IT314 – Software Engineering

Group 21

News Aggregator

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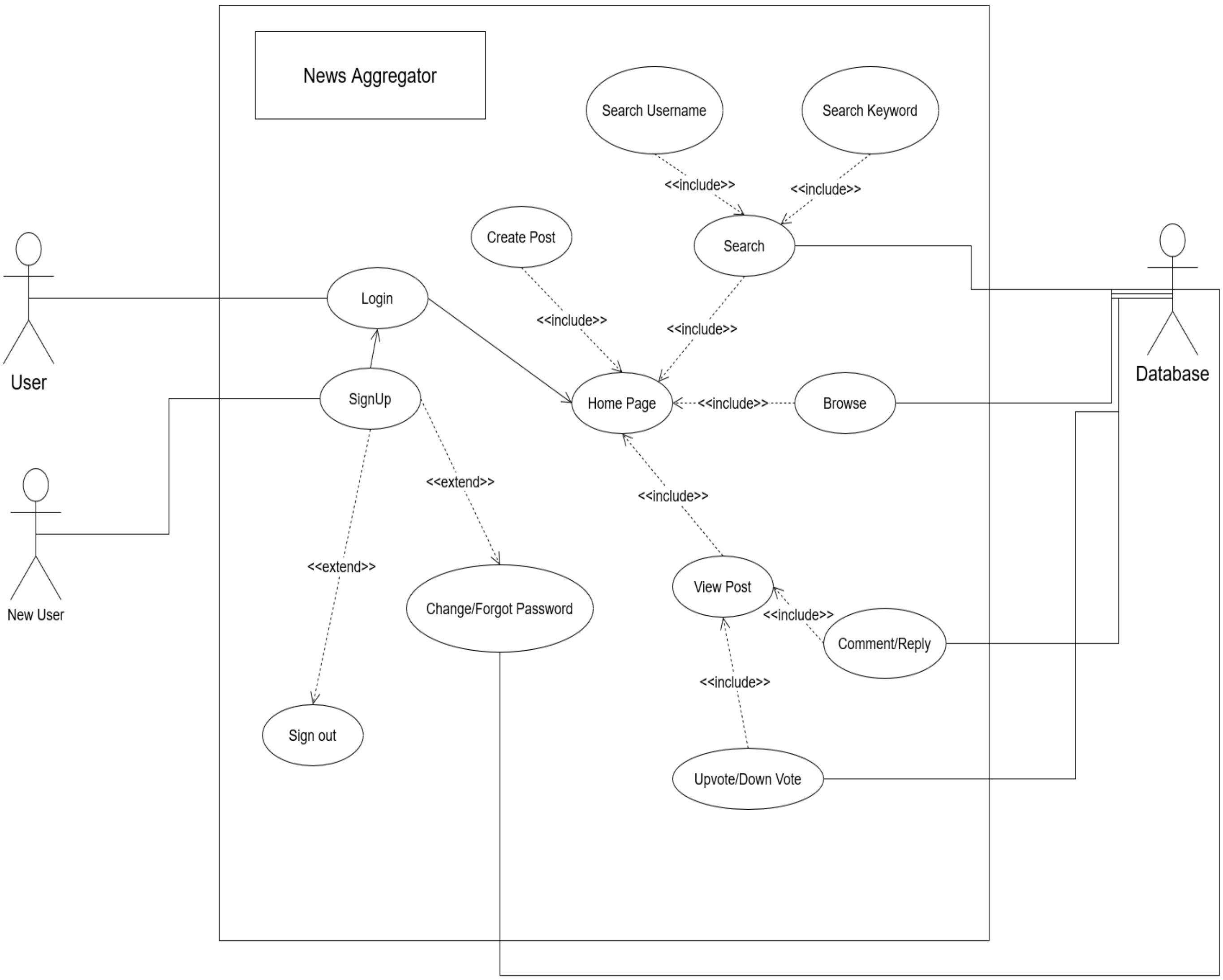
Introduction: Software requirement specification

News Aggregator is a dynamic platform redefining news consumption, emphasizing seamless user experience and account security. Users easily create accounts with email, username, and password, enjoying effortless logins and password changes. The Password Recovery system simplifies forgotten password challenges through secure email-based resets. Empowering users as contributors, the platform facilitates news posting, threaded discussions, comments, and a voting system. Robust search functionality ensures tailored news discovery, while the homepage's dynamic feed leads to in-depth post pages. With an intuitive interface and enhanced user experience, News Aggregator fosters a secure, community-driven environment where users actively contribute, discuss, and stay informed.

Here is the documentation of the News Aggregator Website. Below is the Use Case Diagram which depicts the components of the system, such as the actors like Users, New Users and with that the database is also connected. This whole system shows the working and the basic features of the system. Following is its documentation, showcasing a detailed explanation. Furthermore the Functional and non-functional requirements are attached with the user stories.

Use case Diagram



Use case Documentation

1: Login

Name: Login

Goal: A registered user should be able to log in to their personal account.

Actor: Registered User

Precondition: User has a registered account.

Trigger: User clicks on the Login button from the Homepage.

Main Flow:

1. User enters a unique user ID and password.
2. User logs in.

Postcondition: User successfully logged in.

2: SignUp

Name: SignUp

Goal: A new user should be able to create a new account.

Actor: New User

Precondition: User does not have a registered account.

Trigger: User clicks on the SignUp button.

Main Flow:

1. User provides email, username, and password.
2. User submits the signup form.

Postcondition: User account is created successfully.

3: Search

Name: Search

Goal: Users can search for news based on keywords.

Actor: Logged-in User

Precondition: User is logged into their account.

Trigger: User enters a keyword in the search bar.

Main Flow:

1. User enters a keyword in the search bar.
2. System retrieves and displays news related to the keyword.

Postcondition: User sees a list of news related to the searched keyword.

4: Create Post

Name: Create Post

Goal: Users can create and publish a news post.

Actor: Logged-in User

Precondition: User is logged into their account.

Trigger: User clicks on the "Create Post" button.

Main Flow:

1. User enters a post title, description, and link (optional).
2. User submits the post.

Postcondition: A new post is created and visible on the website.

5: Comment

Name: Comment

Goal: Users can comment on news posts.

Actor: Logged-in User

Precondition: User is logged into their account.

Trigger: User clicks on the "Comment" button under a news post.

Main Flow:

1. User enters a comment in the comment box.
2. User submits the comment.

Postcondition: User's comment is added to the post.

6: Change/Forgot Password

Name: Change/Forgot Password

Goal: Users can change their password or recover a forgotten password.

Actor: Registered User

Precondition: User is logged into their account or has forgotten their password.

Trigger: User clicks on the "Forgot Password" link or navigates to the password change section.

Main Flow:

1. User enters their email ID.
2. User follows the password reset link sent to their email.
3. User sets a new password.

Postcondition: User's password is successfully changed.

7: Upvote/Downvote

Name: Upvote/Downvote

Goal: Users can express their preference on news posts.

Actor: Logged-in User

Precondition: User is logged into their account.

Trigger: User clicks on the "Upvote" or "Downvote" button on a news post.

Main Flow:

1. User clicks on the "Upvote" button to express approval or "Downvote" button to express disapproval.

Postcondition: User's vote is recorded and reflected on the news post.

Functional and Non-Functional requirements

Functional Requirements for the News Aggregator Website

- Users can create a new account using email, username, and password.
- Login functionality for registered users.
- Password recovery mechanism through email verification.
- Users can create news posts with a title, description, and link.
- The ability for users to comment on news posts.
- Up voting and down voting system for user feedback on news articles.
- Users can search for news articles based on keywords.
- Search functionality also extends to finding posts by specific usernames.
- The homepage displays a scrolling feed of diverse news articles.
- Clicking on a news title opens a dedicated post page with detailed information.
- Users can view up votes, down votes, and comments on each news article

Non-Functional Requirements for the News Aggregator Website

1. Security: The system must ensure the confidentiality and integrity of user data, including adherence to privacy regulations and secure encryption of sensitive information.

2. Reliability: The website should be highly dependable, with minimal downtime.

3. Scalability: The system must be able to accommodate a growing number of users and data, ensuring that it remains efficient as the user base expands.

4. Usability: Intuitive UI/UX design for easy navigation and interaction, User-friendly features that don't require special training for effective use.

5. User Support and Documentation: Provide comprehensive user support, including FAQs and query section to assist users in using the platform effectively.

6. System Maintenance: Ensure a systematic schedule for system updates, maintenance, and bug fixes to keep the website running smoothly and securely over time

User Stories

#1.)

Front:

As a user, I want to create accounts and be able to login through Email and password.

Back:

- Login should be remembered on one device.

Acceptance Criteria:

- Email Id should be correct and password should be a minimum of 8 characters for signup.
- During login, the password should belong to the entered EmailID.

Rejection Criteria:

- Email/password is incorrect.
- Network is not connected.

#2.)

Front:

As a user, I want to be able to upvote or downvote news articles, so that I can influence the visibility of articles based on their quality.

Back:

Each articles should have upvote and downvote button
Clicking the upvote button should increase the article's upvote count.
Clicking the downvote button should increase the article's downvote count.

#3.)

Front:

As a registered user, I want to be able to submit news articles with relevant details, so that I can share important news stories with the community.

Back:

- There should be a "Post" button on the user interface.
- Clicking the "Post" button should open a form with fields for the news article's title, description and a link etc.
- Users should be able to enter information in the form fields and submit the article.
- The submitted news article should show the username of the user who submitted it.

Rejection Criteria:

- Any network error occurs.
- User cancels the submission.

#4.)

Front:

As a user, I want to leave comments on threads I find interesting, and I can also reply on comments done by other users on any post.

Acceptance Criteria / Success:

Users can leave comments on threads.
Enhanced interactivity and engagement within discussions.

Failure:

Inability to leave comments.
Lack of interaction limits user participation.

#5.)

Front:

As a user I want to have a search option so that I'm able to read user posts by typing some keywords of my interest.

Back:

- There should be a search bar prominently displayed on the user interface.
- Users can enter keywords into the search bar.
- Upon entering a keyword search query, relevant news articles containing the query should be displayed in the search results.
- Upon entering a username search query, relevant news articles posted by that user should be displayed in the search results.

#6.)

Front:

As a user, I want to be able to manage my account, including changing my password and recovering it if forgotten.

Acceptance Criteria / Success:

1. A user profile section is accessible from the main user interface.
2. Within the user profile section, there are options to change the password and recover a forgotten password.
3. The password change process includes authentication to verify the user's identity.

4. Users receive clear and user-friendly instructions for changing their password or recovering a forgotten one.
5. The user interface for account management is intuitive and responsive, ensuring a seamless experience.

Back:

1. Secure endpoints are provided in the back-end API for password change and recovery processes.
2. Passwords are stored securely using algorithms.
3. The password change process includes multi-factor authentication or other security measures for identity verification.
4. Users can recover their password through a secure email verification process.
5. The back-end system logs and monitors account management activities for security purposes.

Failure:

1. Inability to access or locate the account management features on the user interface.
2. Technical issues prevent users from successfully changing their password or recovering a forgotten password.
3. Lack of clear instructions or user-friendly interface leads to confusion during the password management process.

#7.)
Front:

As a user, I want to be redirected to the homepage after logging in, where I can view different posts uploaded by various users.

Acceptance Criteria / Success:

1. Upon successful login, the user is automatically redirected to the homepage.
2. The homepage prominently displays a feed of posts uploaded by different users.
3. The post feed includes relevant information such as post content and username.
4. Users can seamlessly scroll through the post feed to explore content from different users.
5. The user interface is intuitive and responsive, ensuring a smooth and engaging experience.

Back:

1. Secure endpoints are provided in the back-end API for user login and homepage content retrieval.

2. Upon successful authentication, the back-end system sends a response to redirect the user to the homepage.
3. The back-end system efficiently retrieves posts from various users to populate the homepage feed.
4. The post data includes necessary information such as content and username details.
5. The back-end system is scalable to handle an increasing number of posts and user interactions.

Failure:

1. Users are not redirected to the homepage after logging in, impacting the user experience.
2. Technical issues prevent the successful loading or display of posts on the homepage.
3. Lack of clarity in the user interface makes it challenging for users to locate and explore different posts.