**SYSTEM REQUIREMENT & SPECIFICATIONS**

**Basic Requirements**

|  |  |  |
| --- | --- | --- |
|  | ***Development Server*** | ***Live Server*** |
| ***Operating System*** | Windows 7 | Windows Server 2008 R2 Enterprise |
| ***RAM*** | 2 GB | 2 GB min |
| ***HDD*** | 80 GB min | 80 GB min |
| ***System type*** | x32 bits | x64 bits |

**Software & Application requirements**

1. Ruby on Rails ( Ruby 1.9.3, Rails 3.2.7, Gem 1.8.15 )
2. Microsoft SQL Server 2012 with SQL Server Management Studio Tool
3. WAMP Server ( for PHP application, PHP 5.2.2 & above )
4. Smarty Framework
5. JQuery 1.6.3
6. Highcharts API ( for creating visually interactive stats report/charts )
7. Twitter and Other APIs

**SYSTEM SETUP & INSTALLATION**

**Setup Twitter TweetStream API**

*Front-End: ROR, Back-End: Microsoft SQL Server 2012*

**Setup & Install Microsoft SQL Server 2012**

1. Download the Microsoft SQL Server 2012 from:

<http://www.microsoft.com/en-in/download/details.aspx?id=29066>

1. Follow the setup & installation process as specified on:

<http://www.soheib.com/technical-knowledge/sql-server-2012-express-installation-tutorial/>

**Setup & Install Ruby on Rails (ROR)**

1. Download the latest version of RailsFTW ( Ruby on Rails for the Windows ).

Source: <http://railsftw.bryanbibat.net/>

1. Run the .exe file, and install the application to a location, preferred: C://RailsFTW193/
2. After successfully installing the ROR, CD the setup directory from command prompt.

Start Menu -> All Programs -> Rails FTW -> Start Command Prompt with Ruby

* cmd > cd\
* cmd > cd RailsFTW193

*C:/RailsFTW193*

1. Now, verify the installed versions of the ROR features, by running the commands in CMD:

* cmd > ruby -v
* cmd > rails -v
* cmd > gem -v

1. Now, install the most important gem of Ruby, the latest version of Rails gem

* cmd > gem install rails --include-dependencies
* The above command will install the latest Rails gem, with all the dependencies.
* Verify the installed Rails gem version, in cmd
* cmd > rails -v

1. Setup ***ROR Development Kit*** for Windows:

Follow the instructions for installing Development Kit on Windows, as specified at:

<https://github.com/oneclick/rubyinstaller/wiki/development-kit>

1. Create and run a new application in ROR,

Reference: <http://guides.rubyonrails.org/getting_started.html>

1. Install the required gem to enable the use of, twitter streaming API.

Reference: <https://github.com/intridea/tweetstream>

[www.intridea.com/blog/2009/9/22/tweetstream-ruby-access-to-the-twitter-streaming-api](http://www.intridea.com/blog/2009/9/22/tweetstream-ruby-access-to-the-twitter-streaming-api)

1. Install the required gems & settings, to enable use of MS-SQL Server on ROR App.

<http://www.myclojureadventure.com/2010/10/getting-rails-3-up-on-windows.html>

**How to start an ROR Server & the Application**

1. Start the ROR server
2. Go to Command Prompt -> cd <project-folder>
3. cmd > rails server

That’s it, your ROR server has been started, now you can run any ROR App.

1. Run the ROR App
2. Open any of your favorite web browser, and type:

<http://localhost:3000/>

Your application is also ready for use now.

**Setup the main PHP application**

*Front-End: PHP+Smarty Framework, Back-End: Microsoft SQL Server 2012*

**Setup & Install WAMP Server**

1. Download the latest version of WAMP Server ( x64 bits )

<http://www.wampserver.com/en/>

1. Install the WAMP server on Windows Operating System. Do the necessary pre-requisite settings.
2. Follow the steps to enable the use of MS-SQL Server on WAMP server.

<http://forum.ragezone.com/f724/get-wamp-work-mssql-673301/>

1. Setup the PHP App, to make use of the database hosted on MS-SQL Server.

**PHP + JQuery charts to show the statistical reports**

The interactive and flexible charts are implemented, with reference to:

<http://www.highcharts.com/stock/demo/>

<http://www.highcharts.com/demo/>

**Various Twitter & Other APIs used for the Application**

1. ***Twitter Stream API ( ROR )***

Get tweets in real-time, the connection with the twitter API persists for very long time.

<https://dev.twitter.com/docs/streaming-apis>

1. ***Twitter Trends API ( PHP )***

Get the list of top 20 trends worldwide for a particular time period.

<https://dev.twitter.com/docs/api/1/get/trends/%3Awoeid>

1. ***Text-wise API ( PHP )***

Determine the category of the twitter trends.

<http://textwise.com/api>

1. ***Twitter Search API ( PHP )***

Search tweets that matches, the given conditions.

<https://dev.twitter.com/docs/api/1/get/search>

1. ***Twitter Search Users API ( PHP )***

Search users that match, the given conditions.

<https://dev.twitter.com/docs/api/1/get/users/lookup>

<https://dev.twitter.com/docs/api/1/get/users/show>

**SYSTEM WORKING & DESCRIPTION**

http://admin.power140.com

**Keywords Manager**

1. Facility to add new keywords and delete the existing keywords.
2. All the active keywords are taken into consideration by the ROR script, to get the matching tweets records, and save them all in the table.

**Sentiments Manager**

1. List the tweets data, depending on the selected filter conditions.
2. Facility to generate CSV report for the listed sentiments.
3. Facility to mark the sentiment as, Like or Dislike.

**List Locations**

1. List all the unique Country location for the saved tweets, along with its total count.

**List Trends**

1. List all the trending twitter Keywords, along with its related details.

**Bubble Charts**

1. Represent the stats report, for Keyword, Country, and Trends, in the form of Bubble.

**Top 10 Countries**

1. Various types of charts representation, for Top 10 countries that tweeted the most.

**Top 10 Trends**

1. Various types of charts representation, for Top 10 trends that were trending the most.

**Top 10 Sports**

1. Various types of charts representation, for Top 10 sports that were tweeted upon.

**Tweets over Time**

1. Various types of charts representation, to show the stats for, Tweets over Time, representation.

**Tweets Sentiment Analysis**

1. Various types of charts representation, to show the stats for, Tweets Sentiment Analysis, over time period.

**Tweets Word count Daily**

1. Various types of charts representation, to show the stats for, daily word count of Keywords.

**DATABASE SCHEMA & REPRESENTATION**

**Table to store all the reference of the manually defined Keywords**

CREATE TABLE keywords (

id INT PRIMARY KEY IDENTITY,

keyword VARCHAR(100) NOT NULL,

status SMALLINT DEFAULT '1',

last\_updated DATETIME

);

**Table to store the tweets data, that is returned by the Twitter APIs (used by both ROR & PHP Apps)**

CREATE TABLE tweets (

id INT PRIMARY KEY IDENTITY,

tweet TEXT NOT NULL,

screenname VARCHAR(100) NOT NULL,

username VARCHAR(100),

retweets INT DEFAULT '0',

created\_at VARCHAR(50),

reviewed\_status SMALLINT DEFAULT '0',

country VARCHAR(100),

is\_trend SMALLINT DEFAULT '0',

tweet\_time DATETIME,

sentiment SMALLINT,

lang VARCHAR(5),

score FLOAT,

unique\_key VARCHAR(100),

is\_mapped SMALLINT DEFAULT '0'

);

**Table to store all the mapping of the tweets data along with the matching keywords**

CREATE TABLE mapped\_keywords (

id INT PRIMARY KEY IDENTITY,

source SMALLINT DEFAULT '1',

source\_id INT NOT NULL,

keyword\_id INT NOT NULL,

mapped\_time DATETIME

);

**Table to store all the mapping of the tweets data along with the matching trending keywords**

CREATE TABLE mapped\_trends (

id INT PRIMARY KEY IDENTITY,

source SMALLINT DEFAULT '1',

source\_id INT NOT NULL,

trend\_id INT NOT NULL,

mapped\_time DATETIME

);

**Table to store all the tags and its count**

CREATE TABLE tag (

snumber INT PRIMARY KEY IDENTITY,

keyword VARCHAR(100) NOT NULL,

count BIGINT DEFAULT '0',

);

**Table to manage details of all the Twitter trending keyword**

CREATE TABLE twitter\_trends (

id INT PRIMARY KEY IDENTITY,

name VARCHAR(255) NOT NULL,

events VARCHAR(255),

promoted\_content VARCHAR(255),

query VARCHAR(100) NOT NULL,

trend\_time DATETIME,

categories TEXT

);