SOFTWARE REQUIREMENTS SPECIFICATION

For

News Media Web Application

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1. Introduction
1.1 Purpose
The News media web applications can provide information about current events and topics such as politics, sports, health, and entertainment. News sites can be affiliated with newspapers, magazines, television networks, businesses, or other entities. They can provide timely coverage, expert opinions, and other information about important events. News media web applications can also manage the details of news, including types, advertisements, latest posts, and contents. The project is built at the administrative end, so only the administrator has access.

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: 12
- Convention for body
  - Font face: Times New Roman
  - Font Size: 12

1.3 Scope of Development Project
A News media web application can offer a diverse range of news content, catering to a wide spectrum of interests and demographics. This includes breaking news, in-depth analysis, feature stories, and multimedia content such as videos and interactive graphics. The scope also extends to various categories, including politics, economics, sports, entertainment, health, science, and more, ensuring that users have access to comprehensive and up-to-date information on a global scale.

Additionally, the scope encompasses personalized user experiences, where readers can customize their news feeds based on their interests and preferences. This level of personalization can enhance user engagement and satisfaction, as individuals are more likely to engage with content that resonates with their specific interests.

Furthermore, the scope extends to fostering a sense of community and interactivity among users. Features like comment sections, forums, and social sharing options can encourage discussions, debates, and the exchange of ideas, creating a vibrant online community around the news media platform.

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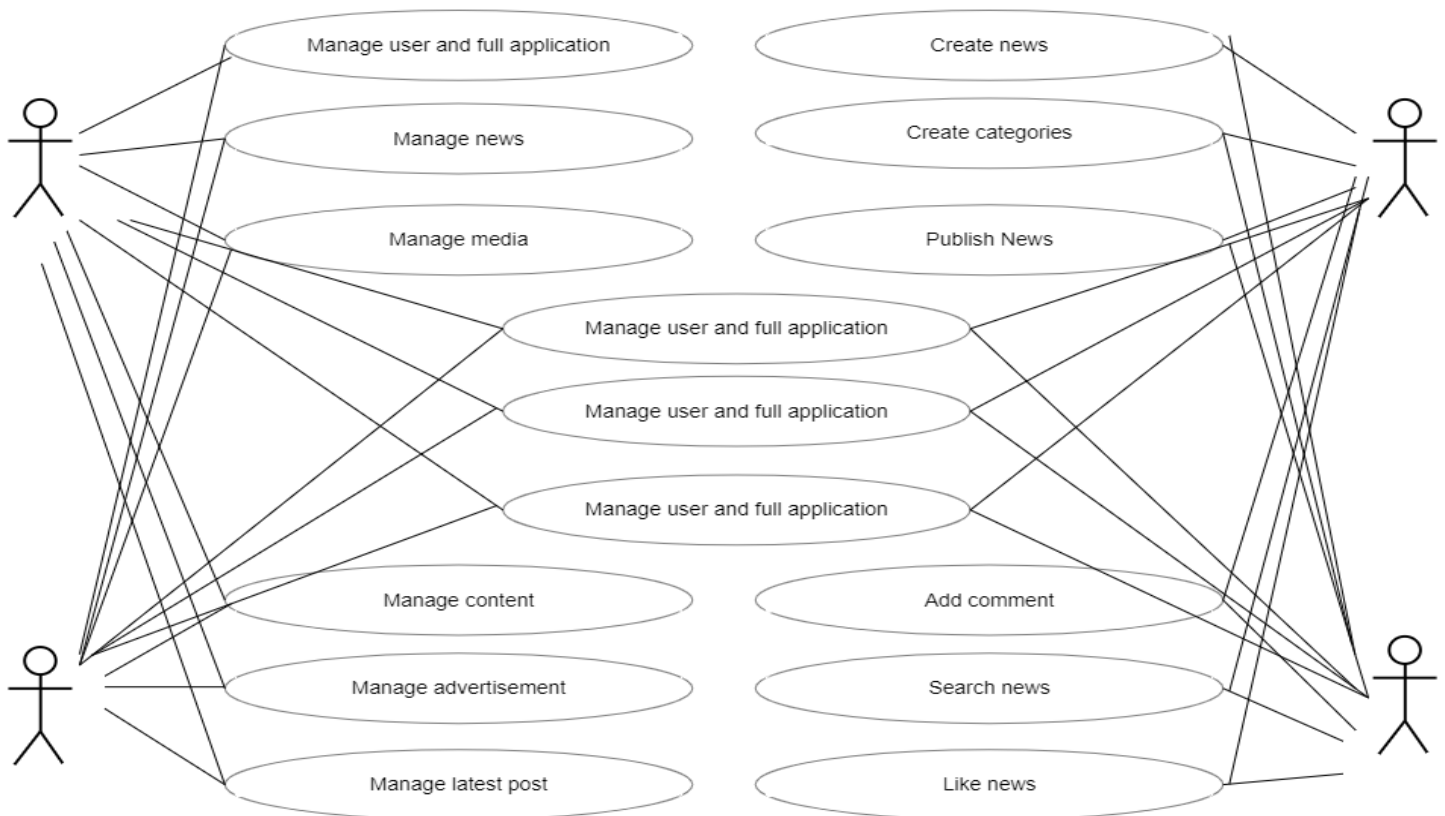
1.5 References
> ➢ Books
> * A Trend and Prospect of News Media through Mobile News Application: by Yeol-han Park and Hee-soo.
> * Sharing of fake news on social media: by Shalini Talwar and Amandeep Dhir.
> * A new application of social impact in social media for overcoming fake news in health: by Cristina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

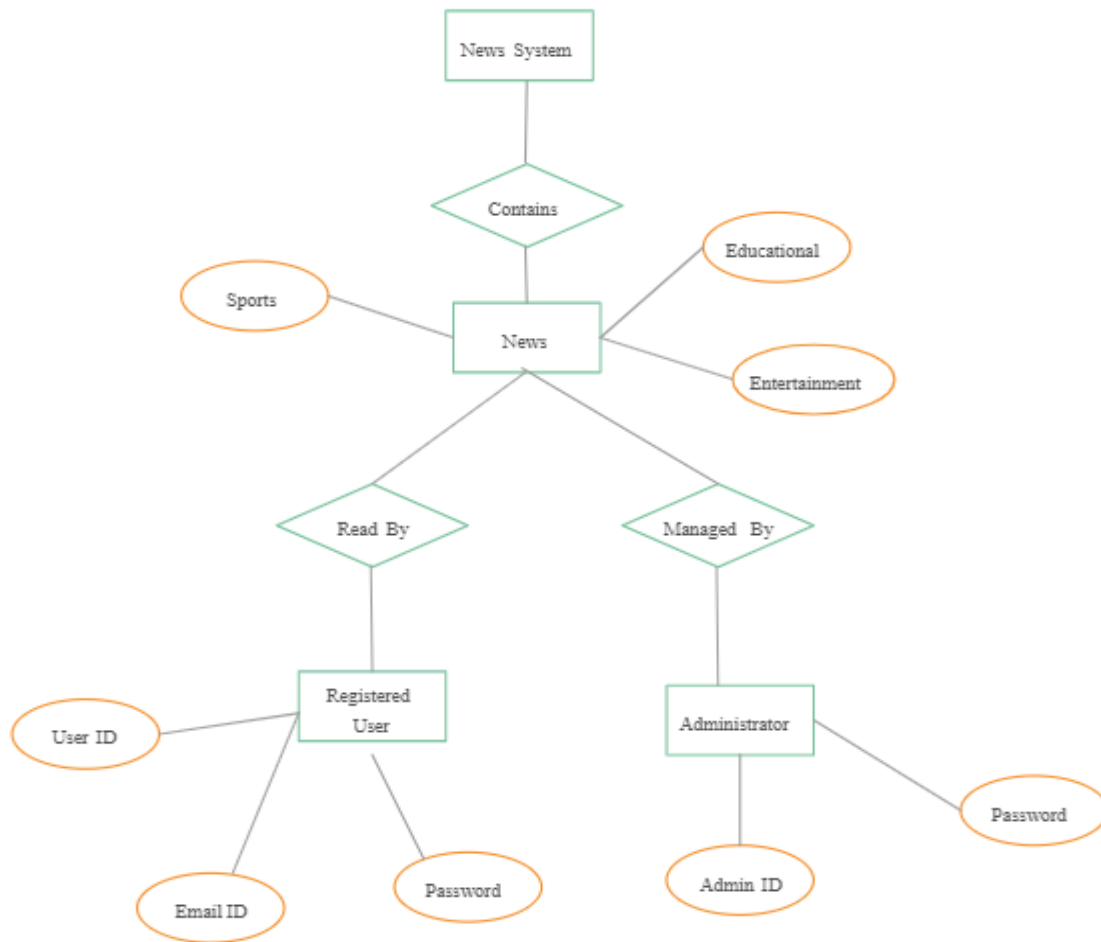## 2. Overall Descriptions
2.1 Product Perspective
Use Case Diagram of News media web applications

A Use Case Diagram for a News Media Web Application is a visual representation that illustrates the various interactions and functionalities of the system from the perspective of its users or external actors. This diagram helps to identify the key use cases (i.e., specific interactions or actions) that the system supports and the actors (i.e., individuals, roles, or other systems) that interact with the system.

2.2 Product Function
Entity Relationship Diagram of News media web applications

The An Entity-Relationship Diagram (ERD) for a news media web application represents the database structure and relationships between different entities or data tables in the application. The actual structure and complexity may vary depending on the specific requirements and features of the application. ERDs are essential for designing the database and ensuring that data is organized efficiently and accurately for the web application.

2.3 User Classes and Characteristics

The News media web applications have several key characteristics that distinguish them from other types of web applications. These characteristics are essential for delivering news content effectively and engaging with users. Here are some of the prominent characteristics of news media web applications.

The features that are available to the News media are:-
- ➤ Content Management Systems for easy publishing.
- ➤ Multimedia integration (images, videos, infographics).
- ➤ Social media integration for sharing and engagement.
- ➤ User engagement through comments and discussions.
- ➤ Personalization for customized news feeds.
- ➤ Notification systems for breaking news alerts.
- ➤ Search and navigation tools for content discovery.
- ➤ Real-time updates and live reporting.
- ➤ Paywalls and subscription models for premium content.
- ➤ Data analytics to monitor user behavior.
- ➤ Advertising for revenue generation.
- ➤ Mobile apps for enhanced user experience.
- ➤ Editorial control and workflow tools.
- ➤ Live polls and surveys for reader feedback.
- ➤ Archives and searchable databases for research.
- ➤ Accessibility features for inclusivity.

2.4 Operating Environment

The operating environment for a news media web application represents the technical infrastructure and software components necessary for the application to function effectively. This environment encompasses a wide range of technologies and tools that collectively ensure the application's availability, performance, and security. In theory, the operating environment. Assumptions and Dependencies

The assumptions are:-
- ➤ The Users have internet access and can connect to the web application through various devices.
- ➤ The Users access the application using common devices, such as desktop computers, laptops, tablets, and smartphones.
- ➤ The Users utilize modern web browsers compatible with the web application's technologies and features.
- ➤ The Users' connections to the web application are secure, with data transmission protected via HTTPS and encryption.
- ➤ The Assumption that content, including news articles and multimedia, is regularly created and updated by journalists and editors.
- ➤ The database system hosting content and user data is reliable and available, with backup and recovery systems in place.
- ➤ The Web servers are operational and responsive, with minimal downtime and performance degradation.

2.5 Requirement

Software Configuration:-

This software package is developed using java as front end which is supported by sun microsystem. 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

2.6 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 details of their accounts. In this project the inputs will be the queries as fired by the users like create an account, selecting books and putting into account. Now the output will be visible when the user requests the server to get details of their account in the form of time, date and which books are currently in the account.

3. External Interface Requirement
3.1 GUI

The software provides good graphical interface for the user and the administrator can operate onthe system, performing the required task such as create, update, viewing the details of the book.

➢ It allows user to view quick reports like Book Issued/Returned in between particular time.

➢ It provides stock verification and search facility based on different criteria.

➢ The user interface must be customizable by the administrator

➢ All the modules provided with the software must fit into this graphical user interface and accomplish to the standard defined

➢ The design should be simple and all the different interfaces should follow a standard Template.

4. System Features

The users of the system should be provided the surety that their account is secure. This ispossible by providing:-

➢ User authentication and validation of members using their unique member ID

➢ Proper monitoring by the administrator which includes updating account status, showing a popup if the member attempts to issue number of books that exceed the limit provided by the library policy, assigning fine to members who skip the date of return

➢ Proper accountability which includes not allowing a member to see other member's account. Only administrator will see and manage all member accounts

5. System Features

A news media web application's system features encompass a diverse range of functionalities, including user registration and profiles, content management with multimedia integration, content discovery through search and recommendation, user engagement tools like comment sections and social sharing, real-time updates such as breaking news notifications, personalization options, social media integration, multimedia support, subscription models for premium content, robust data analytics for user behavior and content performance monitoring, advertising capabilities, mobile app accessibility, security measures, compliance with accessibility standards, content syndication, editorial control and collaboration, archives and searchable databases for historical content, and the inclusion of live polls and surveys, enabling the platform to deliver dynamic and engaging news content to its audience while maintaining a user-friendly and secure environment.

6. System Features

The System features for news media web applications include user registration, content management, content discovery, user engagement, real-time updates, personalization, social media integration, multimedia support, subscription models, data analytics, advertising, mobile app accessibility, security, accessibility compliance, content syndication, editorial control, searchable databases, and interactive elements like live polls and surveys, all working to provide a comprehensive, engaging, and secure news delivery platform.

7. Other Non-functional Requirements

7.1 Performance Requirement

The Performance requirements for news media web applications include rapid response times, efficient content delivery even under high user loads, minimal latency, and the ability to handle a surge in traffic during breaking news events, ensuring a smooth and responsive user experience.

7.2 Safety Requirement

The Safety requirements for news media web applications encompass the implementation of stringent cybersecurity measures to protect user data, secure against cyber threats, and ensure compliance with privacy regulations, safeguarding both the application and its users from potential vulnerabilities and breaches.

7.3 Security Requirement

- ➢ Robust authentication and authorization mechanisms.
- ➢ Data encryption for sensitive information.
- ➢ Protection against common web vulnerabilities (e.g., SQL injection, XSS).
- ➢ Regular security audits and vulnerability assessments.
- ➢ User privacy protection in compliance with data privacy regulations.
- ➢ Secure APIs and third-party integrations.
- ➢ Incident response and recovery procedures.
- ➢ Secure password policies and multi-factor authentication.
- ➢ Access controls and permission management.

7.4 Business Rules

A Business rules for news media web applications encompass guidelines and principles that govern various aspects of the platform's operations, including content management, user engagement, and monetization. These rules dictate the editorial standards and fact-checking processes to ensure accurate and credible content. They outline advertising and subscription models to generate revenue. They also define user interaction policies, such as acceptable behavior in comment sections, and establish guidelines for data privacy and copyright compliance. Additionally, business rules may guide content partnerships and syndication agreements to expand the platform's reach. Ultimately, these rules are crucial in maintaining the integrity, profitability, and ethical conduct of a news media web application.

7.5 User Requirement

The User requirements for news media web applications include easy content access, robust search, personalization, mobile accessibility, content sharing, user engagement features, notification preferences, multimedia content, security, usability, accessibility, content quality, ad-free options, data privacy, content curation, offline reading, interactivity, feedback mechanisms, and transparency, all aimed at delivering an informative and user-friendly news experience.

8. Other Requirements
8.1 Data and Category Requirement

Data and category requirements for news media web applications involve collecting, organizing, and presenting a diverse range of news content effectively. Data requirements include a structured database for articles, user profiles, and comments, while category requirements necessitate well-defined sections or tags for topics like politics, sports, and entertainment. The application must support rich multimedia content, such as images, videos, and infographics. Additionally, data analytics are needed for monitoring user behavior and content performance, enabling personalized recommendations and user engagement features like comments and user ratings. Compliance with accessibility standards and secure user data management are integral to maintaining a trustworthy and inclusive platform..

8.2 Appendix

An appendix in a news media web application serves as a supplementary section, often containing additional information and resources. It can include resources such as style guides for content creators and journalists, providing guidelines on writing, formatting, and editorial standards. It may also contain historical archives of news articles and multimedia content for reference and research purposes. Additionally, the appendix may house technical documentation for developers, outlining APIs, data structures, and integrations, as well as information on server configurations and performance benchmarks. In some cases, it could include legal agreements, such as terms of service and privacy policies, providing transparency and legal protections for both the application and its users. Overall, the appendix serves as a repository of essential supporting materials to enhance the usability, transparency, and reliability of the news media web application.

8.3 Glossary

The Here is a glossary of terms commonly associated with news media web applications:

- ➢ Content Management System (CMS
- ➢ User Profile
- ➢ Search Engine Optimization (SEO)
- ➢ Multimedia
- ➢ Subscription Model
- ➢ Content Curation
- ➢ Paywall
- ➢ Real-time Updates
- ➢ Ad Placement
- ➢ Analytics
- ➢ Breaking News Alerts
- ➢ Content Syndication
- ➢ Comment Section
- ➢ Data Privacy
- ➢ User Engagement
- ➢ Accessibility
- ➢ Content Tagging

8.4 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 'Librarian', 'Member' and 'Books' are the most important classes which are related to other classes.

Role Class

+role_id: int
+role_title: string
+role_description: string

+addRole()
+editRole()
+deleteRole()
+searchRole()
+assignRole()

Permission Class

+permission_id: int
+permission_role_id: int
+permission_title: string
+permission_module: string
+permission_description:string

+addPermission()
+editPermission()
+deletePermission()
+searchPermission()

Contents Class

+content_id: int
+content_title: string
+content_description: string
+content_type: string
+content_news_id: int

+addContent()
+editContent()
+deleteContent()
+searchContent()

User Class

+user_id: int
+user_role_id: int
+user_name: string
+user_email: string
+user_dob: date
+user_address: string

+addUser()
+editUser()
+deleteUser()
+searchUser()

Advertisement Class

+advertisement_id: int
+advertisement_title: string
+advertisement_type: string
+advertisement_description: string
+advertisement_date: date

+addAdvertisement()
+editAdvertisement()
+deleteAdvertisement()
+searchAdvertisement()

News Class

+news_id: int
+news_title: string
+news_type: string
+news_description: string

+addNews()
+editNews()
+deleteNews()
+searchNews()

Media Class

+media_id int
+media_type: string
+media_description: string
+media_name: string

+addMedia()
+editMedia()
+deleteMedia()
+searchMedia()

Latest Post Class

+post_id
+post_name
+post_type
+post_description
+post_date

+addLatestPost()
+editLatestPost()
+deleteLatestPost()
+searchLatestPost()

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