

A
PROJECT REPORT
ON

Fake News Detection System

Towards partial fulfillment of the requirement in

2nd Semester BCA/B.Sc. IT/IMCA 2021-22

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Submitted To:-



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**Under the Guidance of
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Acknowledgement

The success and final outcome of this project required a lot of guidance and assistance from many people and we are extremely privileged to have got this all along the completion of our project. All that we have done is only due to such supervision and assistance and we would not forget to thank them.

I respect and thank Dr. Priya Swaminarayan, Dean, FITCS for providing us an opportunity to do the project work in BCA and giving us all support and guidance which made us complete the project duly. We are extremely thankful to Mam for providing her support and guidance, although she had a busy schedule managing the academic affairs.

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We owe our deep gratitude to our project guide Prof. Vijya Tulsani (write your respective guide name only), who took keen interest on our project work and guided us all along, till the completion of our project work by providing all the necessary information for developing a good system.

I am thankful to and fortunate enough to get constant encouragement, support and guidance from our Parents, all Teaching staff of the BCA Department which helped us in successfully completing our project work. Also, we would like to extend our sincere esteems to all staff in the laboratory for their timely support.

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CERTIFICATE

This is to certify that **Akshat Mistry, Akshita Sharma and Aditya Kumar Pan** the student(s) of Parul Institute of Computer Application, has/have satisfactorily completed the project entitled **“Fake News Detection System”** as a part of course curriculum in BCA/B.Sc. IT/IMCA semester-II for the academic year 2021-2022 under guidance of **Prof. Vijya Tulsani.**

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Quality of work	Grade	Sign of Internal guide
Poor / Average / Good / Excellent	B /B+ / A / A+	

Date of submission:

HOD,

Prof. Hina Chokshi

Principal,

Dr.Priya Swaminarayan

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ABSTRACT

Fake news is the deliberate spread of misinformation via traditional news media or via social media. False information spreads extraordinarily fast. This is demonstrated by the fact that, when one fake news site is taken down, another will promptly take its place. In addition, fake news can become indistinguishable from accurate reporting since it spreads so fast.

Due to the exponential growth of information online, it is becoming impossible to decipher the true from the false. Thus, this leads to the problem of fake news. This system considers previous and current methods for fake news detection in textual formats.

As mentioned earlier, the concept of deception detection in social media is particularly new and there is ongoing research in hopes that scholars can find more accurate ways to detect false information in this booming, fake-news-infested domain

Chapter 1

Introduction to Fake News Detection System

As the project name states, Fake News Detection System is developed in python and HTML and CSS. The frontend of the project is designed in HTML and CSS, whereas the backend part which runs the AI is developed in Python importing pandas and numpy.

Misinformation presents a huge challenge in online society. As a result, there have been many attempts to identify and classify misinformation. Specifically, in social networking sites, blogs, as well as online newspapers.

The scope of the project is to differentiate between the true and the false news. As we all know, in today's world fake news circulate more easily and faster than the true news. So, this leads to the development of our system.

Automated detection systems provide value in terms of automation and scalability. There are various techniques and approaches implemented in fake news detection research. And it is worth noting that these approaches often overlap depending on perspective.

The stop-words here is used to exclude some specific keywords that are non-reliable in the detection. The whole detection system is based on accuracy. Basically, there are four types of accuracy in our system, namely :

- Logistic Regression or LR Accuracy
- Decision Tree or DT Accuracy
- Gradient Boosting or GB Accuracy
- Random Forest or RF Accuracy

Here, after the whole dataset processing, the true news has a value "1" whereas the false news has a value "0".

Chapter 2

System Requirement Specification

2.1 Introduction to SRS

2.1.1 What is SRS?

A software requirements specification (SRS) is a description of a software system to be developed. It lays out functional and non-functional requirements, and may include a set of use cases that describe user interactions that the software must provide.

2.1.2 Need of SRS

In order to fully understand one's project, it is very important that they come up with a SRS listing out their requirements, how are they going to meet it and how will they complete the project. It helps the team to save upon their time as they are able to comprehend how are going to go about the project. Doing this also enables the team to find out about the limitations and risks early on.

2.2 Hardware Requirement

Hardware Components	Specification
Processor	Intel core I3,/I5
RAM	4GB/8GB
Hard disk	512GB/1TB
Monitor	15.6 colour monitor or advance
Device	Keyboard, Mouse

2.3 Software Requirement

Name of component	Specification
Operating System	WindowsXP, windows10
Software development kit	Python Version 3 or above, Python IDLE/ Pycharm /VS code/ Chrome browser/ Firefox browser
Programming language	Python Programming [with Flask]

2.4 System Users

2.4.1 User

2.4.2 Admin

2.5 Description of User Role

2.5.1 User

User is the person who visits our system to check whether the news is false or true.

2.5.2 Admin

Admin is the person who manages the AI processing and database.

2.6 System Module

2.6.1 Interactive Design

2.6.2 High accuracy

2.6.3 Efficient AI with high speed

2.7 Description of Modules

2.7.1 Interactive Design

Webpage is designed interactive for better customer retention. It helps to look the website more attractive.








2.7.2 High Accuracy

The webpage backend is provided with high processed AI for better fake checking accuracy.

2.7.3 Efficient AI with high speed

The webpage is provided with efficient python coding for better and high speed result.

2.8 Timeline Chart

Development phase	75 Days						Duration N (days)
	0to10 days	11to20 days	21to30 days	31to40 days	41to50 days	51to75 days	
Requirement Gathering							07
Analysis							09
Design							10
Development Phase 1							13
Development Phase 2							13
Development Phase 3							13
Documentation							10
Total time (Days)							75

2.8 Time line chart of Fake News Detection System

Chapter 3

System Flow Diagram

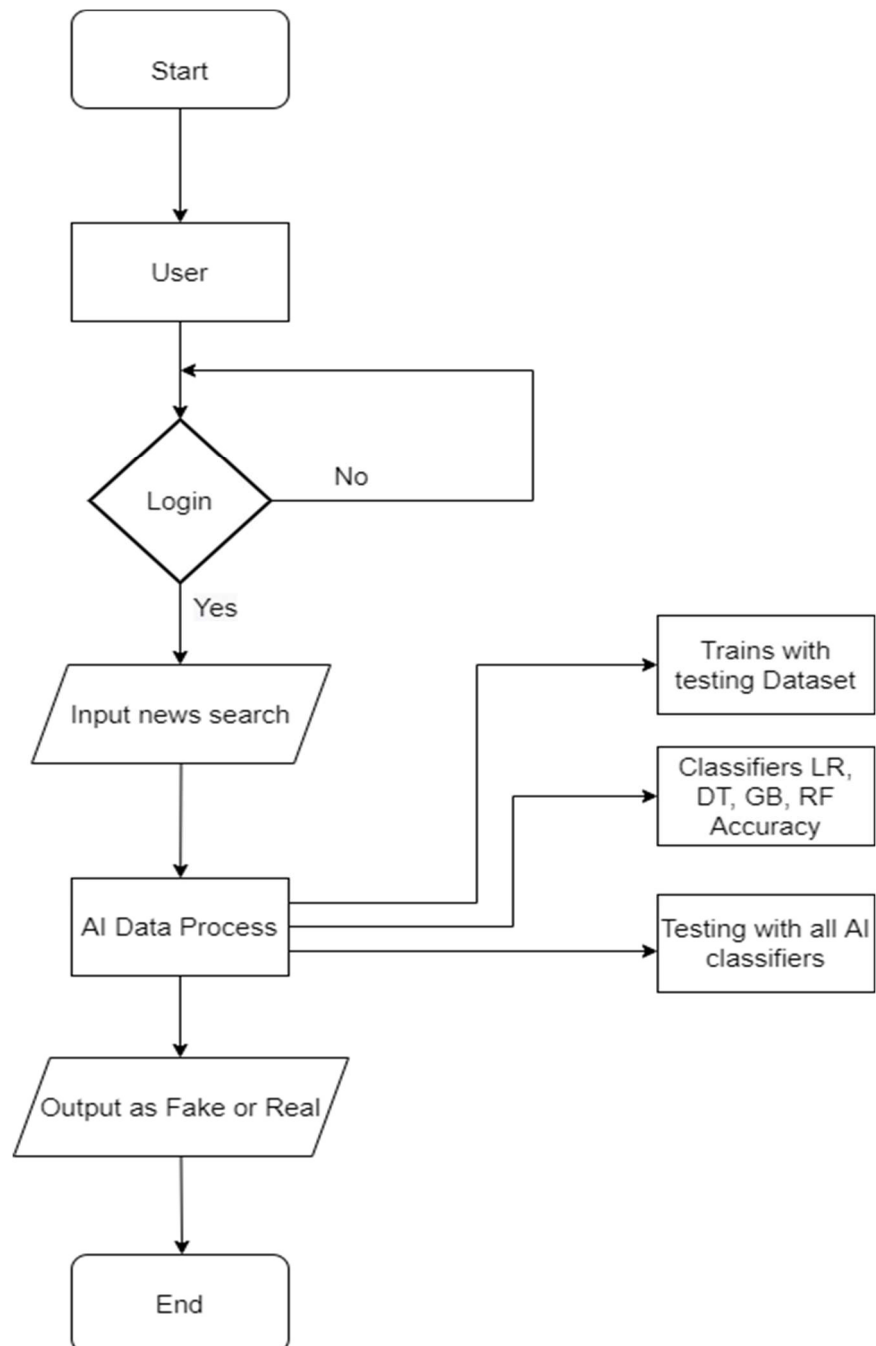


Figure 1. System Flow Diagram of Fake News Detection System

Chapter 4

Data Flow Diagram (0 Level)

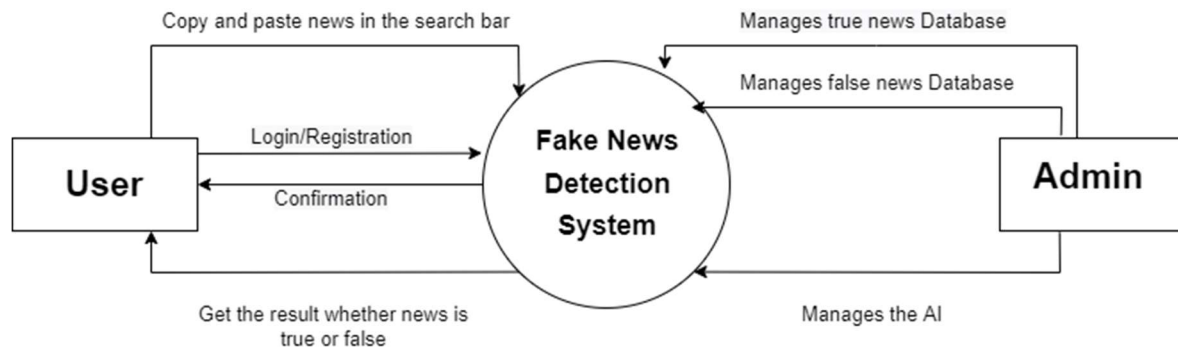


Figure 1. Data Flow Diagram of Fake News Detection System

Chapter 4

Data Flow Diagram (1 Level)

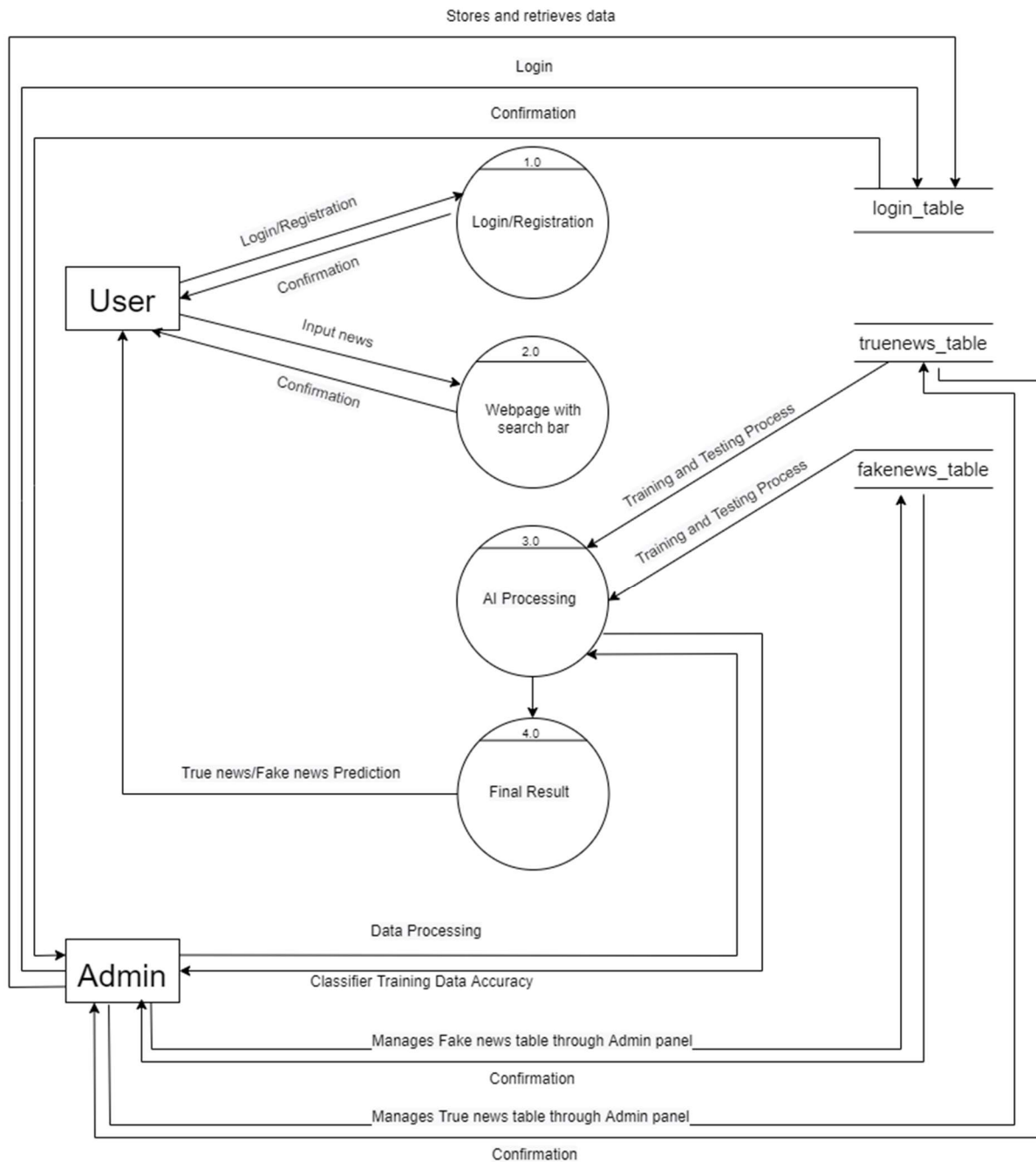


Figure 2. Data Flow Diagram of Fake News Detection System

Chapter 4

Data Flow Diagram (2 Level)

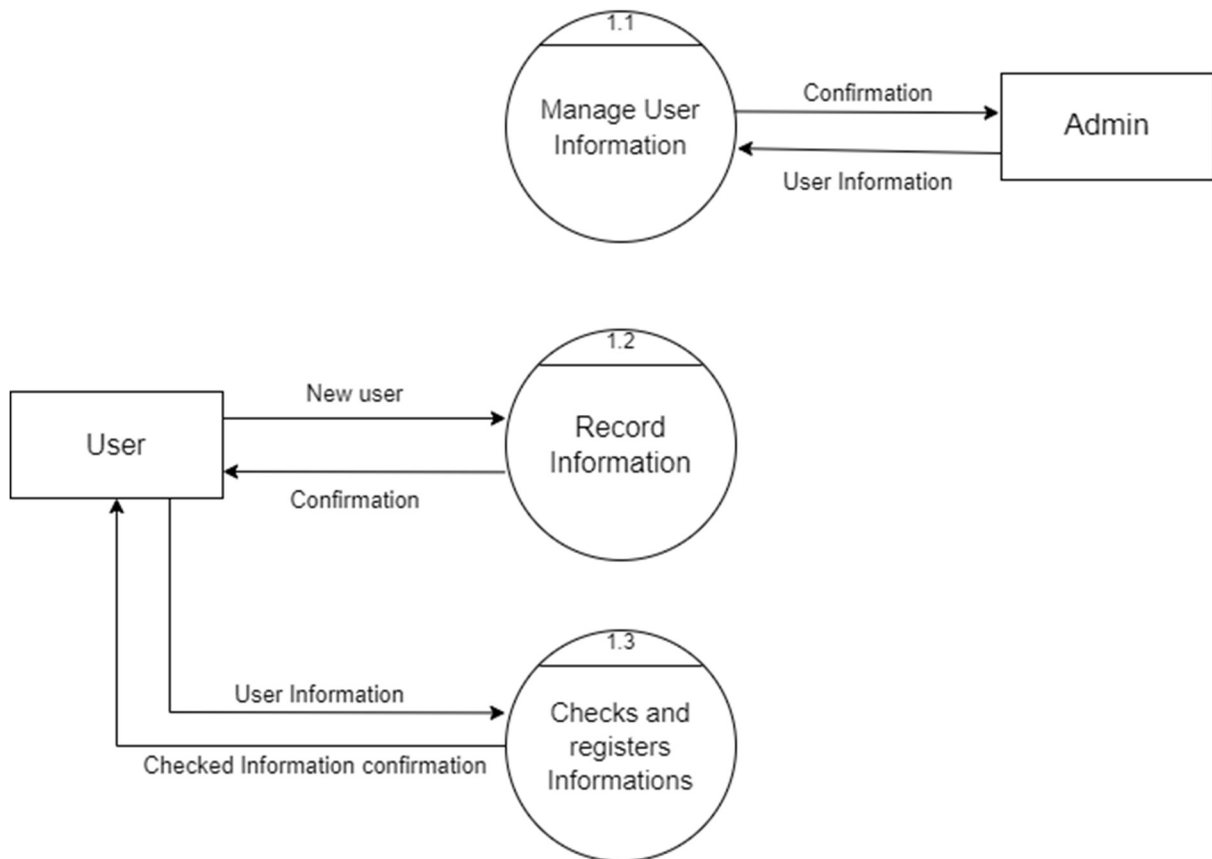


Figure 3. Data Flow Diagram of Fake News Detection System

Chapter 4

Data Flow Diagram (2 Level)

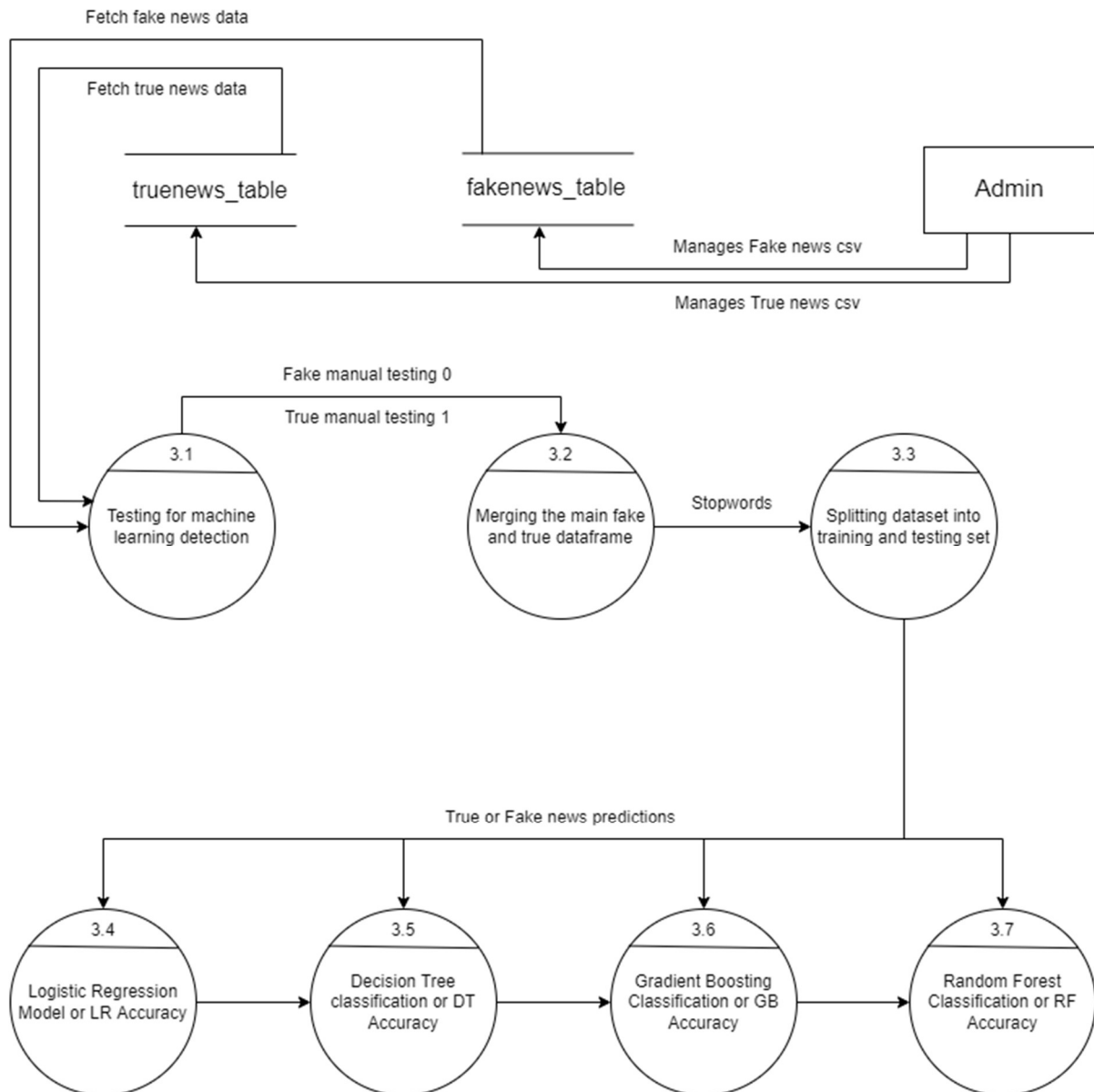


Figure 4. Data Flow Diagram of Fake News Detection System

Chapter 5

Use Case Diagram

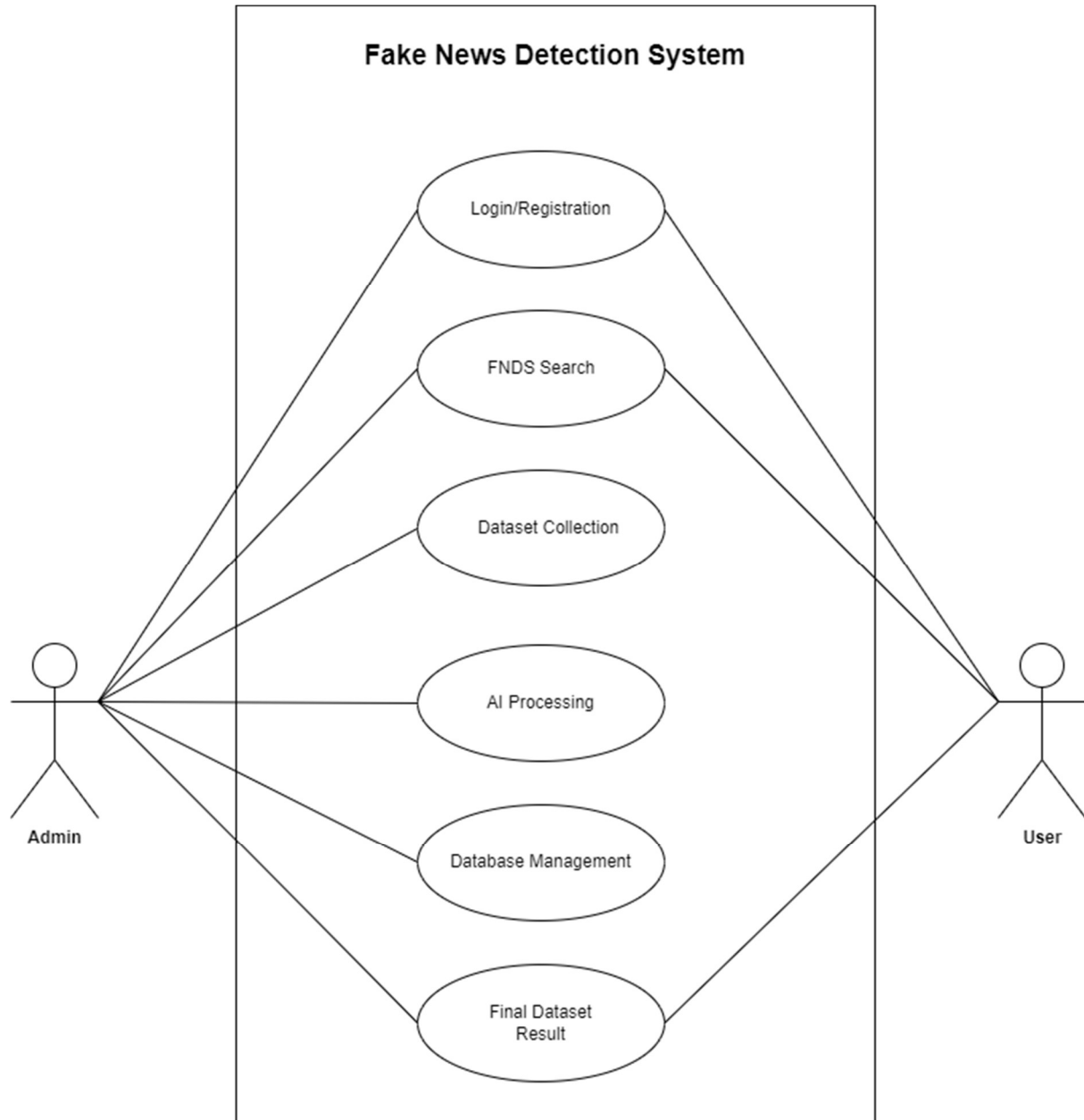


Figure 1. Use Case Diagram of Fake News Detection System

Chapter 6

Data Dictionary

6.1 login_table

The login_table consists of user credentials which help him to login the website.

Sr. No.	Field Name	Data Type	Size	Constraint	Description	Example
1.	password	varchar	(8)	NOT NULL	Password of the user	akshita123
2.	email	varchar	(20)	NOT NULL UNIQUE	Email of the user	akshita@gmail.com

Table 1 : login_table

Chapter 7

Screenshot of Development Phase 1

7.1 Fake News Detection System Design

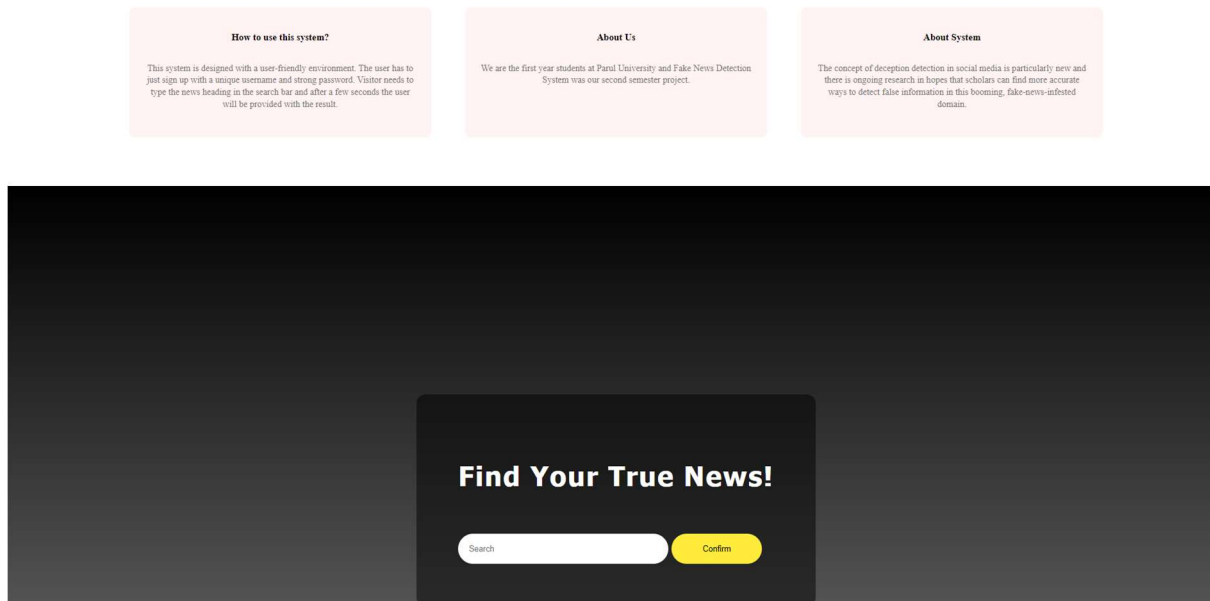


Figure 7.1 FNDS Design

7.2 Code of Fake News Detection System

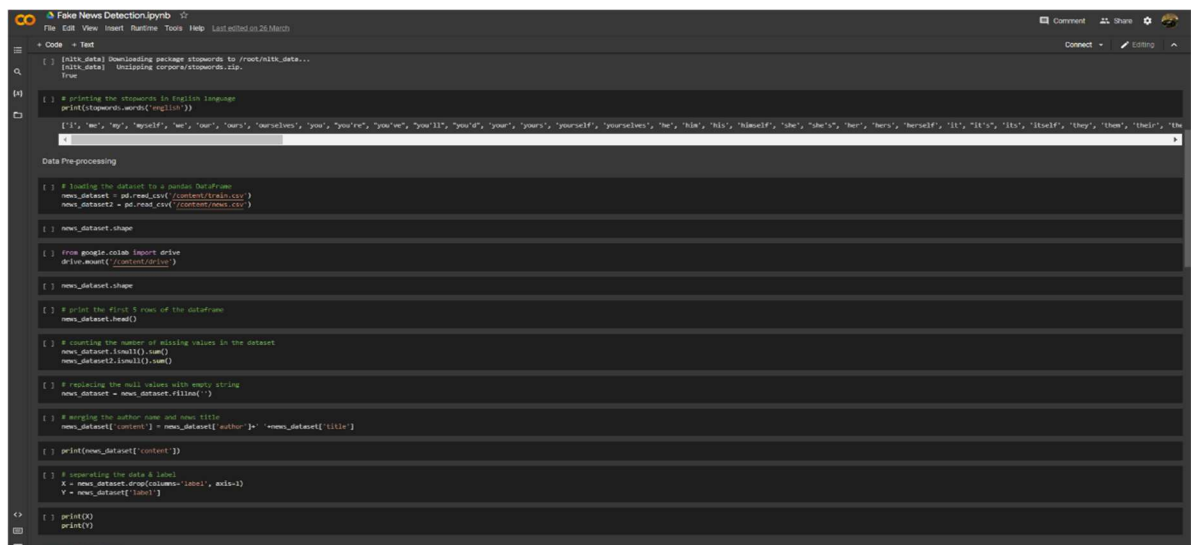


Figure 7.2 Code of FNDS

Chapter 8

Screenshot of Development Phase 2

8.1 Navigation bar Design



Figure 8.1 Navigation bar Design

8.2 Output Page of Fake News Detection System:

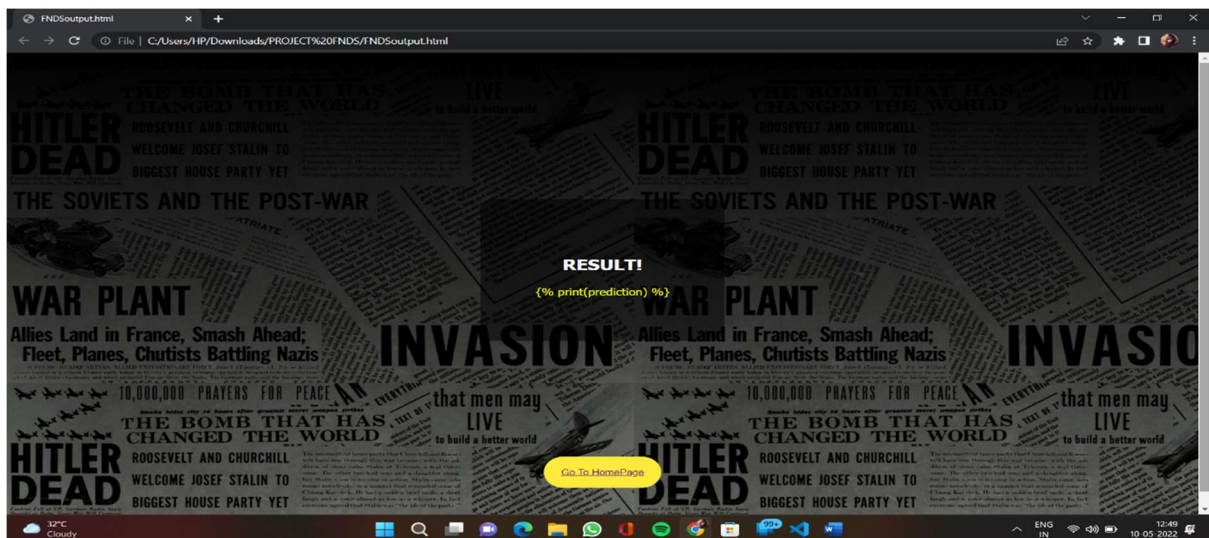


Figure 8.2 Output Page Design

Chapter 9

Screenshots of Development Phase 3

9.1 Login Database of FNDS:

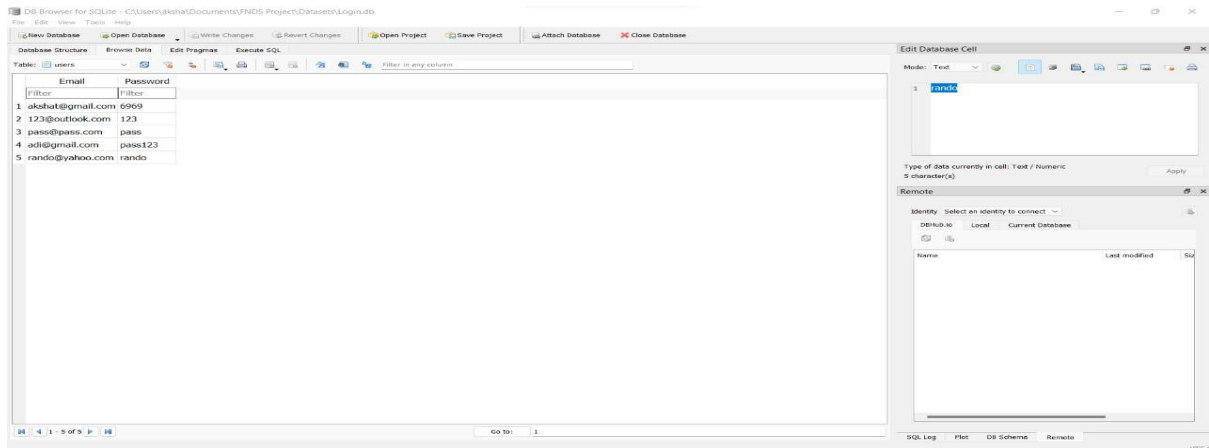


Figure 9.1 Login Database

9.2 Code of Login Database:

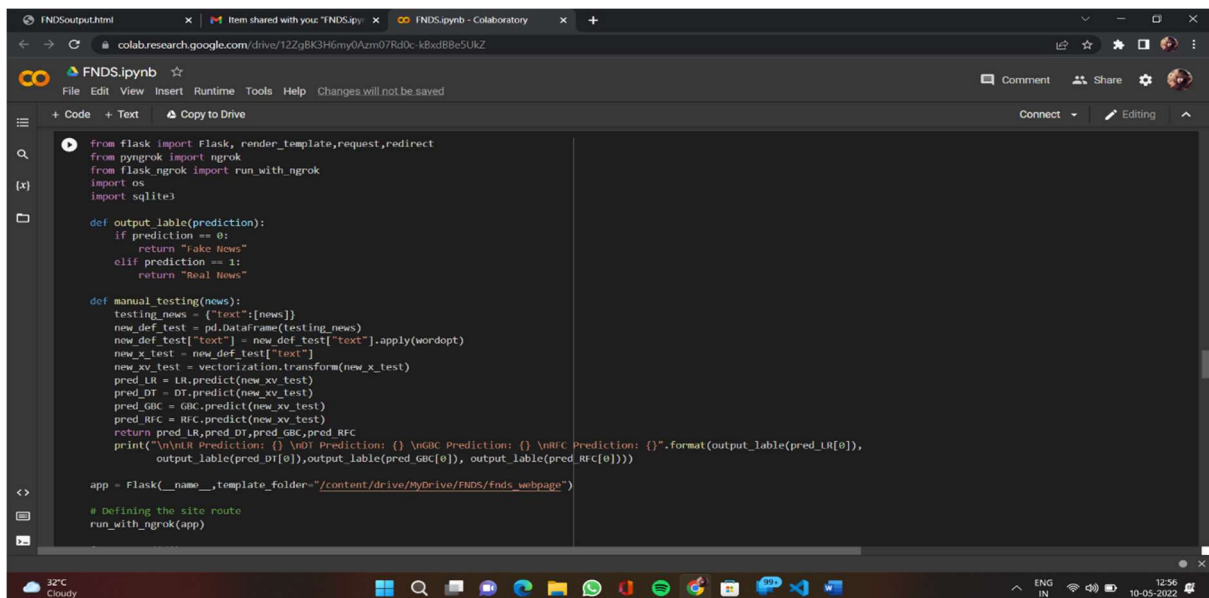


Figure 9.2 Code of Login Database

Chapter 10

Conclusion

During the development of the web-based Fake News Detection System, our group have encountered a lot of problems and difficulties, most especially in attaining the objective that we've situated in our proposal. Our system have features that need full attention and should be deeply scrutinized.

The creation of system's database requires enough period of time to be perfectly established, because all the needed information requires good critical thinking and through analysis before placing them altogether. The arrangement of the gathered information was planned carefully to easily trace its relationships which connects from one table to another and to avoid disordered database set-up.

From a proper analysis of positive points and constraints in the component, it can be safely concluded that the product is a highly efficient GUI based component.

Chapter 11

Future Enhancement

To help people make more informed trust assessments online, an increasing body of literature has explored to use algorithmic-centered approaches to detect and improve the credibility of online information.

It is important to note that online news infrastructure is also evolving. For example, online news platforms have improved the detection of misinformation, improving the overall quality of online information. However, simply targeting the quality of information is not sufficient in solving the issues of trust within websites.

The faithfulness in news article generation is whether the facts in the generated article actually exists or happen in the real world.

Chapter 12

References

Websites:

1. Github
2. Stack overflow
3. Youtube
4. Kaggle
5. Pythonanywhere.com