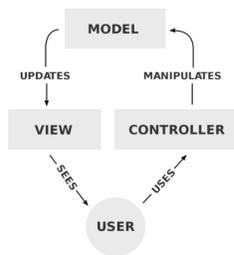


System Configuration

- Operating System: Ubuntu 23.04
- Model View Controller Design Pattern
- Next.js Website
 - React-based web applications with server-side rendering and static website generation.
- Node.js and Express.js API
 - Connects the website to the database through a variety of actions that can be run at any time.
- MySQL Database
 - Holds the website's information in organized tables.



Databases

Messages Table

Field	Type	Collation	Null	Key	Default	Extra
google_id	varchar(50)	utf8mb4_0900_ai_ci	YES		(null)	
message_id	int	(null)	NO	PRI	(null)	auto_increment
is_reply	tinyint(1)	(null)	YES		(null)	
reply_id	int	(null)	YES		(null)	
likes	int	(null)	YES		(null)	
message_content	varchar(4000)	utf8mb4_0900_ai_ci	YES		(null)	
media_directory	varchar(1000)	utf8mb4_0900_ai_ci	YES		(null)	
is_private	tinyint(1)	(null)	YES		(null)	
post_date	date	(null)	YES		(null)	

This holds the information for all posts made on Wscribe.me in the above format.

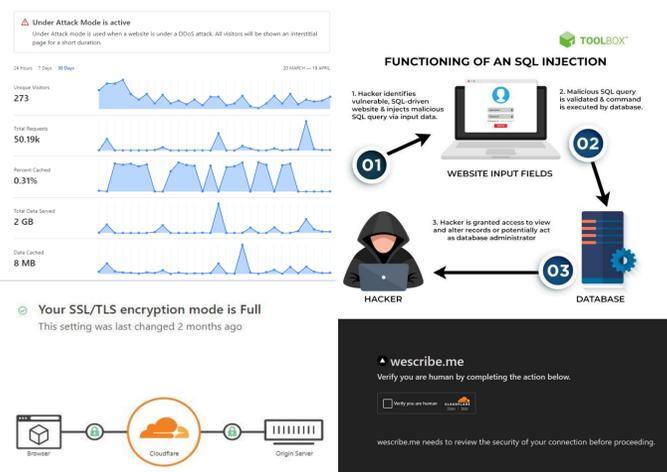
Users Table

Field	Type	Collation	Null	Key	Default	Extra
user_google_id	varchar(50)	utf8mb4_0900_ai_ci	NO	PRI	(null)	
user_handle	varchar(50)	utf8mb4_0900_ai_ci	YES		(null)	
user_pic	varchar(500)	utf8mb4_0900_ai_ci	YES		(null)	
user_bio	varchar(4000)	utf8mb4_0900_ai_ci	YES		(null)	
user_following	json	(null)	YES		(null)	
user_followed_by	json	(null)	YES		(null)	
user_liked_posts	json	(null)	YES		(null)	
user_bookmarked_posts	json	(null)	YES		(null)	
user_blocked_users	json	(null)	YES		(null)	

This holds the information of all users who have made an account on Wscribe.me in the above format.

Security

- Protect data being sent between the user's browser and the VPS
- Protect the system from denial-of-service attacks
- Protect the VPS from malicious access
- Protect our API routes from being abused
- Protection from cross site scripting
- Protection from SQL injections
- Completely dispose of user data when deleting



FUNCTIONING OF AN SQL INJECTION

- Hacker identifies vulnerable SQL-driven website & injects malicious SQL query via input data.
- Malicious SQL query is validated & command is executed by database.
- Hacker is granted access to view and alter records or potentially act as database administrator.

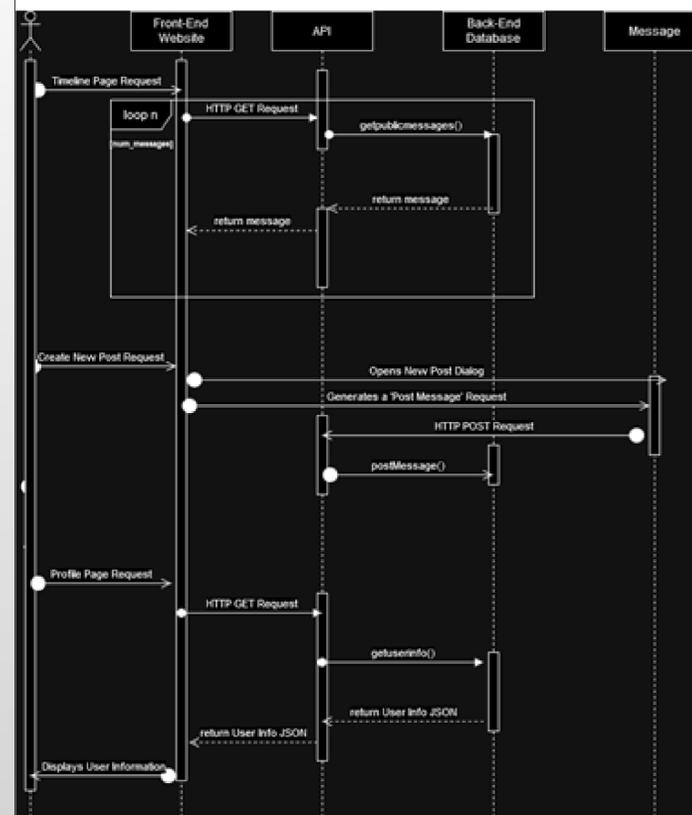
Deleting User Data

When posting on wscribe.me you can delete your own messages. Messages are deleted and not cached anywhere on our system. On the profile page, you can delete your account which will remove everything associated with your account. Nothing is saved or cached by us.



Usage

The flow of usage begins when the user first signs in onto the website. The user can make various requests to the system and the system will output the corresponding page depending on the navigation. The user can navigate to the 'timeline' page, the 'profile' page, another user's page and the 'replies to post' page.



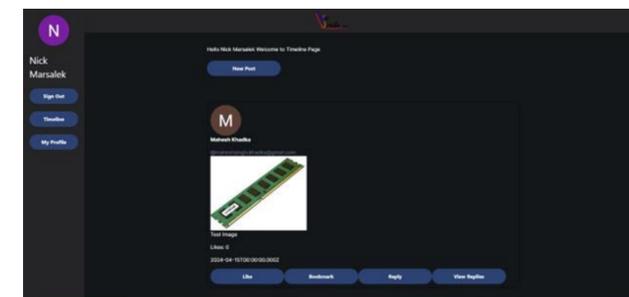
Audience

The primary audience for our project is teenagers and adults. This age demographic is perfect for what we are trying to accomplish. Adults and teenagers are more mature and tend to more often have deeper experiences that they like to share with others. The choice to not include children in the target audience is straightforward. Kids have developing minds that can get caught up in the numbers and mass exposure. Negative experiences with social media can greatly affect those groups that may not be mature enough to deal with strangers on the internet.

Front End

NEXT.JS

The website for the web application is made using Next.js. Next.js was chosen based on its built-in routing functionality and authentication libraries. The sign-in process is handled through Google using OAuth2 where authentication is done through Google and not on the web application service. The content of the social media web app is hidden behind authentication. A user must authenticate themselves to functionally use the basic features such as viewing other users' posts and being able to make posts. The website is split into several different pages, each holding its purpose.



Problem Statement

Social media has taken the world by storm and everyone is more connected than ever before. The issue with modern social media is that there are several barriers to entry. For example, some social media sites have complicated sign up processes and actively try to harvest your information to sell ads to you. Another huge issue with modern social media is that it isn't profitable. Now more than ever, on social media you will see independent creators and influencers farming for views and engagement. What we hope to solve and work on in our project is an ethical social media site. A site that does not harvest your data in order to push invasive advertisements in your face as well as easy to use functionality.