Software Engineering Digital Assignment (Lab)-4

Sentiment Analysis using Python and Artificial Intelligence

MEMBERS:

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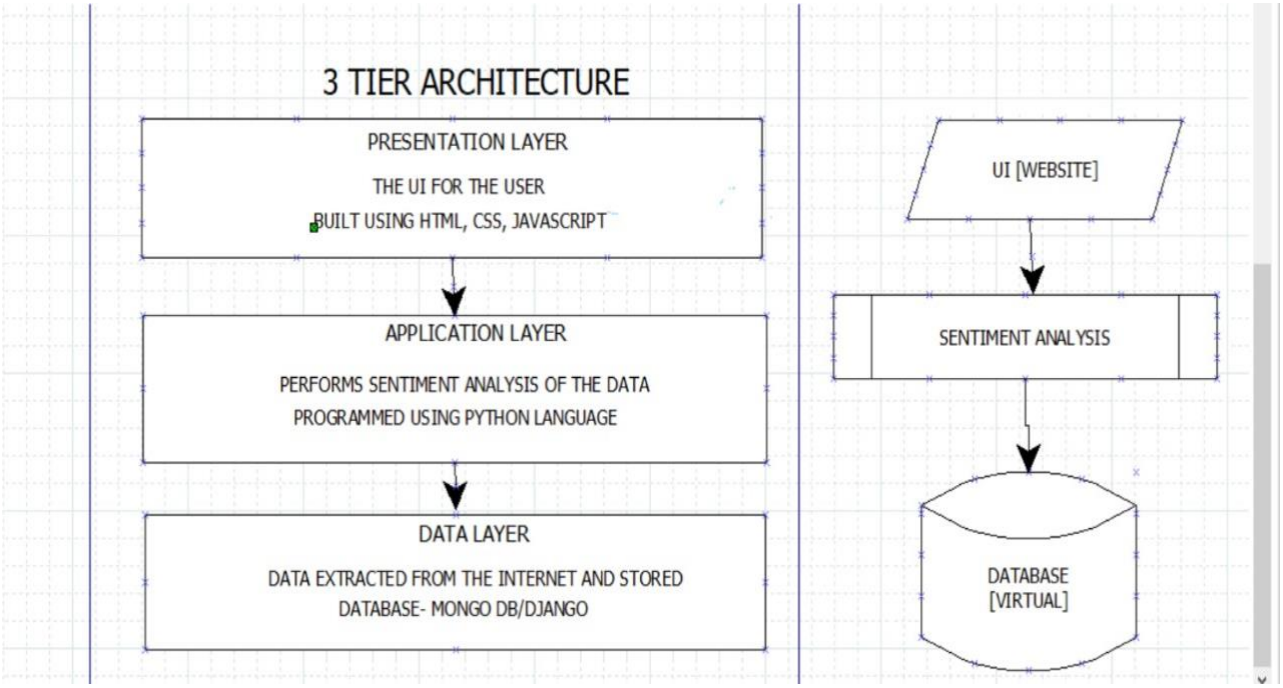
ARCHITECTURE DESIGN:

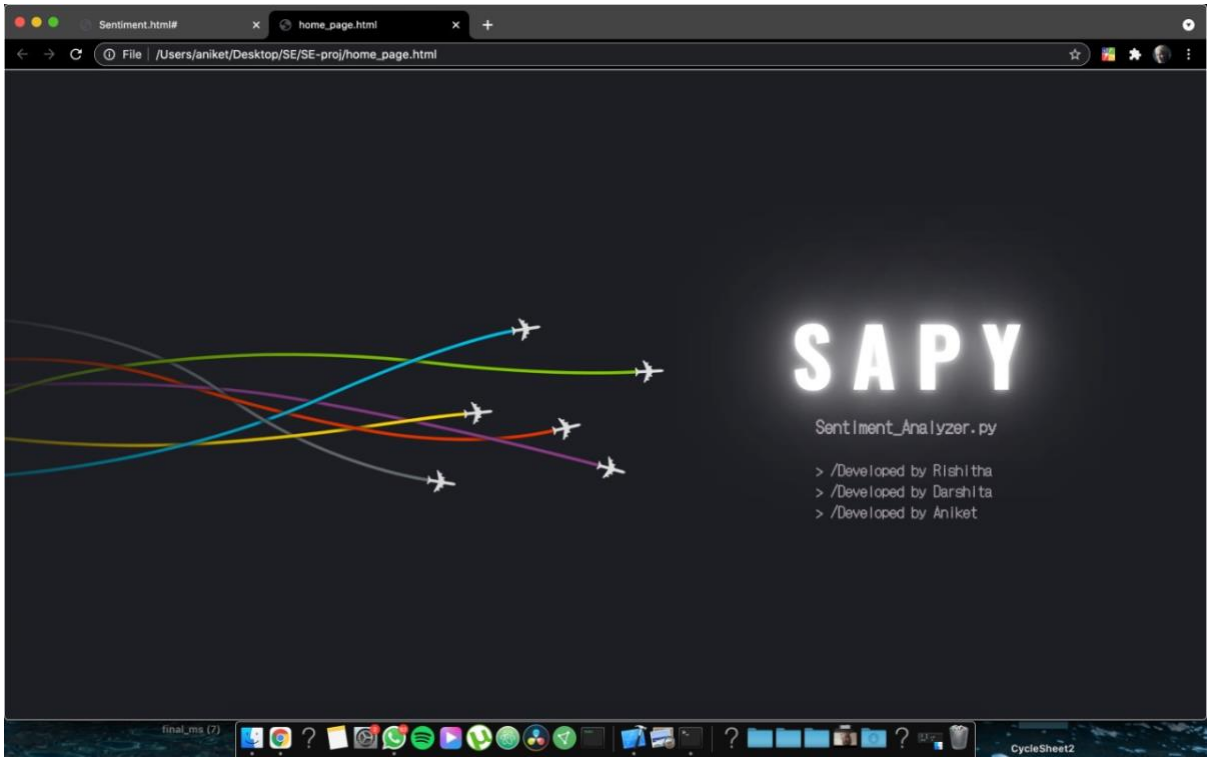
THREE TIER ARCHITECTURE:



A 3-tier architecture is more scalable than a 2-tier architecture because the web- tier and middle-tier can be scaled differently if necessary. We have used this architecture for increasing the performance and scalability of our project. A physical middle-tier can be shared by a number of clients, so reuse and maintenance is increased. A physically separate middle-tier application server can increase security because it adds an extra level of indirection between the presentation layer and the data layer.

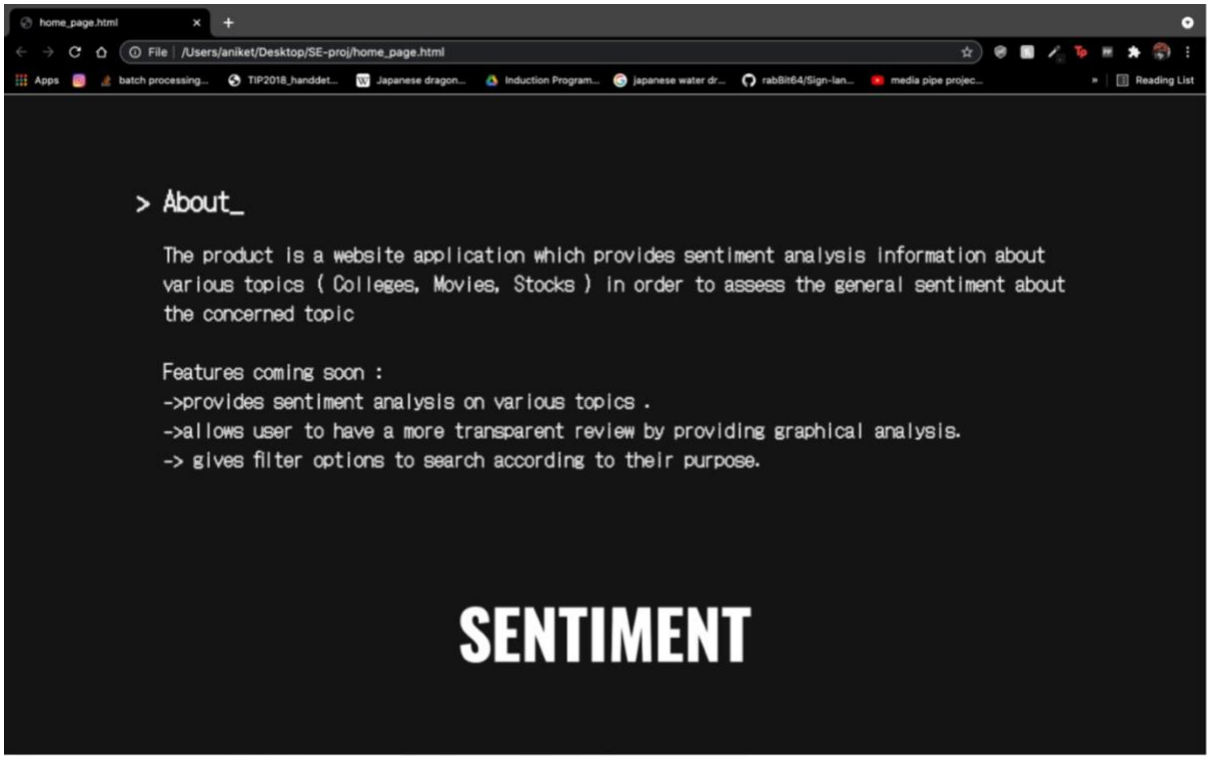
PROTOTYPE OF USER INTERFACE:

PAGE 1:



This is the main page for our project.

PAGE 2:



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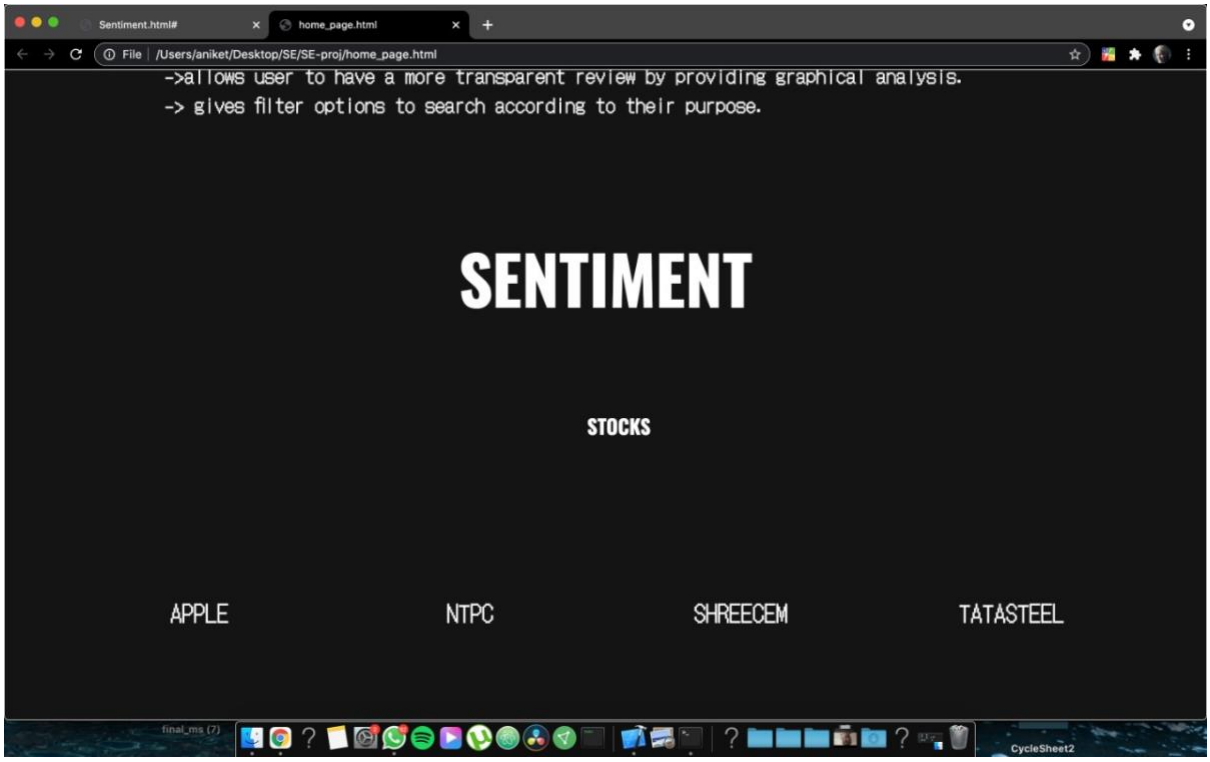

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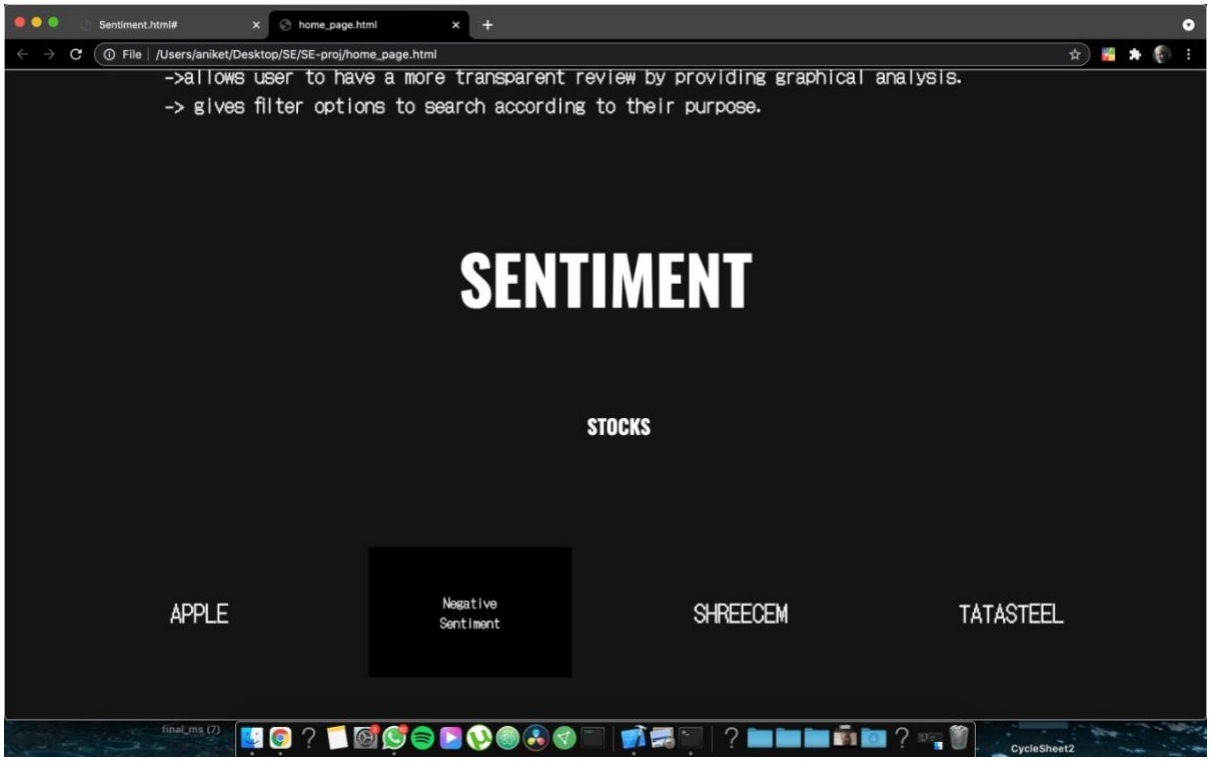
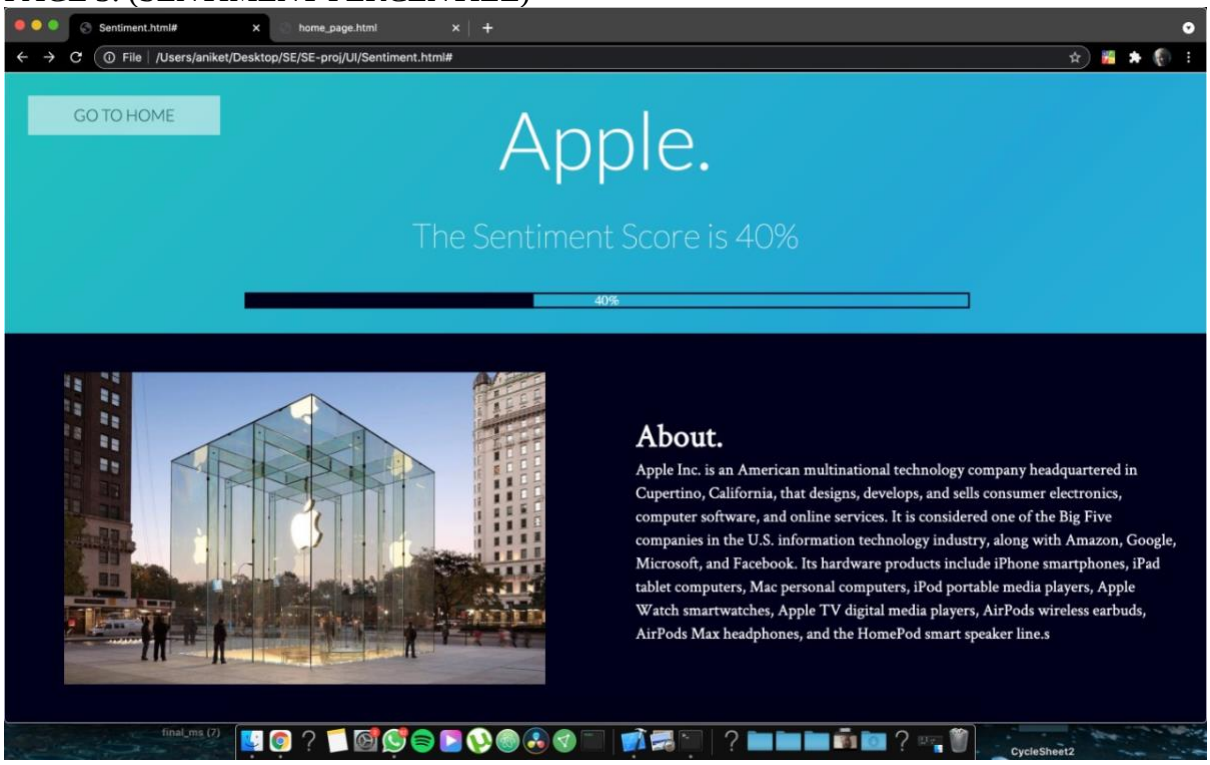


This is the HOME PAGE of our project. This page tells the users what this website is about and what are all the features that this website holds. In this page, user will be able to select the topic, of which they would want to see the sentiment analysis.

Hovering Mouse over element displays Average Sentiment, and is a link which one can click to go to another page for further analysis of the topic that they have selected.

Rule: Reduce the User's Memory load.
We have developed shortcuts for going to the sentiment analysis part of the topic by clicking on the desired topic and added the feature where the cumulative response can be seen just by hovering mouse over the desired topic.

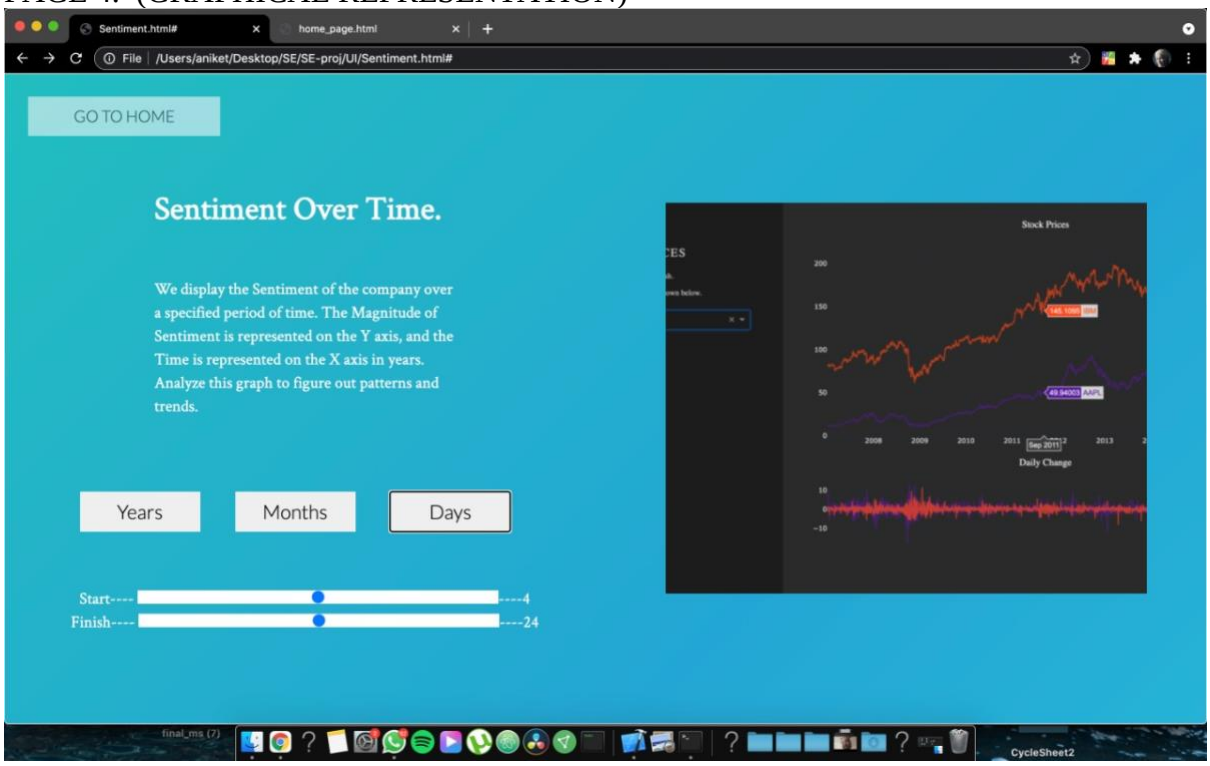
PAGE 3: (SENTIMENT PERCENTILE)



Upon clicking the link, An intro page appears with a Percentage showing the Sentiment for Apple. A Bar is included becuase Percentage Bars are very intuitive for any user.
To contrast with the colors above, dark color have been used in the bottom section, so that the introduction for the company stands out.
Notice the Go To Home button in the top left corner, it is a semi transparent button which stays fixed with the user which will guide the user back to the home page, Since having an entire Navigation Bar felt unnecessary.

Rule: Place the User in Control and Reduce the User's Memory load.
Here we have created a shortcut for going back to the home page if the user wants to check the analysis for a different topic. In page we have dipslayed descriptive messages and text. Here we are hiding the interanls from the user and displaying the overall sentiment analysis of the selected topics. Here the user can reverse their actions by clicking on the Go To Home page to slect another topic.

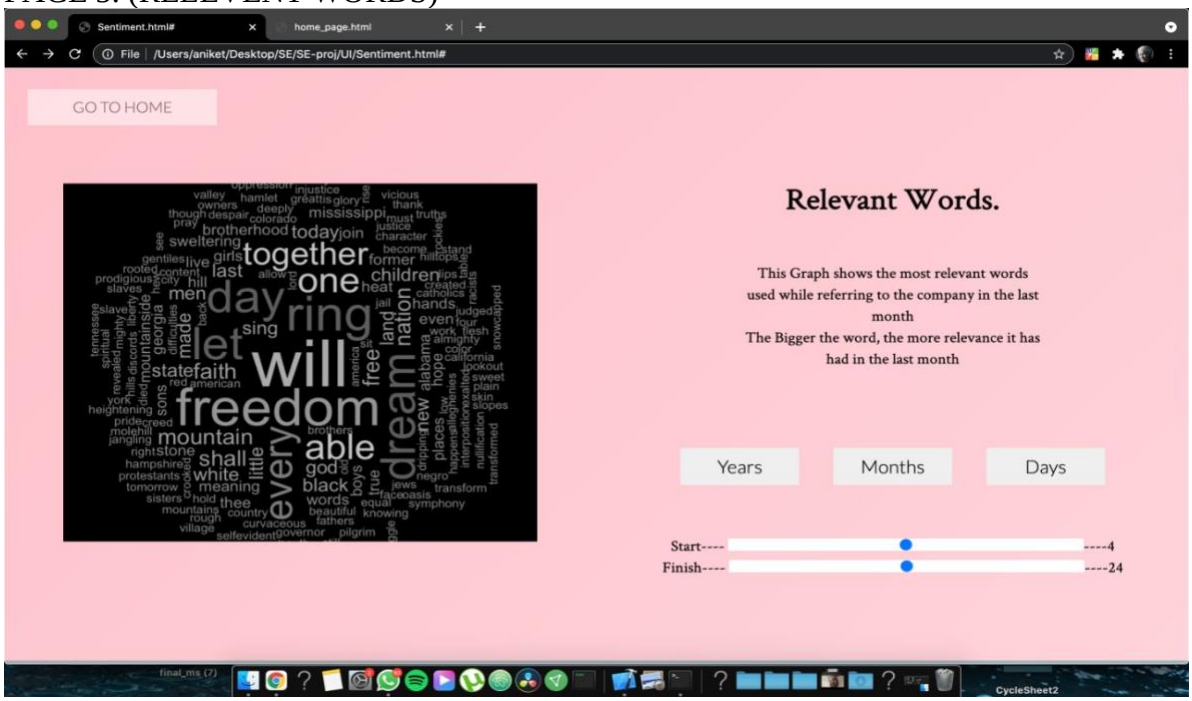
PAGE 4: (GRAPHICAL REPRESENTATION)



Upon Scrolling Down, A graph is visible which will give the sentiment for apple over time. The user has intuitive buttons to select the Time Scale (Years, Months, or Days) and the Time Period (Two sliders one for start and another for finish)
A Gradient Bright background of Blue + Yellow which keeps changing color gradient very slitghtly shifting between blue and yellow while the user is analysing the graphs so that he/she can have a soothing user experience.

Rule: Reduce the User's Memory Load, Make the Interface consistent and Place User in Control.
Here we have reduced user's memory load by inluding objects to view, actions and options available. We have incliuded shortcuts by adding Go To Home option. The visual layout is based on Graphs which is a real life metaphor. It maintains consistency across the applications and allows users to put the current task into menaningful context. This page encourages exploration by allowing users to chage start and finish section. And this page is designed in a way that allows users to directly interact with the objects that appear on the screen.

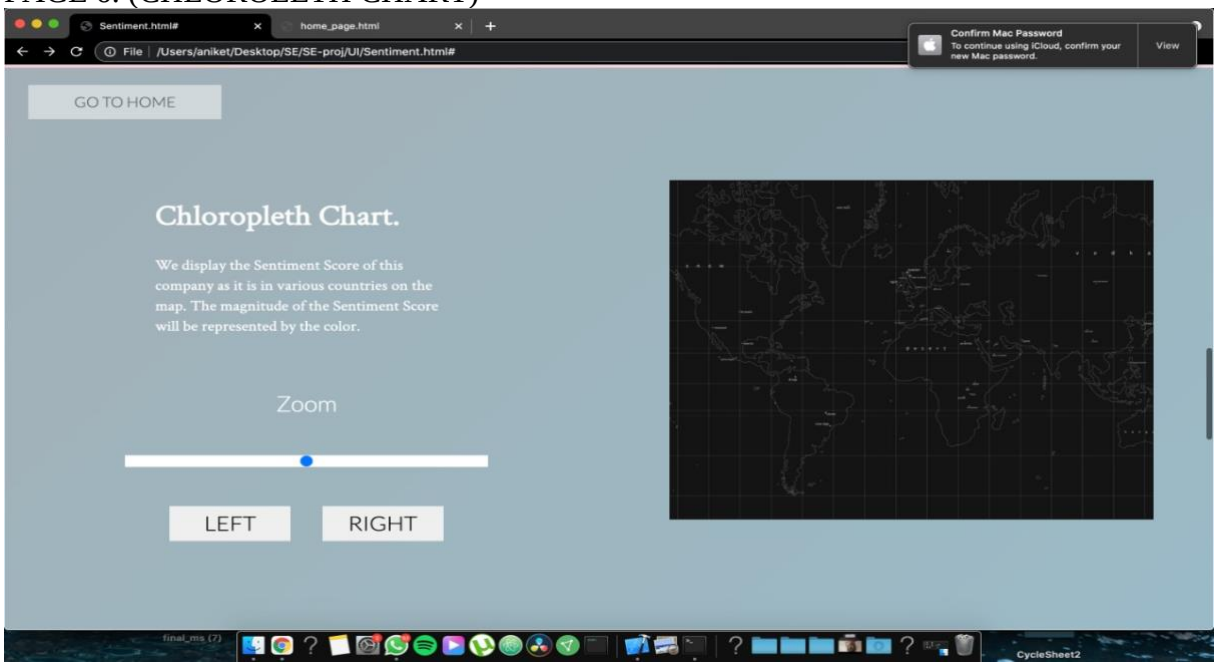
PAGE 5: (RELEVENT WORDS)



This page shows the most relevant words used referring to the topic in the last month or any certain time period. The bigger the word the more relevance the word had in the last month.

Rule: Reduce the User's Memory Load, Make the Interface consistent and Place User in Control.
Here we have reduced user's memory load by inluding objects to view, actions and options available. We have incliuded shortcuts by adding Go To Home option. It maintains consistency across the applications and allows users to put the current task into menaningful context. This page encourages exploration by allowing users to chage start and finish section. This page allows flexible interact with the system. And this page is designed in a way that allows users to directly interact with the objects that appear on the screen.

PAGE 6: (CHLOROLETH CHART)

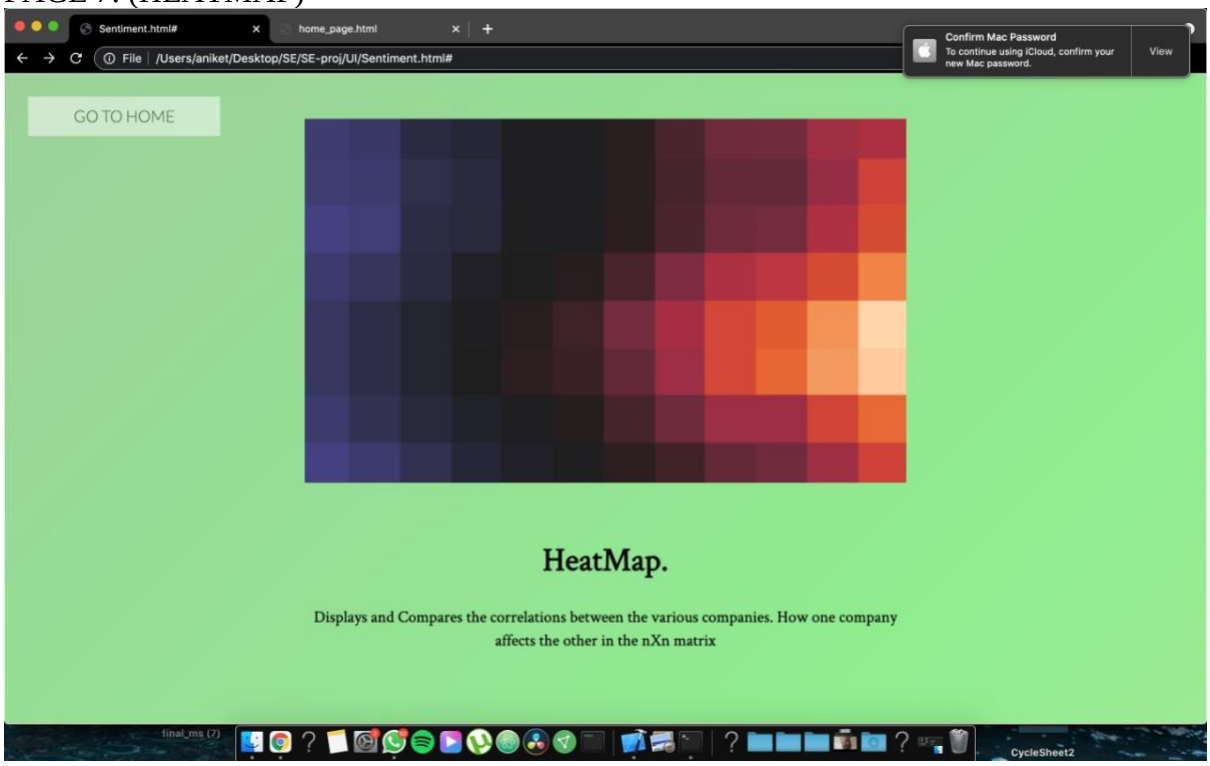


In this page, the chart displays the sentiment score of the topic as it is in various countries. The magnitude of the sentiment score will be represented by the color. Choropleth maps are popular thematic maps used to represent statistical data through various shading patterns or symbols on predetermined geographic areas (i.e. countries). They are good at utilizing data to easily represent variability of the desired measurement, across a region.

Rule: Reduce the User's Memory Load, Make the Interface consistent and Place User in Control.

Here we have reduced user's memory load by inluding objects to view, actions and options available. We have incliuded shortcuts by adding Go To Home option. It maintains consistency across the applications and allows users to put the current task into menaningful context. This page gives the user the option to zoom in and zoom out for a better interaction with the system. This page allows flexible interact with the system. And this page is designed in a way that allows users to directly interact with the objects that appear on the screen.

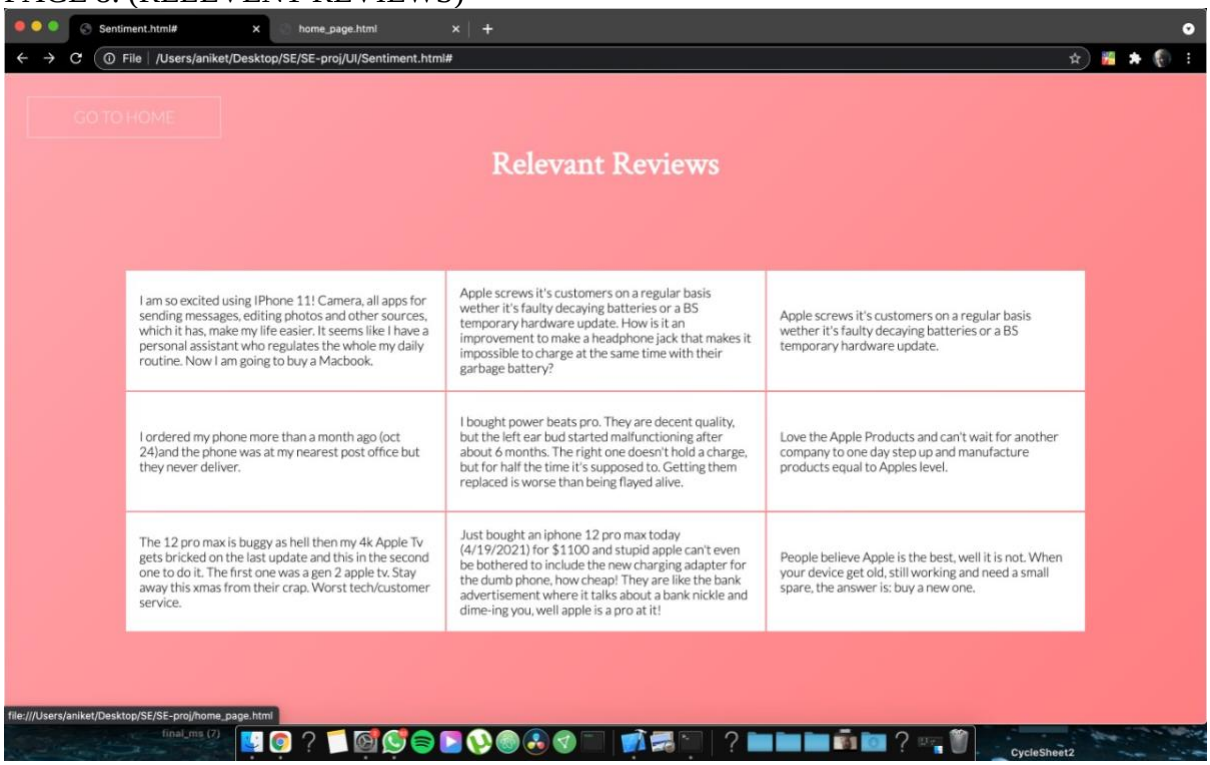
PAGE 7: (HEATMAP)



Displays and compares the correlations between various topics and how they affect each other with the help of a colored NxN matrix. We have used this representation to compare the analysis about different companies.

Rule: Reduce the User's Memory Load and Make the Interface consistent.
We have included shortcuts by adding Go To Home option. Disclose information in a progressive fashion. This statistical representation puts the current task into meaningful context. The visual layput of this page is based on a real wolrd metaphor.

PAGE 8: (RELEVENT REVIEWS)



This section displays a few direct reviews about the topic from the internet so that the user can get an insight about the flaws and strengths of the selected topic. These reviews help the user to know about the topic in detail rather than checking only the cumulative sentiment analysis percentile.

Rule: Reduce the User's Memory Load and Place User in Control.
We have included shortcuts by adding Go To Home option which takes the user back to the page which has different default topics to select. This page discloses information in a progressive fashion. This page displays textual and descriptive messages.