

COS30045 Data Visualisation

COVID-19 Health Impacts in Australia

Assignment 3A: Project standup 4
submission point

Team Members:

Saniru Kumarage: 105332151

Paarth Jindal:104344622

Table of Contents:

List of What I Have Done Since the Last Stand-up (Stand-up 3).....	3
Contribution So Far:.....	4
Current Completion Status.....	4
Remaining Tasks Before Final Submission.....	5
Issues With Teamwork.....	5
Progress on Assignment 3C: Website and Visualisation.....	5
Writing/Research of Our Code:.....	6
Designing of Visualisation:.....	7
Process Book Update:.....	7
Appendix:.....	8

List of What I Have Done Since the Last Stand-up (Stand-up 3)

- Since Project Stand-up 3, I have completed the following:
 - Finalised and validated the OECD Health Expenditure dataset (2019-2022),
 - Confirmed alignment between the OECD primary dataset and ABS COVID-19 mortality secondary dataset.
 - Completed full preprocessing documentation within the process book,
 - Implemented the final working versions of all D3 visualisations,
 - Improved visual clarity through refined colour schemes, spacing, and responsive SVG scaling,
 - Organised and cleaned project folder structure (dataset, scripts, styles, images) for final submission readiness.
- Expanded the process book to include:
 - Completed Introduction section,
 - Data Sourcing and Preprocessing sections,
 - Visualisation Design Rationale,
 - Design Iteration Evidence,
 - Explanation of Implementation Challenges and Solutions.
- Debugging and performance testing of JavaScript files,
- Reviewing code functionality to ensure it can be explained and justified.

Contribution So Far:

<u>Area</u>	<u>Estimated Time</u>	<u>% of Team Work Completed So far</u>
Finding and working with the dataset	~1 Hours	~100%
Designing the visualisation	~3 Hours	~100%
Contributing to the process book (Assignment 3B)	~6 Hours	~95%
Coding	~8 Hours	~95%

Current Completion Status

- **Dataset:** Final cleaned and structured datasets uploaded.
- **Code:** Fully functional D3 visualisations implemented and tested.
- **Website:** Layout and styling complete, with only minor refinements remaining.
- **Process Book:** Substantially complete, with introduction, data, preprocessing, design rationale, and implementation sections included.

The project is now at the final refinement stage.

Remaining Tasks Before Final Submission

- Final polish touches and layout adjustments.
- Final review on the process book to ensure clarity and consistency.
- Final cross-check of dataset values and labels.
- Conduct a final round of testing on the responsiveness and compatibility with different browsers
- Ensure all screenshots and figures are properly referenced and labeled.

Issues With Teamwork

The team dynamics are going well at the moment, and there are no current issues with the teamwork. The communication is steady, and the responsibilities are being shared and tracked effectively throughout the entire project.

Progress on Assignment 3C: Website and Visualisation

- The core visuals are all implemented and interactive.
- The integration with the data is complete.
- The website structure is solid and organised for submission.
- Only final polishing and documentation refinement remain.

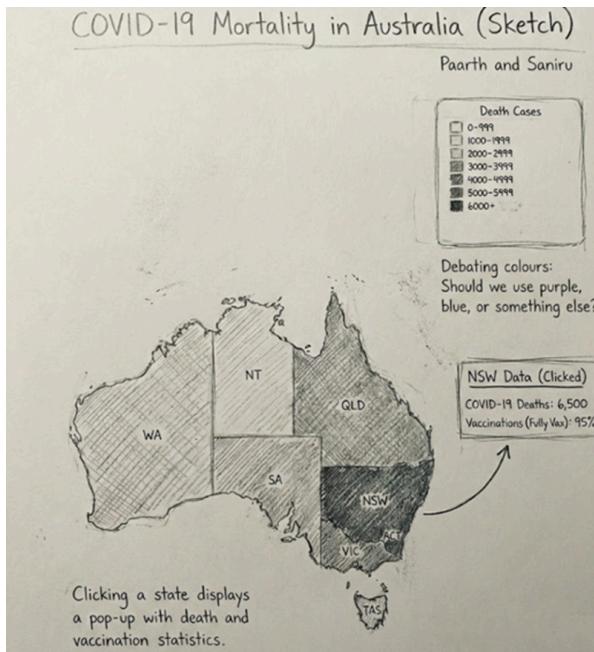
Writing/Research of Our Code:

```
# style.css < style.css > ...
306
307 #map {
308   display: flex;
309   justify-content: center;
310   align-items: center;
311   min-height: 520px;
312   background-color: white;
313   border-radius: 14px;
314   padding: 24px;
315   box-shadow: var(--shadow-lg);
316   margin: 0 auto 20px;
317   width: 100%;
318   max-width: 1000px;
319   box-sizing: border-box;
320 }
321
322 #bar-charts-container {
323   display: grid;
324   grid-template-columns: 1fr 1fr;
325   gap: 20px;
326   margin: 0 auto 20px;
327   width: 100%;
328   max-width: 1100px;
329   box-sizing: border-box;
330   flex: 1;
331   align-content: center;
332 }
333
334 #death-bar-chart,
335 #vaccination-bar-chart {
336   background: white;
337   border-radius: 14px;
338   padding: 20px 24px;
339   box-shadow: var(--shadow-lg);
340   min-height: 420px;
341   width: 100%;
342   box-sizing: border-box;
343 }
344
345 .chart-title {
346   color: var(--text-dark);
347   font-size: 1.5em;
348   font-weight: 600;
349   margin-bottom: 20px;
350   text-align: center;
351 }

510 /* FOOTER */
511
512 footer {
513   text-align: center;
514   padding: 30px 40px;
515   color: white;
516   font-size: 1em;
517   width: 100%;
518   box-sizing: border-box;
519   background: linear-gradient(135deg, #667eea 0%, #764ba2 100%);
520   border-top: 1px solid rgba(255, 255, 255, 0.1);
521 }
522
523 footer p {
524   margin: 0;
525   line-height: 1.8;
526 }
527
528 footer a {
529   color: rgba(255, 255, 255, 0.9);
530   text-decoration: none;
531   transition: var(--transition);
532   font-weight: 600;
533 }
534
535 footer a:hover {
536   color: var(--secondary-color);
537   text-decoration: underline;
538 }
```

```
460 /* TOOLTIPS */
461
462 .tooltip,
463 #tooltip,
464 #map-tooltip {
465   position: absolute;
466   padding: 12px 16px;
467   background: transparent;
468   color: white;
469   border-radius: 8px;
470   font-size: 14px;
471   pointer-events: none;
472   box-shadow: 0 10px 30px transparent;
473   z-index: 999;
474   max-width: 250px;
475   word-wrap: break-word;
476   display: none;
477 }
478
479 .tooltip.visible,
480 #tooltip.visible,
481 #map-tooltip.visible {
482   display: block;
483 }
484
485 /* SVG & CHARTS */
486
487 svg {
488   display: block;
489   margin: auto;
490 }
491
492 .axis text,
493 .axis.tick text {
494   font-size: 14px;
495   fill: var(--text-dark);
496 }
497
498 .axis.domain,
499 .axis.line {
500   stroke: var(--border-color);
501   stroke-width: 1;
502 }
503
504 .axis-label {
505   font-size: 14px;
506   fill: var(--text-dark);
507 }
```

Designing of Visualisation:



This is a concept sketch for an interactive map of Australia, which will feature color-coded shading for COVID-19 mortality and statistics for the states when clicked.

Process Book Update:

The figure shows two screenshots of the "COVID-19 Mortality in Australia" visualization. The left screenshot, labeled "Figure 22 Hover effect", shows a map where NSW is highlighted in yellow. The right screenshot, labeled "Figure 23 Clicking interactivity", shows the same map with NSW highlighted in yellow, and two pop-up charts for NSW: "COVID-19 Deaths by Year (2019-2020)" and "Vaccination Progress by State (2019-2020)".

Click Interaction:

- **Selecting states:** When the user clicks on a specific state or region, that particular state or region is highlighted in yellow. The visualisation ensures that the user is able to easily identify that particular state or region. The user can then select that particular state or region to view precise data visualisation. The visualisation is clean and uncluttered.
- **Dynamic Title:** The title of each respective chart (bar chart and scatter chart), which displays "Australia" by default, is dynamically updated to reflect the name of that particular state or region that is selected by the user. The user can easily identify each respective state or region in relation to geography.

Overall Usability The overall visualisation is enhanced through the incorporation of interactive elements. By adhering to Tufte's principles of visualisation, the visualisation ensures that there is a high data-ink ratio.

c. Colour Palette

Map Choropleth (Purple Theme)

Choropleth Map:

The use of a gradient effect with shades of purple is meant to draw attention to different levels of COVID-19 effects across different states. The rationale behind using a colour gradient is that it is easier for users to comprehend the level of density by moving from a lighter shade of lavender to a darker shade of indigo, as this is an intuitive way to understand density without using red, which is more indicative of alarm. As shown on the map, moving from higher statistics to lower statistics means that the darker shades are used to indicate a higher level of effects, and at a glance, one is able to identify which state is more adversely affected by the pandemic.

We are close to finishing the process book, which will include the implementation and design decisions for the interactive map, leaving the survey section to be completed.

Appendix:

LINK TO GITHUB: <https://github.com/paarth1240/COS30045-Data-Visualisation/tree/main>