

## **A CREDIBILITY ANALYSIS SYSTEM FOR ASSESSING INFORMATION ON TWITTER**

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### **ABSTRACT**

Information credibility on Twitter has been a topic of interest among researchers in the fields of both computer and social sciences, primarily because of the recent growth of this platform as a tool for information dissemination. Twitter has made it increasingly possible to offer near-real-time transfer of information in a very cost-effective manner. It is now being used as a source of news among a wide array of users around the globe.

The beauty of this platform is that it delivers timely content in a tailored manner that makes it possible for users to obtain news regarding their topics of interest. Consequently, the development of techniques that can verify information obtained from Twitter has become a challenging and necessary task. In this paper, we propose a new credibility analysis system for assessing information credibility on Twitter to prevent the proliferation of fake or malicious information.

## **1 INTRODUCTION**

### **Structure of Data Mining**

Generally, data mining (sometimes called data or knowledge discovery) is the process of analyzing data from different perspectives and summarizing it into useful information - information that can be used to increase revenue, cuts costs, or both. Data mining software is one of a number of analytical tools for analyzing data. It allows users to analyze data from many different dimensions or angles, categorize it, and summarize the relationships identified. Technically, data mining is the process of finding correlations or patterns among dozens of fields in large relational databases.

### **How Data Mining Works?**

While large-scale information technology has been evolving separate transaction and analytical systems, data mining provides the link between the two.

## Literature Survey

### A new model for classifying social media users according to their behaviors:

User generated content in online social media is growing rapidly, which makes it hard to be validated and verified. Face book and Twitter are the most popular social media that are being used as a means of social communication and sharing thoughts, knowledge and even news. Information in these social networks can be generated by anyone from anywhere in anytime. Classifying such huge information using traditional data mining classification algorithms is time consuming task which needs huge processing and memory space.

In this paper, we propose a new threshold-based approach for classifying information in social network that can give accurate result similar to support vector machine (SVM) with less processing time and consuming less memory space compare to SVM. We applied our experiment on Twitter accounts by monitoring KSU, SPP\_KSU and SSS\_KSU followers' accounts and compare our results with SVM results that applied by Research Chair of Pervasive and Mobile Computing (CPMC) in KSU on the same followers' accounts.

## 3 IMPLEMENTATION STUDY

### EXISTING SYSTEM:

Currently, researchers have employed various methodologies in studies on information credibility . Some of them consider the problem to be one of classification that should be solved in an automated fashion using machine learning or graph-based algorithms. Others view it as a cognitive problem requiring human-centric verification.

### Disadvantages:

- OSNs by their very nature evolve dynamically over time and become very large in size, with various structures that make it difficult to obtain the information needed to discern the credibility of users.
  - Malicious activities can evade existing spam filters through various means. For example, in Twitter, malicious users can purchase followers or use tools to automatically generate fake ac-counts and post tweets with the same meaning but different words.
-

### Proposed System & algoriththam

We propose a novel credibility assessment system that maintains complete entity-awareness (tweet, user) in reaching a precise information credibility judgment. This model comprises four integrated components, namely, a reputation-based model, a feature ranking algorithm, a credibility assessment classifiers engine, and a user expertise mod-el. All of these components operate in an algorithmic form to analyze and assess the credibility of the tweets on Twitter.

#### 4.1 Advantages:

- Our results show that the system that employed a reputation-based filter approach provide a significant and accurate credibility assessment.
- To measure user expertise and reputation, we use some different measures that are considered to have a huge impact on Twitter. This can be accomplished by measuring reputation through how popular a user is and how sentimental he/she is.

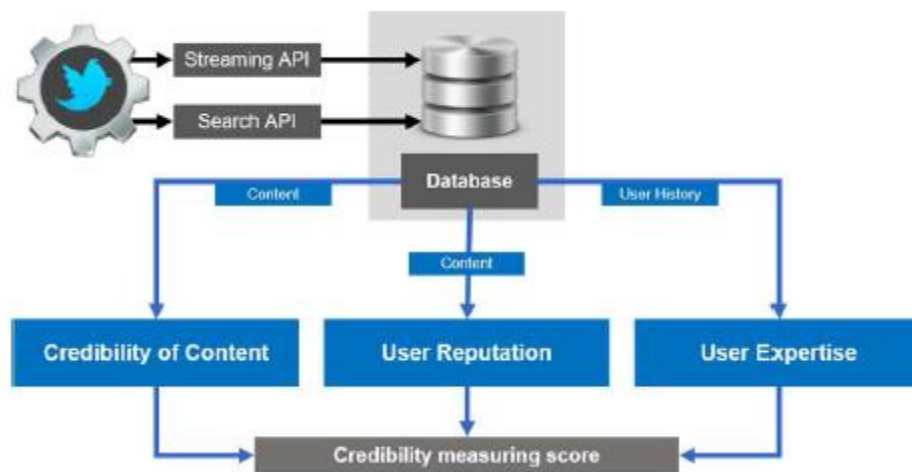


Fig:3.1 System Architecture

### IMPLEMENTATION

#### MODULES:

##### 1. Admin Module:

Calculate credibility of content  
 Calculate user reputation  
 Calculate user expertise  
 Find Credibility measuring score  
 Graphical Representation

##### 2. User Module:

OSN System Construction Module

**Admin Module:**

In this module, the Admin has to login by using valid user name and password. After login successful he can do some operations such as view all user and their details and authorize them.

**Calculate credibility of content:**

This module is part of admin module who will calculate each user credibility by selecting post and user name. In these calculation users credibility is measured through tweet size and @ mentions in the post. This analyzed data is sent to calculate user reputation.

**Calculate user reputation:**

In this user reputation calculation method total number of friends , and total number of tweets are calculated for that respective user on that specific topic. If user has more friends and more tweets his reputation is more.

**Calculate user expertise:**

Expertise of each user is calculated by finding users history of messages he posted on respective topic. If user has more messages on his history than he was activity participating in discussion.

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## 5 RESULTS AND DISCUSSION

### SCREEN SHOTS

#### 5.3.1 HOME PAGE:

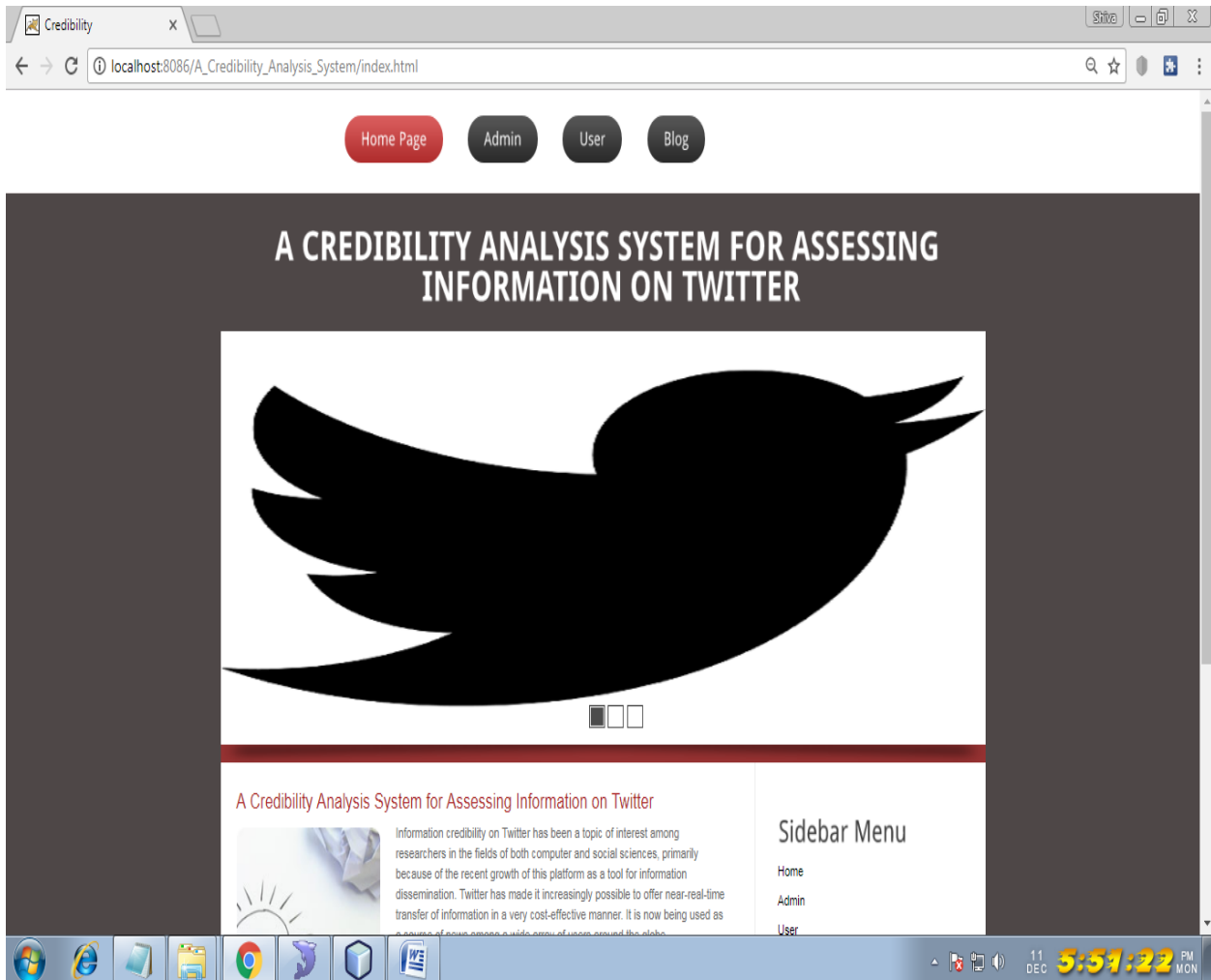


Fig: 5.1 Home Page

#### 5.3.2 USER REGISTRATION:

The screenshot displays a web browser window with the address bar showing `localhost:8086/A_Credibility_Analysis_System/registration.jsp`. The page has a dark grey sidebar on the left and a light blue header. The main content area is white and contains a registration form and a sidebar menu.

**Registration Form:**

- User Name:**
- Password:**
- Email:**
- DOB:**
- Address:**
- Mobile No:**
- Picture:**  No file chosen

**Sidebar Menu:**

- Home
- Admin
- User
- Registration

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Fig:5.2 User Registration

### 5.3.3 USER LOGIN:

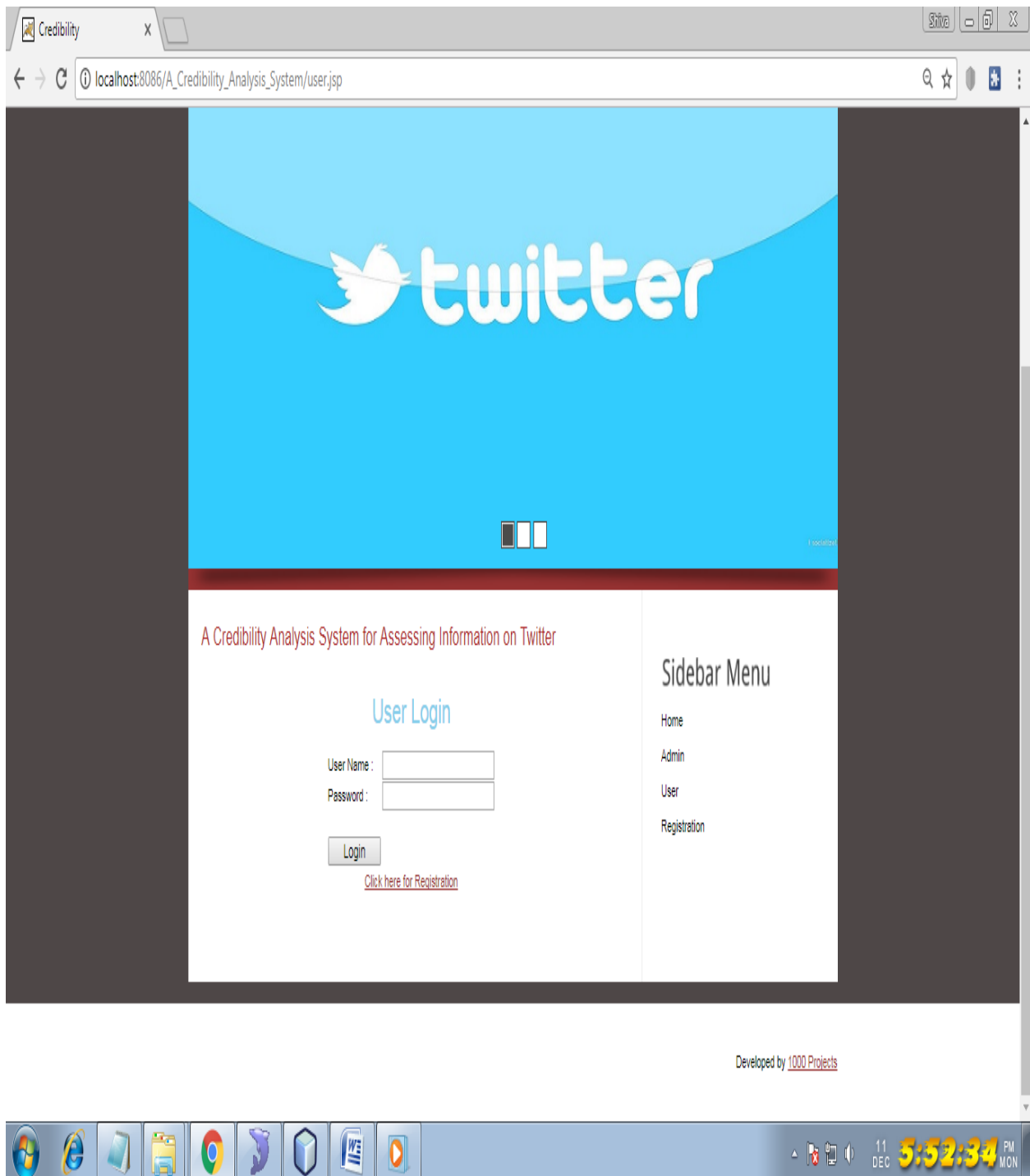


Fig:5.3 User login

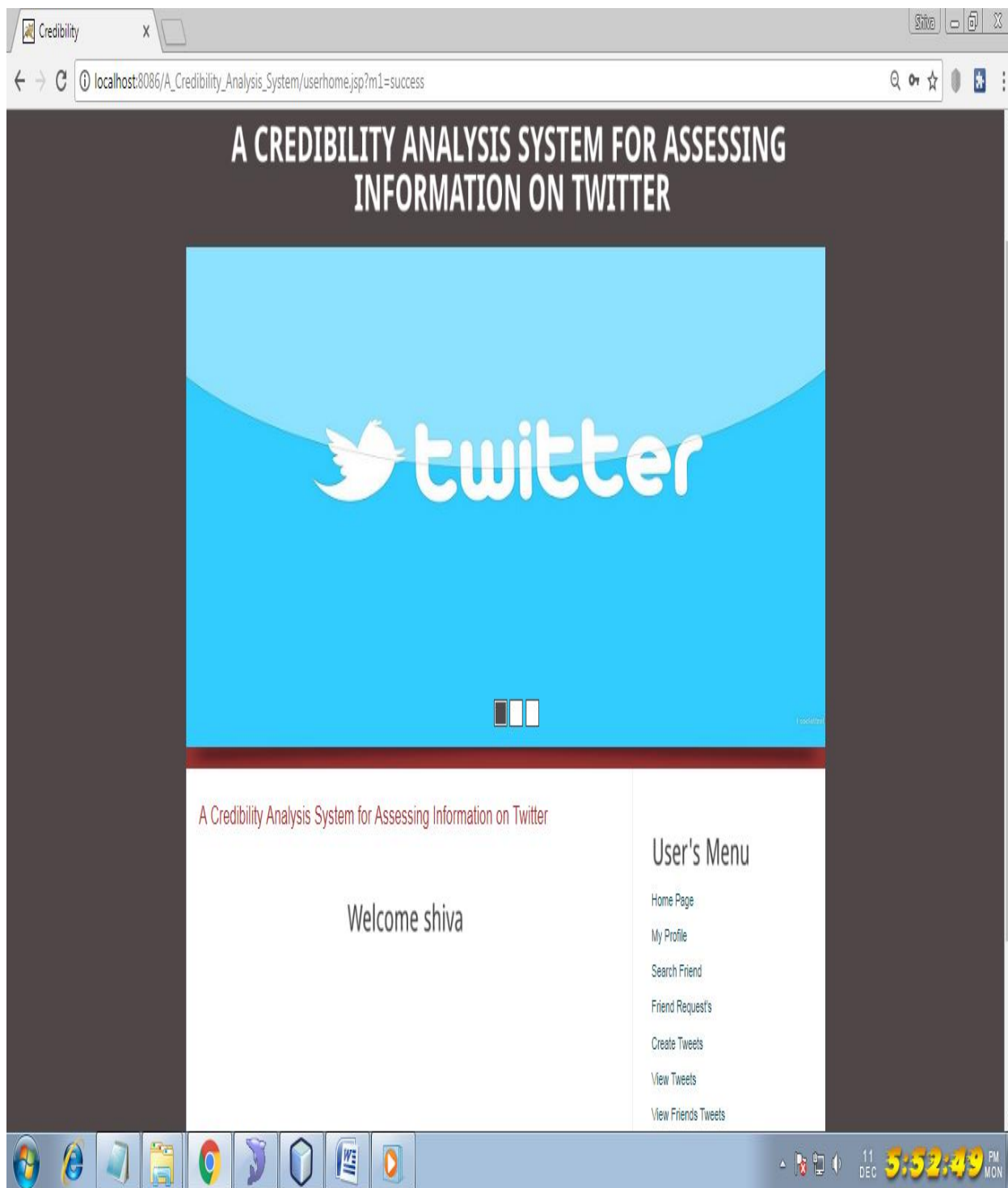
**5.3.4 USER HOME:**

Fig:5.4 User home



**5.3.5 PROFILE:**

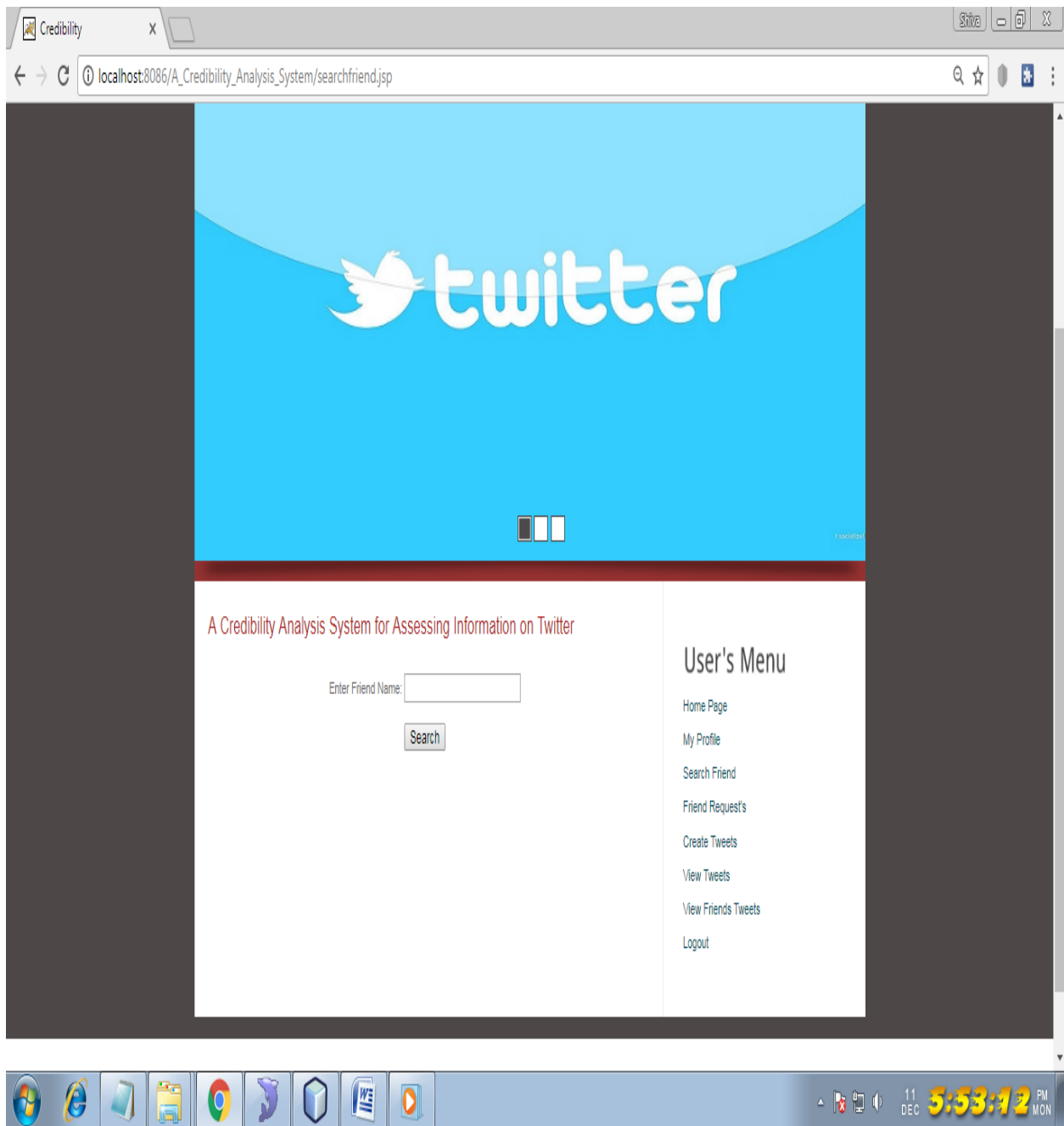
A screenshot of a web browser displaying a profile page for 'shiva'. The browser's address bar shows the URL: `localhost:8086/A_Credibility_Analysis_System/profile.jsp`. The page has a blue header with the Twitter logo. Below the header, the text 'A Credibility Analysis System for Assessing Information on Twitter' is displayed. The profile section, titled 'shiva's Profile', includes a profile picture and a table of personal information:

E-Mail	shiva.1000projects@gmail.com
Mobile	9052016340
Address	1000 projects, hyderabad
Date of Birth	1991-05-11
Status	Authorized

To the right of the profile information is a 'User's Menu' with the following options: Home Page, My Profile, Search Friend, Friend Request's, Create Tweets, View Tweets, View Friends Tweets, and Logout. The Windows taskbar at the bottom shows the time as 5:53:00 PM on 11 DEC.

Fig:5.5 Profile

### 5.3.6 SEARCH FRIENDS:



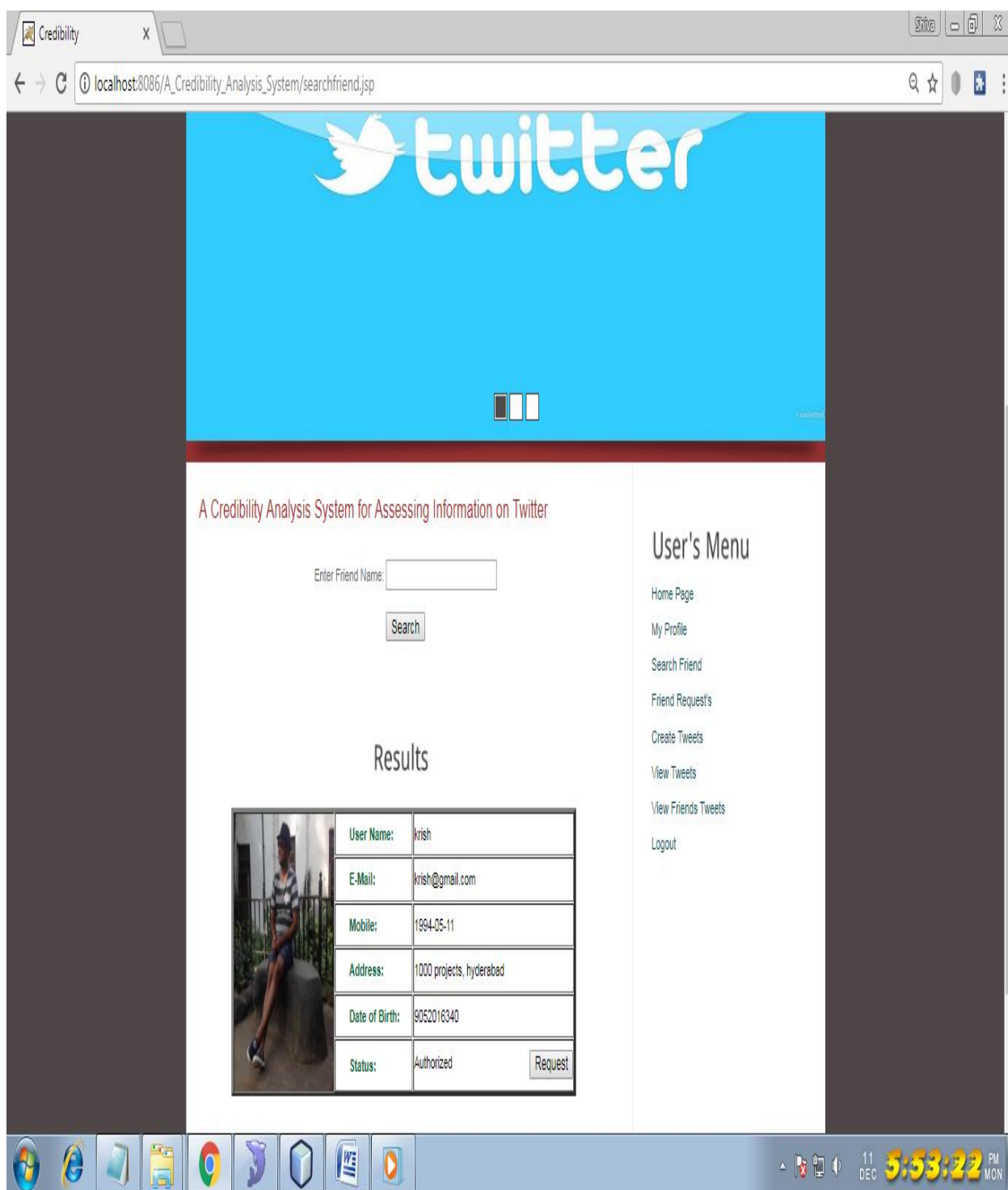


Fig:5.6 Search friends

### 5.3.7 FRIENDS REQUEST:



The screenshot displays a web browser window with the address bar showing `localhost8086/A_Credibility_Analysis_System/Friendreq.jsp`. The page has a dark grey sidebar on the left and a main content area with a blue header featuring the Twitter logo. Below the header, the text "A Credibility Analysis System for Assessing Information on Twitter" is visible. A table of friend requests is shown, with two entries, both marked as "Accepted". To the right of the table is a "User's Menu" with links to Home Page, My Profile, Search Friend, Friend Request's, Create Tweets, View Tweets, View Friends Tweets, and Logout. The footer of the page indicates it was "Developed by 1000 Projects". The Windows taskbar at the bottom shows the system time as 5:53:42 PM on 11 DEC.

Request From	Request To	Address	Status
shiva	krish	1000 projects, hyderabad	Accepted
shiva	deepu	1000 projects, hyderabad	Accepted

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Fig:5.7 Friends request

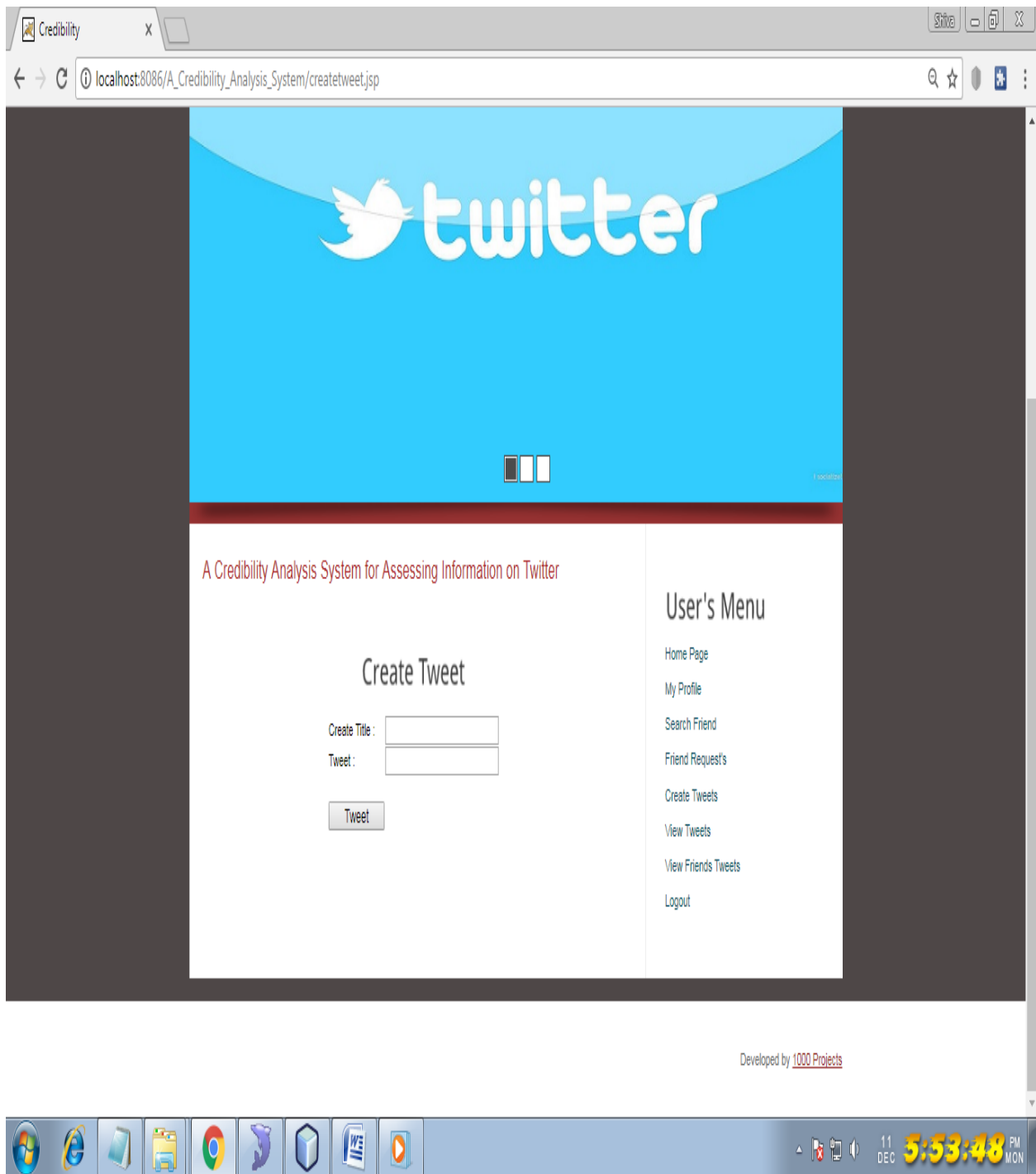
**5.3.8 CREATE TWEET:**

Fig:5.8 Create tweet

**5.3.9 VIEW TWEET:**

The screenshot shows a web browser window with the address bar displaying `localhost:8086/A_Credibility_Analysis_System/viewtweet.jsp`. The browser tab is labeled "Credibility". The page features a blue header with the Twitter logo. Below the header, the text "A Credibility Analysis System for Assessing Information on Twitter" is displayed. The main content area shows "shiva's Tweet" with a table containing one row of tweet data. A "User's Menu" is visible on the right side of the page. The footer of the page indicates it was "Developed by 1000 Projects". The Windows taskbar at the bottom shows the system clock as 5:54:07 PM on 11 DEC MON.

shiva's Tweet

Title	Tweet	Date	Time
Politics	who will be the next prime minister??	11/12/2017	16:58:15

User's Menu

- Home Page
- My Profile
- Search Friend
- Friend Request's
- Create Tweets
- View Tweets
- View Friends Tweets
- Logout

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Fig:5.9 View tweet

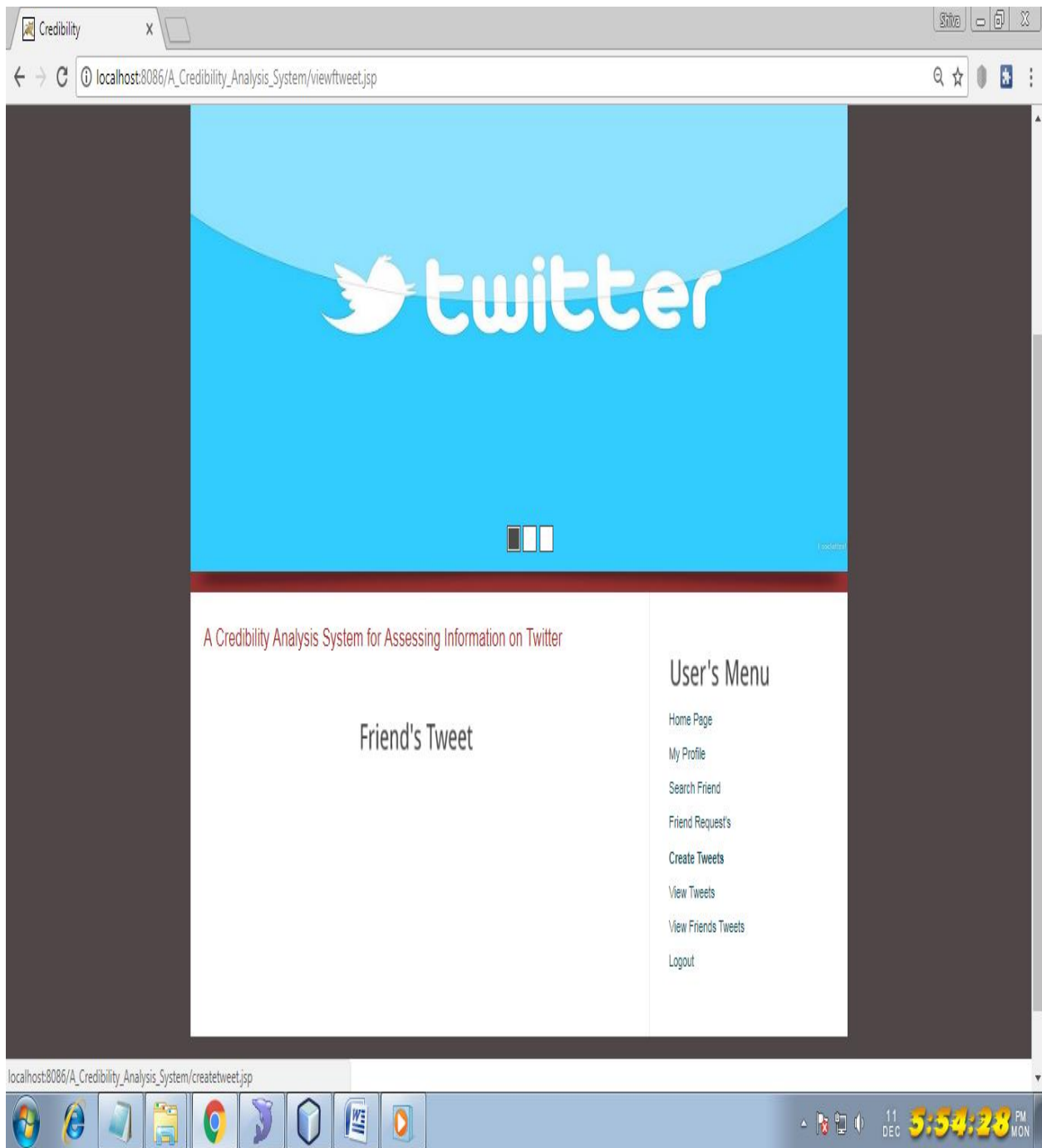
**5.3.10 VIEW FRIENDS TWEET:**

Fig:5.10 View friends tweet

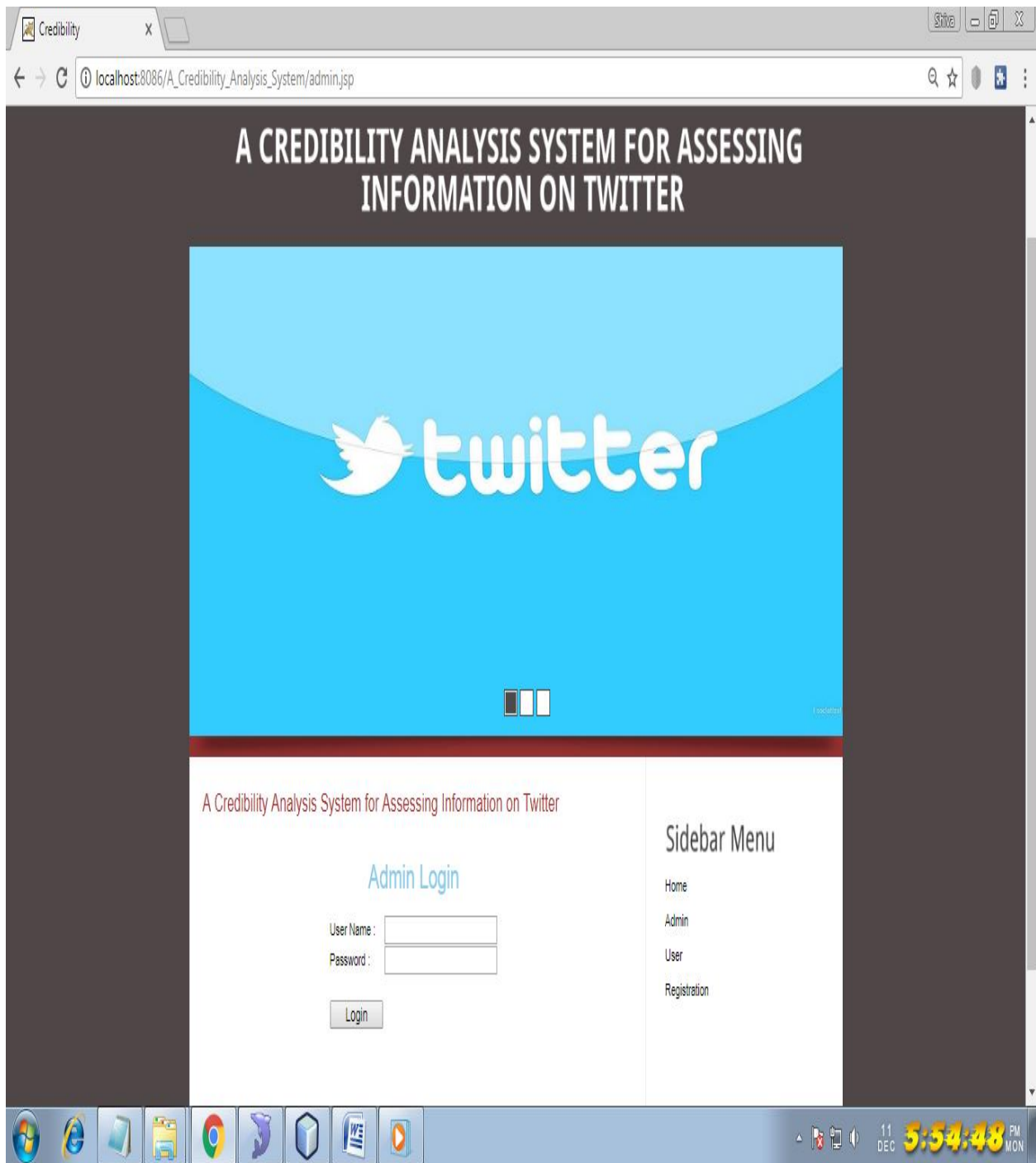
**5.3.11 ADMIN LOGIN:**

Fig:5.11 Admin login



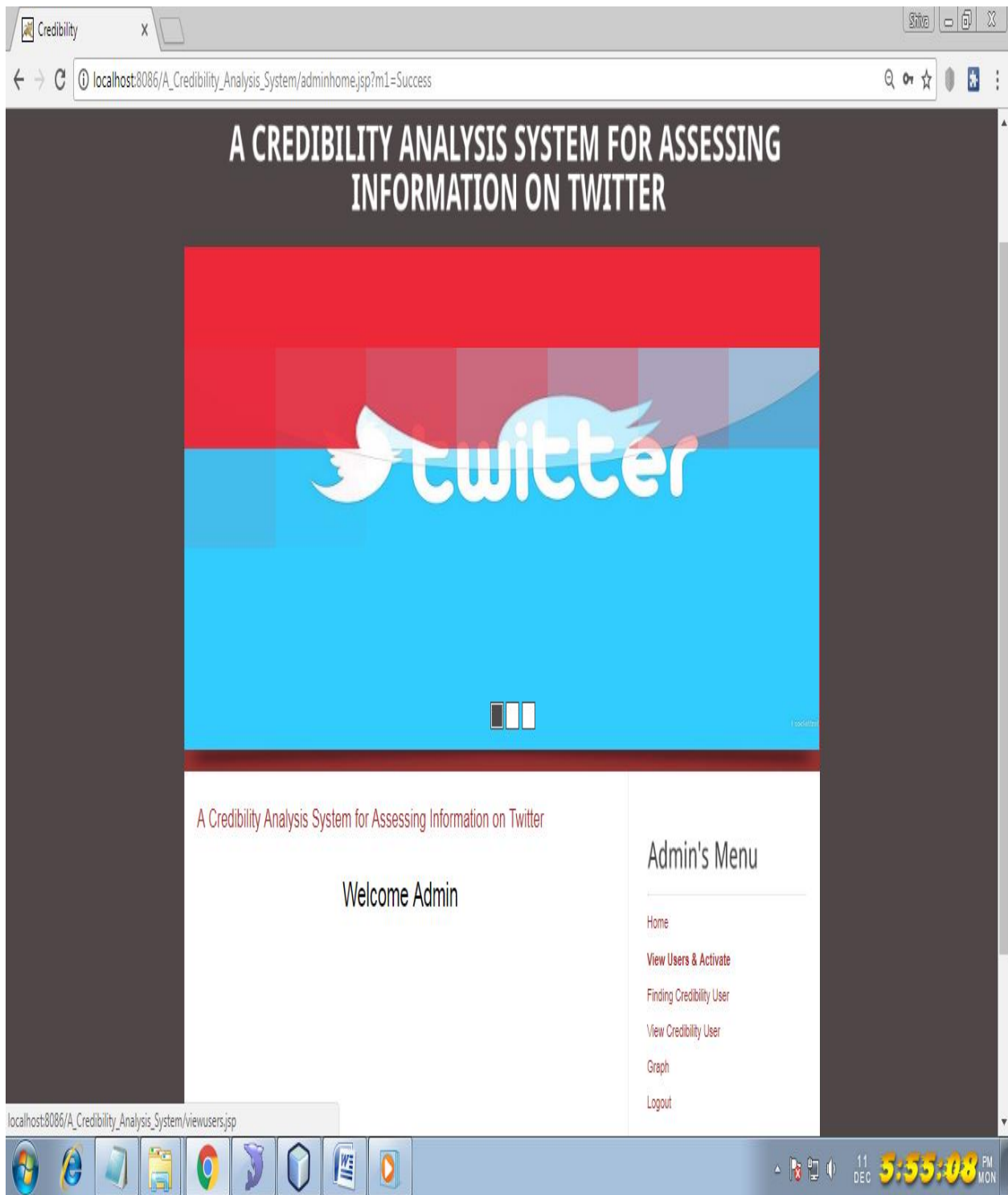
**5.3.12 ADMIN HOME:**

Fig:5.12 Admin home

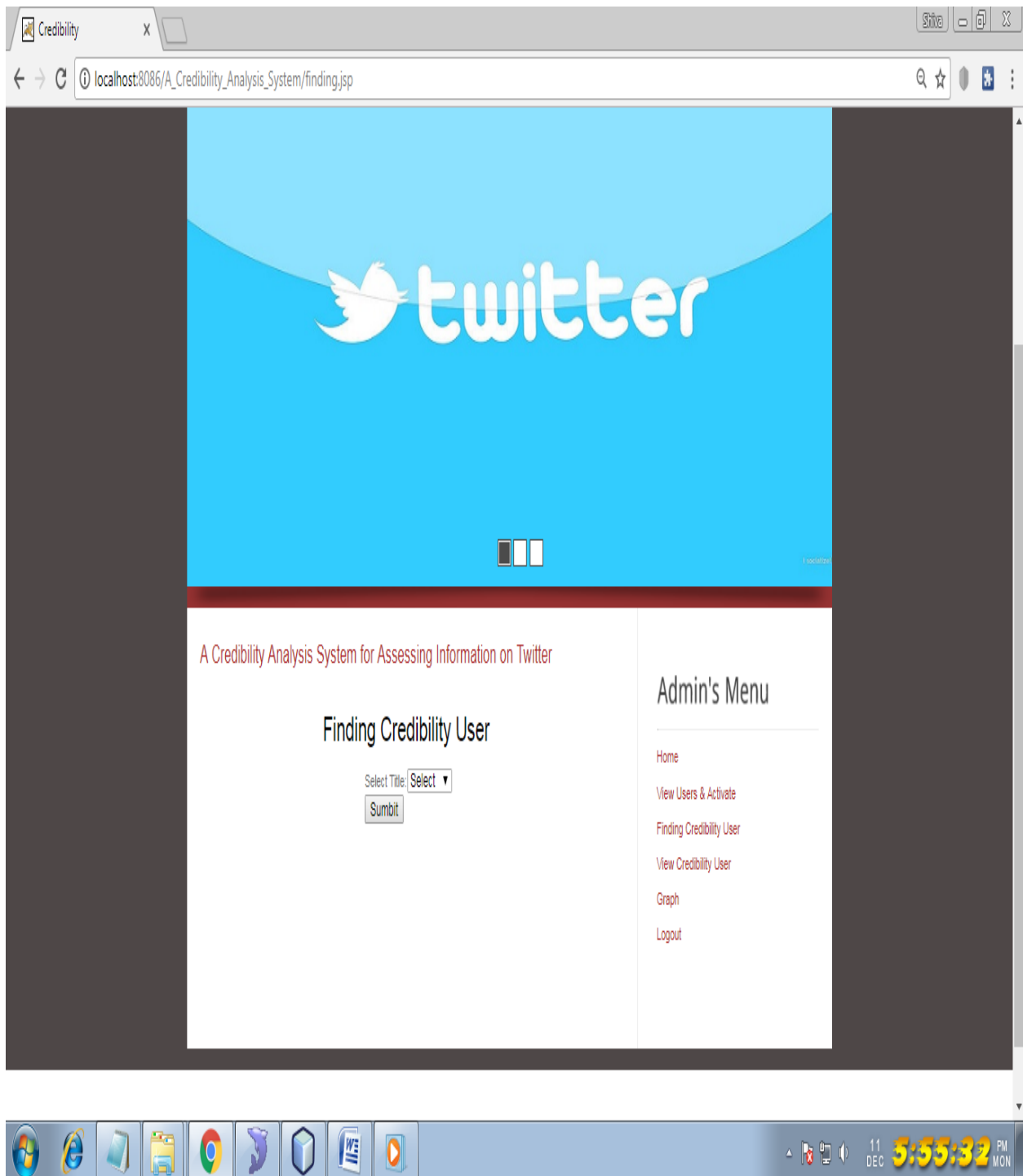
**5.3.13 VIEW USERS & ACTIVATE:**

The screenshot shows a web browser window with the address bar displaying `localhost:8086/A_Credibility_Analysis_System/viewusers.jsp`. The page has a blue header with the text "A Credibility Analysis System for Assessing Information on Twitter". Below the header, there is a table with the following data:

ID	User Image	User Name	Email	Mobile	Status
1		shiva	shiva.1000projects@gmail.com	9052016340	Authorized
2		krish	krish@gmail.com	9052016340	Authorized
3		deepu	deepu@gmail.com	9052016340	Authorized

To the right of the table is an "Admin's Menu" with the following links: Home, View Users & Activate, Finding Credibility User, View Credibility User, Graph, and Logout. The footer of the page says "Developed by 1000 Projects". The Windows taskbar at the bottom shows the time as 5:55:15 PM on 11 DEC.

Fig:5.13 View users &amp; activate

**5.3.14 FINDING CREDIBILITY USER:**

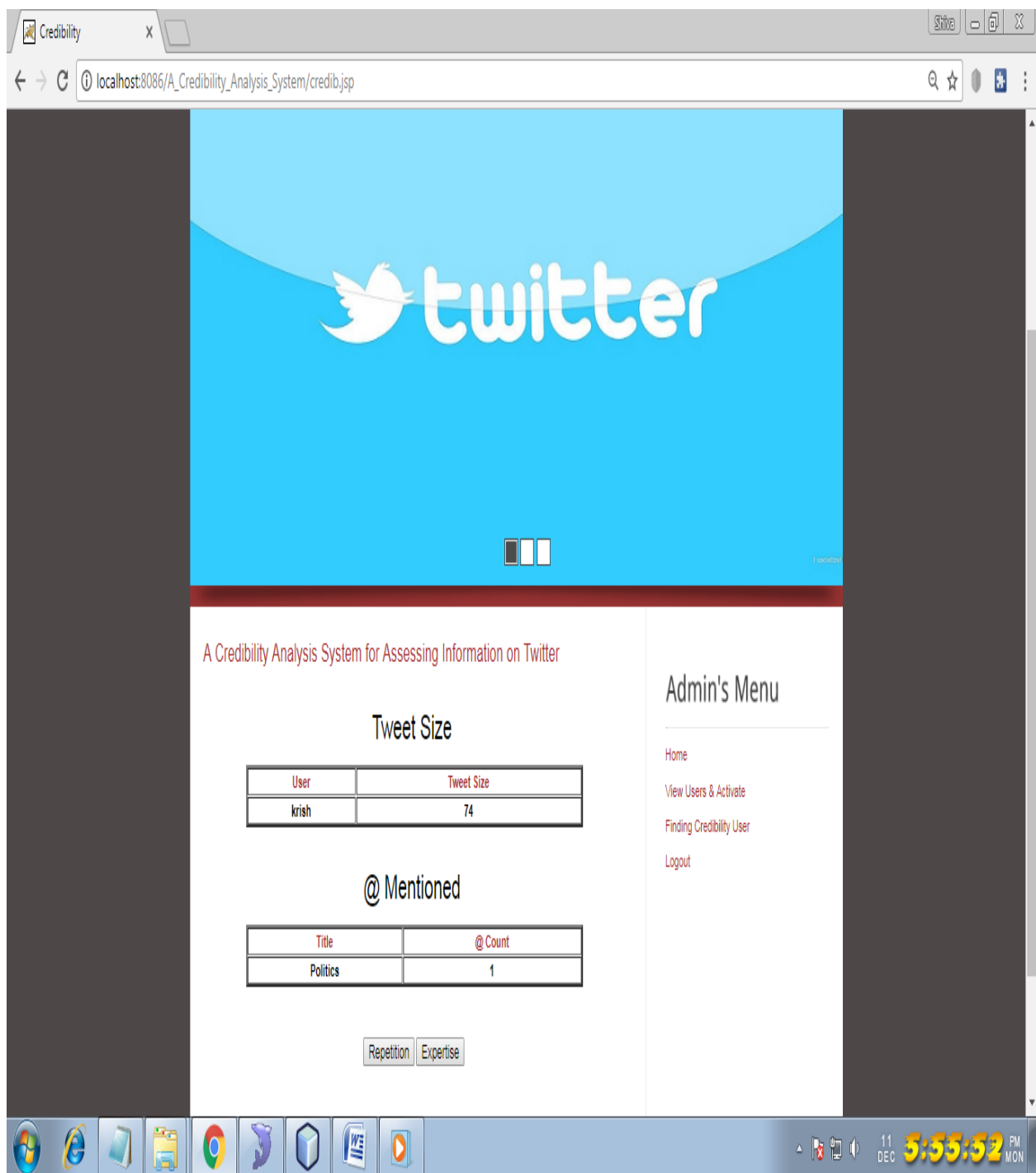


Fig:5.14 Finding credibility user

**5.3.15 REPETITION:**

localhost:8086/A\_Credibility\_Analysis\_System/repetition.jsp?user=krish&title=Politics

twitter

A Credibility Analysis System for Assessing Information on Twitter

No of Friends

User	Friend Count
krish	1

No of Tweets

User	Tweet Count
krish	2

Admin's Menu

- Home
- View Users & Activate
- Finding Credibility User
- Logout

Credibility Expertise

Fig:5.15 Repetition

**5.3.16 EXPERTISE:**

The screenshot shows a web browser window with the address bar displaying `localhost8086/A_Credibility_Analysis_System/expertise.jsp?user=krish&title=Politics`. The browser window has a tab labeled "Credibility". The main content area features a large blue header with the Twitter logo and the word "twitter" in white. Below the header, there is a red horizontal bar. The main content area is divided into two sections: "History" on the left and "Admin's Menu" on the right.

**History**

Title	Tweet	Date	Time
Politics	who will be the next prime minister??	11/12/2017	17:00:16
Politics	who will be the next prime minister??	11/12/2017	17:04:13

Below the table, there are two buttons: "Credibility" and "Repetition".

**Admin's Menu**

- Home
- View Users & Activate
- Finding Credibility User
- Logout

At the bottom right of the main content area, it says "Developed by 1000 Projects".

The Windows taskbar at the bottom shows the system clock as 5:56:27 PM on 11 DEC. The taskbar also includes icons for Internet Explorer, Google Chrome, and other applications.

Fig:5.16 Expertise

**5.3.17 VIEW CREDIBILITY USER:**

A screenshot of a web browser displaying a web application titled "A Credibility Analysis System for Assessing Information on Twitter". The browser's address bar shows the URL "localhost:8086/A\_Credibility\_Analysis\_System/viewcredibility.jsp". The application interface includes a Twitter logo at the top, a search bar with a "Submit" button, and a table titled "Credibility User". The table contains three rows of data. To the right of the table is an "Admin's Menu" with links: Home, View Users & Activate, Finding Credibility User, View Credibility User, Graph, and Logout. The footer of the application states "Developed by 1000 Projects".

Title	User	Count
Politics	krish	6
Politics	deepu	3
Politics	krish	6

Fig:5.17 View credibility user

**5.3.18 GRAPH:**

Fig:5.18 Graph



## 6. CONCLUSION AND FUTURE WORK

### CONCLUSION

This paper presents the results of a study of the problem of assessing information credibility on Twitter. The issue of information credibility has come under scrutiny, especially in social networks that are now being used actively as first sources of information. Twitter and other social networks have become widely used in disaster mitigation in cases of high-impact events because they make it possible for relevant parties to obtain important information sufficiently quickly to coordinate countermeasures to such events.

To obtain a better understanding of how to assess information credibility on Twitter, we measured and characterized the content and sources of Twitter tweets. By crawling Twitter, we collected data from more than 1,416,443 tweets by 489,330 unique users. In addition, we examined data for 2,843 Twitter users with more than 7,870,549 tweets. Based on the data, we extracted the features that can be of most help in the assessment process. Based on our feature extraction process, we designed an automated classification system that consists of four main components: a reputation-based component, a credibility classifier engine, a user experience component, and a feature rank algorithm.

## 7. REFERENCES

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