**1. Project Introduction**

Despite being one of the smallest countries in the world, Singapore boasts a modern and developed economy, making it a hub for business, finance, and tourism. However, this development comes at a steep price, as the country's high living costs have once again ranked it as the world’s most expensive city for the 8th time in a decade (Low, 2022). The consistent high cost of living has been further worsened due to the high inflation, the COVID-19 pandemic, and the increase in GST from 7% to 8%. Prices have risen by 8.1% in local-currency terms, which is the highest rate in 20 years (Low, 2022).

With the recent rise in inflation and prices, many Singaporeans are finding it increasingly difficult to make ends meet, leading to a growing concern about their ability to cope with the cost of living (Low, 2022). This has resulted in mental health worries (Kalra, 2023), as many Singaporeans struggle to manage the financial burden that comes with living in such an expensive city.

As a Singaporean who is directly impacted by the rising cost of living, I am acutely aware of the financial challenges faced by many locals. With the constant increase in food and transport prices, I have found myself needing to manage my finances more carefully than ever before. It is a reality that many other Singaporeans are facing as well, and it is a pressing issue that needs to be addressed urgently.

**2. Highlights of Project**

**2.1 Dynamic Website Setup**

My data visualisation project stands out because of its dynamic website setup, which allows users to interact with various features and view different charts. In the "inflation" section, for instance, I used a single dataset to generate multiple graphs for different types of inflation. To avoid cluttering the website with too many similar charts, I integrated them into a single canvas, where users can choose which one to view. I got the idea for this feature from the onclick function we learned in class, which I then applied to a div element. I also applied the *document.getElementById("").innerHTML* knowledge from class to make this feature work.

To further engage users, I added a feature that allows them to input their average household income and see which income decile they fall under, using the income decile dataset. I applied the knowledge I gained in class about building HTML forms and creating an ‘if’ function. This feature is a small but effective way of personalizing the user experience and making the data more relatable.

**2.2 Variety of Chart Types**

The second highlight of the project is the variety of chart types on display, showcasing the diverse range of data visualisation possibilities with chart.js. The website features various types of charts, from bar charts to line charts and doughnut charts, all demonstrating the versatility of the tool. I learnt about new chart types that were not discussed in school through w3schools (W3schools, n.d.).

**2.3 Organisation of Website**

Another notable feature of my project is the well-organized layout of the website. Drawing on my knowledge from class on div elements and flexbox layouts, I ensured that all HTML elements are arranged in an intuitive and visually pleasing manner. By using div-id tags and class tags, I was able to apply unique styling to each div element with CSS, enhancing the visual appeal of the website.

Overall, my project offers an aesthetic, engaging and informative data visualisation experience that goes beyond just displaying static information. The dynamic website setup, user input feature, and diverse chart types all contribute to a rich and interactive experience that is both informative and enjoyable to use.

**3. Reflection**

**3.1 Technical Skills**

Through working on this project, I have gained valuable technical skills and learned how to effectively use chart.js to create visually appealing and informative data visualizations. Before working on this project, I had a basic understanding of chart.js and relied heavily on class materials for guidance. Because I always blindly copied over charts, when something went wrong with my chart, I did not understand what I had to edit. However, as I worked on different charts, I developed a deeper understanding of the various elements in a chart.js function and learned how to manipulate options and scales to create customized charts. This gave me a better understanding of how the chart works, so that when something goes wrong, I knew where in my code I should check.

My CSS skills also improved significantly as I encountered challenges with div element arrangement and positioning. I learned how to use CSS to edit individual div elements and create flexbox layouts, enabling me to organize my content more effectively.

**3.2 Non-Technical Skills**

This project taught me the importance of proper planning and attention to detail. Starting the project without a clear plan and vision caused me to redo various parts of the website, leading to time waste. Additionally, I learned to be more meticulous, as there were numerous times when small errors such as a missing comma or bracket caused the entire website to break down and left me stuck for hours wondering what went wrong. Lastly, this project honed my critical thinking skills as I had to think about how I could use the data I have to create a compelling data story through the use of data visualization.

In terms of non-technical skills, this project really taught me the important of proper planning before starting on a project. Starting on the project without a clear plan or vision led me to having to redo various parts of my website and create a lot of time waste. Additionally, this project taught me the importance of attention to detail because there were numerous times were a single bracket, or a missing comma caused my whole website to break down and left me stuck for hours wondering what went wrong. Lastly, I have developed a deeper understanding of how to use data visualization to tell a compelling story. The project required me to think critically about how to present the data in a way that is visually appealing yet informative and flows well.

**References**

1. Low, Y. (2022, December 5) *“With 'consistently high cost of living', Singapore ranked world's most expensive city for 8th time in a decade: Survey”* Today Online. <https://www.todayonline.com/singapore/consistently-high-cost-living-singapore-ranked-worlds-most-expensive-city-8th-time-decade-survey-2061111>
2. Low, Y. (2022, November 15) *“TODAY Youth Survey: Cost of living main source of mental health struggles, amid worries over healthcare and everyday expenses”* Today Online. <https://www.todayonline.com/singapore/today-youth-survey-cost-living-mental-health-worries-healthcare-expenses-2033126?cid=internal_inarticlelinks_web_13032023_tdy>
3. Kalra, A., S. (2023, March 7) *“Stressed in Singapore: Rising cost of living is triggering wellbeing issues”* <https://www.humanresourcesonline.net/stressed-in-singapore-rising-cost-of-living-is-triggering-wellbeing-issues>
4. W3schools (n.d.) *“Chart.js”* <https://www.w3schools.com/ai/ai_chartjs.asp>.
5. Singstat (2023, March 23) *“Singapore Consumer Price Index, Feb 2023”* <https://www.singstat.gov.sg/whats-new/latest-news/cpi-highlights>
6. Singstat (2023, February 9) *“Average Monthly Household Income from Work (Excluding Employer CPF Contributions) Among Resident Employed Households”* <https://tablebuilder.singstat.gov.sg/table/CT/17820>
7. Singstat (2020, May 20) *“Average Monthly Household Expenditure Among Resident Households By Type Of Goods And Services”* <https://tablebuilder.singstat.gov.sg/table/TS/M212981>
8. Chin, S., F. (2023, February 15) *“Budget 2023: S’poreans to get more in GST Voucher, cash payouts to cope with rising costs”* <https://www.straitstimes.com/singapore/budget-2023-more-help-for-singaporeans-to-cope-with-rising-costs-gst-hike>
9. Gov.sg (n.d.) “Cost-of-Living Support for Singaporeans” <https://www.gov.sg/features/cost-of-living>