CSN-254

CHANNEL-6

DESIGN DOCUMENT

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Summary:

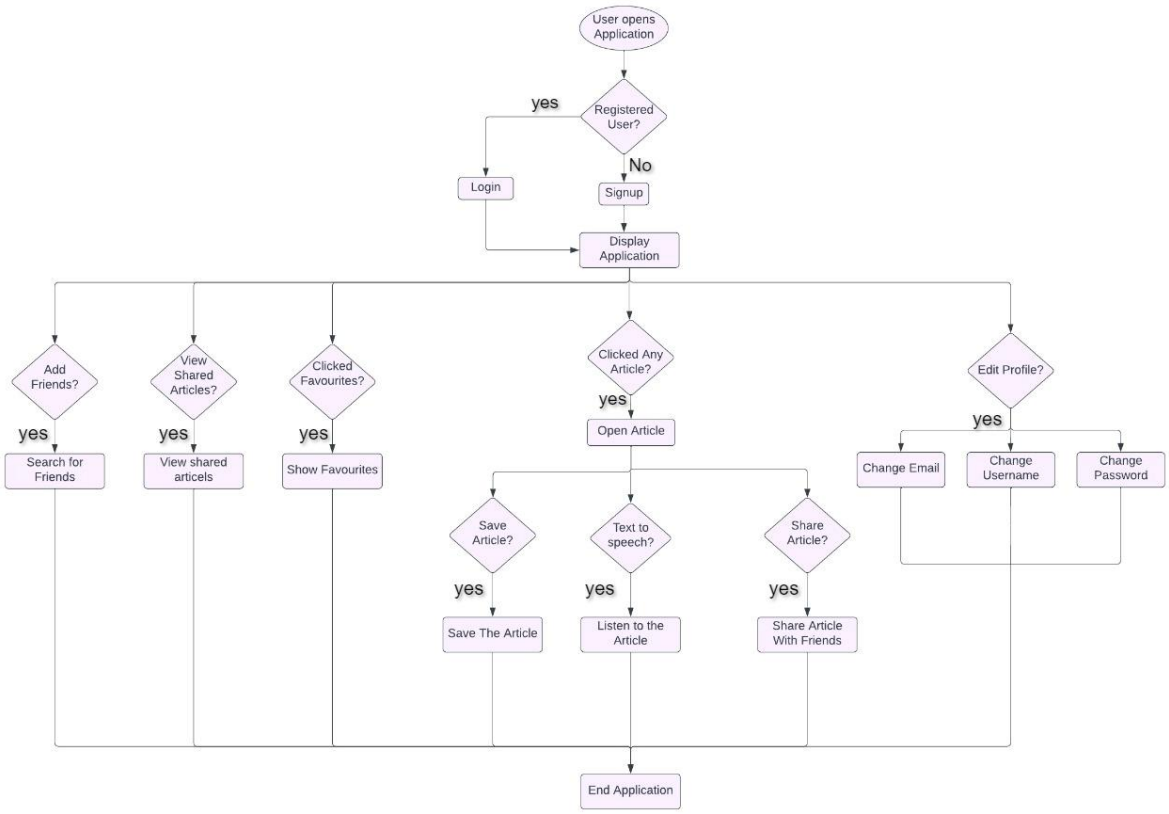
This document deals with the complete design of our application “SaS News”. In this document, we are going to explain about the design of our application in terms of the user- interface it has, underlying implementation , non-functional requirements and also explain the user’s main intention of our application and guide them in using this application.

Our app is useful for people who look out for news frequently. Using this application, users can view breaking news along with past news articles and users can also save and share articles with the friends made in the platform. By Using this application, users don’t need to depend on third party applications like WhatsApp to share articles with others.

High Level Design:

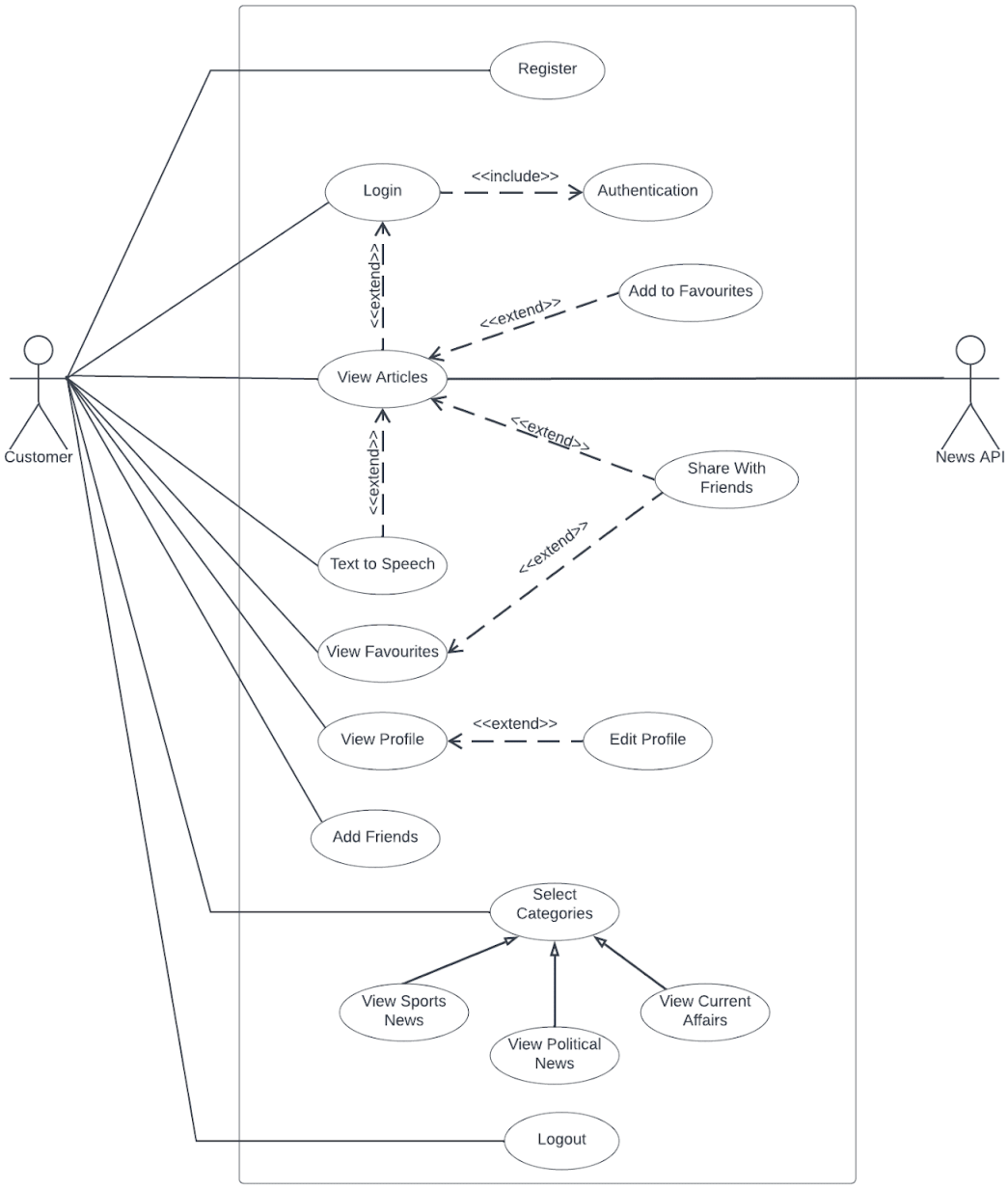
Flowchart:

The below flow-chart is a representation of our app features in a simple user-understandable manner.



Use Case diagram:

Below is the Use case diagram and its text description for our software.



TEXT DESCRIPTION

U1: Register : Using this use case, the user can register into the application by providing the respective details.

Scenario 1: Mainline sequence

1. User: Select 'Register' option.
2. System: Display prompt to enter username, mail and password.
3. User: Enter the required details.
4 : System: Display the user's home page.

Scenario 2: At step 4 of mainline sequence

4 : System: Displays the message that the login details already exist.

U2: Login : Using this use case, the user can login into the application by providing the login credentials.

Scenario 1: Mainline sequence

1. User: Select 'User login' option.
2. System: Display prompt to enter id and password.
3. User: Enter the login details.
4 : System: Display the user's home page.

Scenario 2: At step 4 of mainline sequence

4 : System: Displays the message that the login details are invalid.

U3: View Profile : Using this use case, the user can view his personal details.

Scenario 1: Mainline sequence

1. User: Select 'View Profile' option.
2. System: Displays the personal details of the users.
3. User: Selects 'Edit Profile' option.
4. System: Displays the info that can be edited.
5. User: Modifies the info that is wrong.
6. System: Displays a message showing "Updated info successfully".

Scenario 2: At step 3 of mainline sequence

3. User: Selects logout option.
4. System: Logs out the user out of the application.

U4: Text to speech : Using this use case, the user can convert the text in the article to the speech form.

Scenario 1: Mainline sequence

1. User: Selects 'Text to speech' option.
2. System: Sends the article text to the text to speech library method. This method converts the text into the speech form and plays the audio.

U5: Select Categories : Using this use case, the user can choose the category of the articles he wants to read.

Scenario 1: Mainline sequence

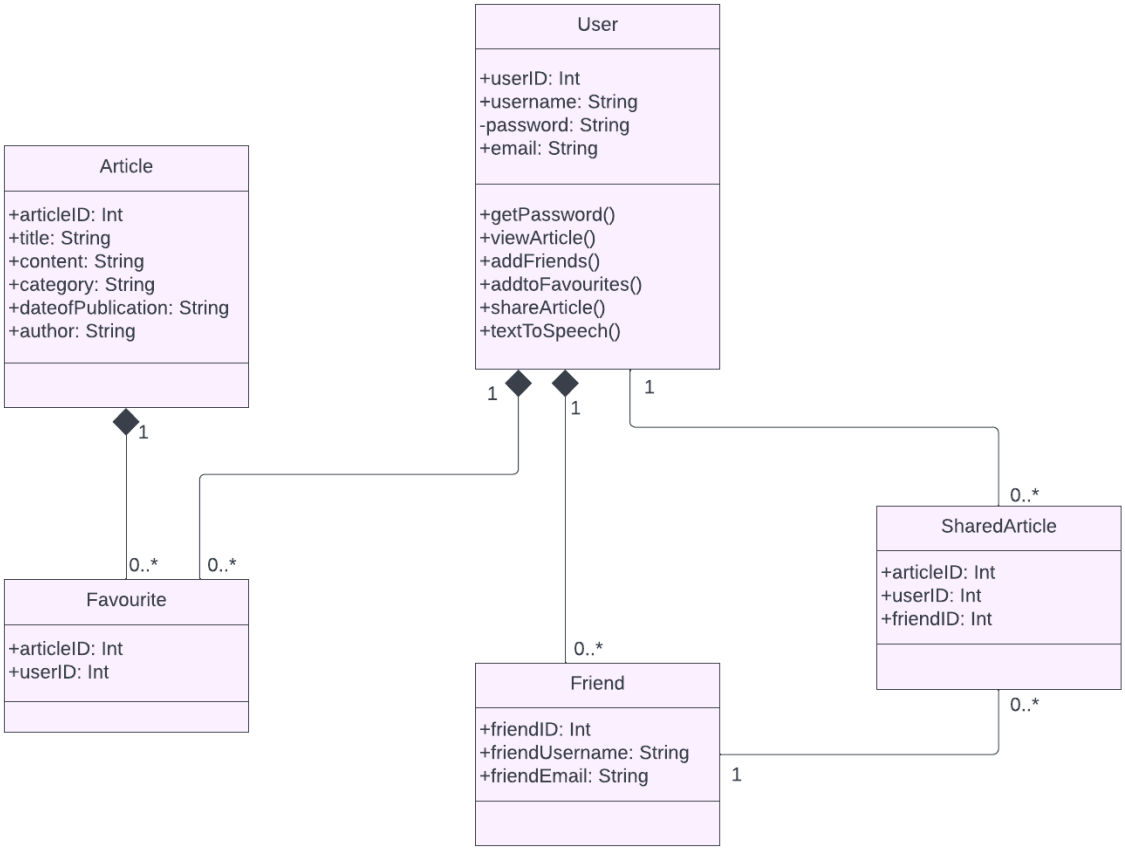
1. User: Selects the category of the articles which he wants to read like sports, politics, etc.
2. System: Displays the articles related to the selected category.

U6: Add friends: Using this use case, the user can add his friends to his friends list.
Scenario 1: Mainline sequence
1. User: Selects Add friends option.
2. System : Displays the search bar.
3. User : Searches the user id of his friend.
4. System : Displays a friend request option.
5. User : Selects add friend option.
6. System : Displays a message showing “Request sent successfully”.

U7: Share with friends : Using this use case, the user can share the articles to his friends.
Scenario 1: Mainline sequence
1. User: Selects the share option , the article which he likes to share.
2. System : Displays the list of his friends.
3. User : Selects the friends from the friend list for whom he wants to share.
4. System : Sends the article id to selected friends database. And displays showing a message “Shared successfully”.

Class Diagram:

Below is the Class diagram for our software.



Classes, Member variables and Member functions:

1. User

Attributes:

- UserID
- Username
- Password
- Email

Functions:

- getPassword()
- viewArticle()
- addFriends()
- addtoFavourites()
- shareArticles()
- textToSpeech()

2. SharedArticle

Attributes:

- articleID
- userID
- friendID

3. Friend

Attributes:

- friendID
- friendUsername
- friendEmail

4. Article

Attributes:

- articleID
- title
- content
- category
- dateofpublication
- author

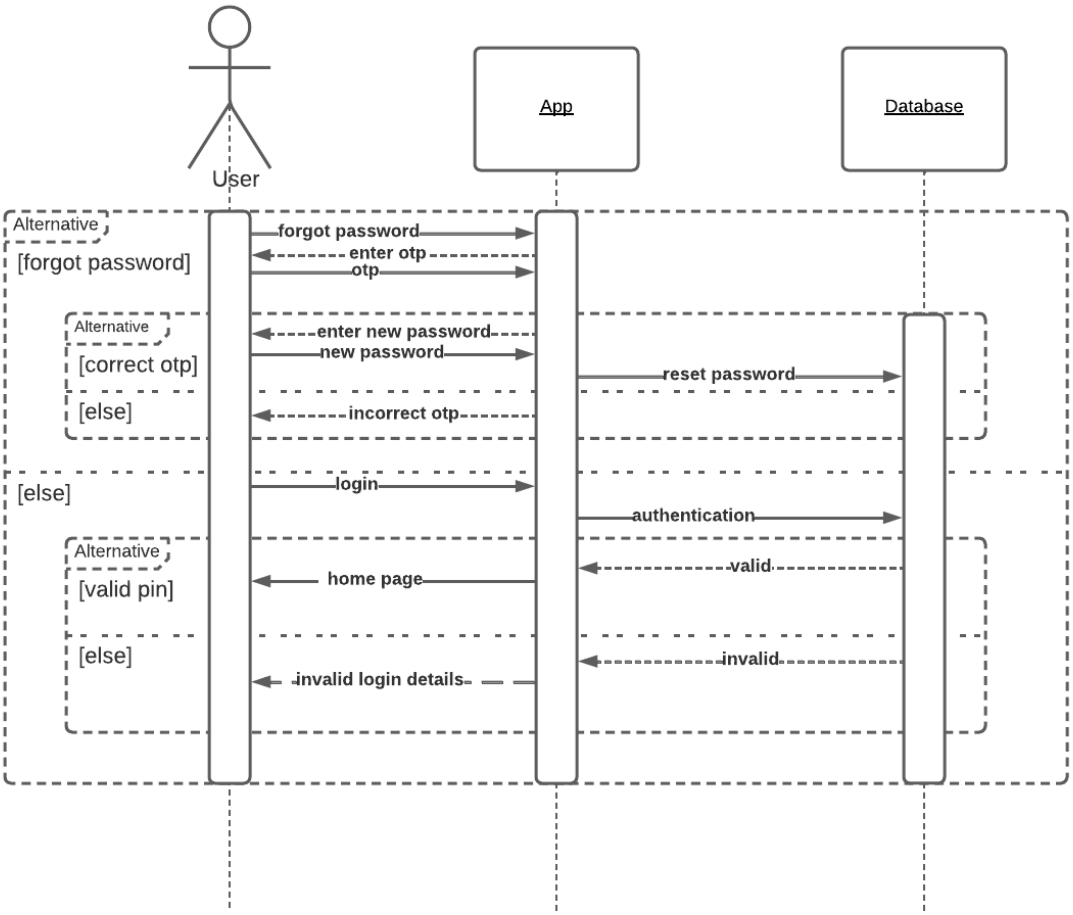
5. Favourite

Attributes:

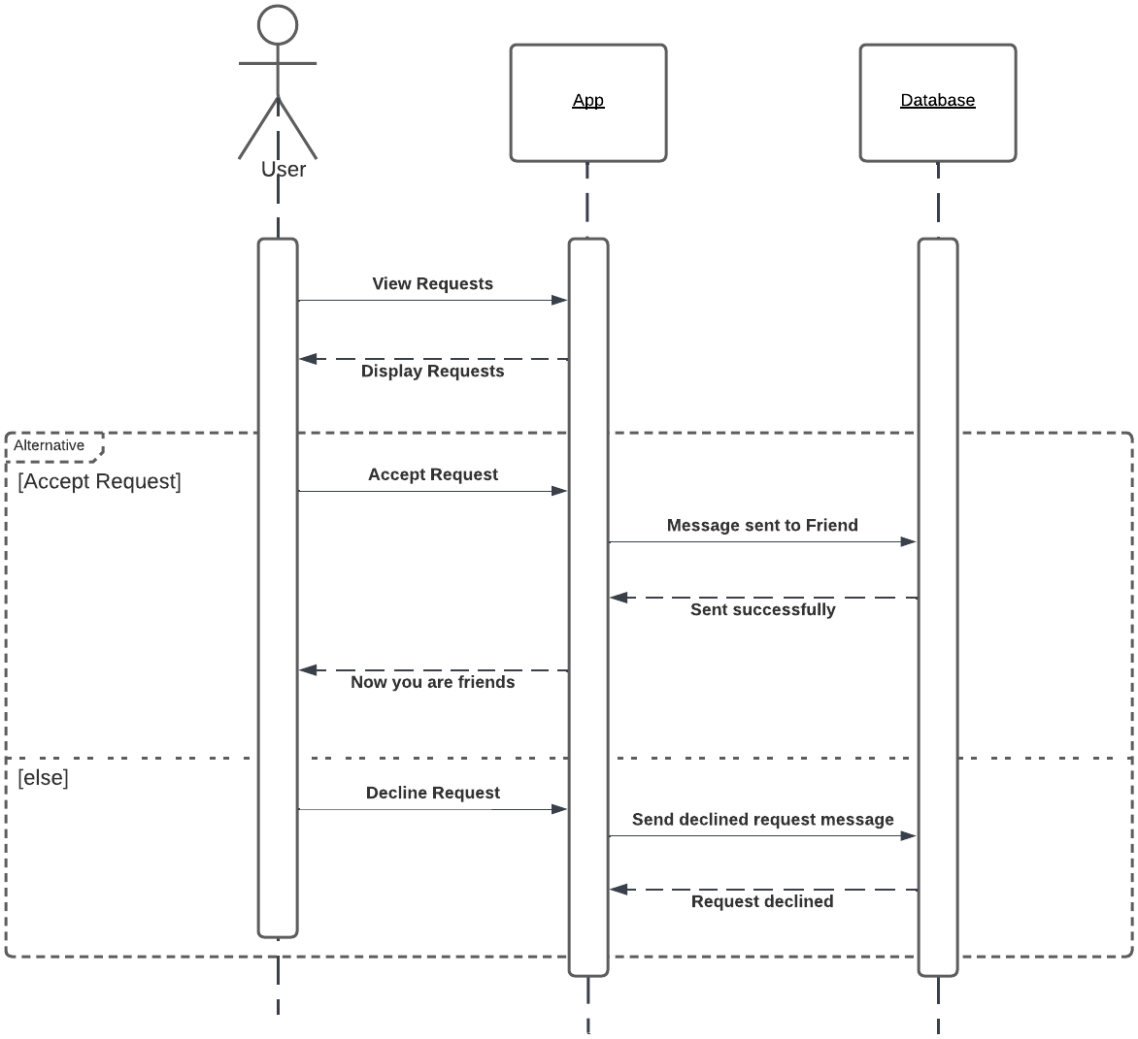
- articleID
- userID

Sequential Diagrams:

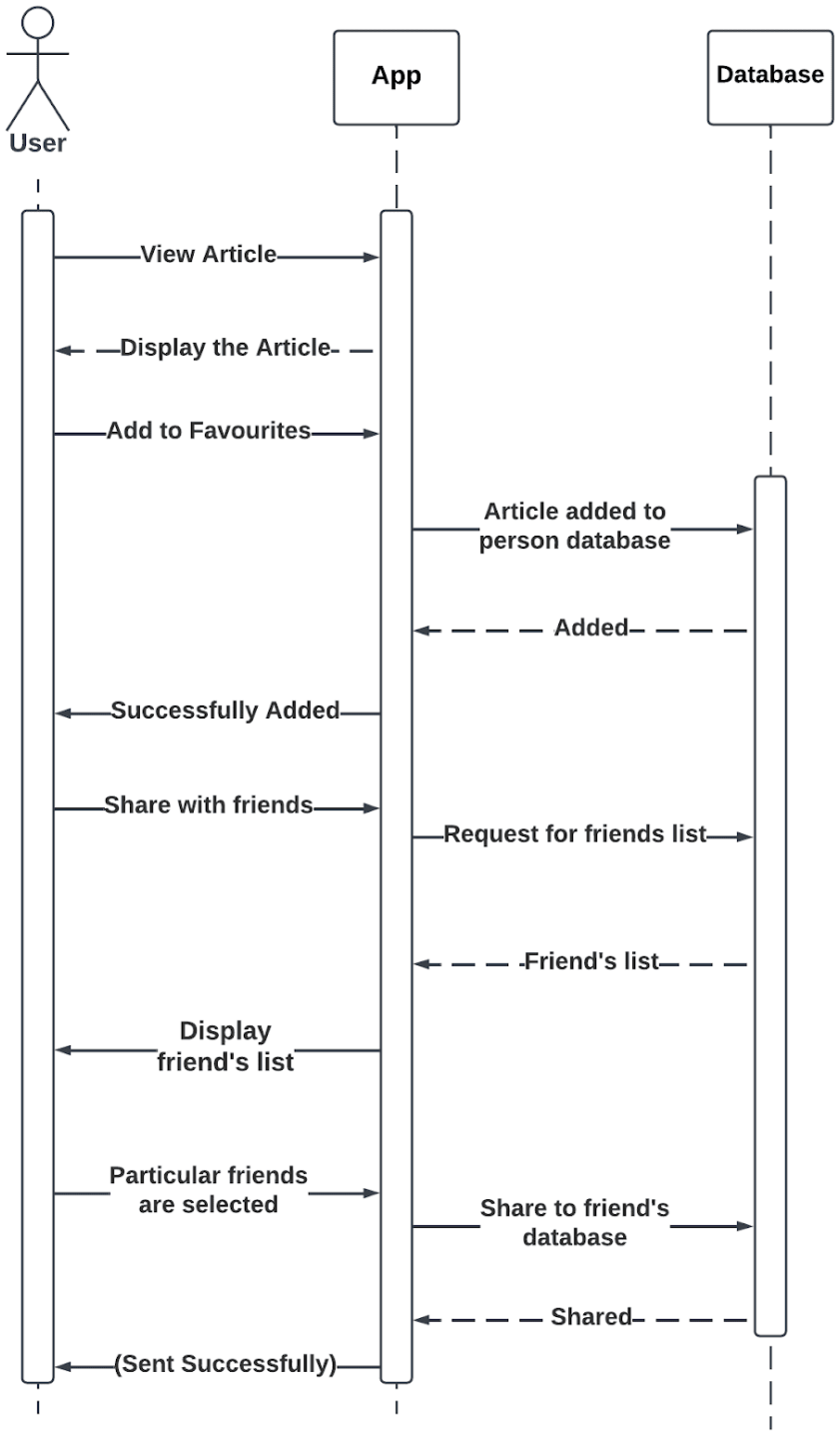
- **Sequence Diagram-1: LOGIN**



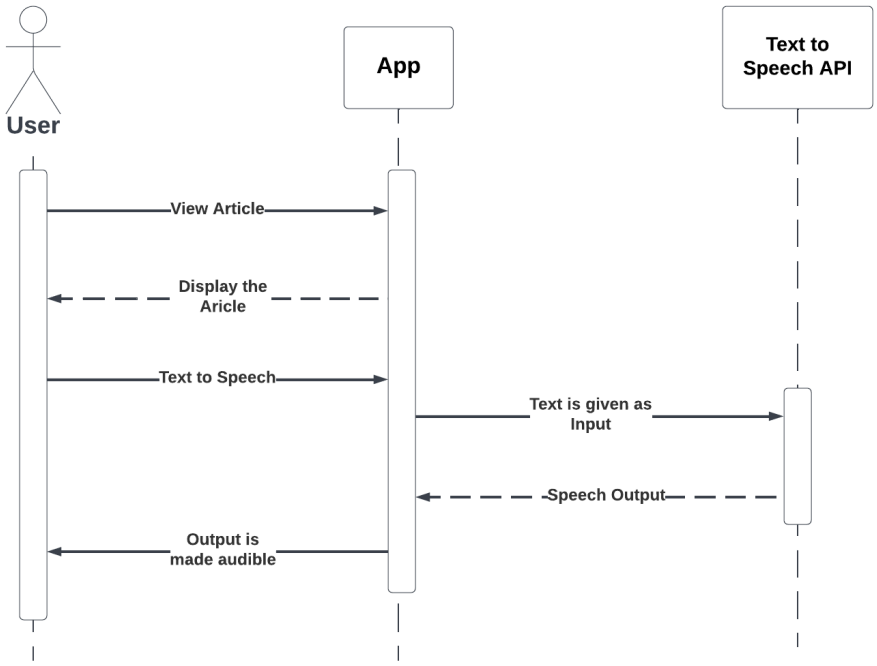
- **Sequence Diagram-2: ACCEPT/DECLINE REQUESTS**



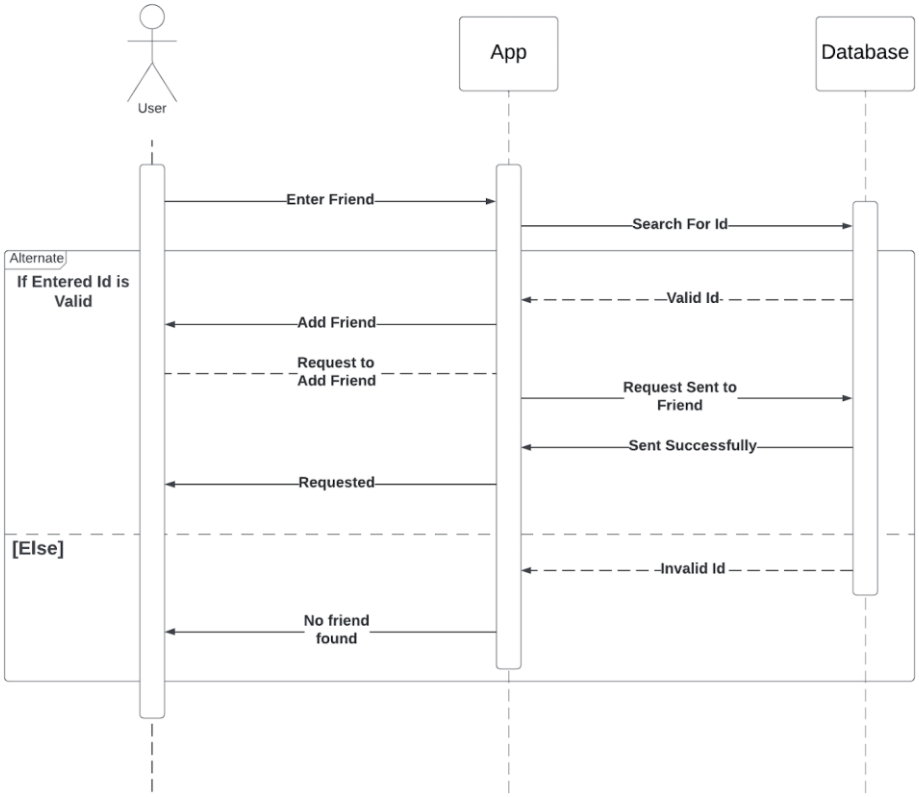
- **Sequence Diagram-3: VIEW ARTICLE**



- **Sequence Diagram-4: TEXT TO SPEECH**



- **Sequence Diagram: ADD FRIEND**



Low Level Design:

User Authentication:

1. User Registration:
    · Get the user details from the form.
    · If the email ID already exists in the database, then pop up a message showing “account with this email ID already exists”.
    · If the username already exists in the database, then pop up a message showing “account with this username already exists”.
    · If both username and email ID are new then create a new object of user class using the details provided by the user and save the data of the user in the database.
    · Pop up a message showing “Account created successfully” and redirect to the home page.

2. User Login:
    · Get the details from the form.
    · Verify username and password entered by user.
    · If details entered by the users are correct then the user is redirected to the home page of SaS News.
    · Otherwise, it raises an error and displays “Invalid Credentials!” message and the user are redirected to the login page.

3. Forgot Password:
    · If the user forgets the password, he can click on the forgot password.
    · System asks the user to enter the email ID or username through which he has registered.
    · Now the system sends an OTP to his registered email ID, with the help of this the user can reset the password.

Save Articles:
    · After the user clicks save the article, the system sends the id of the article to the database of the user and saves in the saved articles section.
    · Then the system pops up a message showing “Saved article successfully”.

Share Articles:
    · After the user clicks the share article then the system shows the list of the friends of the user.
    · After the user selects the friends to which he wants to share then the system sends the article ID to the selected friends database.
    · Then the system pops up a message showing “Shared article successfully”.

Text to speech:
    · After the user clicks on Text to speech then the system sends the text of an article to the Text to speech Library method.
    · The method produces the speech format of the text.

Add Friends:

· After the user clicks on Add friends, we get a search bar where we can search the users by using their username.

· After the user finds his friend Then there is an option to make a friend request. After clicking on friend request the system sends the request to the particular friend database.

Questions

Q. Why write a design document ?
Ans. A design document is a description of how we plan to solve a problem. The main goal of a design doc is to make a more efficient design of the software designed from the requirements gathered till now and also gather feedback from others. This document will be used to aid in software development by providing the details for how the software should be built.

Q. What does it generally consist of ?
Ans. Within the Software Design Document are narrative and graphical documentation of the software design for the project including use case models, sequence diagrams, collaboration models, object behaviour models, and other supporting requirement Information.

Q. What main information does the user/customer get during this document review?
Ans. Customers can get information regarding the overview of the software project, it's design along with the algorithms that were used during the implementation stages like LOGIN, View articles, share with friends, text to speech, add a friend, accept the request. High level design i.e., flowchart, use class diagram, class diagram, sequence diagram which helps the user to access the main functions(features) that the project is able to perform. From the low-level design, the user can understand the functional algorithms which are used in the Software.

Q. What are the tools Used to Create Diagrams?
Ans. We used Lucid chart to create flowcharts & Diagrams Online and their respective links are provided below the diagrams.