SOFTWARE REQUIREMENTS SPECIFICATION

For

NEWS MEDIA WEB APPLICATION

Presented by:-

SANMATHI S   – 420420104042
SAKTHI UMA S   – 420420104040
CHARUMATHI B – 420420104007

Academic Year: *2020-2024*

1. Introduction

1.1 Purpose

The purpose of the news media web application is to deliver news and information to users. This can include breaking news, feature articles, investigative reports, and more. The application serves as a platform for distributing timely and relevant content to a wide audience. News media plays a crucial role in informing the public about current events, issues, and developments at local, national, and international levels. The web application serves as a means to provide accurate and up-to-date information to the public. A news media web application can serve as a platform for readers to engage in discussions, comment on articles, and share their opinions. This fosters public discourse and encourages the exchange of ideas and viewpoints.

1.2 Document Conventions

- ➢ Entire document should be justified.
- ➢ Convention for Main title
  - • Font face: Times New Roman
  - • Font style: Bold
  - • Font Size: 14
- ➢ Convention for Sub title
  - • Font face: Times New Roman
  - • Font style: Bold
  - • Font Size: 14
- ➢ Convention for body
  - • Font face: Times New Roman
  - • Font Size: 14

1.3 Scope of Development Project

The main scope of this project to develop the web application and attract users that the scope of the project may evolve as you gather more information and feedback. It's essential to prioritize features based on your target audience's needs and the resources available for development.

Additionally, this project involving stakeholders and potential users in the planning process can help refine and validate your project scope.Identify the target audience and market.Determine the platforms and devices (e.g., desktop, mobile) the application will support.

Implement user registration and login functionality.and allow users to create and manage their profiles.Implement user roles and permissions (e.g., admin, editor, subscriber). Enable user comments and discussions on articles.Implement social sharing and bookmarking features and allow users to rate and review articles.

1.4 Definitions, Acronyms and *Abbreviations*

JAVA -> platform independence

SQL-> Structured query Language

ER-> Entity Relationship

UML -> Unified Modeling Language

IDE-> Integrated Development Environment

SRS-> Software Requirement Specification

ISBN -> International Standard Book Number

IEEE ->Institute of Electrical and Electronics Engineers
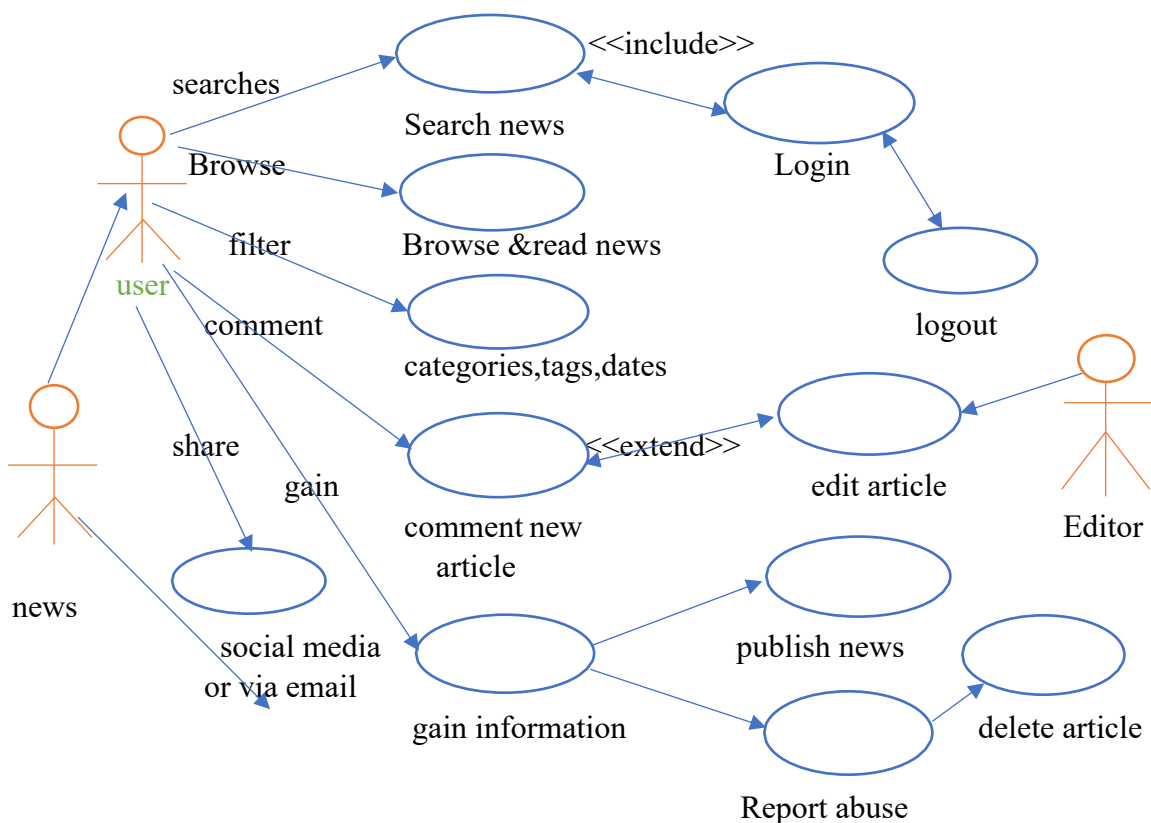
1.5 References

Web Application for news Portal

➢ Books

- A Trend and Prospect of News Media through Mobile News Application: by Yeol-han Park and Hee-soo.
- Sharing of fake news on social media: by Shalini Talwar and Amandeep Dhir.
- A new application of social impact in social media for overcoming fake news in health: by Cristina M. Pulido , Laura Ruiz-Eugenio and Giseia Redondo.

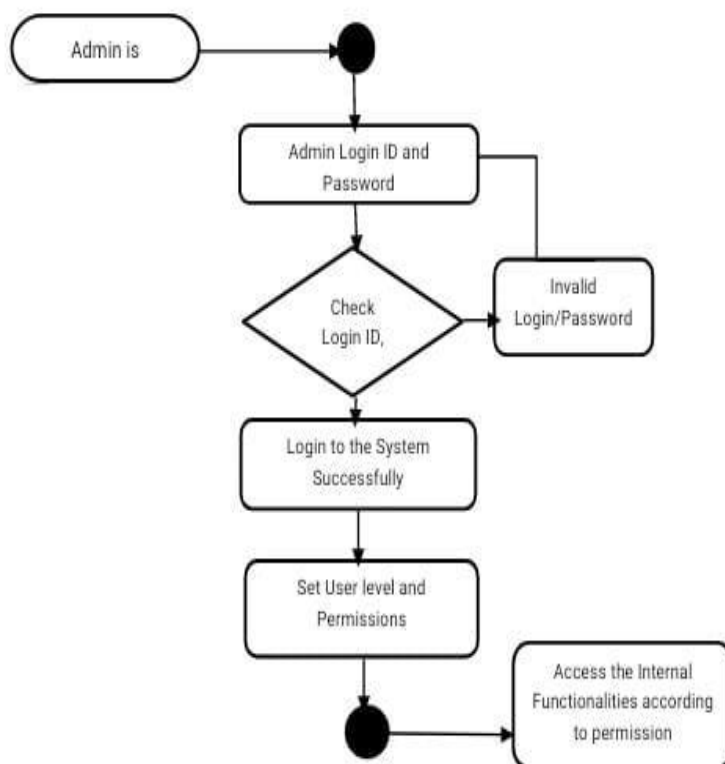# 2. Overall Descriptions

2.1 Product Perspective

Use Case Diagram for News Media Web Applicati

This is a broad level diagram of the project showing a basic overview. This use case diagram provides a high-level overview of the interactions between different actors and the key functionalities of the news media web application. It can serve as a starting point for designing and developing the application. Keep in mind that you can further refine and expand the diagram to capture more detailed use cases and interactions based on the specific requirements of your application.

2.2 Product Function

Entity Relationship Diagram for news media web application

2.3 User Classes and Characteristics

Understanding the characteristics and needs of these user classes is crucial for tailoring the user experience, content presentation, and functionality of

the news media web application. It helps in creating a more engaging and satisfying experience for all users, from casual visitors to active contributors and subscribers.

- Typically visit the website to consume news articles and stay informed.
- May have varying levels of tech-savviness.
- Prefer easy navigation, clean layouts, and quick access to articles.
- May want to personalize their news feed based on interests.
- May engage with articles through comments and social sharing.
- Contribute news articles and content to the platform.
- Need an intuitive content management system (CMS) for article creation and editing.
- May require tools for multimedia content creation (photos, videos, etc.).
- Access to analytics and metrics to gauge article performance.
- Need tools for reviewing and editing articles.

2.4 Operating Environment

It virtual private servers (VPS), dedicated servers, or cloud hosting platforms like AWS, Azure, or Google Cloud. Select a suitable server-side technology stack, such as LAMP (Linux, Apache, MySQL, PHP), MEAN (MongoDB, Express.js, Angular.js, Node.js), or Django (Python). Ensure it's optimized for performance and security. Use a relational or NoSQL database, depending on your data structure and requirements. MySQL, PostgreSQL, MongoDB, or Cassandra are common choices for news media applications.

2.5 Assumptions and Dependencies

- The availability of skilled developers, designers, and other team members is a critical dependency.
- Any shortage of resources can lead to delays.
- Any changes or disruptions in these sources can impact the availability of content.
- Dependence on hosting providers and server infrastructure.
- Any downtime or issues with these services can affect application accessibility.
- The project may depend on the production and delivery of multimedia content, such as images and videos, which can impact the application's launch timeline.
- The project's progress often depends on client feedback and approval at various stages, such as design and functionality reviews.

2.6 Requirement

This software package is developed using java as front end which is supported by sun micro system. Microsoft SQL Server as the back end to store the database. Operating System: Windows NT, windows 98, Windows XP

Language: Java Runtime Environment, Net beans 7.0.1 (front end)

Database: MS SQL Server (back end)

Hardware Configuration:-

Processor: Pentium(R)Dual-core CPU

Hard Disk: 40GB

RAM: 256 MB or more

2.7 Data Requirement

The inputs consist of the query to the database and the output consists of the solutions for the query. The output also includes the user receiving the information in the news media web .In this project the inputs will be the queries as fired by the users like, searching news , filter news and putting into the web. A news media web application can serve as a platform for readers to engage in discussions, comment on articles, and share their opinions. This fosters public discourse and encourages the exchange of ideas and viewpoints.

3. External Interface Requirement

3.1 GUI

User Registration and Login: Specify the requirements for user registration and login interfaces, including username/password, social media login, or multi-factor authentication if applicable.

User Profile: Define the user profile page, including user settings, preferences, and the ability to update personal information.

News Feed: Describe the interface for displaying news articles, videos, or other content to users. Include features such as filtering, sorting, and searching for news.

Comments and Interactions: Outline how users can comment on, like, share, or bookmark news articles. Specify any moderation features for user-generated content.

Notifications: Define how users will receive notifications about new content, interactions, or updates to their accounts.

Subscription/Payment: If applicable, describe the subscription and payment interfaces for premium content or ad-free experiences.

Content Creation: If users can submit their own content, detail the interface for creating and submitting articles, images, or videos.

4. System Features

- ➤ User registration with email, social media, or other authentication methods.User profiles with customizable preferences.Password reset and recovery options.
- ➤ Ability for editors and administrators to create, edit, and delete articles and multimedia content.Categorization and tagging of content for easy organization.Scheduled publishing and expiration of articles.
- ➤ User-friendly search functionality with filters (e.g., by topic, date, popularity).Trending and recommended articles based on user preferences and behavior.
- ➤ Content recommendation algorithms.Responsive Design:
- ➤ Push notifications for breaking news or personalized updates.Email newsletters and subscriptions.Comments and Engagement:

5. Other Non-functional Requirements

5.1 Performance Requirement

- ➤ User engagement tracking (e.g., page views, time on page, click-through rates).Content performance analytics (e.g., most-read articles, user interactions).Ad performance tracking (if using ads for monetization).
- ➤ Dashboard for content management, user management, and analytics.
- ➤ User roles and permissions for administrators, editors, and moderators.
- ➤ Robust security measures to protect user data and prevent hacking.
- ➤ Content moderation to prevent the spread of fake news or inappropriate content.

5.2 Safety Requirement

Hash and salt user passwords before storing them in the database to prevent unauthorized access to user accounts in case of a data breach. Implement strong user authentication mechanisms like multi-factor authentication (MFA) to prevent unauthorized access.

5.3 Security Requirement

➢ Follow secure coding standards and conduct regular code reviews to identify and fix vulnerabilities.Protect against common web application

➢ Implement secure session management practices to prevent session hijacking and fixation.Use secure session tokens and refresh them periodically.

➢ System will have different types of users and every user has access constraints

5.4 Requirement attributes

➢ The project should be open source

➢ The Quality of the database is maintained in such a way so that it can be very user friendly to all the users of the database

➢ The user be able to easily download and install the system

5.5 Business Rules

A business rule is anything that captures and implements business policies and practices. A rule can enforce business policy, make a decision, or infer new data from existing data.This includes the rules and regulations that the System users should abide by. This includes the cost of the project and the discount offers provided. The users should avoid illegal rules and protocols. Neither editor nor user should cross the rules and regulations

5.6 User Requirement

User requirements for a news media web application can vary depending on the target audience and the specific goals of the application.

➢ Users should be able to browse news articles by categories such as politics, sports, entertainment, technology, etc.

➢ A search bar that allows users to search for specific articles or topics of interest.

➢ User profiles that enable personalized content recommendations based on their preferences and reading history.

➢ The web app should be accessible and usable on various devices, including desktops, tablets, and smartphones.

➢ Users should have the option to receive push notifications for breaking news or articles related to their interests.

6. Other Requirements

6.1 Data and Category Requirement

Store user information, including usernames, email addresses, and passwords.Keep track of user preferences such as favorite categories, sources, or saved articles.Store data on user interactions, like comments, likes, and shares. . According to the categories of news their relevant data should be displayed. The categories and the data related to each category should be coded in the particular format.

6.2 Appendix

A: Admin, Abbreviation, Acronym, Assumptions; B: Books, Business rules; C: Class, Client, Conventions; D: Data requirement, Dependencies; G: GUI; K: Key; L: Library, Librarian; M: Member; N: Non-functional Requirement; O: Operating environment; P: Performance,Perspective,Purpose; R: Requirement, Requirement attributes; S: Safety, Scope, Security, System features; U: User, User class and characteristics, User requirement;

6.3 Glossary

The following are the list of conventions and acronyms used in this document and the project as well:

> Administrator: A login id representing a user with user administration privileges to the software
> User: A general login id assigned to most users
> Client: Intended users for the software
> SQL: Structured Query Language; used to retrieve information from a database
> SQL Server: A server used to store data in an organized format
> Layer: Represents a section of the project
> User Interface Layer: The section of the assignment referring to what the user interacts with directly
> Application Logic Layer: The section of the assignment referring to the Web Server. This is where all computations are completed
> Data Storage Layer: The section of the assignment referring to where all data is recorded > Use Case: A broad level diagram of the project showing a basic overview
> Class diagram: It is a type of static structure diagram that describes the structure of a system by showing the system's cases, their attributes, and the relationships between the classes

6.4 Class Diagram

A class is an abstract, user-defined description of a type of data. It identifies the attributes of the data and the operations that can be performed on instances (i.e. objects)

of the data. A class of data has a name, a set of attributes that describes its characteristics, and a set of operations that can be performed on the objects of that class. The classes' structure and their relationships to each other frozen in time represent the static model. In this project there are certain main classes which are related to other classes required for their working. There are different kinds of relationships between the classes as shown in the diagram like normal association, aggregation, and generalization. The relationships are depicted using a role name and multiplicities. Here 'Editor', 'User' and 'News' are the most important classes which are related to other classes.