



Tribhuvan University
Mechi Multiple Campus

A Final Year Project Report
On
“ONLINE NEWS PORTAL”

Under the Supervision of
Raju Poudel

Submitted to
Department of Humanities and Social Science
Mechi Multiple Campus

In partial fulfillment of the requirements for the Bachelor Degree in
Computer Application

Submitted by
Susil Poudel (TU Exam Roll No: 020035)
Himal Poudel (TU Exam Roll No: 020016)

May 23, 2022



Tribhuvan University
Faculty of Humanities and Social Sciences
Mechi Multiple Campus

Supervisor's Recommendation

I hereby recommend that this project prepared under my supervision by Mr. Susil Poudel and Mr. Himel Poudel entitled **Online News Portal** in partial fulfillment of the requirements for the degree of Bachelor of Computer Application is recommended for the final evaluation.

SIGNATURE

Raju Poudel

SUPERVISOR

Lecturer

Department of Computer Application

Mechi Multiple Campus

Bhadrapur, Jhapa



Tribhuvan University
Faculty of Humanities and Social Sciences
Mechi Multiple Campus

LETTER OF APPROVAL

This is to certify that this project prepared by Mr. Susil Poudel and Mr. Himel Poudel entitled “**Online News Portal**” in partial fulfillment of the requirements for the degree of Bachelor in Computer Application has been evaluated. In our opinion it is satisfactory in the scope and quality as a project for the required degree.

.....

Raju Poudel
(Supervisor)

.....

Krishna Prashad Acharya
(Director, BCA)

.....

Internal Examiner

.....

External Examiner

Acknowledgement

We wish to express our deepest appreciation and gratitude to all people who supported us for the completion of this dissertation. We had a great fortune to study under the supervision of Mr. Raju Poudel. We are very grateful for his kind support, guidance, helps, motivation and correction. His profound knowledge provides us good opportunity to broaden our knowledge and to make significant progress. We want to give special thanks to Program Director Mr. Krishna Prasad Acharya and Deputy Director Mr. Sunil Sharma for their valuable suggestion to complete the 8th semester final project.

We appreciate all the technical support and motivation given by BCA program Mechi Multiple Campus and all the helps provided in order to keep this project aligned with its actual objectives.

Last but not least, we would also like to thank our parents and friends who helped us a lot in finalizing this project within the limited time frame. Without all their help, we would have never stepped into this project.

Susil Poudel

Himal Poudel

Abstract

The aim of the project Online News Portal is to publish news online on the internet so that anyone can have access to worldwide events through the portal. The project focuses on providing a good user experience and easy news access to its subscribers, based on his/her interest, through the use of appropriate algorithms. Online news portal allows reporters to publish news instantly from anywhere around the world and subscriber read news from anywhere around the world. News are of specific category. User can browse news on the basis of categories they are interested in and can express their views on certain topics through comments. The portal also allows reporters to manage video interviews with various guests as well.

Table of Contents

Acknowledgement.....	i
Abstract	ii
List of Figures	v
List of Tables.....	vi
Chapter 1: Introduction	1
1.1. Introduction	1
1.2. Problem Statement.....	1
1.3. Objectives	1
1.4. Scope and Limitation.....	2
1.5. Development Methodology	2
1.6. Report Organization	2
Chapter 2: Background Study and Literature Review	4
2.1. Background Study	4
2.2. Literature Review	5
Chapter 3: System Analysis and Design	9
3.1. System Analysis	9
3.1.1. Requirement Analysis	9
3.1.2. Object Modeling using Class and Object Diagrams	13
3.1.3. Dynamic Modeling using State and Sequence Diagrams.....	14
3.1.4. Process Modeling using Activity Diagrams	16
3.2. System Design	16
3.2.1. Component Diagrams	16
3.2.2. Deployment Diagrams.....	17
3.3. Algorithm Details	17
Chapter 4: Implementation and Testing	20
4.1. Implementation.....	20
4.1.1. Tools Used.....	20
4.2. Testing.....	20
4.2.1. Test cases for Unit Testing	20
4.2.2. Test cases for System Testing	23
4.3. Result Analysis.....	23
Chapter 5: Conclusion and Future Recommendations	24

5.1. Conclusion.....	24
5.2. Future Recommendations	25
References	26
Appendices	27

List of Figures

Figure 1: Functional Requirements using Use Case diagram.....	10
Figure 2: Gantt Chart.....	12
Figure 3: Class Diagram.....	13
Figure 4: State Diagram.....	14
Figure 5: Sequence Diagram.....	15
Figure 6: Activity Diagram.....	16
Figure 7: Component Diagram	16
Figure 8: Deployment Diagram	17
Figure 9: Sigmoid function graph	18
Figure 10: Feature News.....	27
Figure 11: Homepage	27
Figure 12: News Details	28
Figure 13: News Details with rating and Comments	28

List of Tables

Table 1: Feasibility Analysis	12
Table 2: Test cases for email validation	20
Table 3: Test cases for password verification.....	21
Table 4: Test cases for phone number validation	21
Table 5: Test cases for adding new news	22
Table 6: Test cases for Updating News.....	22

List of Abbreviations

HTML HyperText Markup Language

ASP Active Server Page

NET Network Enabled Technologies

CSS Cascading Style Sheet

EF Entity Framework

ML Machine Learning

API Application Programming Interface

Chapter 1: Introduction

1.1. Introduction

An online news portal is an access point to news through internet. Today, every media house who publishes news on paper media also runs a news portal simultaneously to attract visitors or make a base of subscribers. Along with media house individuals and organizations also seem to keep a lot of interest in launching a news portal since it is also a means to generate revenue via advertisements.

A news portal is an access point to news. This is generally thought of as a Internet connection to a news source but the definition of a “Portal” would include a newspaper, magazine or any other access to news. A web portal is any access point to the Internet.

News Portal is the ultimate magazine theme with creative design and powerful features that allow you to quickly and easily create a style to suit your needs. It is completely built on Customizer which allows you to customize most of the theme settings easily with live previews.

1.2. Problem Statement

The problems in current paper-based publication house are:

- Printed material needs to be transported to destination.
- Breaking news system cannot be implemented on paper based system.
- Timely updates of news to subscribers are not possible.
- Subscriber cannot customize their news preference.
- Interaction with the portal to publish subscriber’s views on news is not easy.

1.3. Objectives

The objectives of the Online News Portal are

- To manage the details of latest news, interviews, advertisement and media.
- To provide customized news to subscribers based on their interest.
- To allow subscribers to express their views on news through means of comments.

1.4. Scope and Limitation

This is ambitious project as the software handles tens of thousand of clients and software displays it accordingly. The scope may depend upon business policy of company implementing this project.

Limitation of the project is that the system doesn't identify if the news is fake or not. For now multiple images cannot be implemented in the same news. Interactive advertisement cannot be implemented. Uploading videos and live interview broadcasting is not don't directly through this site (though this can be do throughyoutube).

1.5. Development Methodology

The project Online News Portal is developed using Waterfall model as system development life cycle. The project is relatively complex but the requirements and rigid and well defined. Similar systems are abundantly developed with similar concepts hence it will easier for the project members to understand the functional and non functional requirements of the system.

Development steps in waterfall model are simple and non repetitive. This model is best for projects that have well defined requirements. Since, requirements for this project were well defined and fixed, project cost was low and risk was minimal, the project members choose waterfall model for the development of the system.

1.6. Report Organization

This document contains 5 chapters which are described in brief below.

Chapter 1 deals about general introduction of the system. It answers "what the system is?", "What this system does?" It also states problems with existing systems, Objective of the project, scope, limitationsand development methodology used while developing the project in detail.

Chapter 2 contains two sections: Background Study and Literature Review of the project. It describes the fundamental theories of the project, the idea behind the project, general concept and terminologies related to the project. The second section has reviews related to similar projects, their theories and research done by the project researchers.

Chapter 3 is system analysis and design. The system analysis part explains how the system is built, which system development model is used. Requirement is specified, both functional and non-functional. It also discusses about feasibility study of the project.

The system design consists of heart of this project. Different diagrammatic representation of the system like system architecture, context diagram and data flow diagram, use case diagram, sequence diagram, state diagram, class diagram, database design, UI/UX mechanism are drawn here.

Chapter 4 is system implementation and testing. This chapter explains how the system is implemented. It describes tools used to developed the system such as programming language used, database platform used to store data etc.

The testing part of this chapter describes about the testing phase of the application. It has number of tables that represents test cases of unit testing and system testing and their outputs.

Chapter 5 is the conclusion part of the project. It is all about the outcome of the project, things that the project member learnt during the course of the project. Similarly, it also includes things that the project member could not address during this project as limitation sand addressing those limitation in future enhancements.

Chapter 2: Background Study and Literature Review

2.1. Background Study

As the versatility of computer became well known different business shift towards using computers in order to increase their areas of reach. News publishing house too chose it to go online. This made news accessible through the means of internet to all. Publishing house could publish news in any instance of time unlike previous practice where they used to publish just once a day. Online news portal were designed to make news article accessible through the means of internet and best part of it is news can be uploaded in any time so viewers stay informed as fast as possible.

An early example of an "online-only" newspaper or magazine was (*PLATO*) *News Report*, an online newspaper created by Bruce Parrello in 1974 on the PLATO system at the University of Illinois [1]. With rapid and exceptional growth of technology around the globe, news industry has been undergone many changes. Most of the news agencies started online news portal services and introduced e-papers. Since the number of people who are using Internet is quickly increasing day by day, the growth of online readership and online news portals will be in heights in the coming years. There has been significant growth in the online readership of news and information content in the past years. According to a National Readership Survey (UK), in the second quarter of 2016, 'The Independent' had a total audience of 21.1 million each month, a rise of 46% from its readership in the second quarter of 2015[2]. In India, though print media is growing despite its decline in all the other markets, a quick growth in online news readership is expected. Based on a survey by comScore in 2013, a significant growth was seen in the Indian daily readership of online news with an increase of 34 per cent to 9.4 million average daily visitors[2].

In Nepal '**The Kathmandu Post**' started its online version publication in 1995AD as a joint venture with Mercantile Communication under the domain www.southasia.com which was hosted by Mercantile. The first Nepalese online page to host on its own domain is **Himal South Asia** under the domain www.himalmag.com. [3]

2.2. Literature Review

When printed newspapers were in mainstream, it used to be published once a day from different geographical location and used to be distributed accordingly to near areas. Problem there was, no matter how big the news was, it used to be printed along with other minor news the next day.

Since it used to be printed in selected few locations, physical paper needed to be transported to the desired destination. If the destination is far it takes more time. Also, more human resources were needed in that process.

The proposed new system has several advantages over the existing system as new content can be added as soon as it is reported. Since it is delivered through web 2.0 transportation cost and publication cost tends to zero.

[4]Gopal Sarkarkar and Priyanka Rangari did research on online news portal (Centraltimes.in) and found out people prefer online form of news than paper based news. According to the authors, people today have no time to be updated through newspaper or by watching or listening the news on television or radios. People today need to be updated on daily basis. Hence, they made an attempt to develop a News or information-based website that helps the people and make people aware so that they can know any news at any time.

The existing system is fully manual. Each person has to wait for the newspaper to arrive. There is payment for each day newspaper. A user will have to spend more time browsing to find the updates of particular news. This may lead to wastage of time, if the page containing the information is unknown to the user. The main disadvantage is that there will be lot of difficulties for the user to find the specified news updates for his/her choice of category.

Fredin (1997) conceptualized online news stories as being truly non-linear documents that "through their invitational structure may bring a more flexible and profound understanding of issues than many people are currently able to get as a practical matter from existing media" (p. 39). He contended that simply offering external links in stories was insufficient to satisfy the needs of online news consumers. He envisioned narratives built in sections and associated via hypertext that blurred the

distinction between traditional, stand-alone stories offered by news outlets. These narratives, he called "metastories," would include features such as on-demand glossaries of frequently referenced names and topics, and also functions that would allow users to apply their own summaries to specific story elements. The goal was to allow users to construct their own stories by choosing the story elements that interested them.

Print media thrive on readership. As has been briefly mentioned above, media houses count on readers to keep their sites running. Variety and the consequent competitiveness helped by the internet makes it necessary for these media houses to adopt suitable ways to attract and retain more readers.

For this reason, various media houses have adopted a number of audience-based tactics. Since the primary objective is to win and retain these customers, the news content, which is the primary product that these media houses are selling, becomes only a small part of the overall methods used to win readers (Valentine 2011, p. 65).

For instance, Bowman and Willis (2003, p. 7) pointed out how MSNBC.com, CNN, Washington Post and The Wall Street Journal offered their readers certain degrees of personalization on their sites' front pages. Personalization means that readers can customize the portals to satisfy some of their tastes.

Also, another phenomenon of online activity is what Erdelez (1995, p. 20) referred to as information encountering. This is the ability of the internet to get readers to news without them really intending to. This thrives upon the opportunistic reading habits and emotional response of the readers.

Tewksbury et al. (2001, p. 34) argued that due to the prevalence of news online, many people come by news items without necessarily setting out to find the news. In the same line, Nguyen (2008) agrees that the structure of online media has facilitated unintended encounter of news and its reading.

What these examples reveal is that it is not only the place of readers to keep the get to the site. While the end target is humans, there are other elements of the internet that

helps keep the sites running. The irony here is that people may not really go to the site for the purpose of reading the news, but maybe to reach a gateway to other portals.

But the fact still remains that they have gotten the readers to their site. Another Irony is that the very nature of internet structure that leads readers to these sites may be the same thing that directs them away. Nonetheless, the case of New.com.au shows clearly just how important readers are to keeping news website running.

News.com.au has also adopted a readers-centered tactic of retaining its readers. This has involved different forms of reader-participation. For instance, readers participate in the site by posting their comments on various issues on the company site.

These posts include the reader's reaction(s) to various issues, including the news or certain new adoptions in the site-structure and organization, amongst others. This paper will show that this reader-centered tactic is having a positive effect on winning readers to their online portal.

As it were, this tactic has been a direct way to hear what the readers want from their own lips. The company has an online portal dedicated to collecting the readers' views for critical assessment and evaluation. It has constantly used the information from the readers to know what they perceive as negative and make necessary adjustments.

[5]Normala Binti Che Eembi @ Jamila, Iskandar Bin Ishaka, Fatimah Sidia, Lilly Suriani Affendeya, Ali Mamata did a study to structure and analyzed the literature related to data veracity research that can be used to the profile of digital news portal. The results come out with objectives in data veracity, the structure of research topics, research trends with publications and framework veracity model validated. Through data veracity, four components of trustworthiness, availability, accountability and authenticity can be measured. Incorrect data can cause a lot of problems for news reporting. Therefore, we need to ensure that the data is correct as well as the analyses performed on the data are correct. They made sure that both the data and the analyses are correct especially in automated decision-making where no human is involved anymore. In their paper, they provided a complete review of literature related to profiling digital news portal in data veracity.

During their research they found 127 articles and 130 articles for empirical study. 66 articles contained descriptions of data veracity models for presentation purposes or details for other research aims. Only 23 items compared different veracity techniques or models regarding structure, applicability or processes. Excitingly, only 12 articles in theoretical issues. Finally, six items could not be classified into the other concepts.

Chapter 3: System Analysis and Design

3.1. System Analysis

3.1.1. Requirement Analysis

i. Functional Requirements

Main functional requirements of Online News Portal for various actors are summarized in following points.

Functional Requirements for Admin

- Manage Advertisements.
- Define new news categories.
- Publish news.
- Manage user roles and permissions.

Functional Requirements for Editor

- Add new news.
- Publish/Unpublish news.
- Edit news.
- Define new news categories.

Functional Requirements for Reporter

- Add new news.
- Edit unpublished news.

Functional Requirements for User

- View News.
- Rate, comment and like news.

Functional requirements for the project can be visually represented with the following use case diagram. The system has four actors and each of their requirements in the system is represented in the diagram below.

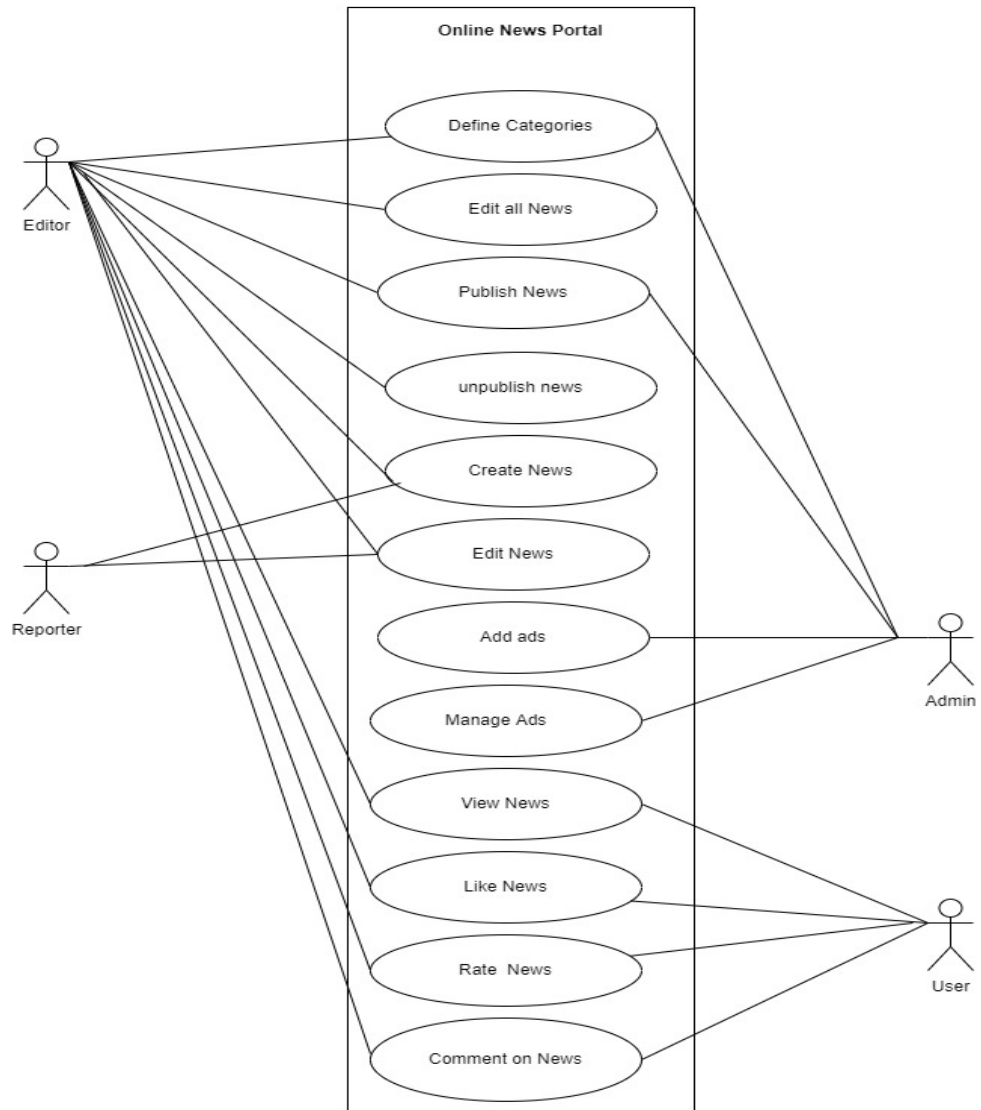


Figure 1: Functional Requirements using Use Case diagram

ii. Non-Functional Requirements

- Design should be eye friendly and proper hyperlink should be placed so that navigation to user becomes easier.
- Tracking of explicit contents on news.
- Reporting should be impartial and should not promote any political or religious ideologies that may affect others.
- The system should provide news coverage from all around the world.
- The system should be robust from any external threat.

iii. Feasibility Analysis

a. Technical

- i. The system is technically feasible as the requirements for development of the system are well defined and general. The project doesn't seem to need much expertise on as the objectives of the project are simple. The project members have gained enough knowledge to implement the system and have been doing similar projects throughout the course of their study.

b. Operational

The system is easy to operate with the basic knowledge of computer and internet. As the UI/UX is simple and intuitive well trained man power is not necessary. It will overcome many problems which are faced in paper based newspaper system as subscribers can easily access the system as it is user friendly in many aspects with good UI. Moreover, due to the use algorithms, subscribers can read news based on their interest without any hassle.

c. Economic

The system is economically feasible as the system is small with well-defined requirements. The functional requirements are limited and hence small number of project members can complete the project. Because of small nature of the project, minimum hardware and software tools are required which makes the project economically feasible.

d. Schedule

The requirements of the projects are well defined and do not change as often. Also risk is minimal for the project and project members have completed many similar projects in the past. There are two project members so the project can be completed within deadline as both members can work on the project at the same time. One member can perform works related to coding and documentation whereas other member can collect requirements and design the system.

This table below indicates different aspect of feasibility:

Table 1: Feasibility Analysis

Feasibility Parameters	Types of feasible study	Is Feasible?
Required devices?	Technical	Yes
Skilled manpower available?	Technical	Yes
Can be handled economically?	Technical	Yes
Is functional?	Operational	Yes
Manpower to operate?	Operational	Yes
Is according to law?	Legal	Yes
Will it be completed in time?	schedule	Yes

iv. Planned Gantt Chart

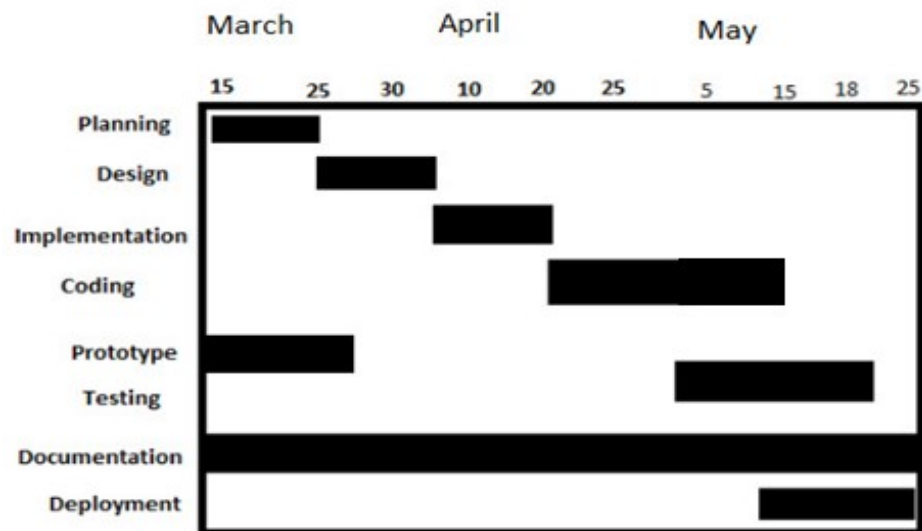


Figure 2: Gantt Chart

3.1.2. Object Modeling using Class and Object Diagrams

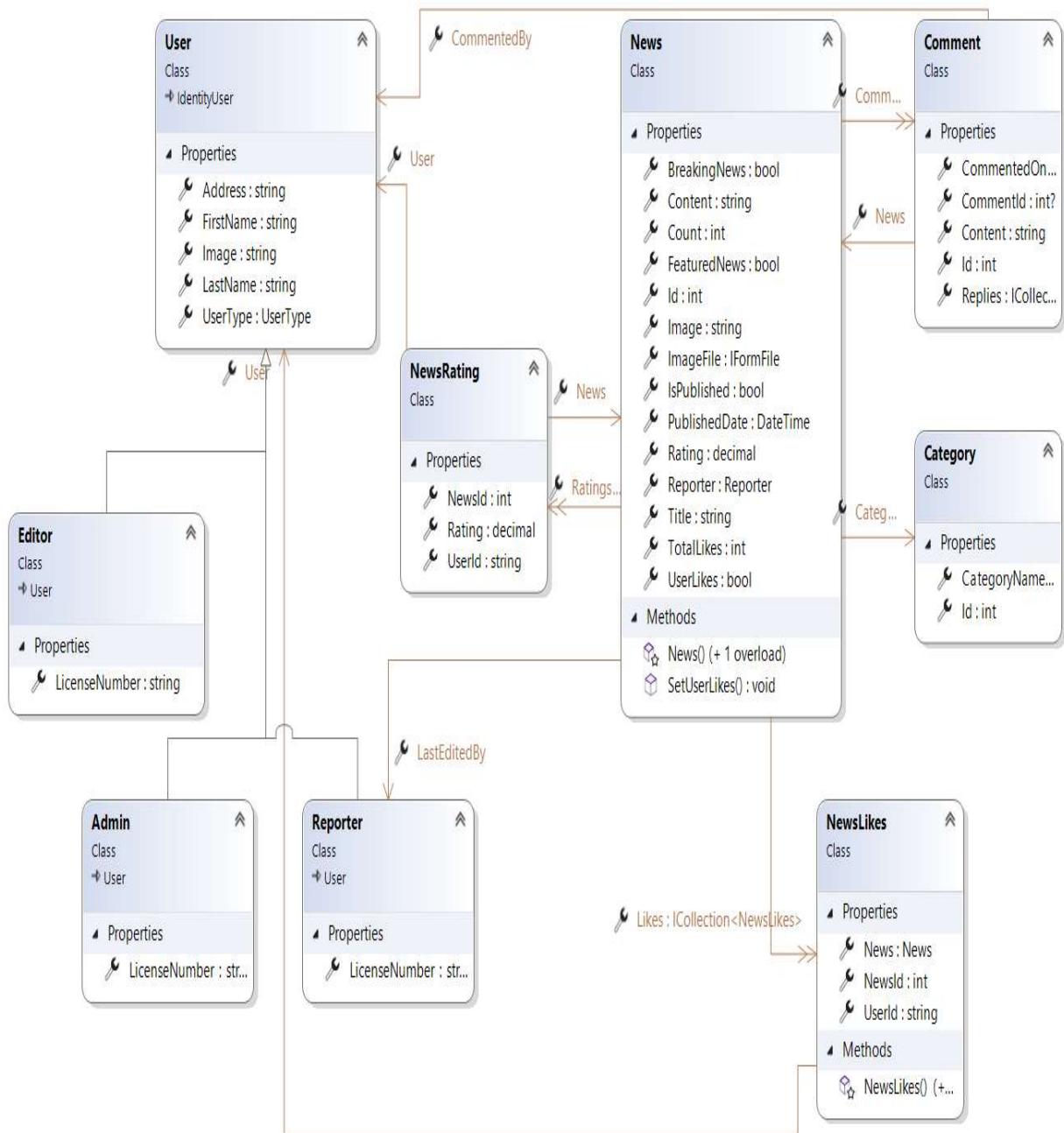


Figure 3: Class Diagram

3.1.3. Dynamic Modeling using State and Sequence Diagrams

State Diagram

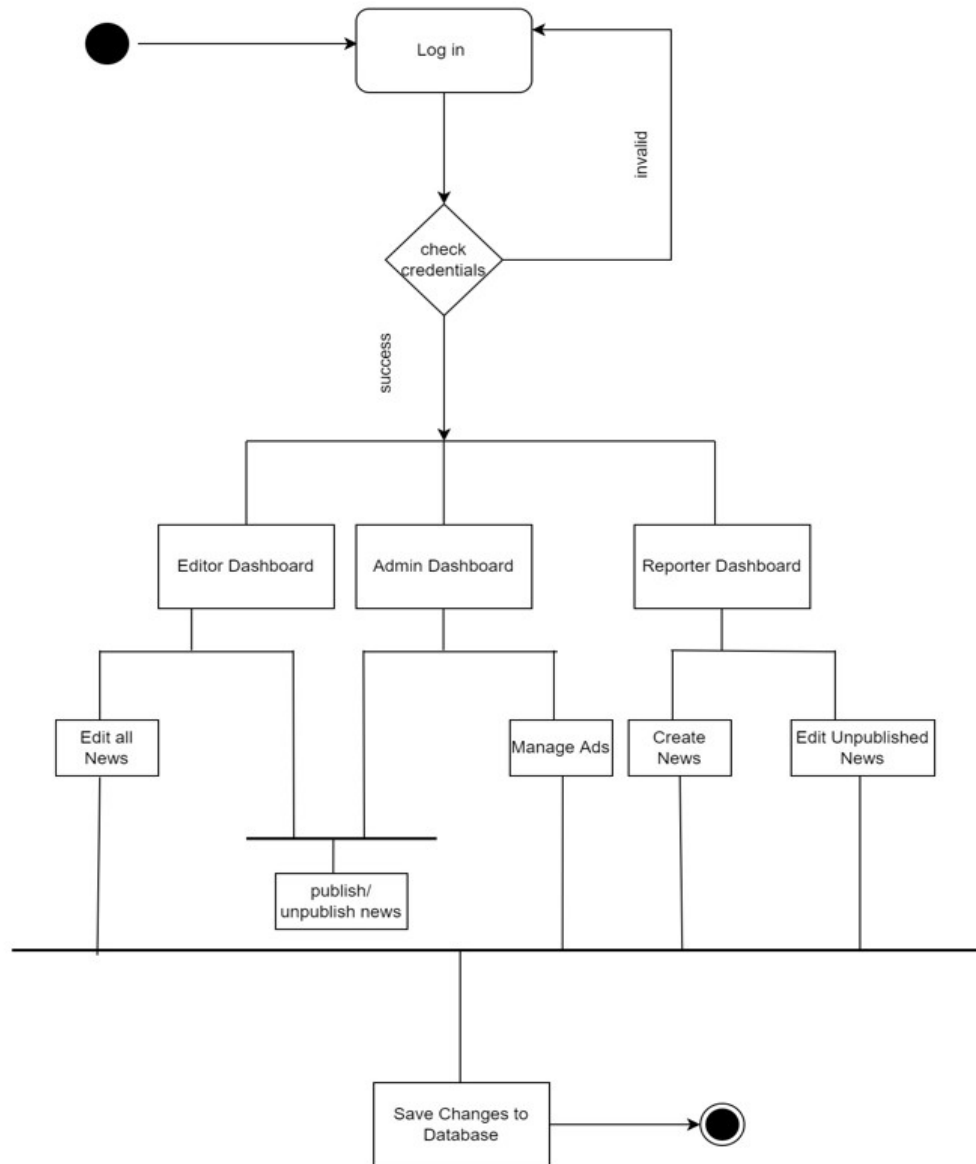


Figure 4: State Diagram

Sequence Diagram

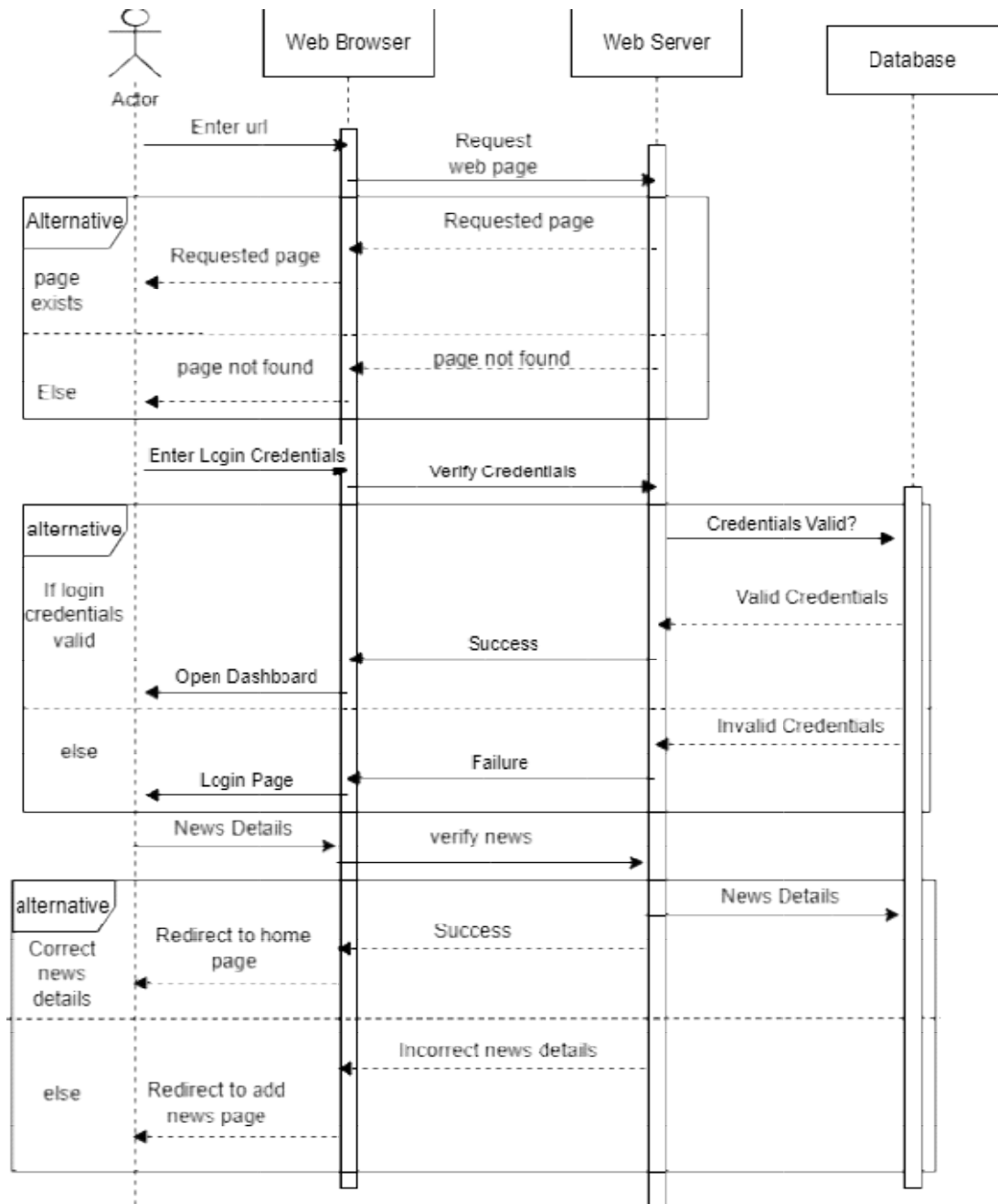


Figure 5: Sequence Diagram

3.1.4. Process Modeling using Activity Diagrams

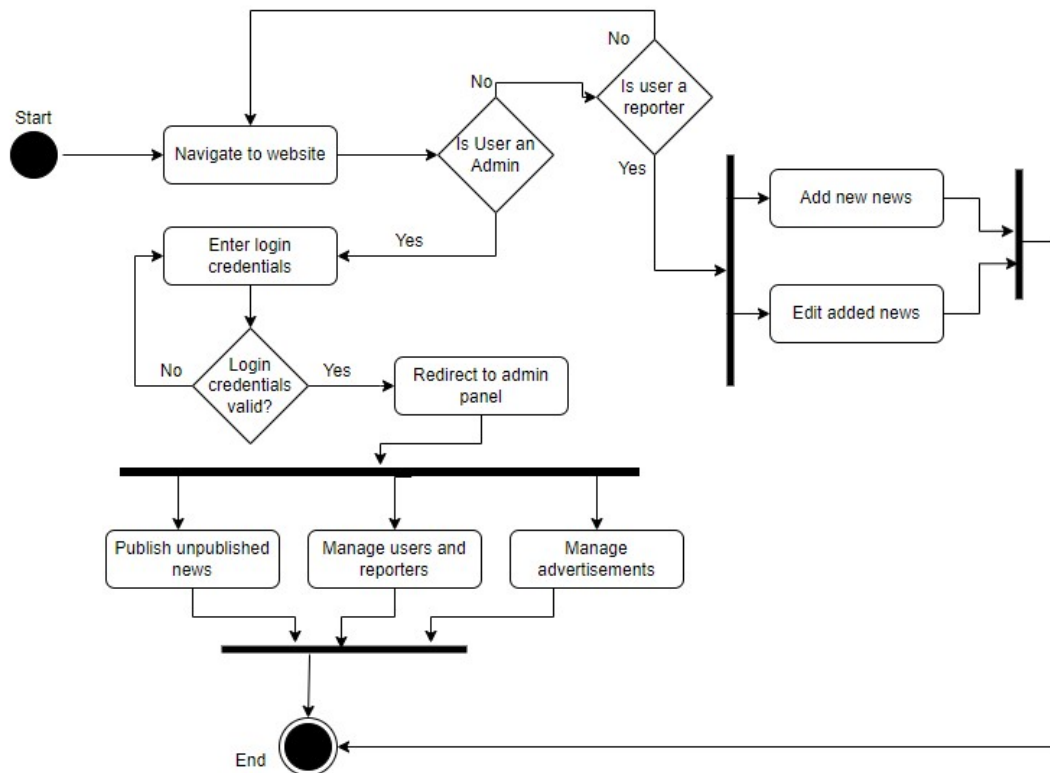


Figure 6: Activity Diagram

3.2. System Design

3.2.1. Component Diagrams

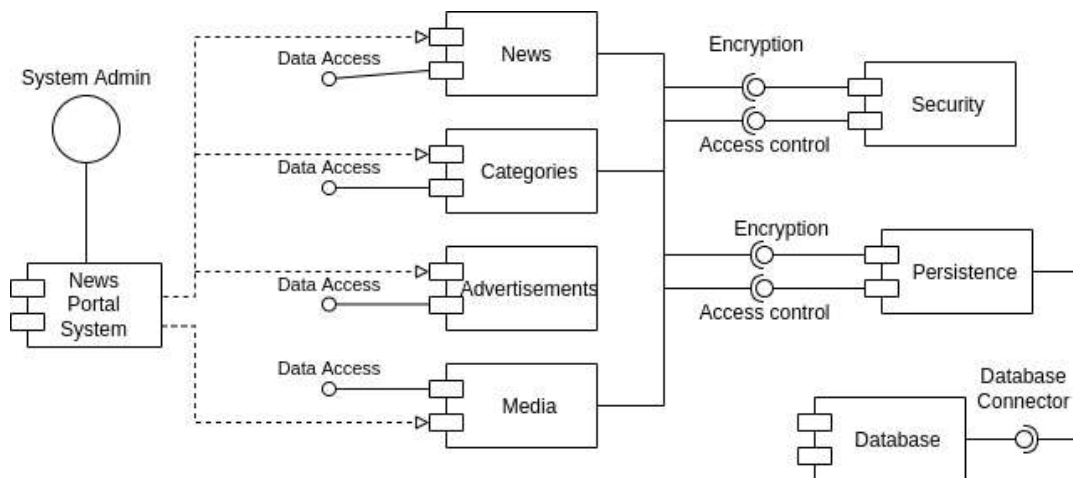


Figure 7: Component Diagram

3.2.2. Deployment Diagrams

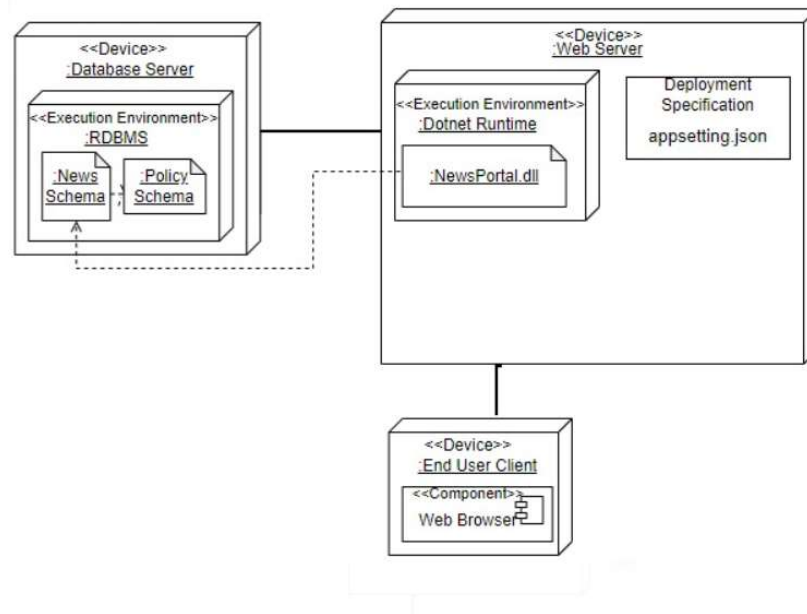


Figure 8: Deployment Diagram

3.3. Algorithm Details

1. Depth First Search

We have implemented Depth first search in comment section and in its threads.

DFS is a recursive traversal algorithm for searching all the vertices of a graph or tree data structure. It starts from the first node of graph G and then goes to further vertices until the goal vertex is reached.

DFS uses stack as its backend data structure edges that lead to an unvisited node are called discovery edges while the edges that lead to an already visited node are called block edges.

DFS procedure

DFS implementation categorizes the vertices in the graphs into two categories:

1. Visited
2. Not visited

The major objective is to visit each node and keep marking them as “visited” without making any cycle.

Steps for DFS algorithms:

1. Start by pushing starting vertex of the graph into the stack
2. Pop the top item of the stack and add it to the visited list

3. Create the adjacency list for that vertex. Add the non-visited nodes in the list to the top of the stack
4. Keep repeating steps 2 and 3 until the stack is empty.

In our implementation, a comment can have any number of replies and each reply can have any number of replies. For listing comment we take any top level comment as root node and traverse its replies one at a time. The root node is pushed in visited list and its replies into stack. One reply is popped from the stack and its child reply nodes are traversed and pushed into the stack. The previously popped reply node is pushed into visited list.

Another reply node is popped from the top of the stack and its children are traversed and pushed into stack. The reply node is pushed into visited list. This process is continued until all the nodes are pushed into visited list.

2. Logistic Regression

We used this algorithm to classify different category of news.

Logistic regression is a supervised learning algorithm. It is used for predicting the categorical dependent variable using a given set of independent variables. It is generally used for binary classification but can work well with multiclass classification.

Logistic regression uses a sigmoid function and a concept of threshold value. First the binary classes are vectorized as 0 or 1.

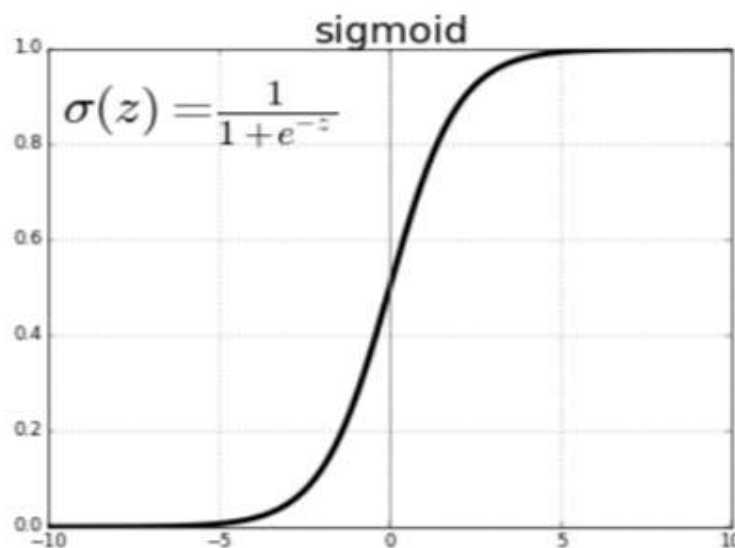


Figure 9: Sigmoid function graph

The logistic function $\sigma(z) = \frac{1}{1 + e^{-z}}$ gives a value that ranges from 0 and

1 for a given input Z. The algorithm uses threshold value concept to classify the given data vector to binary classes (yes or no, sick or healthy, cat, dog etc). If the value of the sigmoid function for the input vector is less than the threshold value, the data vector is classified as class A and if the value is greater than threshold value, it is categorized as class B.

Steps for Logistic Regression

1. Data Pre-processing step.

The project members obtained News Category Dataset From Kaggle. The dataset was cleaned by dropping columns that are irrelevant for fitting our model. Only heading, content and label columns were kept. The dataset was splitted into train and test set in 4 : 1 ratio. Since the dataset was text based it was vectorized into number vector based on number of times a word is repeated in a feature vector.

2. Fitting Logistic Regression to the Training set

Once the dataset is cleaned, data was feed into the logistic function. The logistic function is implemented by the LogisticRegression method of ML.Net. This step will give us trained machine learning model.

3. Predicting the test result

The trained model is then tested on the test dataset. News heading and its content were given as input to the model to predict its category. The model then predicts the category based on the logistic function.

4. Test accuracy of the result(Creation of Confusion matrix)

The accuracy was tested by creating the confusion matrix. The accuracy of the model was 0.6578141371806239 which is 65 percent.

We have implemented logistic regression algorithm to predict the category of news when adding new news. The model takes news heading and news content as input to predict the category of news. If the prediction is accurate, new news is created with the predicted category else the user is prompted to insert news category manually.

Chapter 4: Implementation and Testing

4.1. Implementation

4.1.1. Tools Used

News Portal is a web based system that is accessed through the Internet. The system uses HTML, CSS and JavaScript as front end languages to generate the user interfaces viewed on client machines and c# as backend language. The system runs on any platform and is hosted on IIS or Kestrel server. The system uses Sqlite as database for development and it will be upgraded to use MySQL as database server.

Visual Studio is used as Integrated Development Environment for writing codes for the project. Git is used as version control tool and GitHub is used as remote repository.

4.2. Testing

4.2.1. Test cases for Unit Testing

Table 2: Test cases for email validation

S. N	Test Cases	Expected Outcome	Actual Outcome	Remarks
1	Email address without @ symbol	Invalid email address	Invalid email address	Pass
2	Email address with @ but without . symbol	Invalid email address	Invalid email address	Pass
3	Email address of @ and . symbols only	Invalid email address	Invalid email address	Pass
4	Email address with letters, @ and . symbols	Accept it	Accepted	Pass

Table 3: Test cases for password verification

S. N	Test Cases	Expected Outcome	Actual Outcome	Remarks
1	Password length less than 8	Password length must be greater than or equal to 8	Password length must be greater than or equal to 8	Pass
2	Password length greater than 16	Password length must be less than or equal to 16	Password length must be less than or equal to 16	Pass
3	Password without a capital letter	Password must contain a capital letter	Password must contain a capital letter	Pass
4	Password without a special character	Password must contain a special character	Password must contain a special character	Pass

Table 4: Test cases for phone number validation

S. N	Test Cases	Expected Outcome	Actual Outcome	Remarks
1	Phone number length less than 9 and greater than 10	Invalid phone number	Invalid phone number	Pass
2	Phone number length between 9 and greater than 11	System should accept it	Accepted	Pass

Table 5: Test cases for adding new news

S. N	Test Cases	Expected Outcome	Actual Outcome	Remarks
1	News with no title	Error. News should have title.	News should have title.	Pass
2	News with no content	Error. Title is required.	Error. News should have title.	Pass
3	News without images	No Error. Image field is not mandatory.	No Error. Image field is not mandatory.	Pass
4	News without logged in reporter	Not found.	Not found	Pass

Table 6: Test cases for Updating News

S. N	Test Cases	Expected Outcome	Actual Outcome	Remarks
1	News is published	Error! Cannot update published news.	Error! Cannot update published news.	Pass
2	News with no content	Error. Title is required.	Error. News should have title.	Pass
3	News without images	No Error. Image field is not mandatory.	No Error. Image field is not mandatory.	Pass

4.2.2. Test cases for System Testing

S.N	Action	Inputs	Expected Output	Actual Output	Test Result
1	Launch application	https://localhost:44345/	Application home page	Application home page	Pass
2	Enter invalid Email & any Password and hit login button	Email id : invalid@xyz.com Password: *****	Incorrect username or password	Incorrect username or password	Pass
3	Enter valid Email & incorrect Password and hit login button	Email id : valid@xyz.com Password: *****	The password that you've entered is incorrect. <u>Forgot password?</u>	The password that you've entered is incorrect. <u>Forgot password?</u>	Pass

4.3. Result Analysis

We finally could make the system as we designed and the data is shown with its test cases. We successfully implemented DFS, logistic regression and matrix factorization algorithms with accuracy greater than 65 percentages. We could meet the objectives of the project.

Chapter 5: Conclusion and Future Recommendations

5.1. Conclusion

It is always better to make a manual system automated. In order to make the process of spreading news fast and effective all news publication sites need to become online and most work should be automated. Hence, it can be concluded that each and every media that feeds news to the people through an online platform should instill efficient platforms where readers can air and interact directly with the organization, for example, the help-platform in the organization's website.

The use of online feeds will give the readers a one-on-one platform to air their opinions: satisfactions and dissatisfactions, and their views on various pieces of information.

For an efficient growth of the online Media, the readers should be allowed to be involved in the day to day running of the organization. The research also found out that news.com had involved their online readers a lot and this had been a major help to their immense growth in the past decade (Young 2007).

In addition, online media has been efficient, fastest delivery of news. People can get into any topic in quickly, even the people with less eight sites can read by maximizing it according to their convenient. It can be stored and saved in less physical space. printed media demands for separate library. However online media has distinct feature that it can be stored in a single device.

5.2. Future Recommendations

There are many things that can be added to this project. The project members have hoped to include following functionalities in future.

- Monitoring users activity.
- Functionalities like letting news creator to add video, broadcast live news can be added.
- Personalized news can be improved further by using ML models.
- Fake news detection system can be added.
- APIs can be integrated both to receive news and broadcast news.
- Development of mobile applications.

References

- [1] Wikipedia, "Online newspaper," 2021 July 2021. [Online]. Available: https://en.wikipedia.org/wiki/Online_newspaper#:~:text=11%20External%20links-History,Dispatch%20on%20July%201%2C%201980.. [Accessed 21 May 2022].
- [2] A. Joseph, "Need To Develop An Online News Portal," 13 January 2022. [Online]. Available: <https://arulmjoseph.com/need-develop-online-news-portal-2017>. [Accessed 21 May 2022].
- [3] Y. Gautam, "Online News Portal In Nepal," 15 June 2019. [Online]. Available: <https://www.everestparked.com/post/online-news-portal-in-nepal>. [Accessed 21 May 2022].
- [4] P. R. Gopal Sarkarkar, "News Portal (centraltimes.in)," *International Journal of Engineering Science and Computing*, pp. 21234 - 21235, 2019.
- [5] I. B. I. F. S. L. S. A. A. M. Normala Binti Che Eembi @ Jamila, "A Systematic Review on the Profiling of Digital News Portal," *Science Direct*, pp. 391-400, 2015.
- [6] U. N. Dipesh Shrestha, "Inventory Management Sysmte," pp. 20-25, 2020.
- [7] T. S. Currie, "Online News, A Survey of Instructional Methods," Septmeber 2006. [Online]. Available: <http://timcurrie.ca/docs/onlinenews/abstract.htm>. [Accessed 22 May 2022].

Appendices

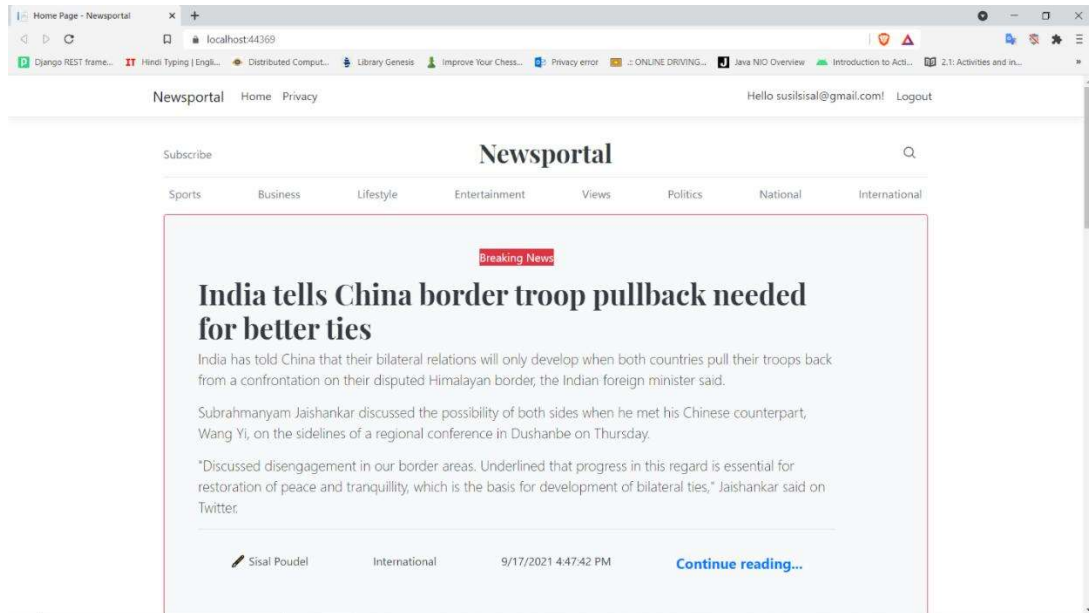


Figure 11: Homepage

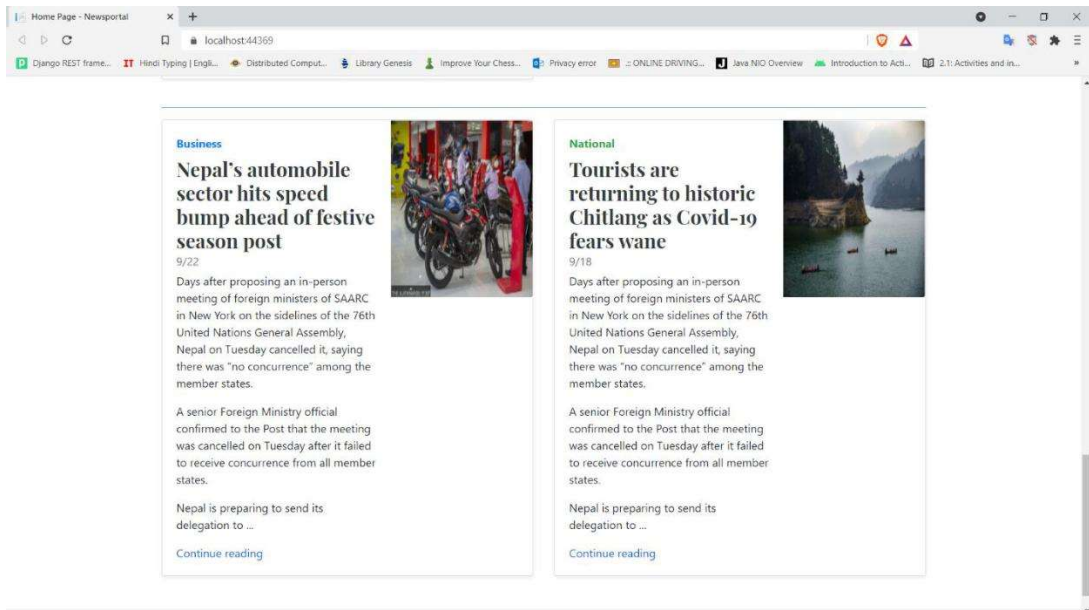


Figure 10: Feature News

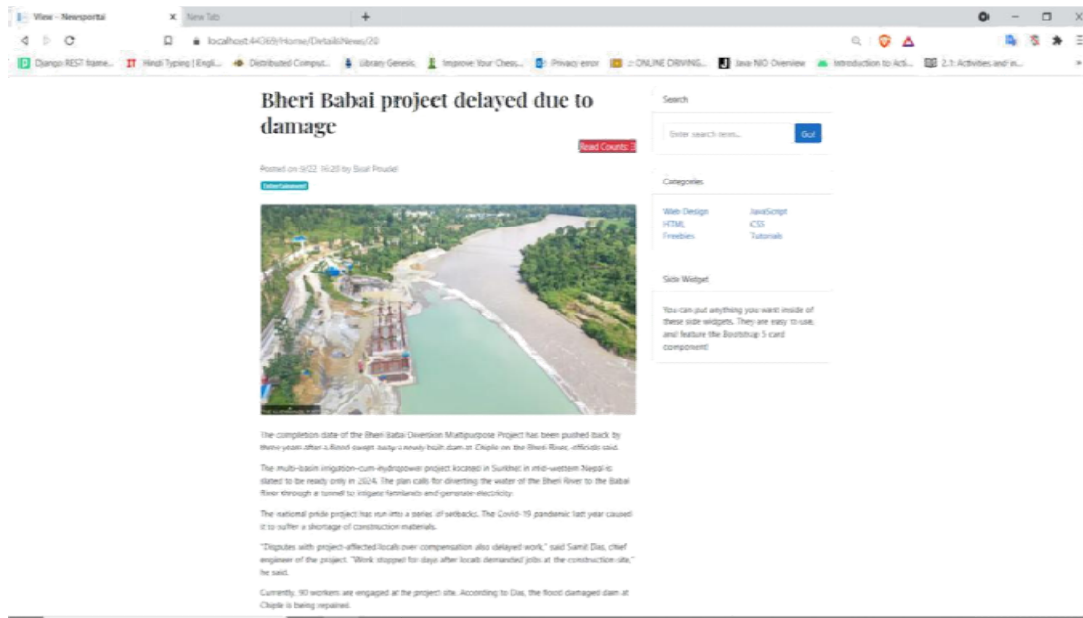


Figure 12: News Details

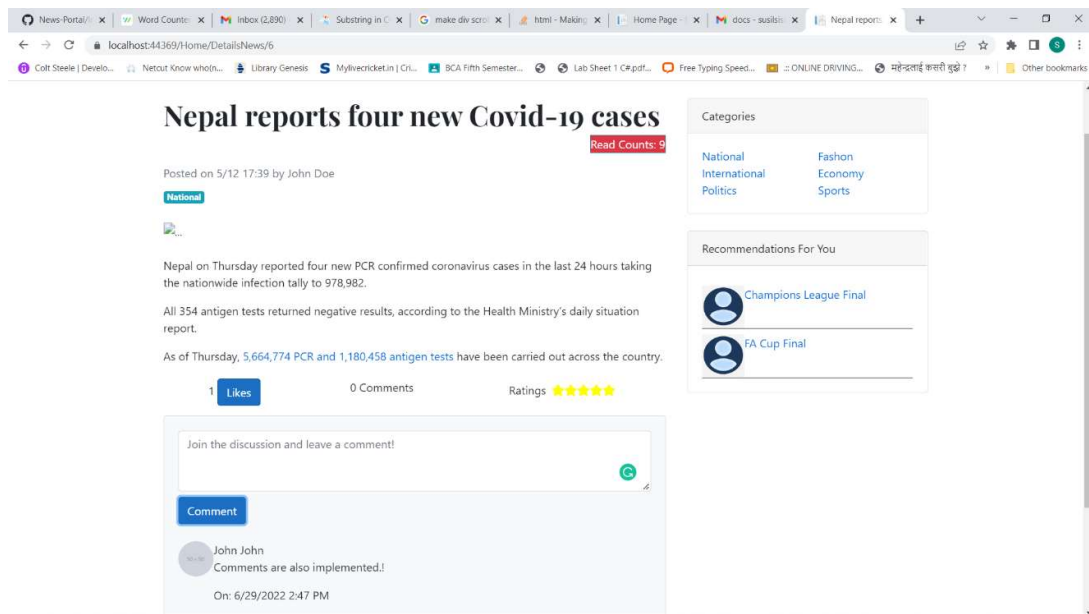


Figure 13: News Details with rating and Comments