FEDERAL INSTITUTE OF SCIENCE AND TECHNOLOGY (FISAT)

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Accredited by NAAC with 'A+' Grade

DEPARTMENT OF COMPUTER APPLICATIONS

SYNOPSIS OF THE MAIN PROJECT

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Name of Project Guide	Sona Mary Louis
GitHub ID	https://github.com/sreerag-13/
Project Title	HairGuard: Predict, Treat, and Buy – "A Comprehensive Hair Health Solution"
Area of the Project	Web development intergated with machine learning
Date of Submission	30/12/2024

Description of Project:Haircare is a critical aspect of personal grooming, but predicting hair health issues, such as hair fall, can be challenging. This project leverages machine learning (ML) to predict potential hair fall issues in the future based on user inputs and integrates with a MERN (MongoDB, Express.js, React.js, Node.js) stack-based platform to offer a seamless and efficient solution. The primary goal of this platform is to empower users with insights into their hair health, enabling proactive measures to mitigate potential hair fall problems. By focusing solely on hair fall prediction, this system aims to provide accurate and actionable results to help users better understand and manage their hair health.Admin Module

The machine learning model is trained on a comprehensive dataset that considers multiple factors affecting hair health, including age, gender, scalp type, hair type, stress levels, dietary habits, and current hair fall conditions. Users provide this data through an interactive and user-friendly interface, and the system predicts the likelihood of future hair fall issues. The predictions are designed to guide users in making informed decisions about their hair care routine. Additionally, the platform includes an integrated e-commerce feature that allows users to shop for hair care products such as shampoos, serums, conditioners, and oils. Users can browse a curated catalog of products, add items to their cart, and securely complete purchases, making it a comprehensive solution for both hair health insights and product needs. The shopping module enhances the user experience by providing a one-stop platform for monitoring hair health and accessing essential hair care products.

The platform also includes a **Hair Treatment Clinic Booking** feature, providing users with the ability to book appointments at specialized hair treatment clinics directly through the system. Users can browse a curated list of clinics, view their services, availability, and pricing, and select a clinic based on their preferences and requirements. The system allows users to schedule appointments by choosing available slots and provides confirmation details. This feature integrates seamlessly with the existing platform, offering a one-stop solution for predicting hair fall risks, purchasing hair care products, and accessing professional treatment services, thus ensuring a comprehensive approach to hair health management.

USERS INCLUDE:

- **Admin Module**:

- Responsible for managing the platform's overall functionality.
- Admins can view and manage user data, monitor system performance, and update the machine learning model or datasets as needed.
- Admins also oversee security, maintenance, and other backend operations.

- **User Module**:

- Provides users with an interface to input personal hair-related data, such as age, gender, scalp type, and lifestyle factors.
- Displays prediction results to users, indicating the likelihood of hair fall in the future.
- Allows users to update their profile information and history of predictions.

- **Clinic Module:**

- Enables users to browse a list of hair treatment clinics, view their services, pricing, and availability, and book appointments based on their needs.
- Clinics can register and manage their profiles, including adding or updating details about their treatments, pricing, availability, and other relevant information.
- Users can view appointment status, receive booking confirmations, and manage scheduled treatments through a dedicated interface.
- Admins can monitor clinic registrations, oversee booking activities, and ensure smooth operations for clinic-related functionalities.

Existing System

The existing systems for hair care, including e-commerce platforms and health assessment tools, have significant limitations.they lack personalized recommendations and insights into hair health. Physical stores and general health apps provide minimal guidance and fail to address individual conditions effectively. Moreover, no platform integrates advanced machine learning for predicting hair fall risks with a seamless shopping experience. In contrast, the proposed platform bridges these gaps by combining predictive hair health insights and e-commerce functionality, offering users a unified, personalized, and efficient solution tailored to their needs.

Proposed System

The proposed system is an integrated platform that combines machine learning (ML) for predicting future hair fall risks with an e-commerce solution for purchasing hair care products. Users will input personal details such as age, gender, scalp type, hair type, stress levels, and dietary habits, and the system will use ML algorithms to predict the likelihood of future hair fall based on these factors. Along with personalized hair fall predictions, the platform will allow users to browse and shop for a variety of hair care products such as shampoos, conditioners, oils, and serums, offering a seamless and convenient shopping experience. This system eliminates the need for multiple platforms by providing both predictive insights and a shopping feature in one unified interface, empowering users to make informed decisions about their hair health and products.

Front End & Back End Tools	MongoDB, Express.js, React.js, Node.js,ML Algorithms