Design Goals

The primary design goal was to create an intuitive and insightful interface that allowed the team to easily understand the user's data. Although the tabular form of data presents more detailed statistics, it can be hard to identify patterns and compare data relatively. The goal was to analyze data on an individual user's level along with an aggregate analysis across multiple users. Some notable visualizations were

1. Time spent by users across different categories
2. Resources visited by users across different categories
3. Q-tags created by users across different categories
4. Presenting the sum, mean, and median of different statistics across users (Table)

Considerations

Vega-lite and Tableue were the two tools considered to visualize the data. The decision to use Tableau was due to the large customization options and the interactivity it provided over Vega-lite. The choice of visual variables such as colour, size, and shape was critical in ensuring that the visualizations were both informative. For instance, different colours were used to distinguish between various resource types and were aligned with the colours of the user interface of the Milestone app.

While other options such as sunburst diagrams, network diagrams, and bubble graphs were considered, the primary visualizations used were bar graphs and stacked graphs. Arc diagrams were used to present user navigation from one resource to the next and were created using Vega-lite (Isabelle)

Implementation

1. JavaScript scripts were used to aggregate the data into structured tables. These scripts processed raw data collected from the app, including user time spent on various resources, URLs, categories, likes, and qtags created.
2. The aggregated data was then exported into Excel files, ensuring a clean and organized format ready for visualization.
3. Within Tableau, bar graphs and stacked graphs were created to represent the data visually.
4. The visualizations were customized to align with the user experience (UX) of the app by adjusting colours, labels, and interactive elements