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**Team name:** Viz Visionaries

**Student name & ID:**

1. Luwi Kah Wen 103828807
2. So Wai Ting
3. Liew E-Ling

**Tutorial day and time:**

**Year and Semester:** July 2023, Semester 7

**Word count:**

<https://cos30045-group8.netlify.app/>

**Project Process Book**

MIGRATION OF INDIA DATA VISUALISATION

**Title Page**

Includes:

• descriptive title (e.g., ‘Data Visualisation Project’ is not acceptable)

• link to Mercury hosted website (must be on title page)

• team name and student names and IDs

• tutorial day and time

• year and semester

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# **Introduction**

## **Background and Motivation**

Who will use, or be interested in, this visualisation (i.e., users)? What kind of tasks will they want to do? Why is it important?

## **Visualisation Purpose**

What questions will the user be able to answer with your visualisation? List the possible benefits of the completed visualisation.

## **Project Schedule**

Make sure that you plan your work so that you can avoid a big rush right before the final project deadline. Write this in terms of weekly deadlines.

# **Data**

## **Data Source**

From where and how are you collecting your data? Provide a link to your data sources. What type of data set is it (e.g., table, network, field)? What are the attributes in your data set and what type of data are the values (i.e., categorial, ordinal, interval, ratio/quantitative)? Is there any data in the set that will not be included in your visualisation? Why?

NOTE: Make sure that the data can be used to answer the questions outlined in Section 1.2.

* + - 1. **Unemployment Rate:**

For this dataset we are choosing State and Unemployment\_Percentage\_in\_2022 for our dataset.

**State**: categorical data

**Unemployment\_Percentage\_in\_2022**: ratio data

<https://www.studyiq.com/articles/unemployment-rate-in-india/>

* + - 1. **Reason of migration:**

We are choosing the year, reason\_for\_migration, male, female and person for our dataset.

**reason\_for\_migration:** categorical data

**male:** ratio data

**female:** ratio data

**person:** ratio data

<https://pib.gov.in/PressReleasePage.aspx?PRID=1833854>

* + - 1. **Wages:**

We are choosing the year, country\_code, country\_name, monthly\_wages and hour\_wages for our dataset.

**Year**: ordinal data

**country\_code**: categorical data

**country\_name**: categorical data

**monthly\_wages**: ratio data

**hour\_wages**: ratio data

<https://www.nber.org/research/data/occupational-wages-around-world-oww-database>

* + - 1. **Healthy dataset:**

We are choosing the Disease\_Category, Female, Male, 40\_years\_above, 39\_years\_below and Prevalence\_among\_migrantsfor our dataset.

**Disease\_Category:** categorical data

**Female:** ratio data

**Male:** ratio data

**40\_years\_above:** categorical data

**39\_years\_below:** categorical data

**Prevalence among migrants:** ratio data

<https://www.researchgate.net/publication/319659904_Determinants_of_internal_migrant_health_and_the_healthy_migrant_effect_in_South_India_A_mixed_methods_study>

* + - 1. **Migration from India to other countries**

We are choosing the year, Metropolitan\_Area, Immigrant\_Population\_from\_India, and Percentage\_of\_Metro\_Area Population for our dataset.

**Metropolitan\_Area:** categorical data

**Immigrant\_Population\_from\_India:**  ratio data

**Percentage\_of\_Metro\_Area Population:** ratio data

<https://www.migrationpolicy.org/article/indian-immigrants-united-states>

1. **Population:**

We are choosing the year, Age-Group and Value for our dataset.

**Year**: data ordinal

**Age**\_**Group**: Categorical data

**Value**: Raio data

<https://population.un.org/wpp/Download/Standard/Population/>

## **Data Processing**

Do you expect to do substantial data cleanup? What quantities do you plan to derive from your data? How will data processing be implemented? Will you be deriving any variables?

Describe clean up process that was implemented. Explanation and calculation of derived variables (if used).

# **Requirements**

## **Must-Have Features**

These are features without which you would consider your project to be a failure. Were you able to deliver all the promised features? If not, explain why.

**Heatmap Chart: Monthly wages between few countries**

**Idea:**

* Mouse over show the tooltip
* Have the color legend show the wages range
* Few countries button that allow to filter out their details in table form

**Choropleth map: Unemployment Rate of India**

**Ideas:**

* Allow to zoom when clicking any states in map and zoom manually such as scroll up and down or double click.
* Can be filter the data using search bar or button
* After filter will also display the filtered statss in map.
* Have a color legend to show the range.
* After filter will display to table to show more clear data.
* Mouse over in the states will show the tooltip.
* Have click on function and display the tooltip function and fill the clicked state.

**Sunburst chart: Population of India**

**Ideas:**

* Have click on function on the year
* After click the year or age will show the result in center
* Mouse over to show to tooltip.

**Pie Chart: Reason of India people migrate**

**Ideas:**

* Have mouse over to show the tooltip
* Have 2 filter button for show the male and female migration reason.

**Clustered stacked bar chart**

**Ideas:**

* Mouse over will show the tooltip.
* Have color legend to display the categories.

**Bubble chart:**

**Ideas:**

* Mouse over will show the tooltip.
* Filter function.
* Have color legend to display the range.
* Search bar to filter the different number of bubbles.

## **Optional Features**

Those features which you consider would be nice to have, but not critical. Were you able to deliver any of these extra features?

# **Visualisation Design**

How will you display your data? Provide some general ideas that you have for the visualisation design. Include sketches of your design. Include at lease 2-3 alternative ideas for your visualisation. Describe and justify your choice of visual encoding and idioms. Show the evolution of your design. How has it progressed? Justify the visualisation idioms you have chosen to represent your data.

Description (including screen shots) and explanation of final design.

[NOTE 1: You are encouraged to provide your own structure to this section (i.e., section headings etc).

NOTE 2: You MUST show evidence of iterative design (i.e., sketches of alternative and preliminary designs). ]

Include screenshots of final design.

**Figma link:** <https://www.figma.com/file/UWxd1ZE9F5eeS1g9glI1cY/Untitled?type=design&node-id=0%3A1&mode=design&t=S168Q81o0eQTJVIU-1>

**Draft of preliminary designs**

**Heatmap Chart: Monthly wages between few countries**

A paper with a chart and a graph

Description automatically generated with medium confidence

**Choropleth map: Unemployment Rate of India**

A white board with a black and white drawing

Description automatically generated with medium confidence

**Sunburst chart: Population of India**

A diagram of a sunburst chart

Description automatically generated

**Pie Chart: Reason of India people migrate**

A graph on a piece of paper

Description automatically generated

**Clustered stacked bar chart**

A graph of bar graph and bar graph

Description automatically generated

**Bubble chart:**

A drawing of circles and lines

Description automatically generated

# **Validation [optional - Bonus Points]**

Test your visualisation with users and report the results.

# **Conclusion**

Provide a summary of the project and what you learnt from doing it.

# **References**

References consulted (blogs, books, academic papers, discussion/help forums - for both design and programming)