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**Department of Computer Science**  
**BS-CS**



**What's Trending?**

**Project Proposal**  
**Project-1 CS 4091**

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# Table of Contents

1.	Introduction.....	1
2.	Vision Document .....	1
2.1	Problem Statement .....	1
2.2	Business Opportunity .....	2
2.3	Objectives.....	2
2.4	Scope .....	2
2.5	Constraints .....	3
2.6	Stakeholder and User Description.....	3
2.6.1	Market Demographics .....	3
2.6.2	Stakeholder Summary .....	3
2.6.3	User Summary .....	4
2.6.4	User Environment.....	5
2.6.5	Stakeholder Profiles .....	5
3.	System Requirement Specification .....	6
3.1	System Features .....	6
3.2	Functional Requirements .....	7
3.2.1	User Authentication .....	7
3.2.2	Trend Quality.....	7
3.2.3	Trend Analysis .....	7
3.2.4	Sentiment Analysis .....	7
3.2.5	Bot Account recognition.....	7
3.2.6	Data Visualization .....	7
3.2.7	Statistical analysis of Twitter account .....	8
3.2.8	Developer API Portal .....	8
3.3	Non functional requirement .....	8
3.3.1	Performance .....	8
3.3.2	Availability .....	8
3.3.3	Robustness .....	8
3.3.4	Security.....	8
3.3.5	Maintainability .....	8
3.3.6	Capacity .....	9



## 1. Introduction

What'sTrending? is to help educate users to differentiate between what they are consuming on Twitter. The web platform deals with trending keywords. Users will be able to identify organic trends from the forced or paid trends before they form an opinion. The Application will provide the user with an interface to view trending keywords, further he can manually add any keyword and check on them if the data is available for that specific word. Also, if the user wants to view statistical analysis on some Twitter account or trending keyword or the sentiments related to that trending keyword.

In this document, we will briefly explain the features of What'sTrending? The document also explains the software requirement specifications. We will deal with all the design related issues as well as the requirements together with the scope of this project. This document will be continuously updated and on completion with be referred throughout the software development.

## 2. Vision Document

In this section, we discuss project vision in detail.

### 2.1 Problem Statement

Problem of	distinguishing right and wrong, real and fake, authentic and spam, unique, and bot tweets and thus the trends in real time.
Affects	both businesses and general public.
Impact of which	there is no product that can be used to distinguish between genuine and spam tweets, making it impossible to distinguish between genuine trends and spammy ones.
A Successful solution would be	A platform that can authenticate users, retrieve tweets from Twitter based on keywords, analyze tweet sentiment, display results

	graphically, compare data, and statistically differentiate spam from legitimate tweets will be a successful solution.
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*Table 1: Problem Statement*

## 2.2 Business Opportunity

People in the present period use social media, particularly Twitter, to find out what other people are thinking and talking about so they may quickly gain knowledge, comprehend, defend, and create opinions. People can learn more about what's going on in their area thanks to this.

There are some products out there that somewhat relates to what we do, but they have relatively few features. The product that is currently on the market has several restrictions. Firstly, none of them carry out our features exactly. Additionally, they do not classify and evaluate Twitter trends and rate them based on actual/spam content. Although some software offers one or two of the features, there isn't a single solution that offers all of them. This creates a significant issue for businesses and the general public who lack access to a specific platform that can be used to complete all the stated activities.

## 2.3 Objectives

The main Objective of What'sTrending? Is to provide people a quick and accurate overview of trends, so that they can analyse trends just at glance rather than spending time to manually analyse.

## 2.4 Scope

What'sTrending? Is web application. The main problem we are currently facing is that there is no platform available where people can check quality of trend, people's sentiment on trend, analyse trend. The impact of it is that people participate in fake/low quality trend. They consider information to be legit which was spreading

through these trends. WhatsTrending? will provide an environment through which be able to analyse these trends before taking any action.

## 2.5 Constraints

Firstly, we assume that internet will work fine all the time to load web page. The website does not require any hardware development or procurement.

## 2.6 Stakeholder and User Description

As there are projects which are providing sentimental analysis of tweet, analysing people profiles, but they are not providing analysis of trend and sentimental analysis of trends. The differentiating edge of this product is that application will be in real-time. The potential users of this application will be all the literate people who know the usage of web-based application and twitter.

### 2.6.1 Market Demographics

Our target market includes the general public, businesses, and all English-speaking Twitter users. In order to give them a better platform for unique and valid content and enable them to absorb just the real information.

Everyone is turning away from traditional sources of information and migrating toward social media, particularly Twitter.

It can be used by PTA and possibly Twitter to cut down on spam and teach users on how to make better decisions, but for this project, the intended audience is the general public.

### 2.6.2 Stakeholder Summary

Name	Description	Responsibilities
Developer	The developer who are developing the system.	Design the flow of system development Monitor progress of development

Tester	Testing system	Removing bugs from system
Trainer	Train system on data	Check and increase accuracy of system on result
Maintainer	Provide maintenance of system	Adding, removing, or modifying feature of system.

*Table 2: Stakeholder Summary*

### 2.6.3 User Summary

Name	Description	Responsibilities	Stakeholder
Primary Actor	Person Registered	For first time user need to register on system. Otherwise, login. Can interact with application interface	Development team, User
Secondary Actor	System	Acquired data from twitter through API, Trend analysis, trend sentimental analysis	The end user who are getting result about trend

*Table 3: User Summary*



### 2.6.4 User Environment

As this is a one-year project, we are developing a web-based application which will analyse trend and will predict quality of trend and people sentiment on trend. There are 3 members in our group who are working on this project.

The project has been divided into 5 different stages. In September, October we are doing Requirement Specifications, October and November are for Design and Analysis, November to February is for Implementation, February and March are for Testing, March and April are for Deployment.

### 2.6.5 Stakeholder Profiles

Representative	We are three members working on this project. The stakeholder of system include developer, tester, trainer, maintainer.
Description	<p>Developer is managing requirement, planning thing according to it and writing code for application.</p> <p>Developer is managing requirement, planning thing according to it and writing code for application.</p> <p>Tester will test system and make sure that system is bug free.</p> <p>Trainer will train system on dataset and will make sure its accuracy of result.</p> <p>Maintainer will maintain the product after its development and will add or remove feature.</p>
Type	Our group of three members are working on this project. We have

	divided work into small task and task was done by all of us.
Responsibilities	Develop a system which help people to analyze trend. Providing easily understandable interface to user.
Success Criteria	Firstly, system will acquire data related to trend using Twitter API, then according to option selected by user system will provide accurate result on real time data.
Involvement	All stakeholder is participating in development of system.
Deliverables	Project deliverable will be same as mentioned.
Issues	We have to face issue of identification of bot account while system training.

*Table 4: Stakeholder Profiles*

### 3. System Requirement Specification

In this section, features and requirements of the system are explained.

#### 3.1 System Features

- User authentication
- Analyze trends
- Sentiment on trend
- Developer Portal
- Data visualization
- Bot account recognition in trend
- Statistical analysis of account

## **3.2 Functional Requirements**

The functional requirements of the system are listed below.

### **3.2.1 User Authentication**

A graphical interface will be provided to the user for login. New users will sign up for an account. Each user will be provided with a recommendation according to his added keyword.

### **3.2.2 Trend Quality**

The Keywords provided by the user system will predict Trend quality based on factors i.e., unique account participation, unique message, analysing trend starter accounts, checking bot accounts participation, and some other factors by using AI, and ML techniques.

### **3.2.3 Trend Analysis**

The keyword entered by the user for statistical analysis will predict the trend timeline, growth rate, growth region, activity graph, popular tweet, and popular retweet.

### **3.2.4 Sentiment Analysis**

The keyword will be entered by the user for sentimental analysis, the system will extract the public sentiments positively or negatively using NLP.

### **3.2.5 Bot Account recognition**

The username will be provided by the user; The system will identify whether the participating account was operated by a fake, bot, or authentic account.

### **3.2.6 Data Visualization**

The system will provide frequency analysis and visualize data. It will include the frequency of total account participating, real account, bot account, total tweets made, unique tweets, unique accounts participating in the keyword, number of times

the keyword is used, same message retweet, gender ratio, age ratio, and platform ratio.

### ***3.2.7 Statistical analysis of Twitter account***

The username will be provided by the user; the system will provide a detailed overview of that Twitter account.

### ***3.2.8 Developer API Portal***

System will provide a portal to developer.

## **3.3 Non functional requirement**

The functional requirements of the system are listed below.

### ***3.3.1 Performance***

The basic functionality of What'sTrending? is its performance, how system will perform, its throughput, accuracy, response time. It's crashing or failure chance will be very low. It should quickly respond to the user.

### ***3.3.2 Availability***

The system should be available 24/7. Every time authenticated user made request service will be provided to him.

### ***3.3.3 Robustness***

What'sTrending? should allow user to achieve their desired result.

### ***3.3.4 Security***

There will be no issue of data security. The username and password would be required for authentication. The user who have register on website would be given permission to access made request.

### ***3.3.5 Maintainability***

The software should be maintainable. This means that the proper Object oriented principle should be applied so that in future, if there is any need to update a particular module than the developer needs to modify only specific classes.

### **3.3.6 Capacity**

What'sTrending? Will be able to support multiple users at a time.