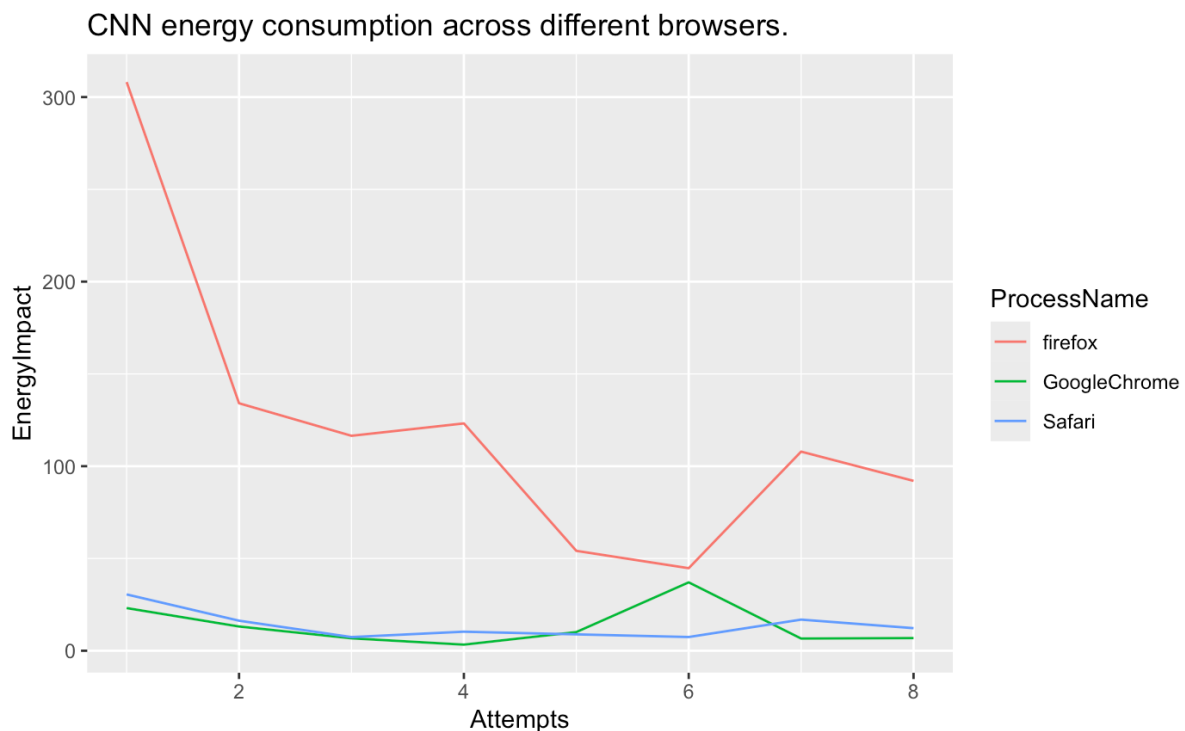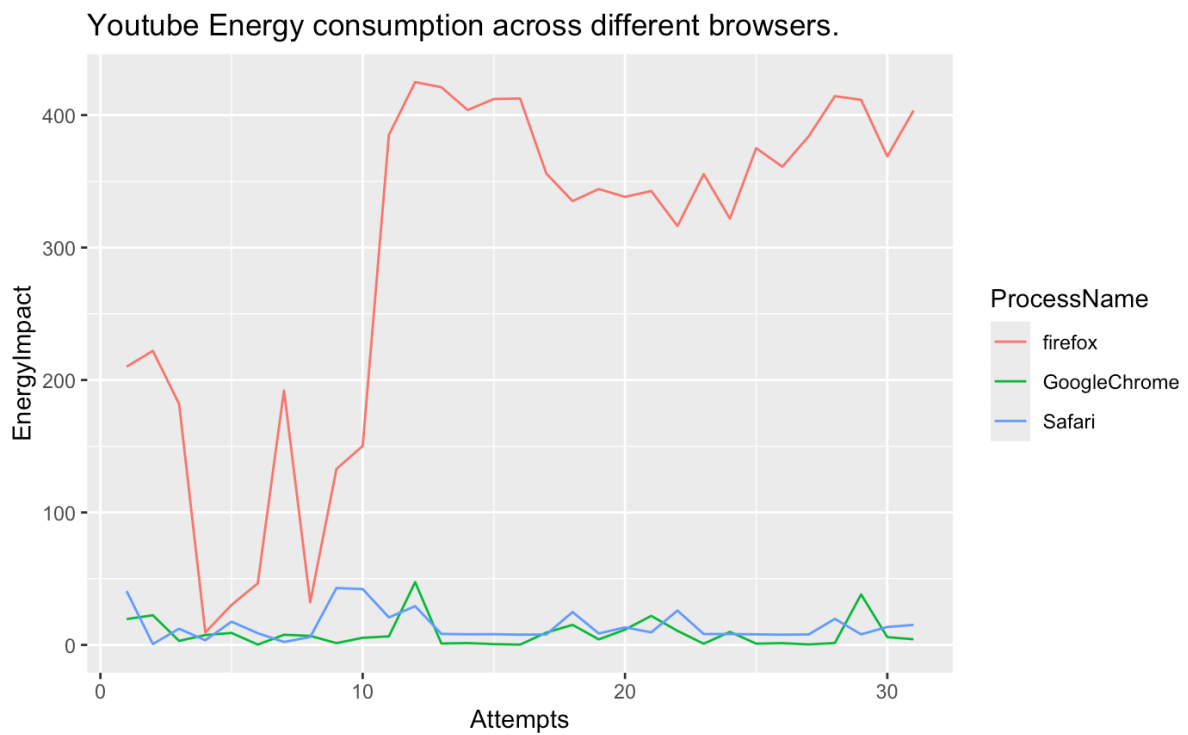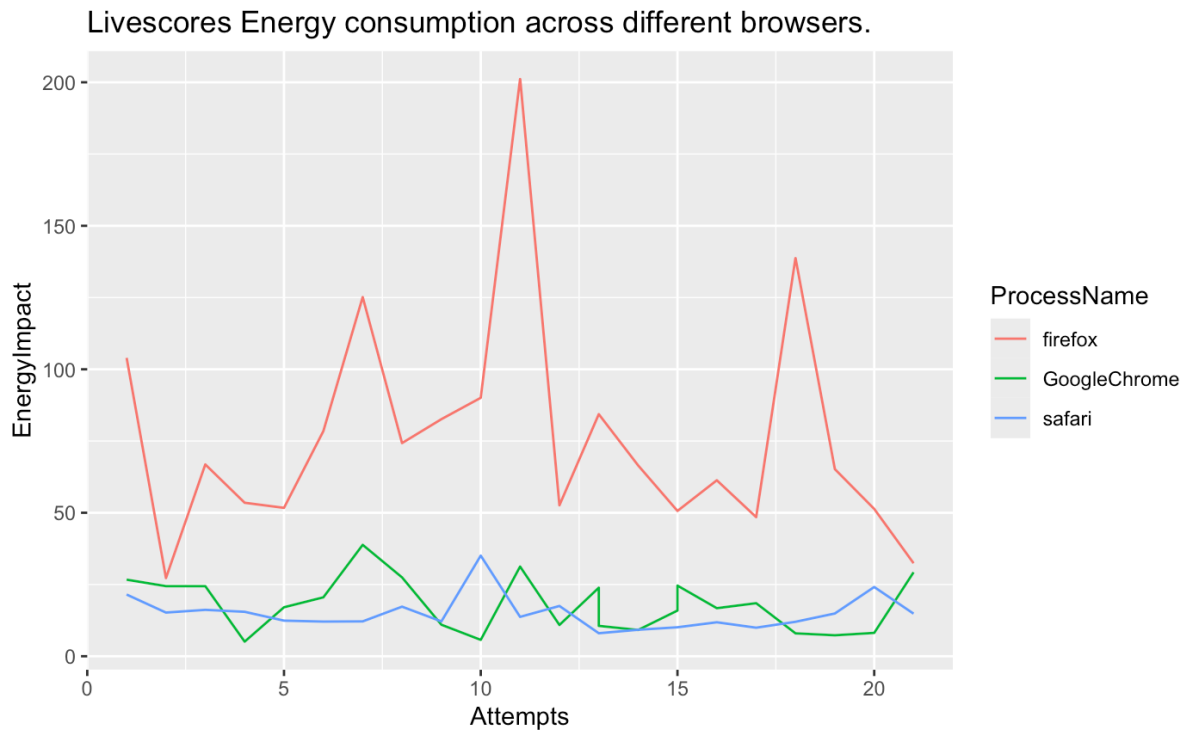While comparing the client-side energy consumption of three sites on three browser engines to ascertain if the client-side energy consumption of eShop application under are influenced by the browser and the activities being performed. We measured the energy consumption of YouTube, CNN news site, and Sport live-scores across Google Chrome, Safari, and Firefox, each running for 5 minutes, and repeated the measurements to ensure consistency.

We observed that across the three sites, Firefox had the highest energy consumption, over 3 times higher than Safari and Google Chrome. The average energy impact of watching a YouTube video for 5 minutes on Google Chrome is 8.9, on Safari is 14.37, and on Firefox is 293.36. For going through the CNN site for 5 minutes, the average energy impact on Google Chrome is 13.37, on Safari is 14.45, and on Firefox is 122.59. For 5 minutes of browsing the LiveScore site, the average energy impact on Google Chrome is 18.06, on Safari is 15.04, and on Firefox is 76.49.

From this experiment, we can see that different search engines and activities have varying degrees of impact on client-side energy consumption. While we cannot generalize on the most energy-efficient browser, we observed that Firefox had the highest impact on energy consumption. Therefore, users can choose the browser they want to use based on the type of activity they are performing.

CNN energy consumption across different browsers.

Livescores Energy consumption across different browsers.

Youtube Energy consumption across different browsers.

The aboved measurement was taken while the following sites was accessed:

Link to Youtube studio:
https://www.youtube.com/watch?v=RCghz0JZVnA&list=PLD0D070
C218D8F5A3[https://www.youtube.com/watch?v=RCghz0JZVnA&list](https://www.youtube.com/watch?v=RCghz0JZVnA&list=PLD0D070C218D8F5A3)
[=PLD0D070C218D8F5A3](https://www.youtube.com/watch?v=RCghz0JZVnA&list=PLD0D070C218D8F5A3)
News site: https://edition.cnn.com/?hpt=header_edition-picker
LiveScores: https://www.livescore.com/en/