**SHEET 1: Brainstorming & Ideas**

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| What are the questions we want to answer:   * We want to See population trends across years and states * Compare numbers moving in and out for each state within Australia * Compare numbers moving in and out for each state from and to other countries * Compare incoming and outgoing between states * Compare incoming and outgoing between countries | Challenges:   * Multiple levels of granularity in data: (Year, State, State\_from/to), (Year, State, Country\_from/to) * Members of the level Country can exceed 110 |

**Data sets:**

1. Population (year, state, population, total\_move\_in\_internal, total\_move\_in\_external, total\_move\_out\_internal, total\_move\_out\_external)
2. Move\_Internal(year, state, from\_nsw, from\_vic, from\_sa, from\_nt, from\_wa, from\_qld, to\_nsw, to\_vic, to\_sa, to\_nt, to\_wa, to\_qld)
3. Move\_External(year, state, from\_country1, from\_country2, from\_country3, …, to\_country1, to\_country2, to\_country3, ….)

**Filtering:**

Slider for the year and filter by selection of state/country.

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| Use of line charts and stack bar charts to show trend and multivariate data. | | Use of Corppleth maps to show visualization and use of  Peoplemovein graphs to show movement | |

Use of line charts and stack bar charts to show trend and multivariate data. Use

Filter by Year Selection of State/country

Filter by Year Selection of State/country

Sheet 2 – Initial Design 1

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|  | Reference: https://peoplemov.in/#c\_AF\_IR  Use PeopleMoving to show figures for people moving in and out of the state.  Discussion  + Has all data for each year  + Easy to compare in and out for states and countries  + Selection of state/country reduces the visual clutter  + Can focus on selected states/countries  - Difficult to see the trend  - |

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| Sheet 3: Initial Design 2 | Reference: <http://metrocosm.com/global-migration-map.html>  + Very attractive and visual  + Shows the size, the direction and origins  + Easy to comapre between the origins  - Needs to be filtered to a year using some sliders  - Can show a global trend  - maps names to geographic locations  - May not be usable to the color blind persons |

Sheet 4 – Initial Design 3

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|  | Reference: http://download.gsb.bund.de/BIB/global\_flow/  + Specifically designed to show migration of people  + Thickness shows the size  + Easy to see origins of the migration  + Shows Total in/out as well as individual contributions  - Difficult to detect the direction of the migration |

**Sheet 5 – Realization**

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**Discussion**

Reference: http://download.gsb.bund.de/BIB/global\_flow/

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| + Specifically designed to show migration of people + Thickness shows the size - Difficult to detect the direction of the migration  - Difficult to implement | + Easy to see origins of the migration + Shows Total in/out as well as individual contributions + Selection of Year/State cascades to the bar charts - Can get very crowded with all of the countries |

Global flow of people.

The final design is to have the design in sheet 3 but augment that with further details from sheet 1

One bar chart for high level population and separate bar charts for:

* moving into the state from other state
* moving into the state fromother countries
* moving out of the state to other states
* moving out of the state to other countries

Filter and operation

Filtered by year through slider and state by selction.