touch of project code, write final report and create final presentation

Mid-Oct.

Mid-Nov.

Mid-Dec.

Knowledge Transfer, Select Vis

Read, share and discuss Vis idea from lectures and existing readings, Analyze charts that best fit our data set. Include and remove ideas.

Implementation!

Starts Implementation, conquer the difficulties when implement OD Maps, tooltips, e-charts and every small itchy details.

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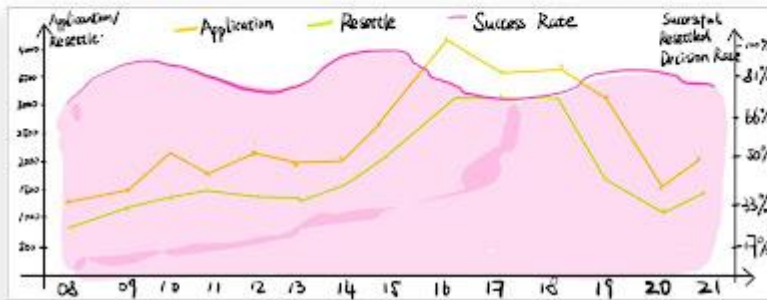
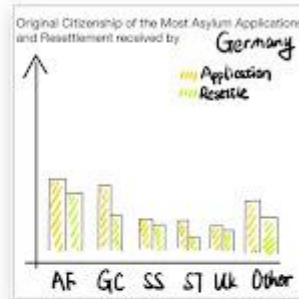
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AsylumLoupe: EU Asylum Demographics and Movement

CPSC 547 Information Visualisation Project Han Wang & Xin Wang



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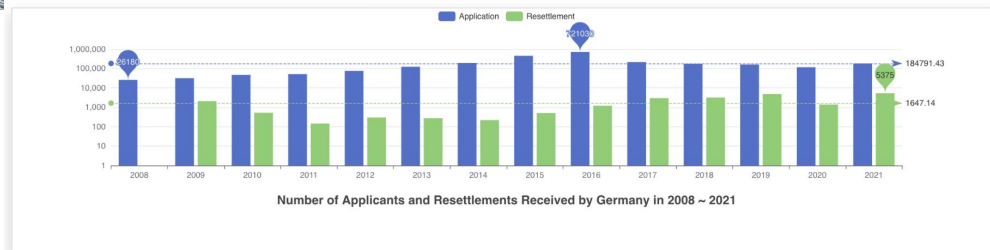
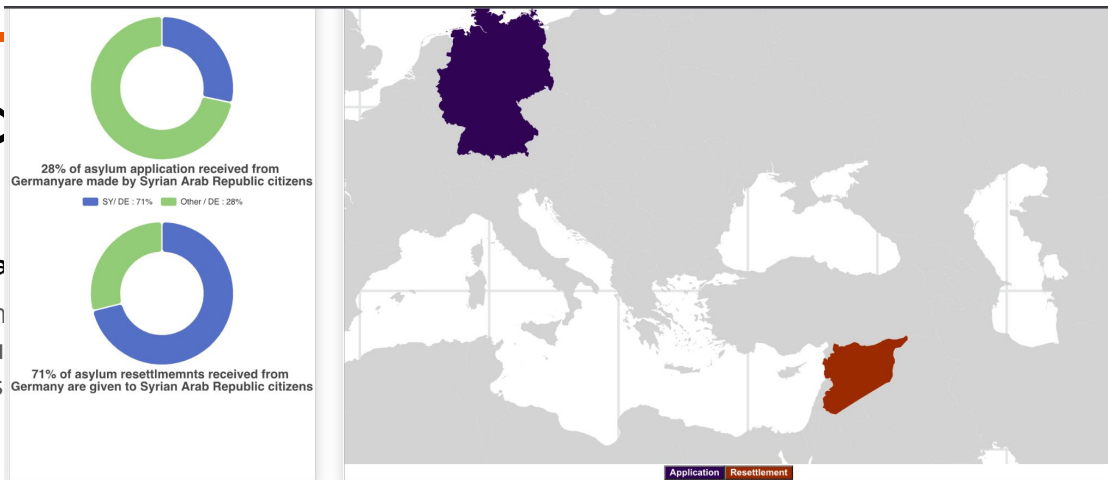
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People

gender

Age

DEMO





Limitations

- User Testing, suggestion from real users for improvement in usability and interaction
- Separate applicants and resettlement data for better visibility
- trade off of real or log scales in axis
- Comparison, exploration for 2 specified years
- Rely on the intuition to zoom in/out of OD maps
- Introduce datasets with refined category



Q&A



Thank you

