Social Media App

MINI PROJECT – II

SYNOPSIS

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<u>Acknowledgement</u>

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<u>ABSTRACT</u>

The Social Media App using MERN Stack is a modern social networking platform that allows users to create profiles, connect with friends, share updates, and upload images. The app uses the MERN stack (MongoDB, Express, React, Node.js) for its development, with a user authentication system using JSON Web Tokens (JWT) for secure login and access control.

The app enables users to create and edit their profiles, including uploading profile pictures. Users can search for and connect with other users on the platform, create posts, and share updates, including images and text. They can also view and interact with posts from other users, including commenting and liking.

Morgan middleware is used for logging HTTP requests and responses, while Multer is integrated for image storage and retrieval. The project team follows an agile development methodology and uses Git for version control, with continuous integration and testing to ensure the app is stable and user-friendly.

Overall, the Social Media App using MERN Stack provides a modern and intuitive platform for social networking that leverages the power of the MERN stack and advanced features like JWT authentication and image uploading with Morgan middleware.

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<u>INTRODUCTION</u>

Social media websites are online platforms that enable users to create and share content or participate in social networking with others. These websites are designed to facilitate communication, information sharing, and online collaboration among people around the world. Popular social media websites include Facebook, Twitter, Instagram, LinkedIn, TikTok, and YouTube, among others. Each platform has its unique features, purpose, and user demographics. For example, Facebook is a general social networking site that allows users to connect with friends and family, while LinkedIn is a professional networking site designed to help people establish and grow their careers. Social media websites have become an essential part of modern communication and have revolutionized the way people connect with one another. They offer various benefits, such as enabling businesses to reach a broader audience, providing a platform for activists to share their ideas, and allowing people to stay connected with friends and family members regardless of their location. However, social media websites also have their share of downsides, such as the spread of misinformation, online harassment, and the potential for addiction and negative effects on mental health. Despite these drawbacks, social media websites are here to stay and will continue to play a significant role in shaping our society and culture.

SOFTWARE REQUIREMENT

Node.js: This is a JavaScript runtime that allows you to run JavaScript on the server-side. You can download Node.js from the official website.

MongoDB: This is a NoSQL database that is used to store data in JSON-like format. You can download MongoDB from the official website.

Express.js: This is a popular Node.js framework that is used to create web applications and APIs. You can install Express.js using Node Package Manager (npm) in your command prompt or terminal.

React.js: This is a JavaScript library used for building user interfaces. You can install React.js using npm.

Visual Studio Code: This is a code editor that is widely used by developers for web development. It has built-in support for the MERN stack and many other web development technologies.

Postman: This is a tool that is used for testing APIs. It allows you to make HTTP requests and view the responses.

Git: This is a version control system used for managing code changes. It is recommended to use Git to keep track of your code changes.

Multer: This is a cloud storage service provided by Express JS.
 You can use Multer to store and retrieve images.

Morgan: This is a middleware used for logging HTTP requests and responses. You can install Morgan using npm.

PROJECT DESCRIPTION

The goal of this project is to create a social media platform using the MERN (MongoDB, Express, React, Node.js) stack. The platform will allow users to create profiles, connect with friends, share updates, and upload images.

The app will have a user authentication system using JSON Web Tokens (JWT) for secure login and access control. User information and posts will be stored in a MongoDB database. Express.js will be used for server-side API development, while React.js will be used for the front-end user interface.

The app will allow users to create and edit their profiles, including uploading profile pictures. Users will be able to search for and connect with other users on the platform. They will be able to create posts and share updates, including images and text. Users will also be able to view and interact with posts from other users, including commenting and liking.

Morgan middleware will be used for logging HTTP requests and responses, and the app will be integrated with Multer for image storage and retrieval.

The project team will follow an agile development methodology and use Git for version control. The development process will involve continuous integration and testing, with regular releases to ensure the app is stable and user-friendly.

Overall, the social media app using the MERN stack aims to provide a modern and intuitive platform for social networking, while incorporating advanced features like JWT authentication and image uploading with Morgan middleware.
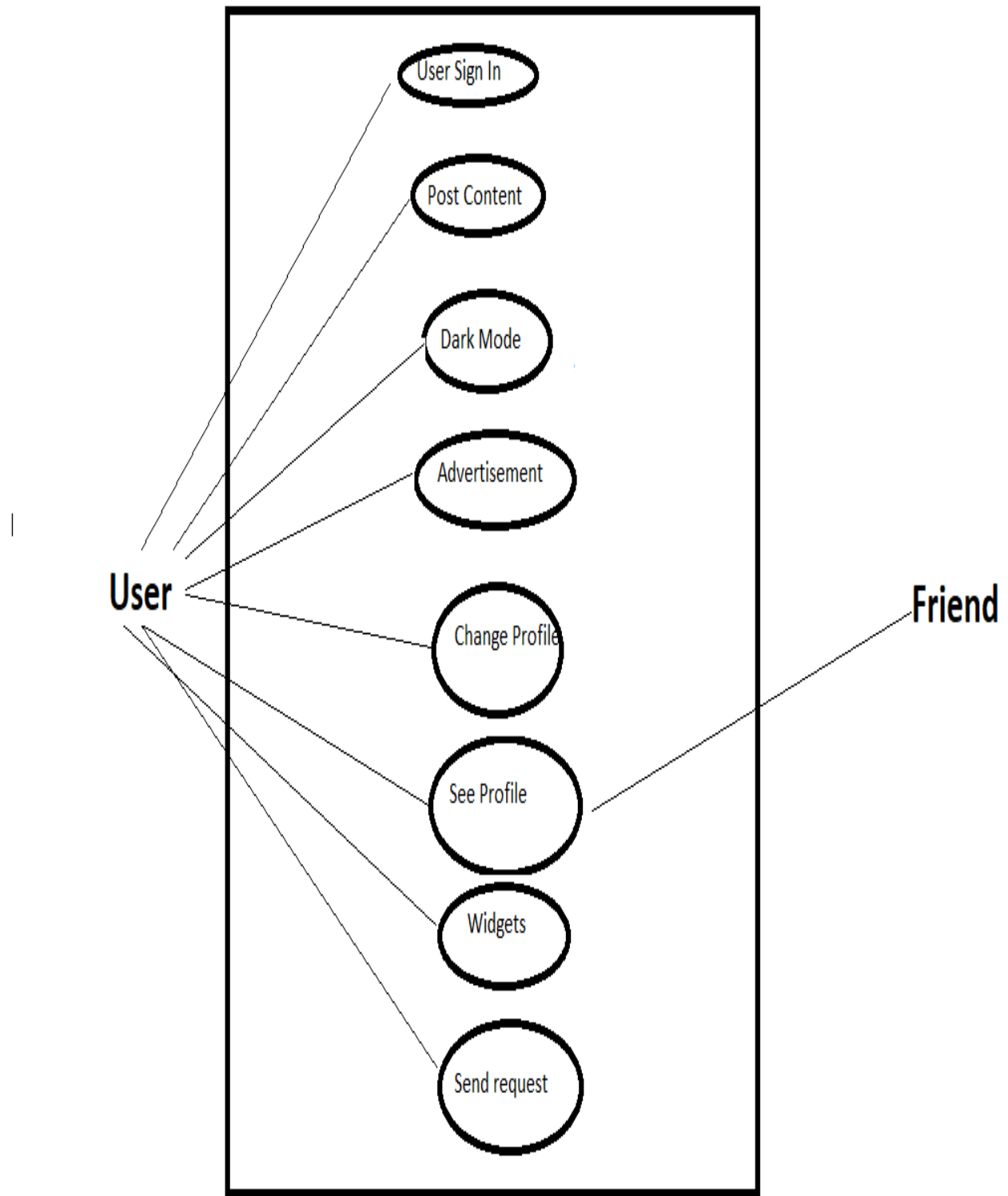
WORKING

Here is an overview of the working of your Social Media App using MERN Stack:

User Registration and Authentication: The first step is for the user to register on the app by providing their email, username, and password. The app will then use JWT to authenticate the user and create a token for them. This token will be used to validate the user's access to different parts of the app.

Profile Creation and Editing: Once authenticated, the user can create and edit their profile. They can add profile picture, cover photo, and provide details about themselves like their bio, interests, and location.

Connecting with Friends: The user can search for other users on the platform and connect with them by sending friend requests. Once the request is accepted, they can view each other's profiles and posts.

Creating and Sharing Posts: The user can create posts by adding text, images, and other media. They can also share updates about their life and interests. The posts will be visible to their friends and followers.

Interacting with Posts: Other users can view and interact with the posts by commenting, liking, or sharing them. The app will notify the user about any activity on their posts.

Image Upload: The app uses Multer for image storage and retrieval. Users can upload images to their profile or posts, and the app will store them.

Logging: The app uses Morgan middleware for logging HTTP requests and responses. This helps in debugging and improving the app's performance.

The app uses React.js for the front-end and Express.js for the back-end development. MongoDB is used to store user information and posts. The app follows an agile development methodology, with regular testing and releases to ensure the app is stable and user-friendly.

Overall, the Social Media App using MERN Stack provides a comprehensive social networking experience that allows users to connect with friends and share their life updates while incorporating advanced features like JWT authentication, image uploading, and logging with Morgan middleware.

IMPLEMENTATION

Front-end Development: The front-end of the app will be developed using React.js, a popular JavaScript library for building user interfaces. The development team will use modern web development techniques like CSS preprocessors and component-based architecture to create a responsive and user-friendly interface.

Back-end Development: The back-end of the app will be developed using Express.js, a lightweight and flexible Node.js framework for building server-side applications. The team will use the MVC (Model-View-Controller) architecture to create an API that can handle user requests, authenticate users with JWT, and perform CRUD (Create, Read, Update, Delete) operations on the MongoDB database.

Database Design: The app will use MongoDB, a NoSQL document-oriented database, to store user information and posts. The development team will design a schema for the database that can handle user profiles, posts, comments, and likes. Authentication: The app will use JSON Web Tokens (JWT) for user authentication.

Image Upload: The app will use Multer for image storage and retrieval.

Logging: The app will use Morgan middleware for logging HTTP requests and responses. The team will use the morgan npm package to configure the middleware and log request data to a file or console.

Agile Development: The development team will follow an agile development methodology that involves continuous integration, testing, and releases. They will use Git for version control and GitHub for project management.

Overall, the implementation of the Social Media App using MERN Stack will involve a combination of front-end and back-end development, database design, user authentication with JWT, image uploading with Multer, logging with Morgan middleware, and agile development with Git and GitHub.

REFERENCES;

Websites:

- www.react.org
- www.google.com
- www.github.com
- www.projectdeveloper.com

<u>Faculty Guidelines:</u>

Mr. Manoj Varshney (Technical Trainer in GLA University)

<u>GitHub Repository link:</u>

https://github.com/Vikas-Singh-10/FullStack-Project-Social-Media