TRENDSUIT

WEBSITE FOR RECOMMENDATION OF MATCHING DRESS

A MINI-PROJECT REPORT

Submitted by

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BONAFIDE CERTIFICATE

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ABSTRACT

With the rise of e-commerce, online fashion retailers face the challenge of helping customers find the most suitable dresses based on their preferences, body type, and occasion. This paper presents a Rule-Based recommendation System for Matching Suitable Dresses designed to enhance the online shopping experience without relying on artificial intelligence or machine learning. The system operates using predefined rules, filters, and a structured database of clothing attributes to suggest appropriate dress options. By collecting user inputs such as size, preferred colors, fabric choices, and the intended occasion (e.g., casual, formal, party, or wedding), the system applies logical filtering to display the most relevant recommendations. Additionally, seasonal trends and fashion guidelines are integrated to refine the suggestions further. Unlike AI-driven models, this approach ensures transparency, easy customization, and efficient processing without requiring extensive computational resources. The recommendation system can be implemented as a web-based tool for e-commerce platforms, improving user engagement, reducing browsing time, and helping customers make confident purchasing decisions. By streamlining the selection process, the proposed system contributes to a seamless and satisfying online shopping experience.

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INTRODUCTION

With the rapid growth of e-commerce, online fashion retailers are constantly seeking ways to enhance customer experience and streamline the shopping process. One of the key challenges faced by shoppers is selecting the most suitable dress from a vast collection of options available on various online platforms. Unlike physical stores, where customers can seek assistance from sales representatives, online shopping lacks personalized guidance, making it difficult for users to find dresses that align with their preferences, body type, occasion, and style choices. To address this issue, recommendation systems play a crucial role in guiding users toward relevant clothing options.

This paper presents a Rule-Based recommendation System for Matching Suitable Dresses which helps users navigate through online fashion stores efficiently by providing tailored dress suggestions based on predefined criteria. Unlike machine learning or artificial intelligence-driven models, this system operates using a structured rule-based approach, where recommendations are generated based on logical conditions and user-defined inputs. By considering factors such as body measurements, fabric type, color preferences, seasonality, and occasion, the system filters out unsuitable options and displays dresses that best match the user's needs. This approach ensures transparency, ease of customization, and reduced computational complexity, making it an ideal solution for small to medium-sized e-commerce platforms that do not wish to rely on AI technologies.

CHAPTER 2

LITERATURE REVIEW

2.1 Traditional Recommendation Approaches

Traditional recommendation systems rely on collaborative filtering and content-based filtering which analyze user behavior and product attributes to generate personalized suggestions (Resnick et al., 1994). Collaborative filtering predicts user preferences based on similar users, while content-based filtering recommends items with similar characteristics to previously liked ones (Linden et al., 2003). However, these techniques require large datasets and extensive computation, making them less practical for small e-commerce platforms.

2.2 Personalized Recommendations in Fashion Retail

Studies highlight that personalized recommendations significantly enhance customer engagement and satisfaction in online fashion shopping (Kang et al., 2020). Research shows that users prefer shopping platforms that provide tailored suggestions based on preferences such as size, color, and occasion (Lee & Kwon, 2017). Unlike AI-driven models, rule-based systems offer a structured approach where predefined conditions filter and match dresses efficiently without requiring machine learning.

2.3 Rule-Based Systems in Decision Support Applications

Rule-based systems have been widely used in decision support applications, particularly in structured domains like medical diagnosis and expert systems (Durkin, 1994). In fashion retail, rule-based filtering mechanisms help users refine searches based on attributes such as material, color, and price range (Aggarwal, 2016). Unlike basic filtering, an advanced rule-based system can dynamically adjust recommendations based on multiple parameters, ensuring a more refined and accurate selection.

2.4 Challenges in Online Dress Selection

Research indicates that online dress selection poses challenges such as decision fatigue, uncertainty regarding fit, and a lack of personalized assistance (Park et al., 2021). Studies suggest that well-structured recommendation systems help reduce browsing time and improve purchase confidence by narrowing down choices (Huang & Rust, 2020). The proposed rule-based system addresses these issues by leveraging predefined rules and user inputs to generate efficient and relevant dress recommendations.

CHAPTER 3

SOFTWARE USED

The Trend-suit for matching Suitable Dresses is developed using Figma for UI/UX design, ensuring a visually appealing and user-friendly interface through wireframing and prototyping. The frontend is built with React.js, providing a dynamic and interactive experience with reusable components and state management. The backend is developed using Node.js handling business logic, API requests, and data management efficiently. For the database, relational database is used to store user preferences, product details, and filtering rules. Styling is implemented using Bootstrap for a responsive and modern design.

Tool Selection

The choice of tools for developing the ifor trend s based on efficiency, scalability, and ease of implementation. Figma is the best tool and easy to use for UI/UX. React.js is selected for the frontend due to its component-based architecture, enabling a dynamic and responsive user interface.Node.js is chosen for the backend to ensure a fast and lightweight server-side application. MySql (relational database) can be used if structured data relationships are required. For styling, Bootstrap is used to enhance UI design and responsiveness. If authentication is needed, JWT ensures secure user authentication. This tool selection ensures a scalable, maintainable.

Design Implementation with Figma

The Trend-Suit Matching suitable Dresses is designed using Figma, a powerful UI/UX design tool that allows for seamless prototyping and collaboration. The design process begins with wireframing to structure the user interface, ensuring intuitive navigation and a visually appealing layout. The UI is designed with a minimalistic and modern approach, focusing on ease of use, clear call-to-action buttons and an engaging product display. Key design components include a homepage with featured dress recommendations, a category-based filtering system, a detailed product view, and user preference selection panel. The color scheme, typography, and component spacing are carefully chosen to enhance the user experience. Interactive prototypes are created in Figma to visualize user interactions, ensuring smooth transitions and usability before development. The finalized design is then exported and implemented in React.js, maintaining consistency between the design and the functional application. This approach ensures that the recommendation system is both aesthetically appealing and user-friendly.

Prototyping and Feedback

The prototype of the recommendation system is created using Figma, featuring interactive wireframes that simulate key user flows, including the homepage with dress recommendations, filtering options, product detail pages, and user preference selection panels. Clickable elements and transitions provide a realistic preview of the user experience, helping stakeholders visualize interactions. Usability testing is conducted to gather feedback on design clarity, navigation ease, responsiveness, and overall user satisfaction. Based on the feedback, refinements such as improved filter placement, enhanced color contrast for readability, and layout optimizations are implemented. This iterative design approach ensures a seamless and intuitive user experience before development using React.js for the frontend and Node.js for the backend.

Collaboration and Real-Time Updates

Collaboration and real-time updates play a crucial role in the development of The Trend-suit, ensuring seamless teamwork and efficiency throughout the project. Figma is used as the primary design tool, allowing designers, developers, and stakeholders to collaborate in real time by sharing prototypes, providing feedback through comments, and making instant updates to the UI/UX design. This enables continuous refinement based on team inputs, reducing miscommunication and ensuring design consistency. For frontend and backend development, Github is utilized for version control, enabling multiple developers to work simultaneously on different features without conflicts. Branching strategies such as feature branching and pull requests are implemented to maintain code quality, with regular code reviews ensuring best practices are followed. For smooth project management. Regular stand-up meetings and sprint reviews further enhance collaboration by keeping all team members aligned with project goals.

Outcome and Impact

The Trend-Suit enhances user experience by providing personalized outfit suggestions based on preferences, size, and occasion. Built with React.js for the frontend and Node.js for the backend, it ensures seamless interaction and efficient data management. Using a rule-based approach, the system offers fast and cost-effective recommendations without AI. Real-time updates improve engagement, while businesses benefit from increased sales and reduced bounce rates. Its structured design allows easy integration with e-commerce platforms, making it a scalable and user-friendly solution. "

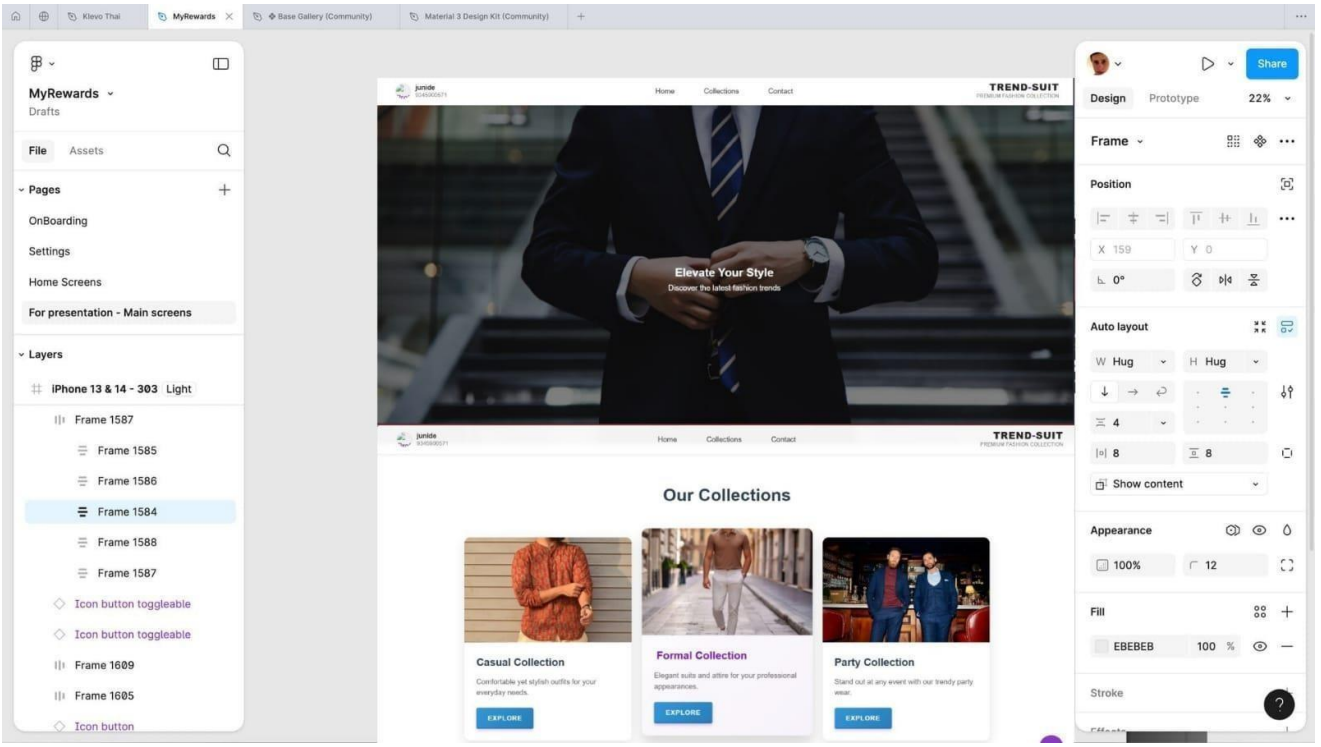

Fig 1: The user interface of the "FIGMA" software.

CHAPTER 4

PRESENT TECH

Trend-Suit for Matching Suitable Dresses utilizes modern technologies for efficiency and scalability. The frontend is built with React.js for a dynamic user experience, while the Backend uses Node.js for fast data processing. MySql stores user preferences and product details, while Bootstrap ensures responsive styling.

Software Architecture

Trend-Suit follows a three-tier architecture comprising the frontend , backend, and database layer**s**, ensuring scalability, maintainability, and efficiency.

4.1 Frontend (Client-Side) – Html, CSS , JavaScript

user interface where users can browse dresses, apply filters such as size, color, and occasion, and receive personalized recommendations. To enhance the visual appeal and responsiveness, Bootstrap is used for styling. ensuring efficient data retrieval and seamless user interactions.

4.2 Backend (Server-Side) – Node.js 0

The backend is developed using Node.js, efficiently handling business logic and request processing. It processes user inputs, applies predefined recommendation rules, and retrieves matching dress options from the database.

4.3 Database (Storage) – MySQL

MySql is used for flexible and scalable data storage, making it ideal for handling product catalogs. Alternatively. MySql can be used for structured data and managing relationships, such as users, orders, and preferences.

User Interface and Experience

The user interface (UI) of the Trend-Suit is designed to be functional but has been criticized for its complexity and navigational challenges. Presently, the app includes:

Responsive Design The features a responsive design that adapts to different screen sizes and orientations, which is essential for mobile users.

Accessibility Features Basic accessibility features are incorporated, though there is significant room for improvement in making the app more accessible to users with disabilities.

The user interface and experience of a dress recommendation system should be intuitive, visually appealing, and user-friendly. It should feature a seamless browsing experience with personalized recommendations based on user preferences, past interactions, and trending styles. A clean and responsive design with well-organized filters, categories, and search functionality enhances usability. AI-driven suggestions should be visually showcased through high-quality images and detailed descriptions, allowing users to make informed choices. Additionally, interactive elements like size guides, virtual try-ons, and user reviews can improve engagement and satisfaction, ensuring a smooth and enjoyable shopping experience.

LIMITATIONS

Limitations of the Trend Suit Technology

While the trend-suit is equipped with a range of technologies to handle its vast user base and complex functionalities, several limitations persist that impact its performance, usability, and overall user satisfaction. Identifying these limitations is crucial for guiding future improvements and redesign efforts. Below, we discuss some of the primary limitations currently faced by the Trend-suit

User Interface and User Experience (UI/UX)

Complex Navigation Users often report that the navigation is complex and unintuitive. This can lead to a frustrating experience, particularly for new users who may find it difficult to locate specific functionalities like finding matching wears for t-shirt, shirt. Pants, and others.

Outdated Design The visual design of the website often feels outdated compared to modern e-commerce basics. Aesthetic elements, intuitive layouts, and interactive feedback are areas needing significant enhancement to meet current user expectations.

Accessibility

Limited Accessibility Features The Trend-Suit does not fully accommodate users with disabilities, lacking features such as support, help and sufficient contrast for visually impaired users. This restricts access for a significant segment of potential users.

Integration with Other Services

Poor Integration with other online dress platforms Although the Trend-Suit serves as a primary platform for suitable matching dress, integration with other e-commerce platform like amazon and myntra.

Lack of Personalization The current system does a minimal job of experiences and recommendations based on user behaviour and preferences, a feature that has become standard in leading travel and ecommerce platform.

CHAPTER 5

PROPSED RE-DESIGN

In the proposed redesign of the Trend-Suit e-commerce website, our primary focus is to enhance the user experience by creating a more intuitive and visually appealing interface for dress recommendations. The redesign aims to simplify navigation, improve accessibility, and ensure seamless interaction across different devices. We intend to implement a cleaner layout with a streamlined menu structure to reduce clutter and increase the visibility of essential features such as personalized dress recommendations, category-based browsing, and user account management.

A key element of the redesign will involve restructuring the home page to prioritize important actions and real-time updates, such as trending styles, new arrivals, and personalized outfit suggestions. The dress selection and checkout process will be optimized to reduce the number of steps required, integrating AI-driven recommendations, predictive search, and autofill technologies to enhance user convenience while minimizing decision fatigue. Accessibility improvements will include high-contrast visuals, larger touch-friendly elements, and voice-assisted navigation to cater to a diverse user base, including those with disabilities.

Moreover, we plan to introduce a personalized dashboard feature that allows users to view their previous purchases, saved outfits, and preferred styles, enhancing the platform’s relevance and usability. By leveraging Figma's collaborative and prototyping tools, we aim to design and test these features in real-time, ensuring that the interface is both aesthetically pleasing and functionally robust. This initiative is expected to lead to increased user satisfaction and engagement, fostering a loyal customer base while attracting new users to the Trend-Suit platform.

The Trend-Suit website currently faces several usability challenges that impact the overall shopping experience. Users often get logged out or experience session timeouts at crucial moments, requiring them to log back in repeatedly, which disrupts the shopping process. Additionally, there is no feature to select multiple dresses at once for personalized recommendations, forcing users to restart the selection process for each item. While users visit Trend-Suit primarily for dress recommendations, they often prefer other platforms for additional fashion-related purchases due to the lack of an integrated shopping experience.

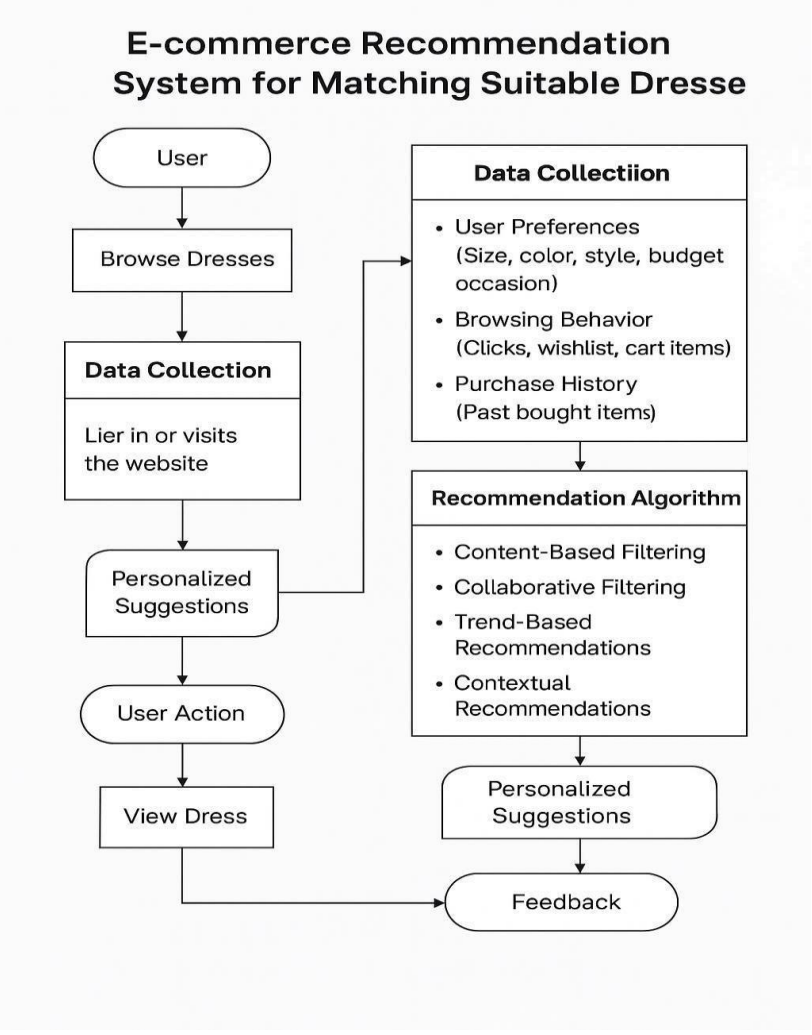

Fig.1 USER FLOW DIAGRAM

5.1 ADVANTAGES

Advantages of Trend-suit for Matching Suitable Dresses

A comprehensive redesign of the Trend-Suit website can bring significant benefits, enhancing user experience, increasing engagement, and improving overall operational efficiency. Here are the key advantages that the redesign will offer:

Enhanced User Experience (UX)

- **Improved Usability** By simplifying the interface and making navigation more intuitive, users can easily browse through personalized dress recommendations, filter options efficiently, and make faster purchase decisions.
- **Modern Design** Updating the website's aesthetics to align with contemporary UI/UX trends will create a visually appealing and engaging shopping experience, increasing customer satisfaction and retention.

Integration and Scalability

- **Seamless Shopping Experience** Enhancing integration with other fashion-related services, such as accessories and footwear recommendations, will create a more holistic shopping platform.
- **Scalable Infrastructure** Optimizing the website's backend to handle increased user traffic and product catalog expansion will ensure smooth performance even during high-demand seasons.

Market Competitiveness

- **Staying Ahead of Competitors** By modernizing the TrendSuit platform, the brand can remain competitive against other fashion e-commerce platforms by offering a more personalized and efficient shopping experience.
- **Improved Conversion Rates** A streamlined and user-friendly interface, coupled with faster checkouts and better recommendation algorithms, will encourage higher purchase rates and customer loyalty.

CHAPTER 6

OUTPUT

PROJECT LINK

https://github.com/junide-chris/TREND-SUIT.git

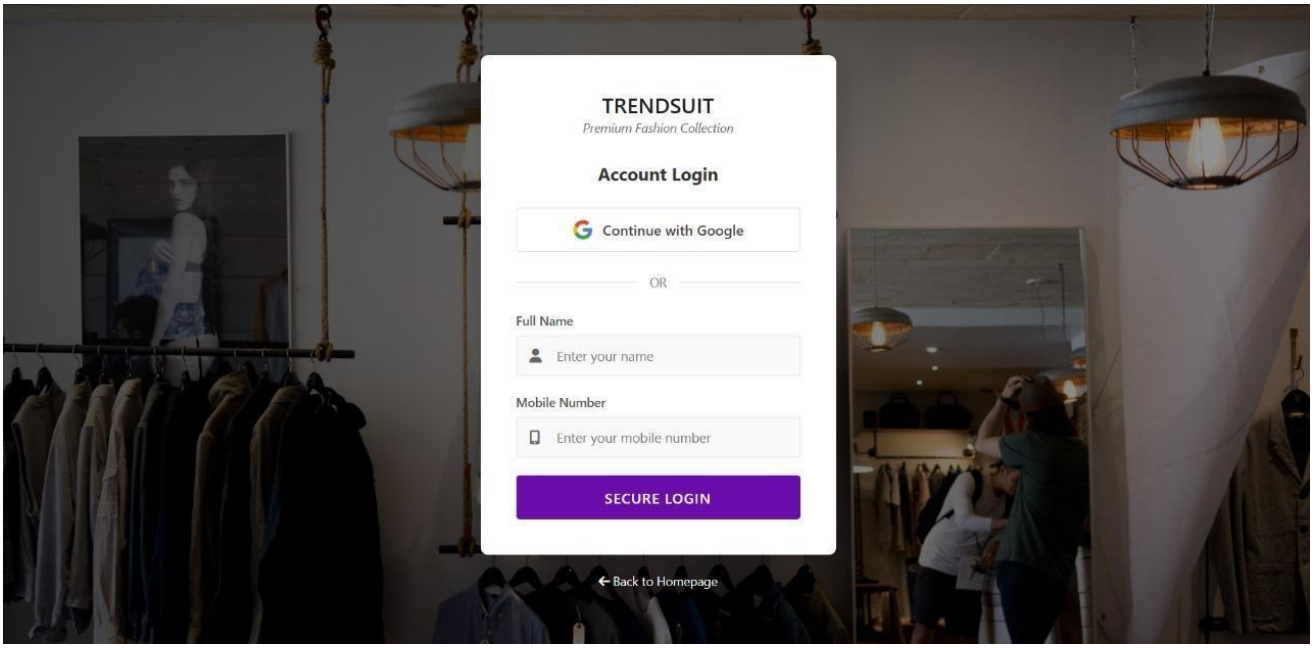

Fig 2: The Login Pages of Trend-Suit

These pages have the features like signed in option and login using pin and password

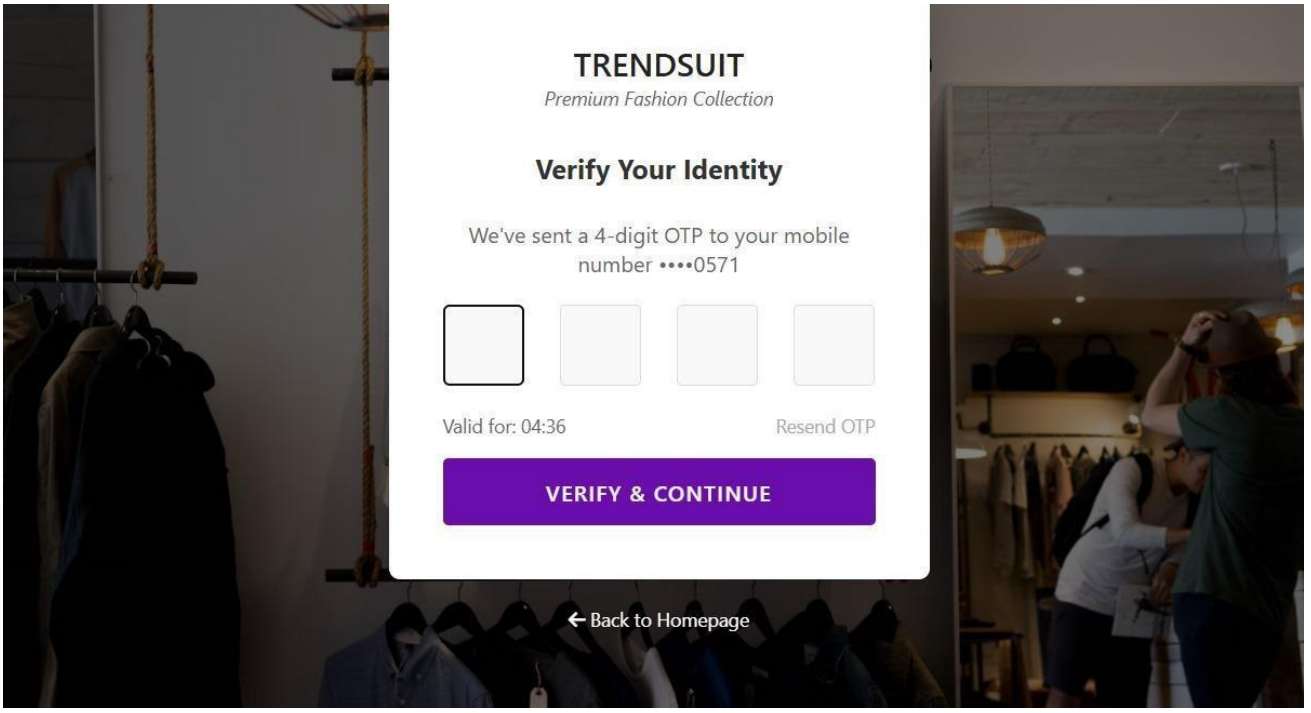

Fig 3: The OTP verification for the user

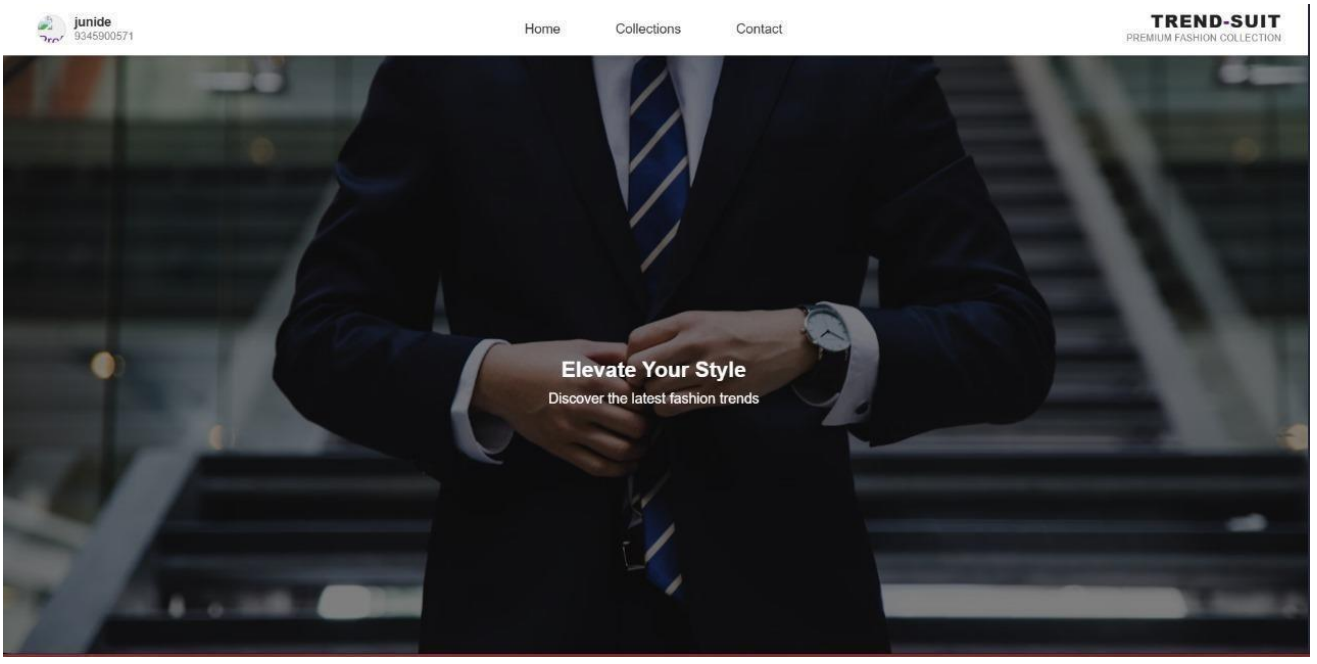

Fig 4 : The Home Page of the Trend-Suit Website

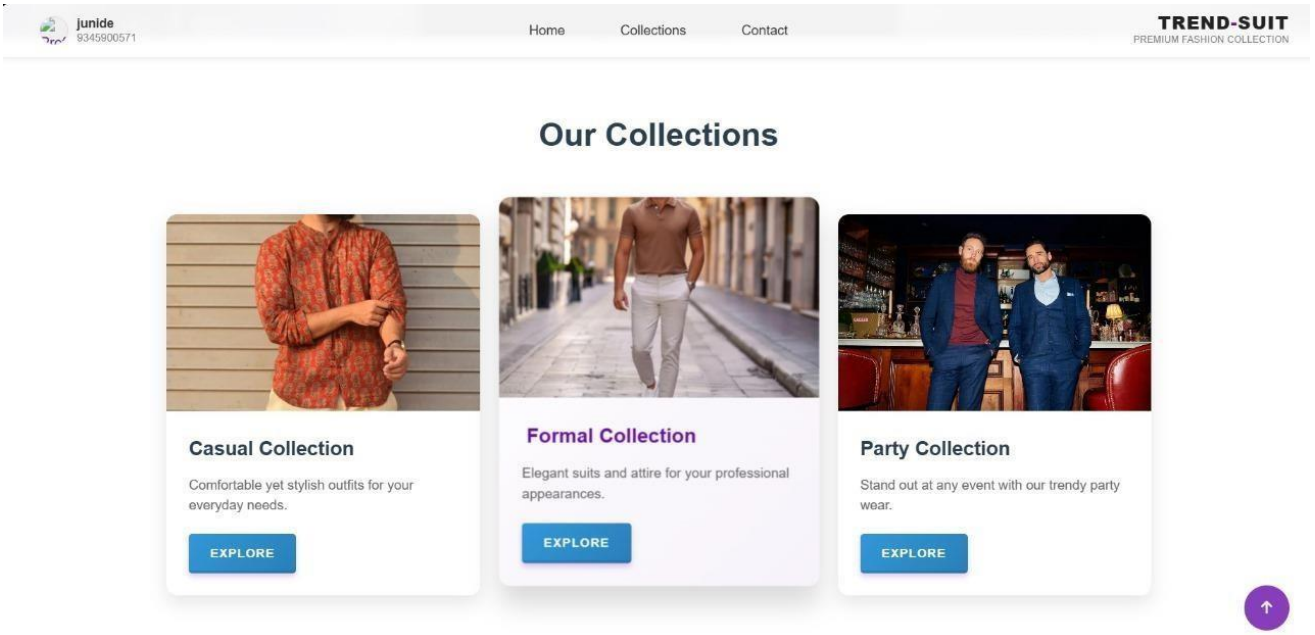

Fig 5 : The Collections of dresses for a particular Event

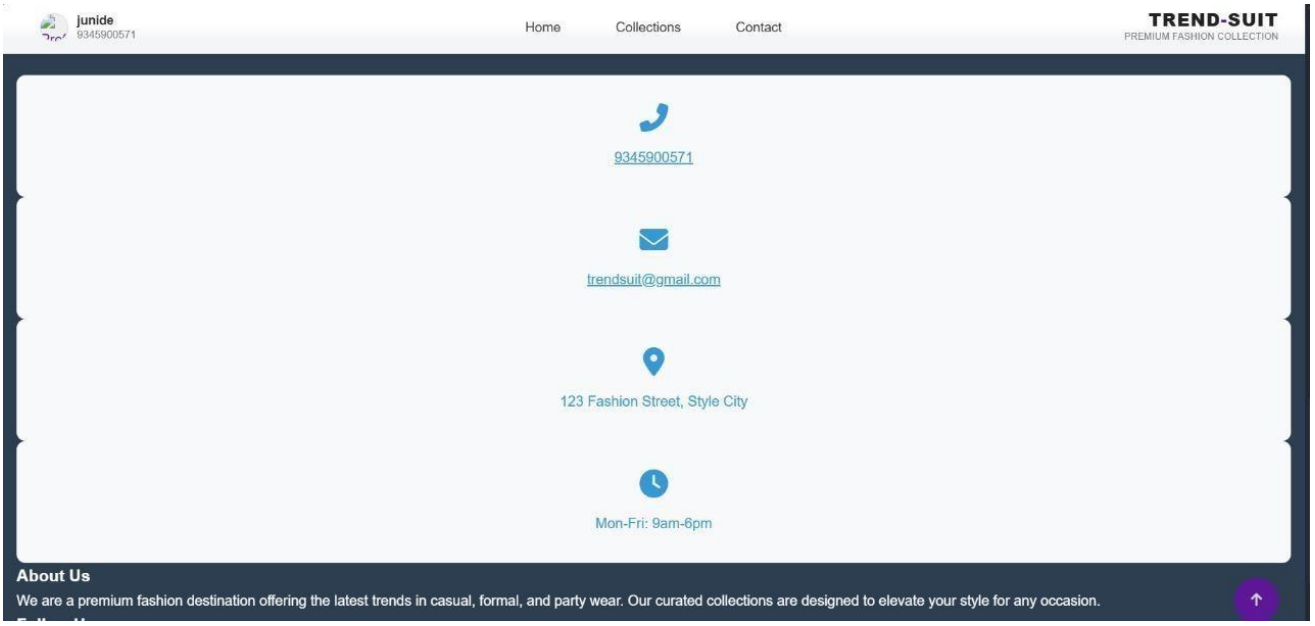

Fig 6: Contact Information

Fig 7: Exploring suitable Matching clothes

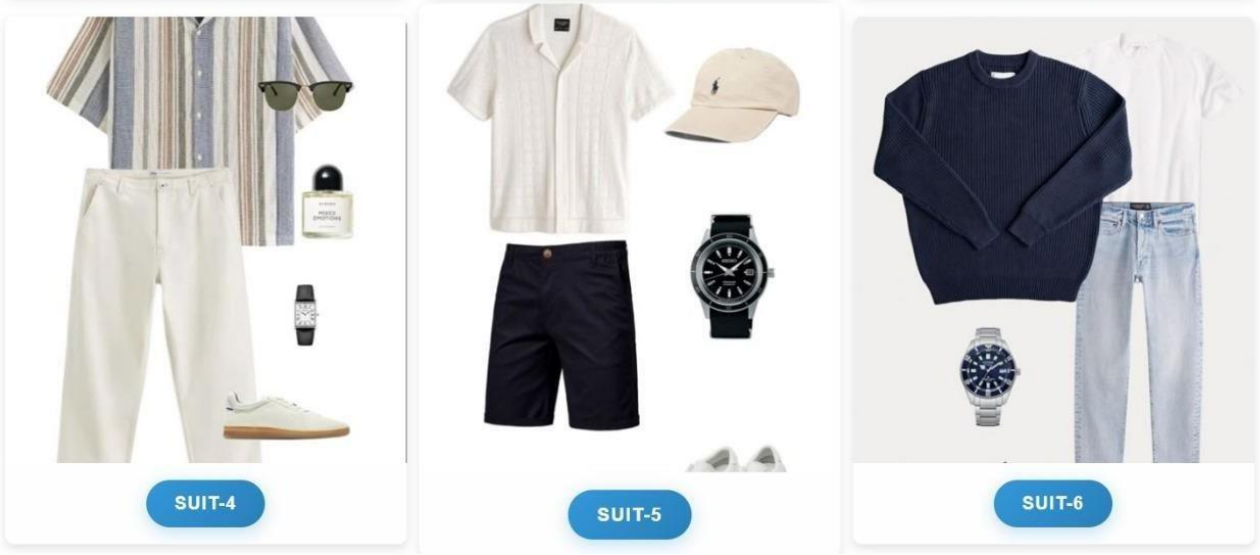

Fig 8: Recommendation suitable collections

CHAPTER 7

CONCLUSION

The Trend-suit website serves as a crucial platform for fashion enthusiasts seeking personalized dress recommendations. As the demand for AI-driven shopping experiences grows, the existing recommendation system faces several limitations that impact user experience, efficiency, and overall satisfaction.

The proposed redesign of the Trend-Sit recommendation system focuses on a broad spectrum of improvements, including enhancing the user interface, refining AI-driven recommendations, and integrating advanced data analytics for more personalized outfit suggestions. These upgrades aim to make the platform more intuitive, adaptive, and efficient, ensuring users receive tailored dress recommendations based on their preferences, past purchases, and current fashion trends.

Furthermore, the redesign will enable Trend-Suit to maintain its competitive edge in an e-commerce market increasingly shaped by innovation and evolving user expectations. In a digital era where personalized shopping experiences are key to customer engagement, providing a seamless, intelligent, and visually appealing recommendation system is essential. This enhancement will not only improve customer satisfaction and retention but also optimize operational efficiency by reducing cart abandonment rates and enhancing conversion rates.

In conclusion, the redesign of Trend-Suit’s recommendation system is a strategic step forward in delivering a more tailored and engaging shopping experience. By addressing current challenges while embracing technological advancements, Trend-Suit will continue to provide users with a smarter, more interactive, and highly personalized dress selection process, ensuring a seamless and enjoyable shopping journey.

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