BizViz Sentiment Analyzer User Guide

BizViz Sentiment Analyzer 1.0

Copyright © 2015. Big Data BizViz LLC. All Rights Reserved.

No part of this publication may be reproduced or copied in any form or for any purpose without the permission of BD BizViz LLC.

1. About this Guide 3
1.1. Document History 3
1.2. Overview 3
1.3. Target Audience 3
2. Getting Strated with the BizViz Sentiment Analyzer 4
2.1. Introduction to the BizViz Sentiment Analyzer 4
2.2. Installation Prerequisites and Supported Devices 4
3. Accessing the BizViz Sentiment Analyzer 5
3.1. Accessing the BizViz Platform Home Screen 5
3.2. Accessing the BizViz Sentiment Analyzer App Screen 5
4. Processing Data 7
4.1. Input Category 7
4.1.1. Uploading a File 7
4.1.2. Inserting a Text Block 7
4.2. Output Category 8
4.2.1. Opening Manual Review 8
4.2.2. Opening an Excel File 8
4.2.3. Opening a CSV File 10
5. Displaying Sentiments: Visualizing Reviews 12
5.1. Sentiment Chart 12
5.2. Topic Chart 13
5.3. Heat Map Chart 13
5.4. Tag Cloud 14
5.5. Breakdown Chart 15
5.6. Review List 15
6. Integration with BizViz Dashboard Designer 17
7. Logging Out 22

Copyright © 2015. Big Data BizViz LLC. All Rights Reserved

1. About this Guide

1.1. Document History

Product Version	Date (Release date)	Description
BizViz Sentiment Analyzer 1.0	July 15 , 2015	First Release of the document

1.2. OverView

This guide covers:

- Introduction and Access to the BizViz Senitment Analyzer App
- Data Processing and Visualization of Sentiments
- Integration with the BizViz Dashboard Designer

1.3. Target Audiences

This document is aimed at business professionals who use BizViz Sentiment Analyzer to extract sentiment out of their business data.

Copyright © 2015. Big Data BizViz LLC. All Rights Reserved

2. Getting Started with the BizViz Sentiment Analyzer

2.1. Introdcution to the BizViz Sentiment Analyzer

BizViz Sentiment Analyzer provides easy-to-use mechanism to identify the positive or negative sentiment within any document or webpage. It looks for words that carry a positive or negative connotation. It then applies Natural Language Processing, machine learning algorithms, and emotion based algorithms to determine the exact correlation between expressive scripts and their social implementation. It is equipped with the ANEW ("Affective Norms for English Words"), proving a set of normative emotional ratings for a large number of words in the English language. These word-sets have been rated in terms of pleasure, activation, and dominance in order to create a standard for use in studies of emotion and attention.

The BizViz Sentiment Analyzer is capable of extracting sentiment for a user-specified target and keyword-level sentiment. These modes of sentiment analysis provide for a variety of use cases ranging from social media monitoring to trend analysis. Hence, the analyzer takes in verbal data from news articles, blog posts, product reviews, Facebook comments, and Tweets.

2.2. Installation Prerequisites and Supported Devices

- **Prerequisites for Deployment of the BizViz Sentiment Analyzer**
  - Software that supports HTML5
  - Operating System: Windows 7
  - Basic understanding of the BizViz Server
- **Supported Devices**
  - Web/ Tablet Browser

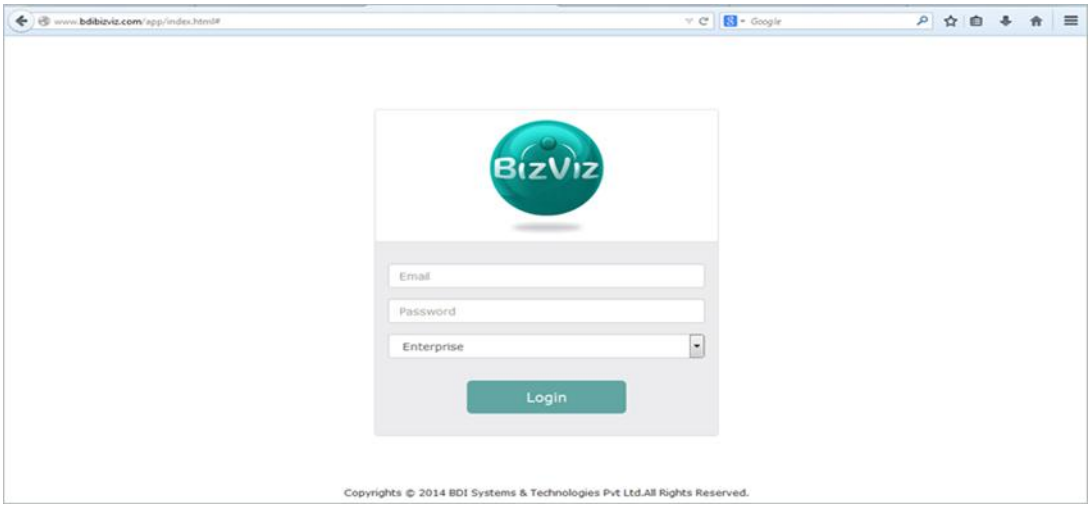
Copyright © 2015. Big Data BizViz LLC. All Rights Reserved

3. Accessing the BizViz Sentiment Analyzer App

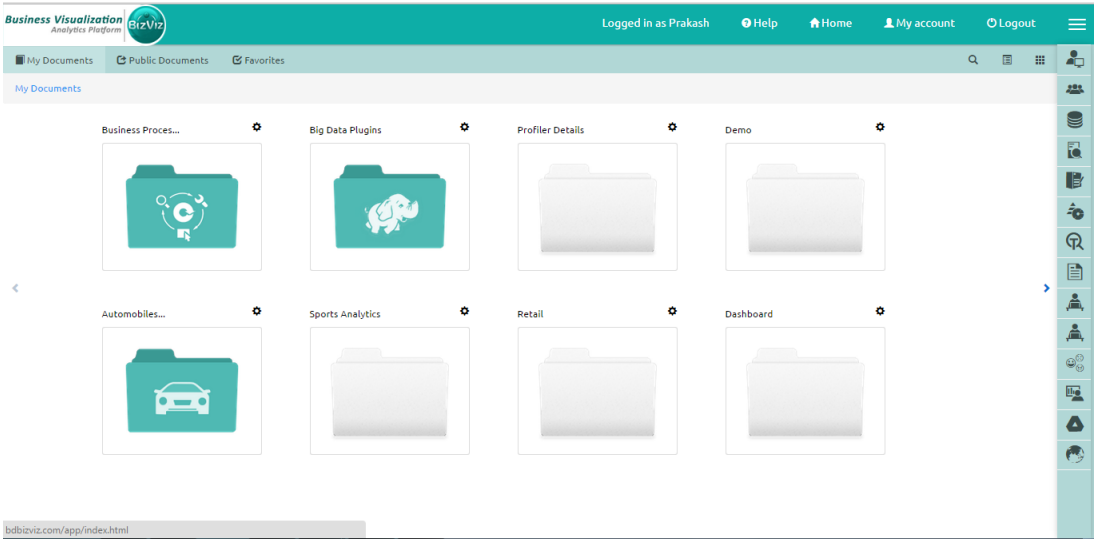
3.1. Accessing the BizViz Platform Home Screen

User can follow a step by step process given below to access the BizViz Platform and access the variety of plugins.

1. URL: http://www.bdibizviz.com/app/
2. Enter your credentials to Login



3. Click on '**Login**' to access the BizViz Platform Home Screen



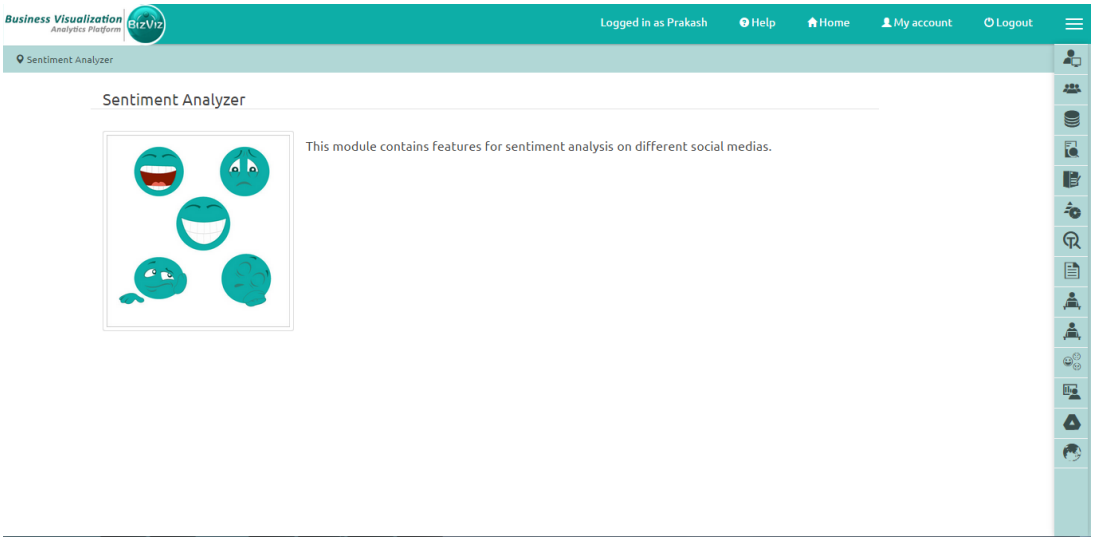
3.2. Accessing the BizViz Sentiment Analyzer App Screen

Sentiment Analyzer is one of the many plugin applications provided under the BizViz Platform. It can be accessed from the platfom home screen.

Follow the below given steps to open Sentiment Analyzer Application:

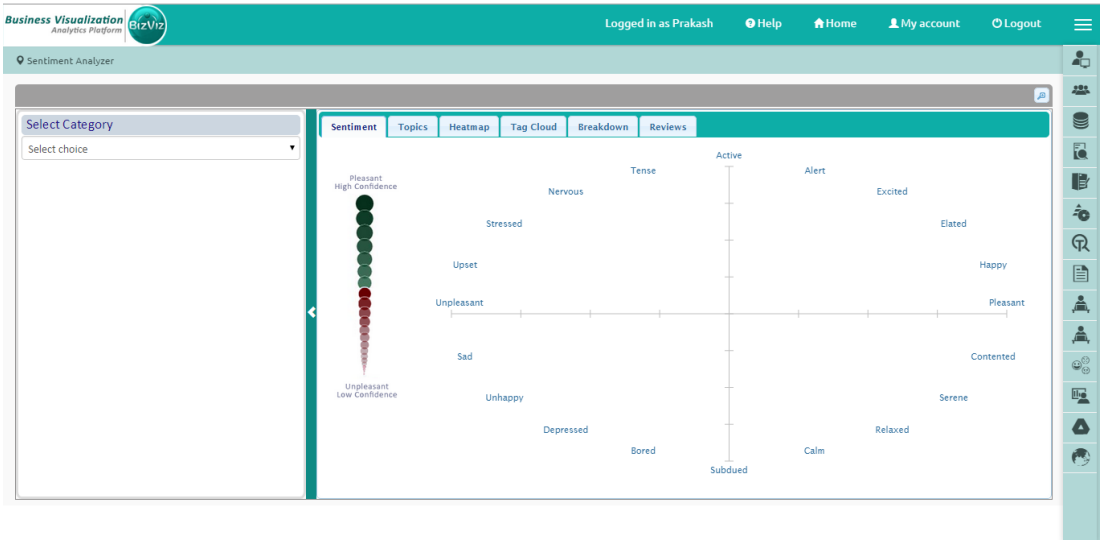
 Copyright © 2015. Big Data BizViz LLC. All Rights Reserved

1. Select '**Sentiment Analyzer'** icon from the list of the available plugins on the Platform home screen
2. Sentiment Analyzer Home Screen will open



3. Click on option located on the left side of the screen

4. It will redirect user to the Sentiment Anlayzer App Screen



5. Click on '**Select Choice'** located below **Select Category** (on the left side of the screen)
6. It will redirect user to the available categories

Copyright © 2015. Big Data BizViz LLC. All Rights Reserved

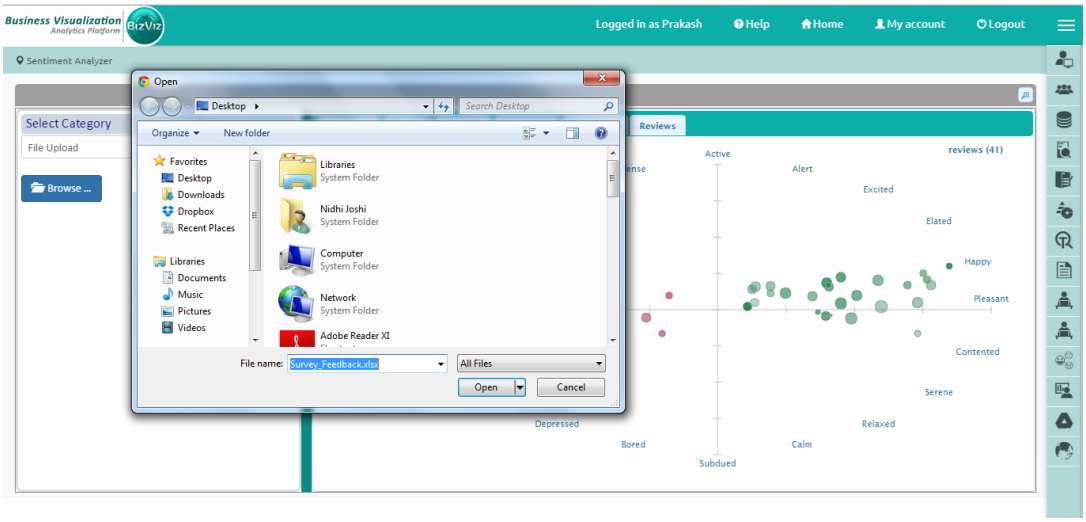
4. Processing Data

The Bizviz Sentiment Analyzer is provided with '**Input**' and '**Output**' categories to access verbal data from the various data sources and process the accessed data to extract sentiments out of verbal script.

4.1. Input Category: This category uploads files from the system or inserts text blocks/comments to be reviewed.

4.1.1. Uploading a File: This option is provided to upload any Microsoft Excel or CSV file.

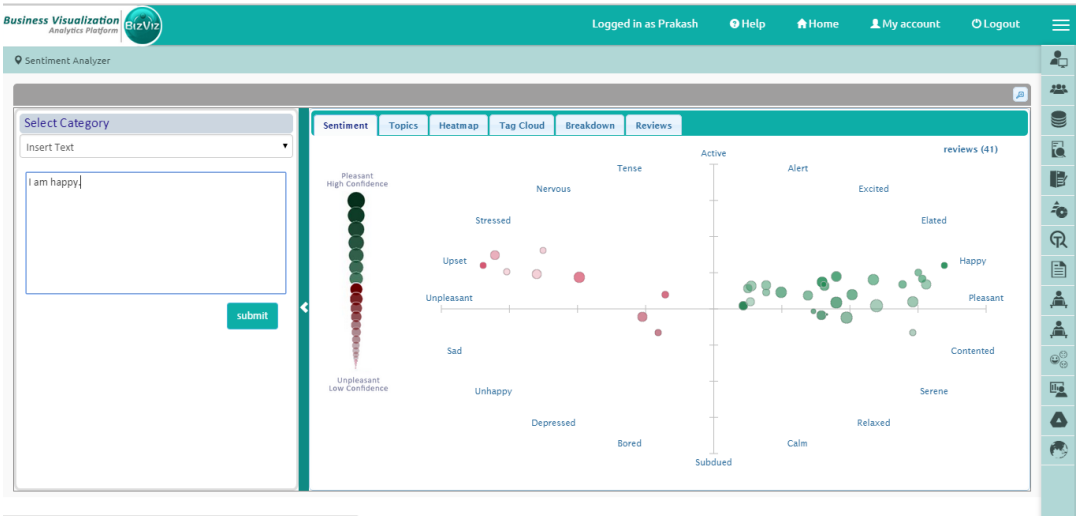
1. Go to BizViz Sentiment Analyzer App Screen
2. Click on '**Select Catergory'** option located on the left side of the screen
3. Click on **'Select Choice'** drop-down menu to access the categories
4. Select '**File Upload'** option form the **Input Catergory**
5. It will display **'Browse'** option
6. Click on '**Browse**' and select a file from the system
7. Click on '**Open**' to upload the selected file



4.1.2. Inseting a Text Block: This option is provided for manual addition of text or verbal data.

1. Select '**Insert Text'** option from the **Input Category**
2. A box window will be provided
3. Insert the desired text in the box window
4. Click on '**Submit**' option to submit the inserted text

 Copyright © 2015. Big Data BizViz LLC. All Rights Reserved



Note:

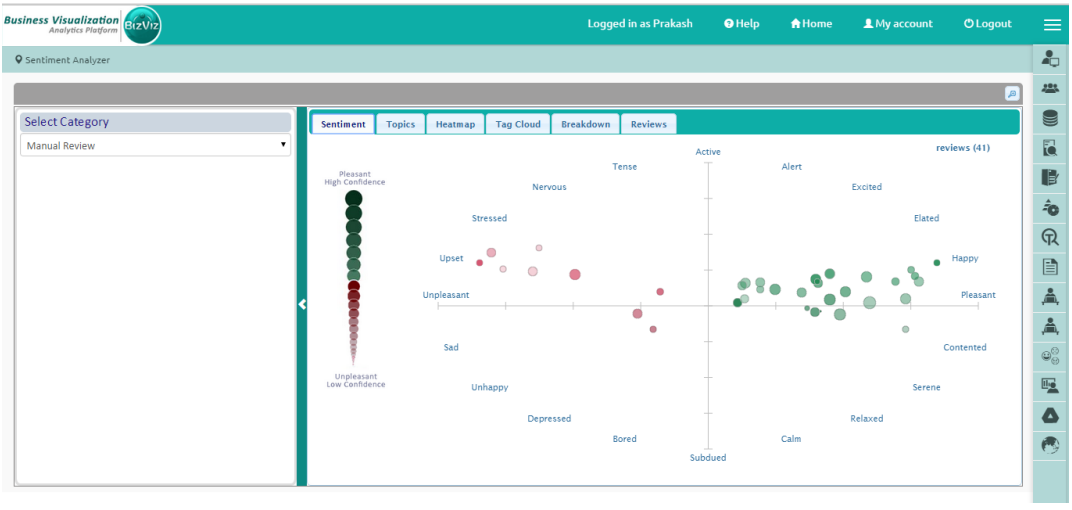
a. Clicking on '**Submit**' will redirect user to the various charts provided on the right side of the screen ('**Sentiment Chart**' opens by default).

b. The inserted text can also be seen under '**Review List**'.

4.2. Output Category: This option is provided to review the previously inserted file and text blocks/comments.

4.2.1. Opening Manual Review

1. Select '**Manual Review**' option from the **Output Category**
2. Selecting '**Manual Review**' it will redirect user on the right side of the screen



4.2.2. Opening an Excel File

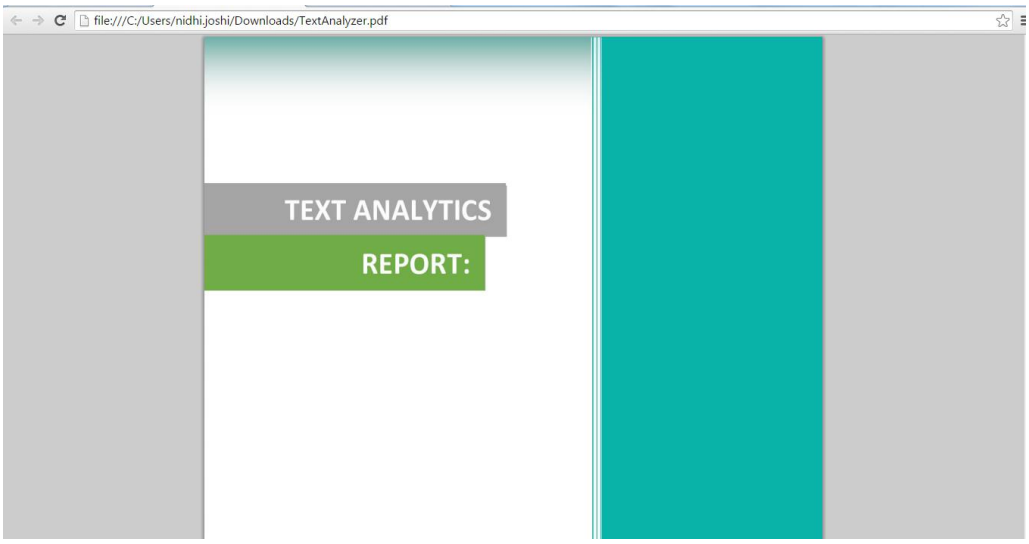
1. Select '**Excel File**' option from the **Output Category**
2. '**Select File**' drop-down menu will be provided (on the lieftside of the screen)

Copyright © 2015. Big Data BizViz LLC. All Rights Reserved

3. Select a file name from the '**Select File'** drop-down menu
4. A list of all the available work books under the selected file will open in a separate window
5. Click on a '**Work Book'** name from the list
6. Clicking on '**Work book'** name, it will redirect user on the right side of the screen

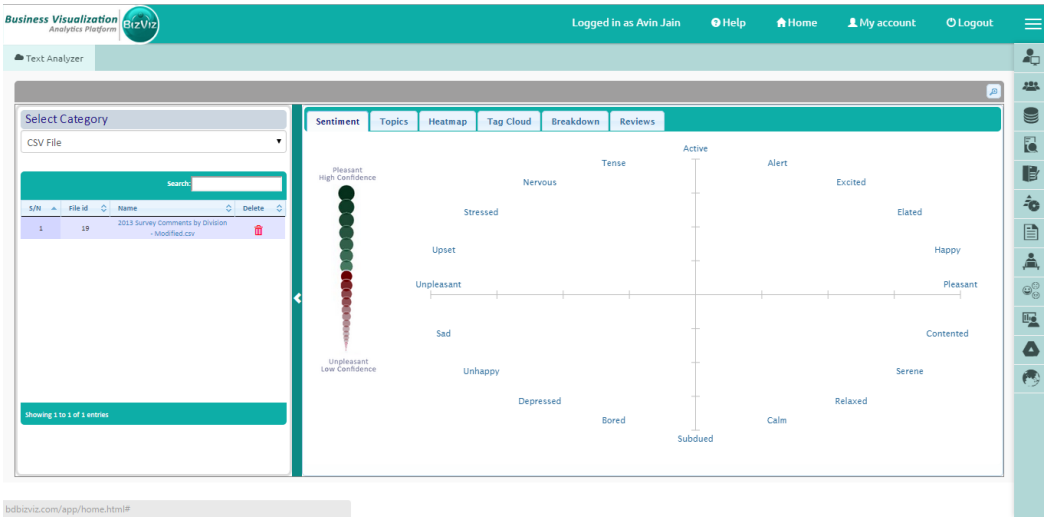
- **Export Report as PDF**
  1. Select '**Excel File'** option from the **Output Category**
  2. '**Select File'** drop-down menu will be provided (on the lieftside of the screen)
  3. Select a file name from the '**Select File'** drop-down menu
  4. A list of all the available work-books under the selected file will open in a separate window
  5. Click on '**Export Report as PDF'** option provided under the Select File drop-down menu
  6. The visual reports of all the work-book files are dowloaded as a PDF document under '**Downloads'** folder of the current system.

Copyright © 2015. Big Data BizViz LLC. All Rights Reserved



4.2.3. Opening a CSV File

1. Select '**CSV File'** option from the **Output Category**
2. '**Select File'** drop-down menu will be provided (on the lieft side of the screen)
3. Select a file name from the '**Select File'** drop-down menu
4. A list of all the available work books under the selected file will open in a separate window
5. Click on a '**Work Book'** name from the list
6. Clicking on '**Work book'** name it will redirect user on the right side of the screen



Note:

a. There is a specific format to be followed for any Excel or CSV file.

 Copyright © 2015. Big Data BizViz LLC. All Rights Reserved

User	Content
All_1	We are particularly strong on this mission goal in the Sports! well done Jason
All_2	Athletics is highly elitistic. Too much practice also makes it difficult to take part in other social/family activities.
All_3	By having different levels of maths and languages
All_4	Learning support and excellent pastoral care for my son who has ADD
All_5	We had recently come from India but ISB has been very supportive in let my ward become easily adapted to the new environment. I expect the same support for my younger kid who would join ISB this year. Thanks a lot !
All_6	a lot of talking; specific needs ia sports, learning disabilities (ADHD etc), and langage are areas where a lot is missing. Apparent feeling of arrogant attitude on this among senior levels at school

It is mandatory to keep both the coloumns in the above mentioned format. '**User'** column is optional to insert data, but '**Content**' column must have data to generate the visual reports. It is not allowed to change the order of both the columns.

b. '**Search**' option is provided to open the search specific list of the workbooks.

c. Click on to open the visualization option in full screen.

 Copyright © 2015. Big Data BizViz LLC. All Rights Reserved

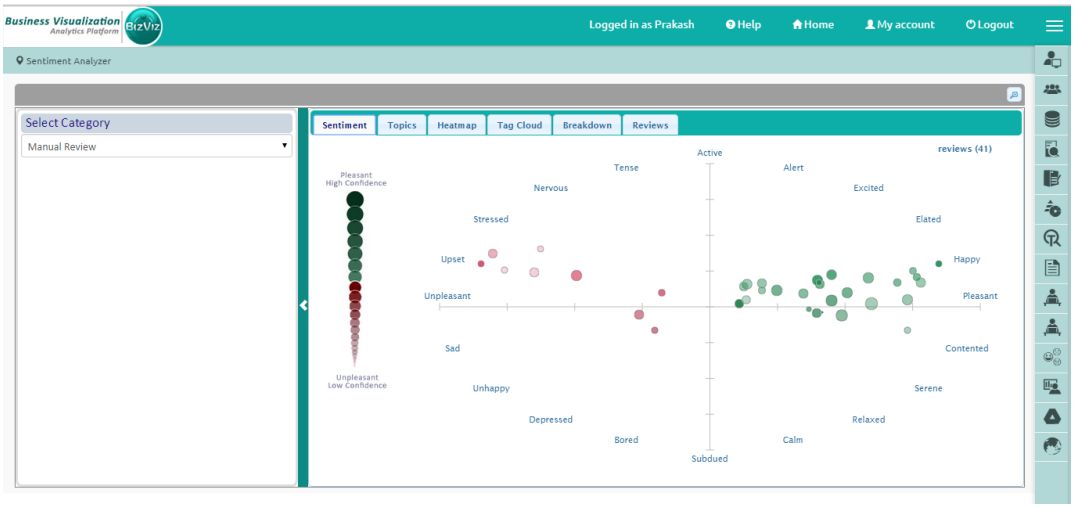
5. Displaying Sentiments: Visualizing Reviews

The BizViz Sentiment Analyzer applies a complex visualization model, using pleasure as well as activation to build a meaningful emotional representation. The extrated sentiments from the collected reviews are displayed through various charts or the '**Review List'** on the right side of the screen.

5.1. Sentiment Chart

The Sentiment Chart uses multidimensional scaling to position 20 emotional states, with '**pleasure'** plotted along the horizontal axis and '**activation'** along the vertical axis. It displays all the individual reviews in the form of circles. Colour, brightness, size, and transparency of each circle reveals different information about the review sentiment.

- **Colour:** Overall valence or pleasure of the review is presented through the colour. All the pleasant reviews are in green colour, and unpleasant in red.
- **Brightness**: Overall arousal of the review is displayed through brightness of the circle. Active reviews are brighter, and subdued reviews are darker.
- **Size and Transparency:** These two measures are to assure the about c the assessment of individual review sentiment. More confident sentiment estimations are presented through the bigger size and less transparency of the circles.

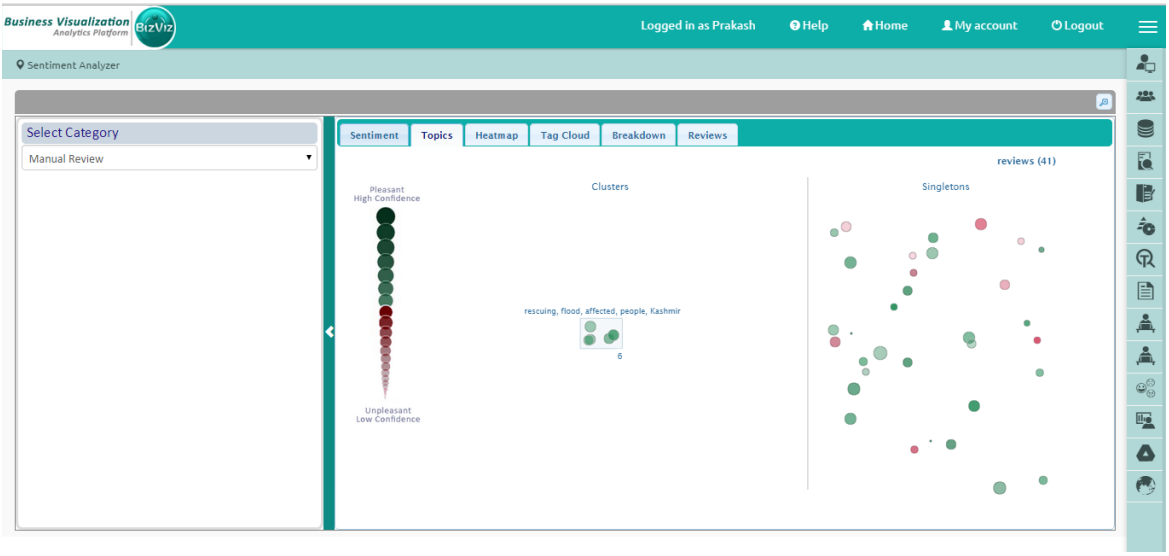


Hover the mouse cursor over a review circle to reveal its body. Click on a review to generate a dialog box displaying the review details with user name, date, and time. ANEW dictionary terms in a review will be highlighted in bold. It may open more than one dialog box while clicking on the dense areas (with more circles). Opening of more dialog boxes indicate that all the opened reviews carry either similar words or sentiments.

Copyright © 2015. Big Data BizViz LLC. All Rights Reserved

5.2. Topic Chart

The topic chart identifies reviews that discuss a common topic or theme. Each topic is visualized as a rectangular group of reviews, with keywords at the top to summarize the topic, and a number at the bottom to identify the number of reviews in the cluster.



Hover the cursor over a review or click on it to reveal more details about review content and estimated sentiment.

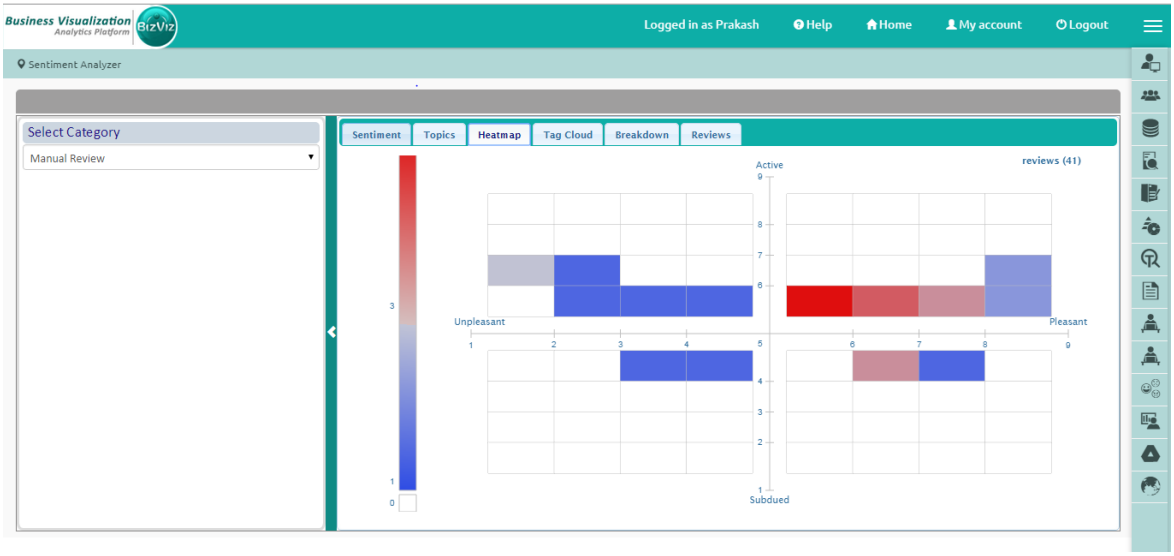
5.3. Heat Map Chart

The heatmap visualizes the number of reviews within different sentiment regions. It highlights dark red regions with many reviews, and light blue regions with only a few reviews.

The emotional scatter-plot is subdivided into an 8×8 grid of bins representing one-unit step in pleasure and arousal. The number of reviews falling within each bin is calculated and displayed using a specific colour:

- **Red** coloured bins contain more reviews than average
- **Blue** coloured bins contain less reviews than average
- **White** coloured bins contain no reviews.

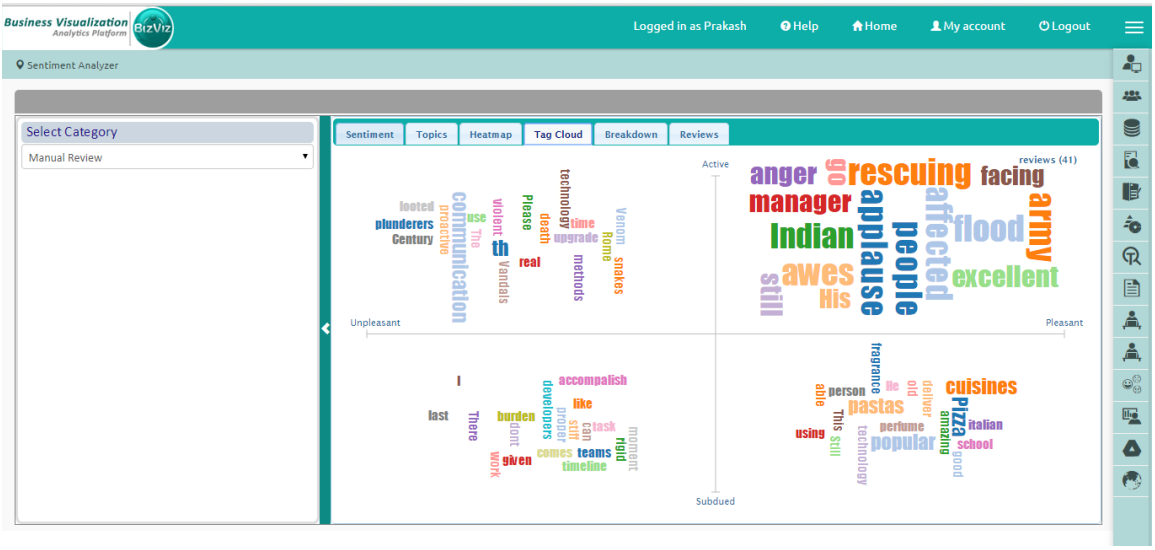
Copyright © 2015. Big Data BizViz LLC. All Rights Reserved



Stronger, more saturated colours lie farther from the average. Hovering the mouse cursor over a heatmap bin reveals the number of reviews included in the bin.

5.4. Tag Cloud

The tag cloud visualizes the most frequently occurring terms in four emotional regions: upset in the upper-left, happy in the upper-right, relaxed in the lower-right, and unhappy in the lower-left. A term's size indicates how often it occurs over all the reviews in the given emotional region. Terms mentioned in large size occur more frequently compared to the terms that are small in size.



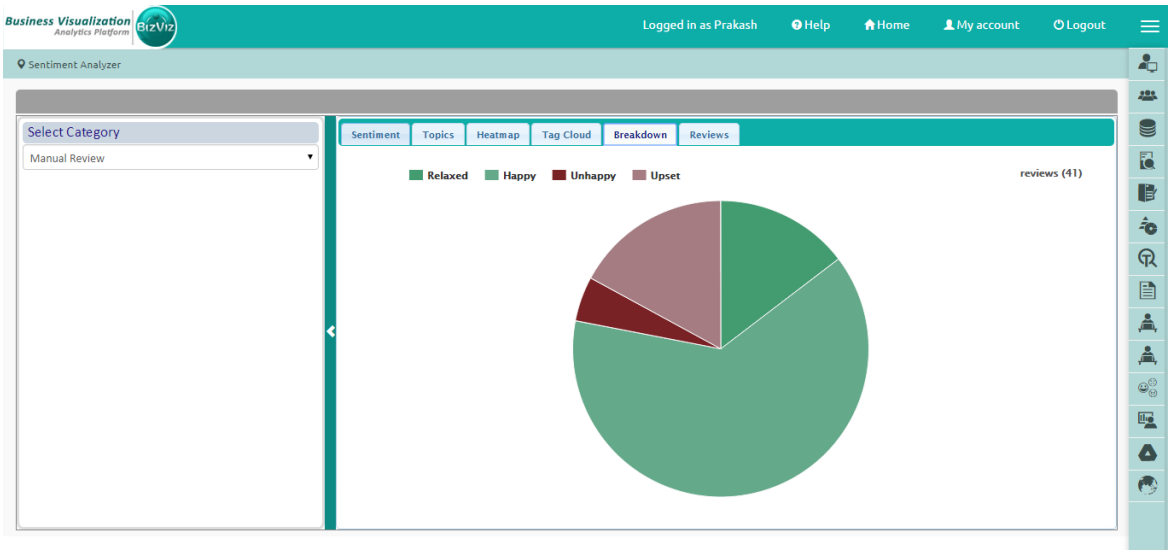
Hovering the mouse cursor over a term reveals its frequency.

Copyright © 2015. Big Data BizViz LLC. All Rights Reserved

5.5. Breakdown Chart

The Breakdown chart displays total number of reviews through different categories of a pie chart. Pleasant reviews are mentioned in green colour, and unpleasant reviews in red. All the reviews are split into four parts as per the revealed sentiments, each part is indicated through a different shade of colour:

- Relaxed reviews in dark green colour
- Happy reviews in lighter shade of green colour
- Unhappy reviews in dark red colour
- Upset reviews in lighter shade of red colour

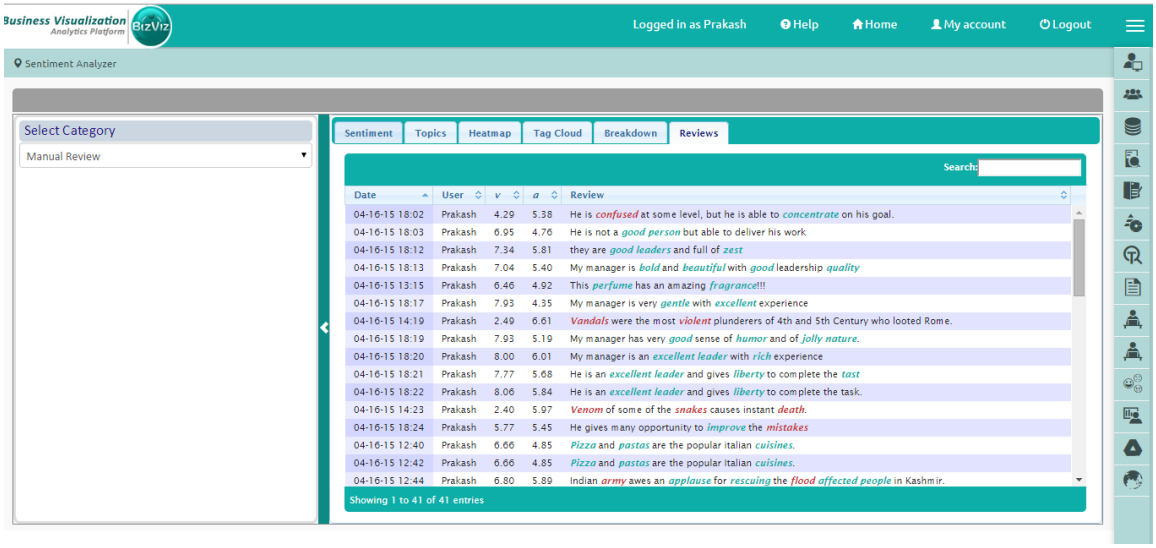


Hover the curser over a pie to see the total number of reviews in that section.

5.6. Review List

It displays all the available reviews in the form of a list. The review list contains date, name of the user, overall valence '**v**', overall arousal '**a**', and the body of a review. ANEW terms are highlighted in bold and coloured either in green or red as per the suggested sentiments. The review list can be arranged in ascending or descending order by clicking on the column header. Insert any term into the search field to get the term specific review list.

Copyright © 2015. Big Data BizViz LLC. All Rights Reserved



Copyright © 2015. Big Data BizViz LLC. All Rights Reserved

6. Integration with BizViz Dashboard Designer

BizViz Sentiment Analyzer can be integrated with the BizViz Dashboard Designer to generate query services based sentiment charts. These sentiment charts can be published directly. The process has the below mentioned phases to follow:

1. Opening the BizViz Dashboard Designer

i) Go to BizViz Platform Home screen

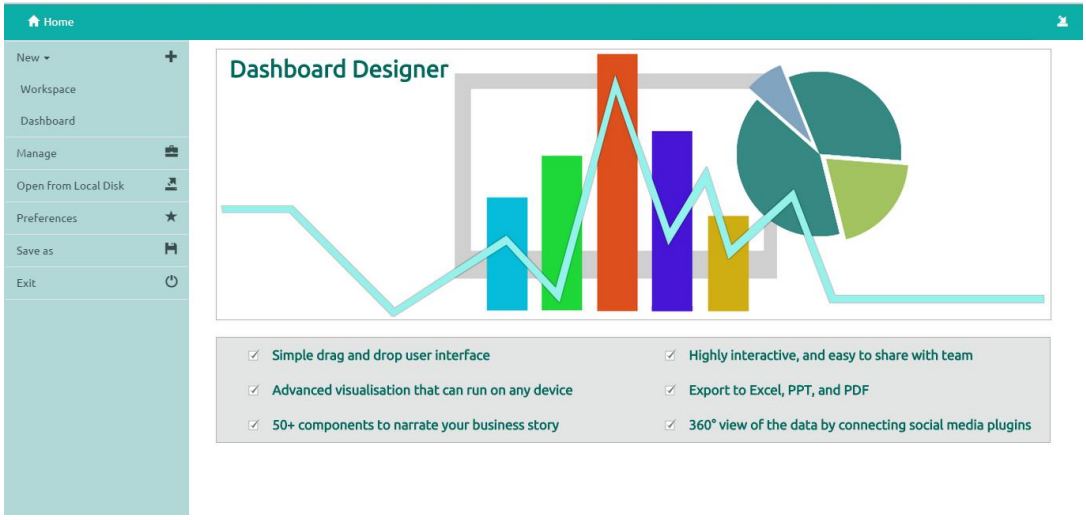
ii) Select '**Dashboard Designer'** from the list of available applications

iii) Dashboard Designer Home Screen will open

iv) Click on '**New +**' to open a drop-down menu

v) Select '**Dashboard**' option from the drop-down menu

vi) A new dashboard worksheet opens



2. Creating a Connection

i) Select Data Source icon

ii) A new window will open with three options

a. CSV

b. Excel

c. Webservice

iii) Select '**Webservice'** by clicking on sign located on the right side of the option

iv) A pop-up window appears to assure that a new connection has been created

v) Name of the created connection appears below '**Webservice**'

vi) Click on Connection name to open Connection Properties

vii) Select '**Demo Datamart'** from the '**Data Source'** drop-down menu

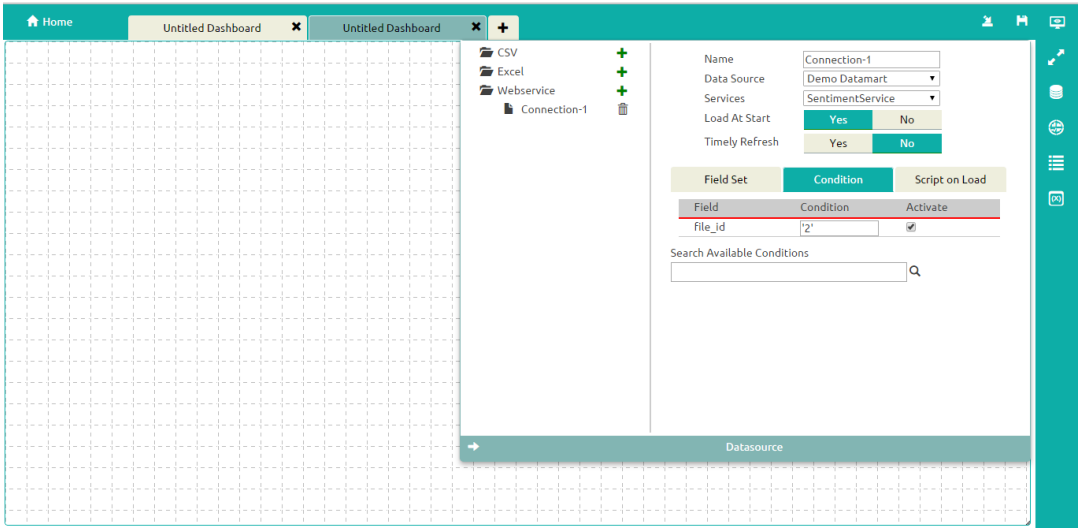
viii) Select '**Sentiment Service'** from '**Services**' drop-down menu

ix) Click on '**Condition**' option

Copyright © 2015. Big Data BizViz LLC. All Rights Reserved

x) Insert **'file id'** of the selected file in single inverted comas Eg. '2' (from the Sentiment Analyzer Output Category)

xi) Select '**Activate**' by a tick mark in the below given check box



3. Creating and Displaying a Dashboard

i) Go to Dashboard Designer home screen

ii) Select '**Sentiment Analyzer Plot'** through drag and drop feature

iii) Click on the Sentiment Analyzer plot or select icon to open the connection details

iv) Connection details will open in a new window

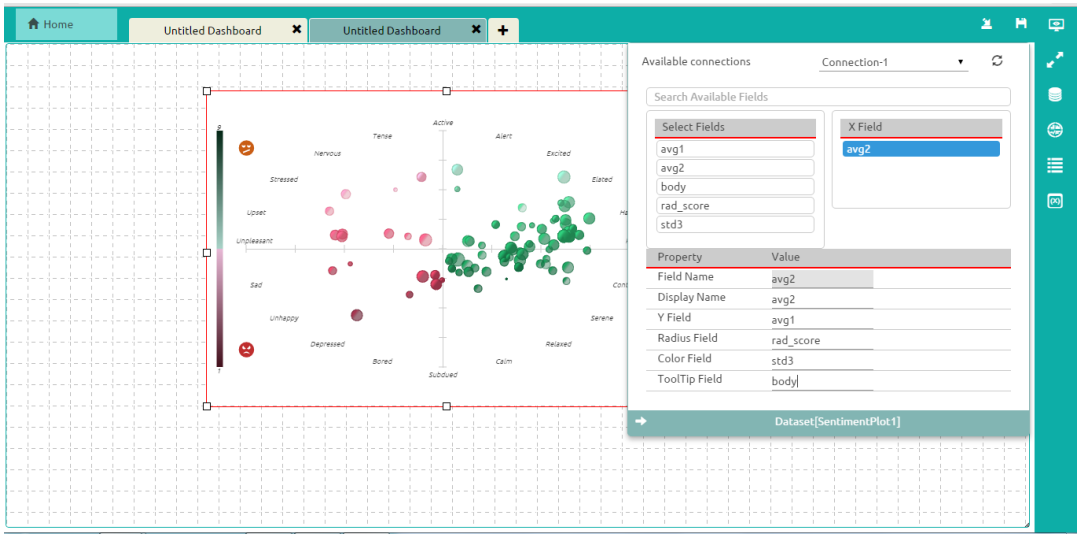
v) Drag and drop '**X Field'**

vi) Adding **'X Field',** it will display remaining '**Property**' of the connection

vii) Manually enter the below given properties form the list of the '**Select Fields'**

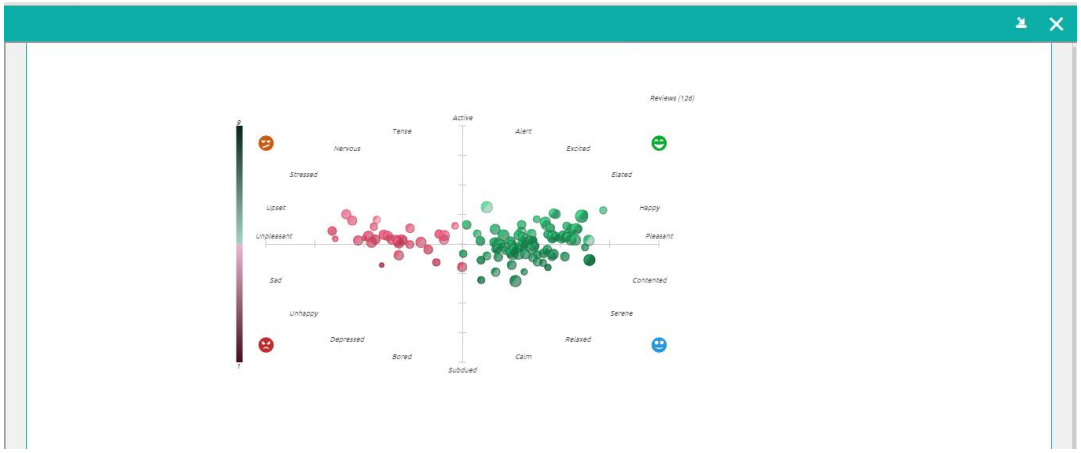
a. **Y Field**: avg1 (if X Field is chosen 'avg2'
b. **Radius Field**: rad_score
c. **Color Field**: std3
d. **Tool Tip Field**: body

Copyright © 2015. Big Data BizViz LLC. All Rights Reserved



viii) Select '**Preivew'** icon from the Dashboard Designer home screen

ix) The preview of the created dashboard will be displayed on the screen



4. Saving a Dashboard

i) Saving a Dashboard to the local Disk

- Click on option to save/download the dashboard into the local disk of the current system.

Note: 'Save to Local Disk' icon/option can be enabled from the Dashboard Home screen, Preview Screen, and List of Dashboard provided under a specific Workspace.

ii) Saving a Dashboard into a Workspace

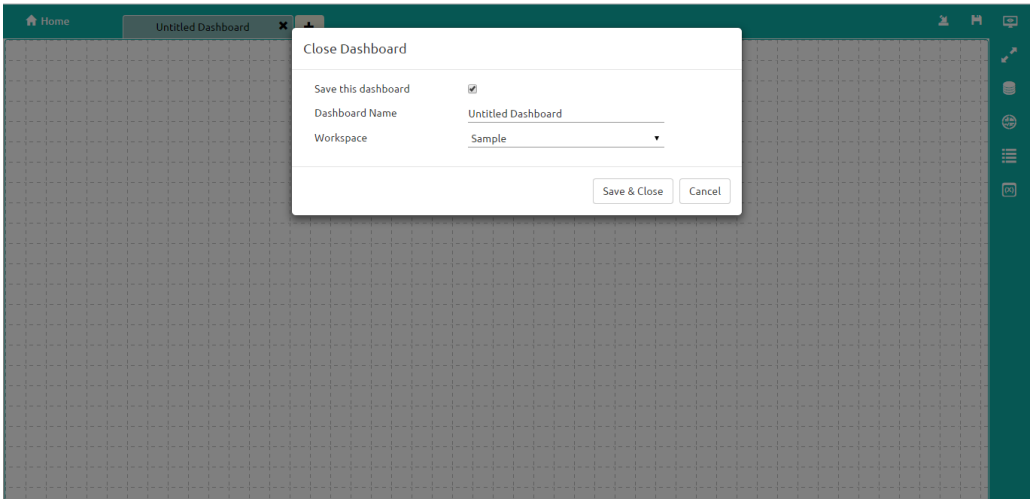
a. Click on '**Close'** option provided at the top of the dashboard canvas

b. Select '**Save this dashboard'** option by a tickmark in the check box

Copyright © 2015. Big Data BizViz LLC. All Rights Reserved

c. Selecting **'Save this dashboard'** opens some new fileds as mentioned below:
   i. **Dashboard Name**: Name of the Dashboard
   ii. **Workspace**: Select a Workspace from the drop-down menu

d. Click on **'Save & Close'** option to save the dashboard and close it



e. Two pop-up messages will appear to assure repectively that the dashboard has been successfully created and saved

5. Publishing a Dashboard

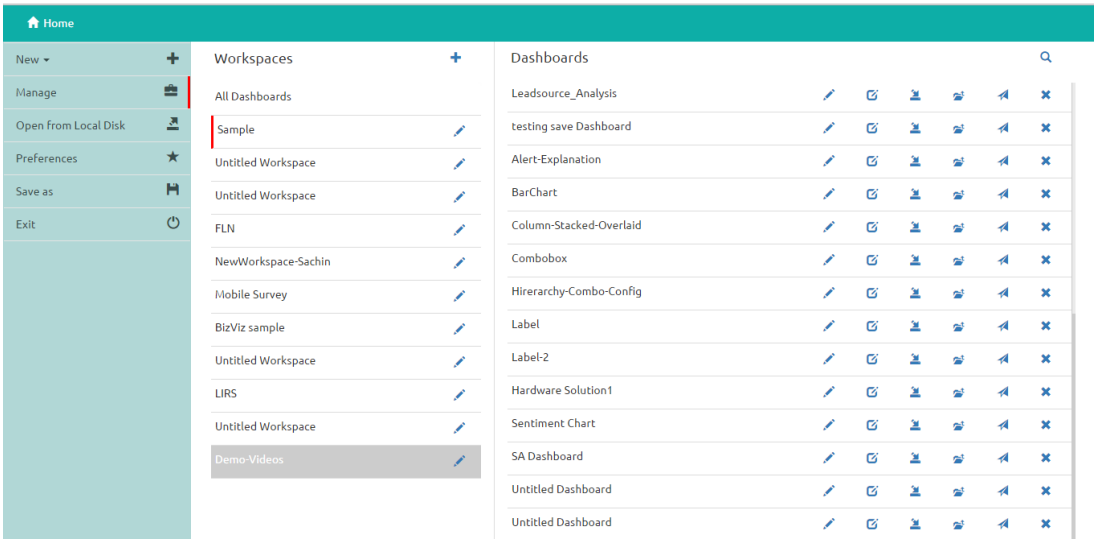
i) Select '**Manage**' from the Dashboard Designer Home Screen

ii) It will redirect user to the list of all the available '**Workspaces'**

iii) Select a '**Workspace'**

iv) It will redirect user to the list of all the available '**Dashboards'** under the selected Workspace

v) Click on '**Publish'** icon of any dashboard



Copyright © 2015. Big Data BizViz LLC. All Rights Reserved

vi) Clicking on '**Publish'** will redirect user to a pop-up window

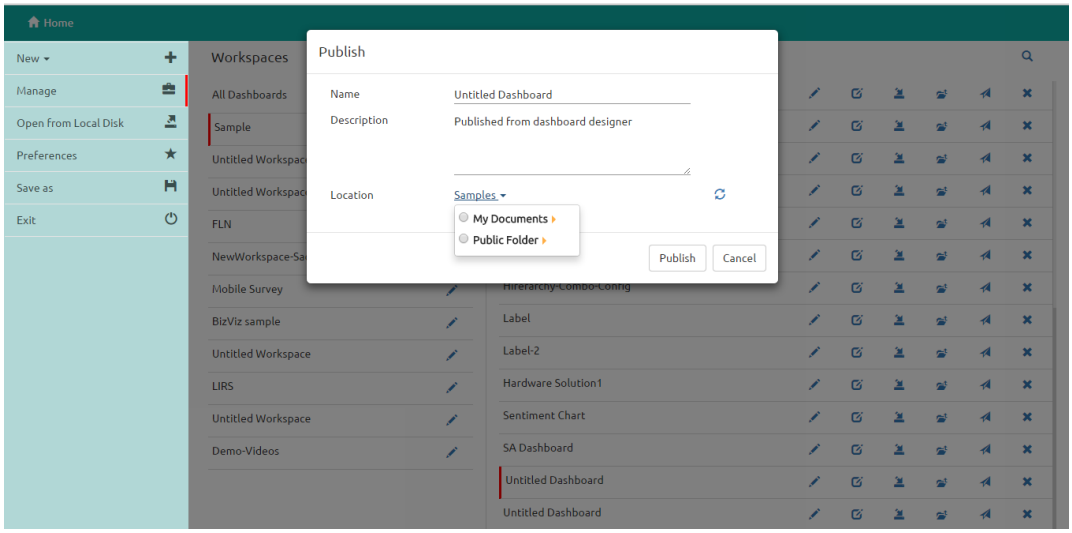
vii) Fill the required details in the Publish pop-up window. Such as:

a. **Name**: Name of the Dashboard

b. **Description**: Description of the Dashboard

c. **Location**: Select a specific folder from **'My Documents'** or '**Public Folder'** wherein you wish to publish the dashboard

d. Click on '**Publish**' option



viii) A pop-up message will appear to assure that the dashboard has been successfully published to the selected location.

Copyright © 2015. Big Data BizViz LLC. All Rights Reserved

7. Logging Out

Click on '**Logout'** option provided in the Header Panel of the BizViz Platform. You will be successfully logged out from the **BizViz Sentiment Analyzer.**

Note: Clicking on '**Logout'** redirects the user back to the '**LOGIN'** page of the BizViz Platform.

Copyright © 2015. Big Data BizViz LLC. All Rights Reserved