What's on your mind?

PROJECT PRELIM REPORT

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Your response to Facebook famous question, “What’s on your mind?” says a lot about who you are and how you feel about yourself. This tool will help in evaluating our sentiments over the basis of keywords which a post has, which can let us determine the personality of a person. This report includes the various steps involved developing this tool and their explanation in brief.

We are aiming to build a full-fledged **Facebook Emotional Analysis** application in the form of a dashboard using the feeds posted by a user.

Application:

Steps involved in using our application:

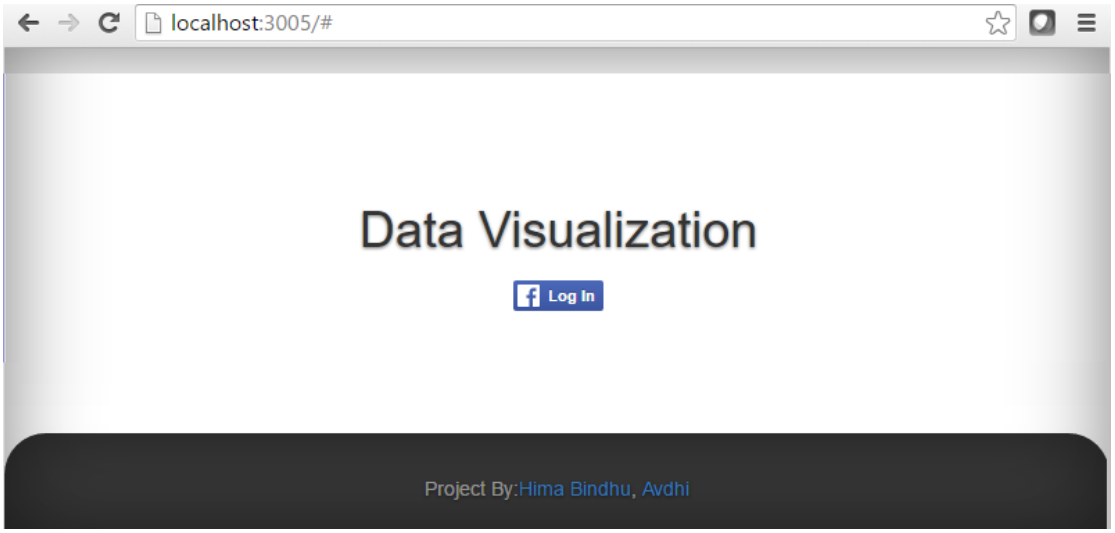
1. Connect to the application using local server. We have used node.js to accomplish this task.

2. Clicking on login will ask for the user credentials. It asks for permissions for sharing profile information that is the data that we are interested in.

3. Once logged in, user can click on the button “Load my FB feeds” which will collect the Facebook feeds of a user

4. Logout button is provided to the user to ensure that he/she can successfully log out of his/her profile.

The steps listed above are shown through screen-shots:



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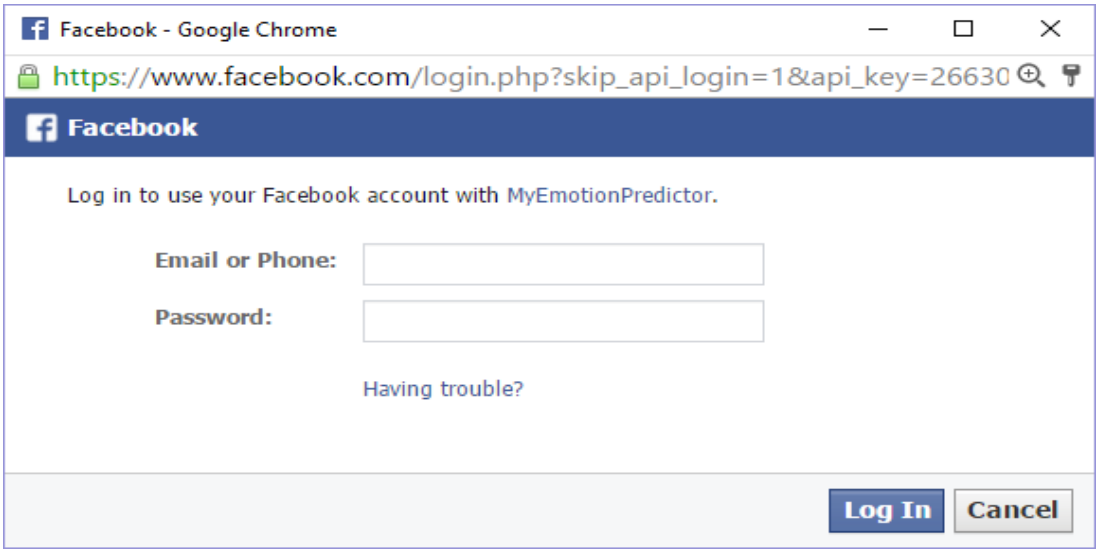

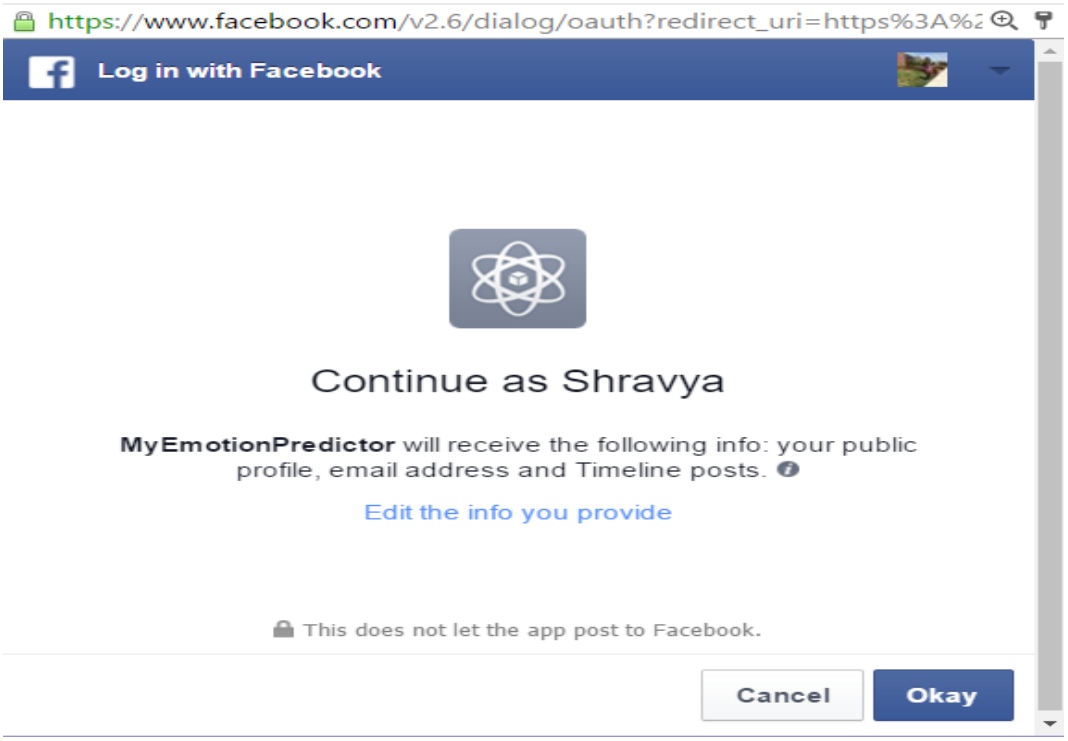

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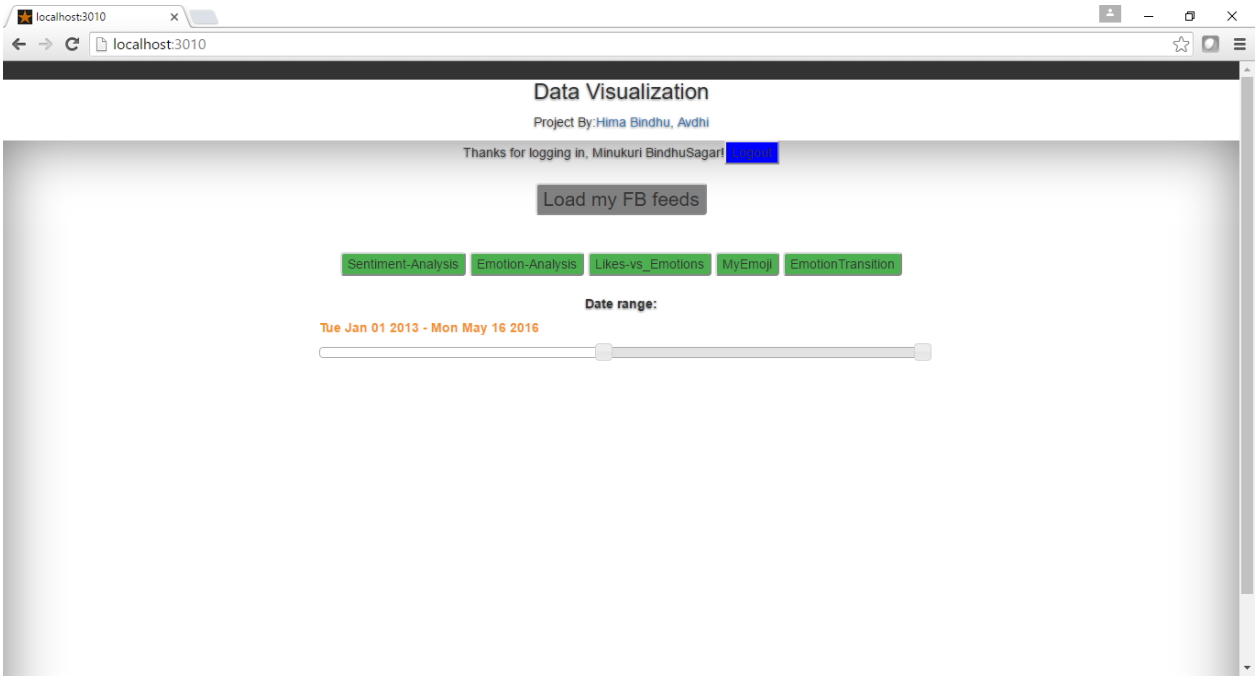

Data Collection:

Facebook Graph API is used to pull the data needed. This data is majorly the **feeds** associated with a profile which may include meta data like post-id, timestamp of the post and likes information.

For feeds: FB.api("/me/feed",function)

For likes: FB.api("/"+item.id+"/likes?summary=true",function);

For statuses: FB.api("/me/statuses",function)

For shares: FB.api("/me/shares",function)

We have ensured that data collection in our application is completely dynamic, where in we fetch the required data attributes for a user as per the interactions made.

Data Analysis:

We have done **text processing and sentiment analysis** of feed messages using JavaScript text-processing sentiment API similar to that of Python NTLK sentiment analysis API.

Ref: http://text-processing.com/api/sentiment/

- We have considered **sampling of data** in case of huge number of posts which may lead to slow process. We will be choosing a sample of 1000 records for analysis.
- During the first parse of data we have analyzed all the feeds and labeled them into **positive, negative** and **neutral** sentiments.

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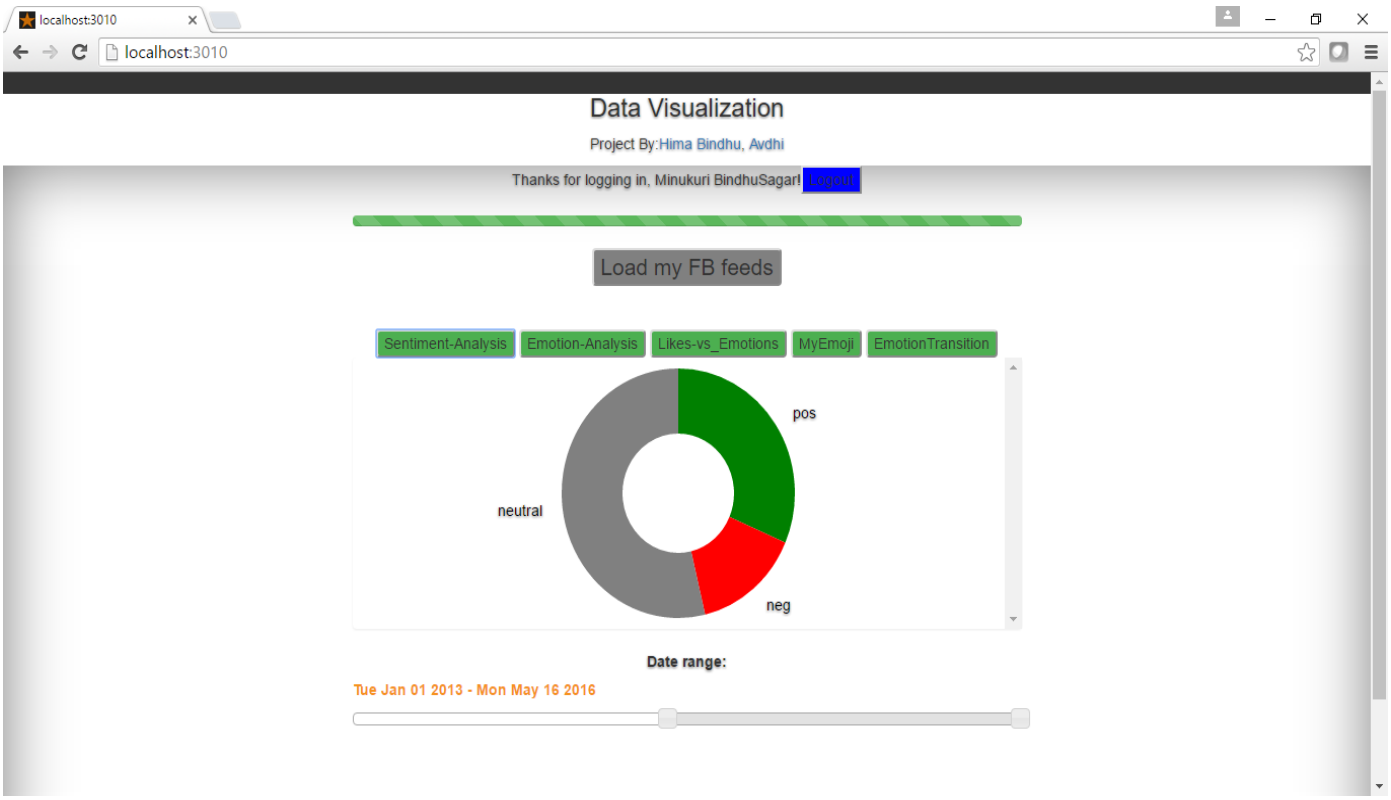
- We then did further processing by **sub-categorizing the feeds** into more relevant sentiments. This is done by weighing the probabilities of positive, negative and neutral labels and mapping to the range of predefined set of sentiment weights. For example: - Sentiment labels at this parse are as follows- joy, excitement, frustration, disgust, wonderful, grief etc.

Data object after processing has the following dimensions respectively:

- Message,
- Message-Id,
- Message_Length,
- Emotion_Type,
- Emotion_Label,
- Likes_count,
- Prob_pos,
- Prob_neg,
- Prob_neu,
- Time_Stamp

Visualization:

1. We have presented basic sentiment analysis of feeds from a Facebook user in the form of a **Donut chart** as shown below.



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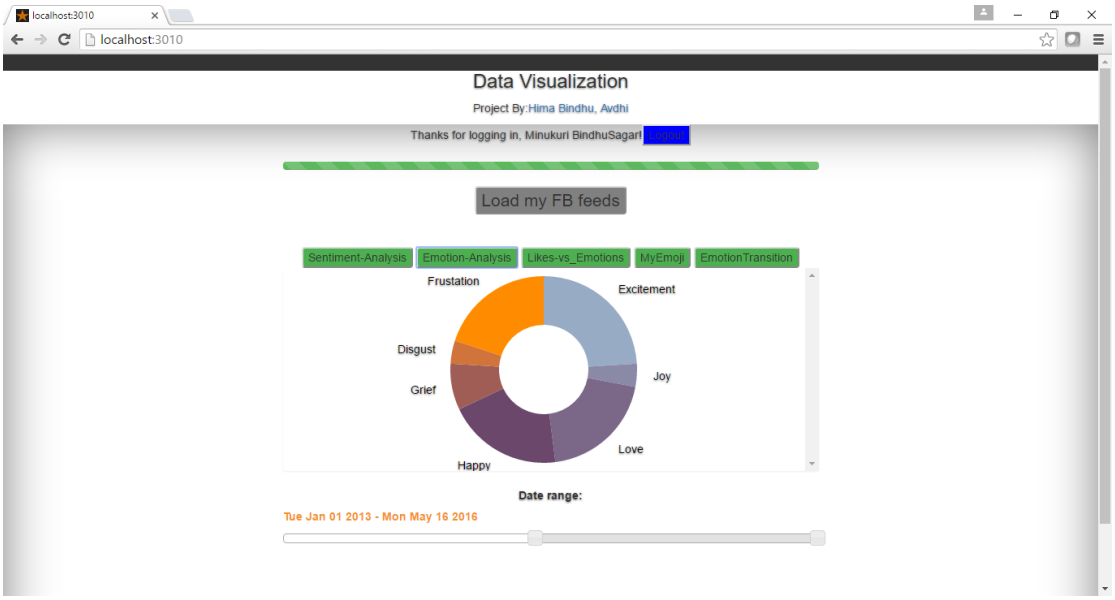
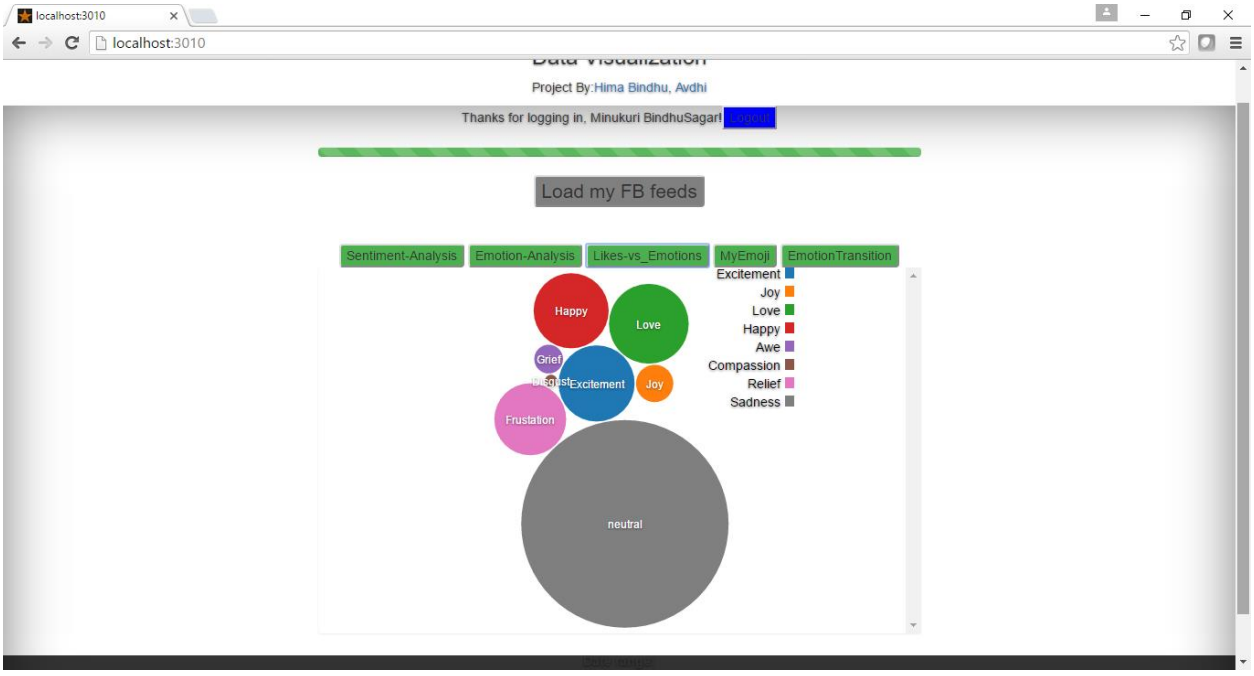
2. We have also presented another visual index in the form of **Donut Chart** to depict the deeper sentiment analysis of posts.



3. The visualization of **likes vs emotions** associated with the feeds represented a weighted a bubble chart where color indicates the emotions and size of the bubble indicates number of likes.



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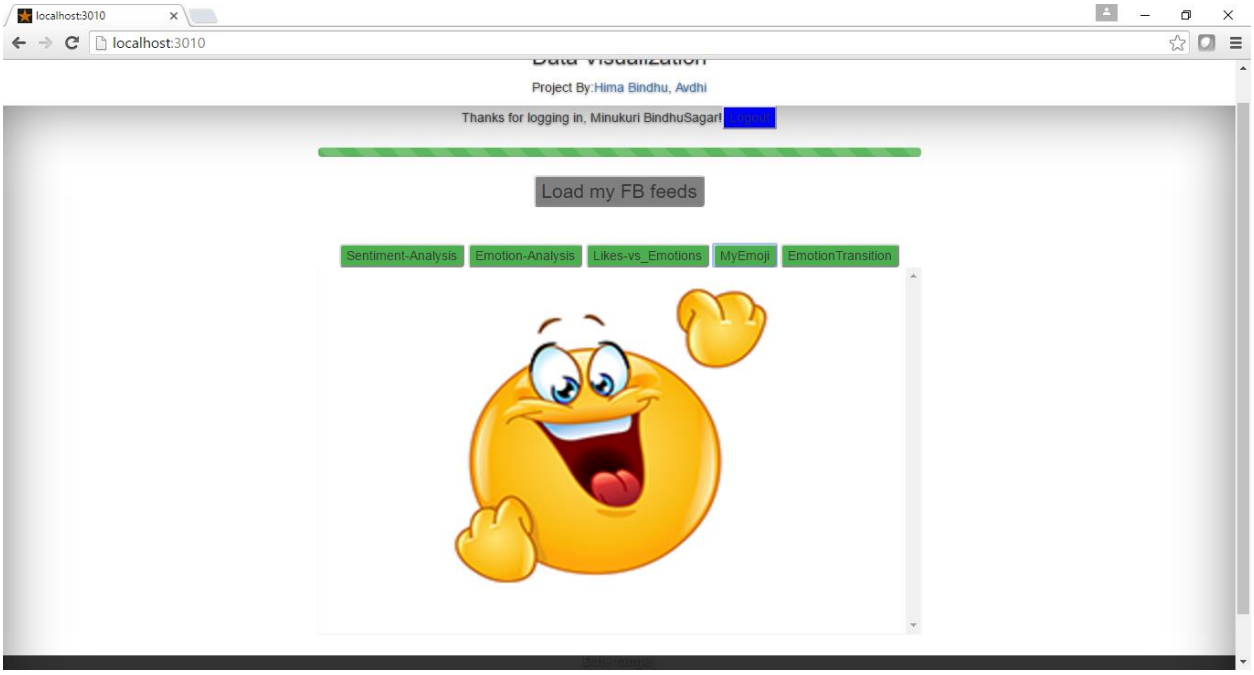
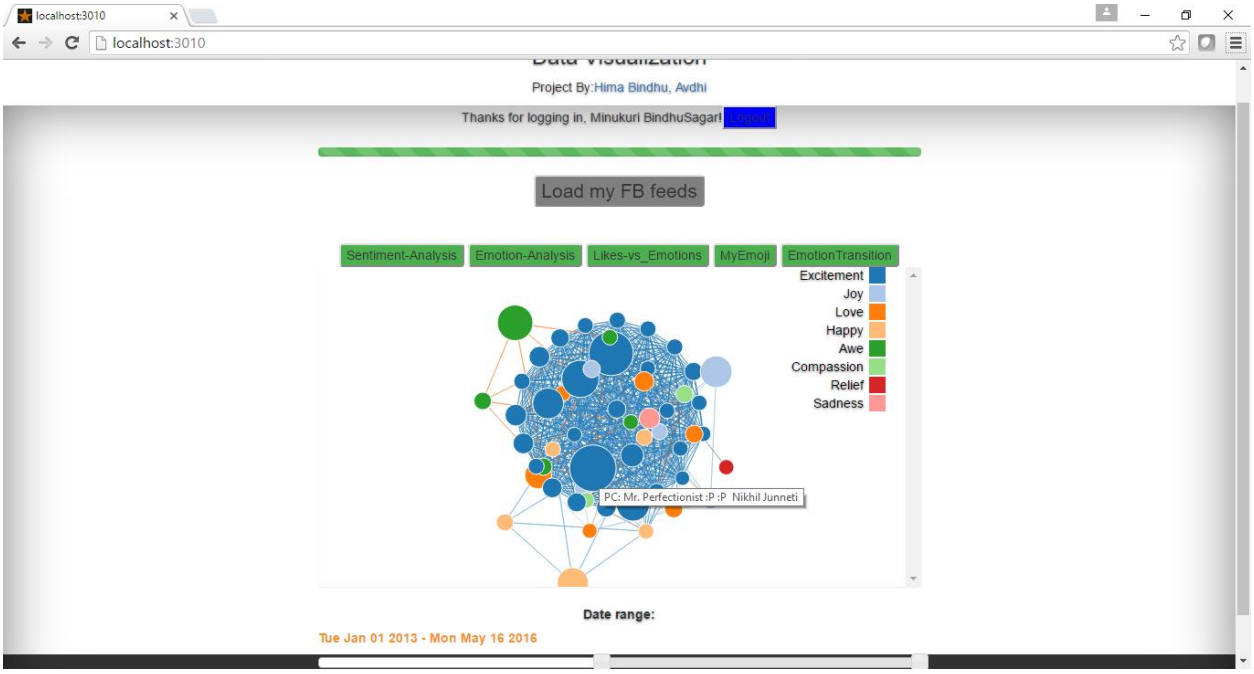
4. Emotion predictor is **visualized as smiley**. Where smiley corresponds to the emotion predicted from all the feeds made by user.



5. Relation between the likes, emotions and feeds is visualized as a **Force Directed Graph** where each node is feed with weight as number of likes and the color representing the emotions. Links are shown for the similar feeds identified based on likes and emotion.



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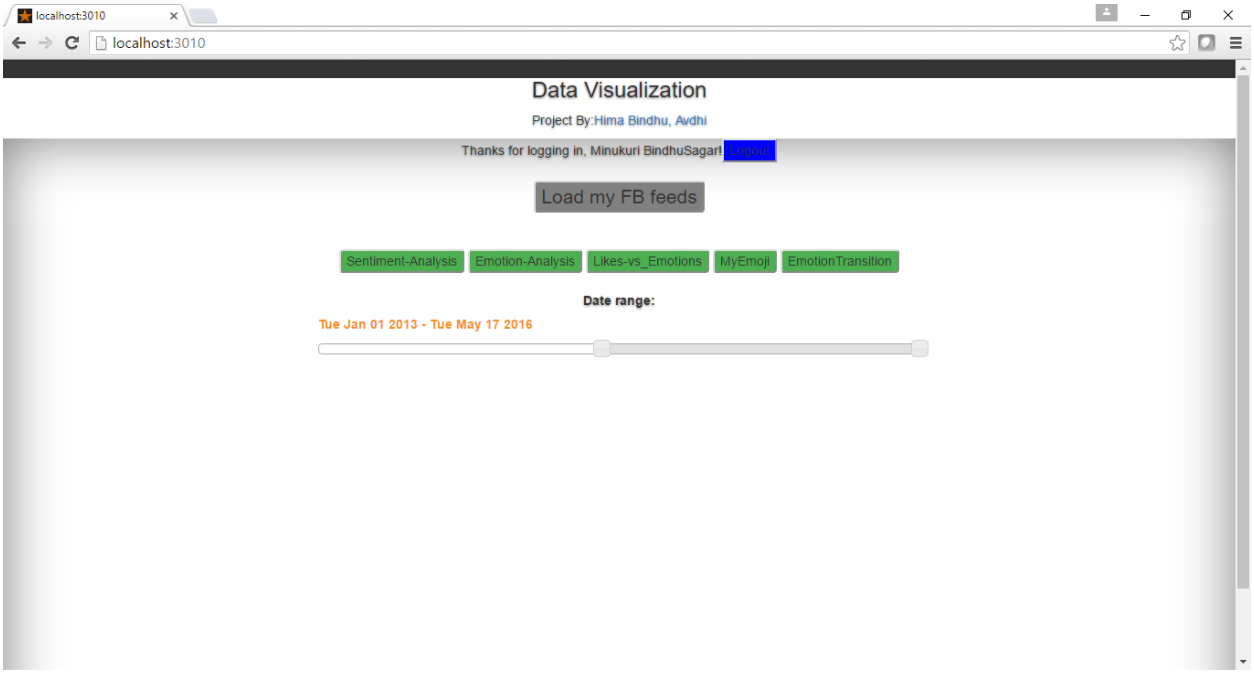
Interaction:

We have built and interactive Facebook application for the sentiment analysis of feeds of any user dynamically. We have captured the video of how our application works currently and how one can interact with it easily.

We have designed **buttons and links** enabling user to interact with application see the sentiment analysis. We have also designed a **progress bar** indicating the progress while loading the feeds for any user.

Dashboard of the application is as shown below:



We have provided a **Interactive Date Range Slider** which will enable user to pick a range of time And load the feeds for sentiments analysis. Every visualization then bound to this selected range of time.

In all the visualization on hover respective identities are shown as tool tips.