

ABSTRACT

Smart fashion recommendation systems are becoming increasingly popular as people seek ways to improve their fashion choices and stay up-to-date with the latest trends. These systems can offer personalized fashion recommendations based on a user's skin tone. In addition to skin tone matching dress color recommendations, smart fashion systems can also suggest top brands based on customer reviews and ratings. One important aspect of fashion is color coordination, and dress color recommendation systems can help users choose colors that best complement their skin tone.

By detecting a user's skin tone and analyzing color palettes, these systems can suggest suitable colors for that particular skin tone. Smart fashion recommendation systems have the potential to transform the way people approach fashion, making it more accessible, personalized, and informed. With the help of advanced technologies such as machine learning, deep learning, and computer vision, these systems can offer increasingly accurate and useful recommendations that help users look and feel their best.

IDEA AND PROBLEM STATEMENT

- Fashion industry constantly evolving
 - New trends and styles emerging every season
 - Challenging consumers to keep up with the latest fashion trends
 - So many different brands and clothing options available
 - It can be overwhelming for consumers to find clothing that suits
- The main idea of the project
 - Suggest suitable dress colors for the user based on their skin tone
 - Recommend the top brands to the users based on the customer review
 - Make informed purchasing decisions
- Machine learning and opencv technologies are used

REQUIREMNET ANALYSIS

FUNCTIONAL

- **Top brand suggestion:**
 - Based on user reviews and ratings
- **Skin tone detection:**
 - Detect the user's skin tone using computer vision
- **Dress color suggestion:**
 - Recommend color based on their skin tone
- **Personalized fashion recommendations:**
 - Generate personalized fashion recommendations for the user based on their skin tone

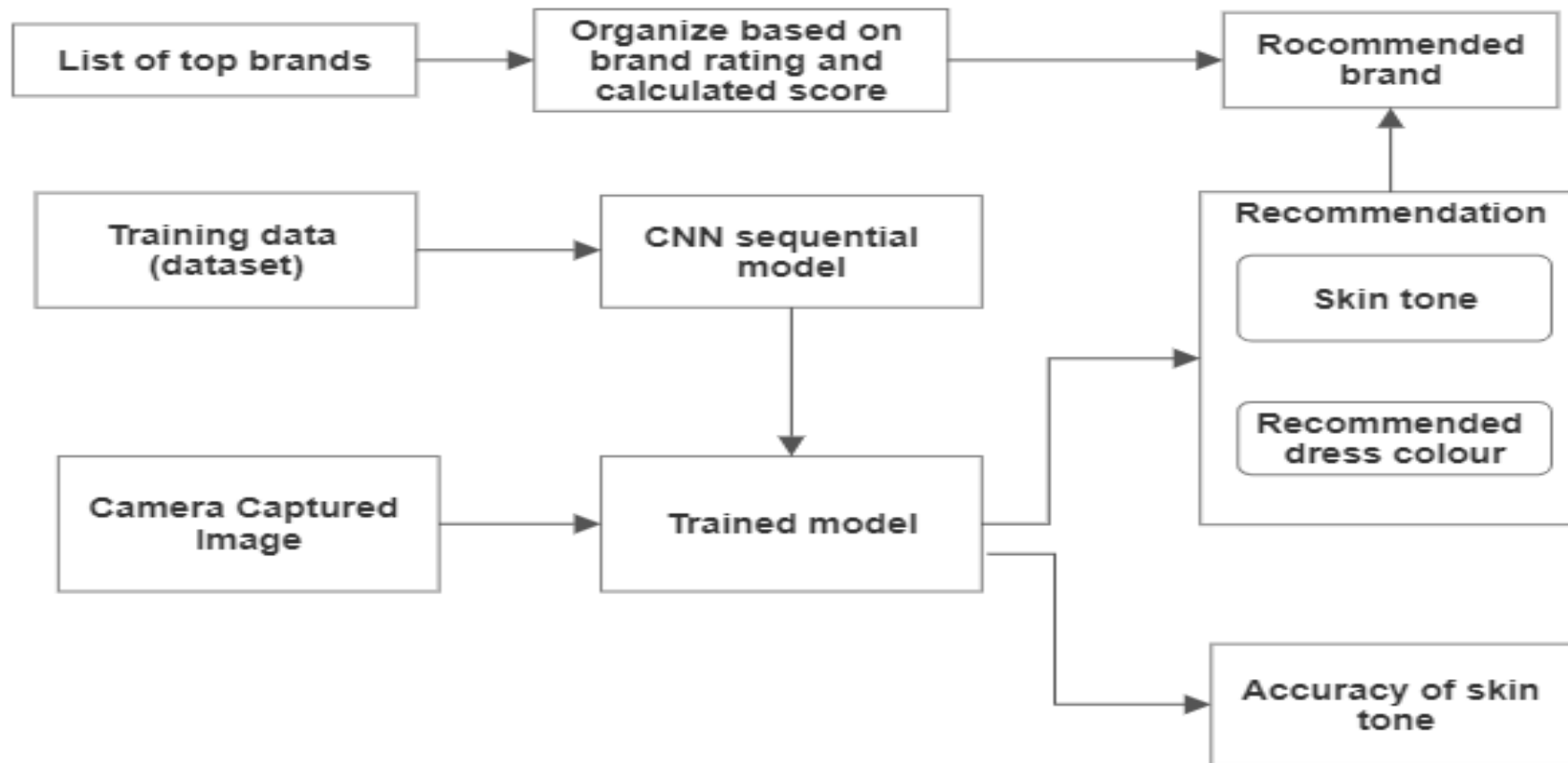
REQUIREMNET ANALYSIS

NON-FUNCTIONAL

- **Performance:** System should handle a large number of users and provide recommendations in real-time with minimal latency
- **Scalability:** System should be scalable and handle increasing amounts of user and data
- **Usability:** System should have an user-friendly interface that is easy to navigate and understand
- **Reliability:** System should be highly reliable and available, with minimal downtime and errors
- **Security & Privacy:** System should be secure, protect user data and prevent unauthorized access
- **Interoperability:** System should be interoperable with other fashion-related systems and e-commerce platforms

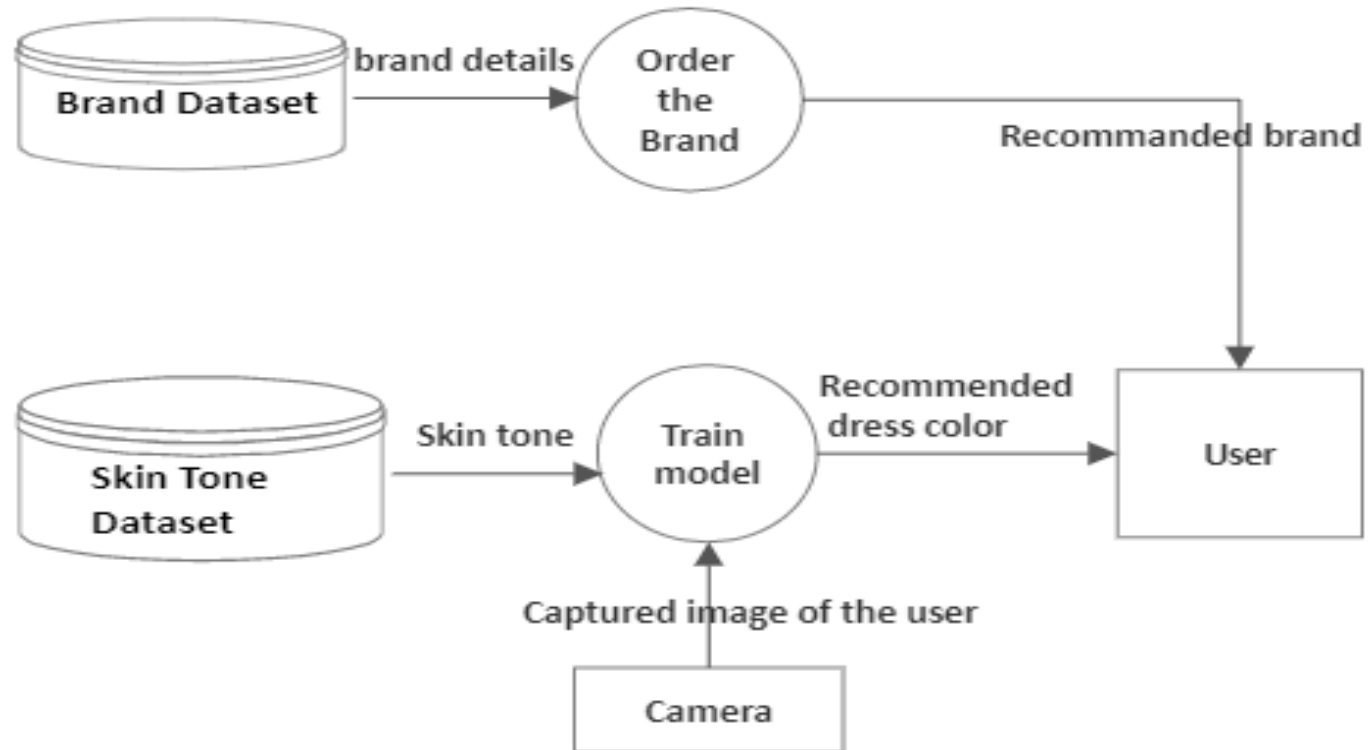
PROJECT DESIGN

ARCHITECTURE



PROJECT DESIGN

DATA FLOW DIAGRAM



PROJECT DESIGN

USER STORIES

- As a fashion-conscious individual, I want a system that can provide recommendations for top brands so I can stay up-to-date with the latest fashion trends and discover new clothing brands that I might not have considered before.
- As a person who struggles with finding clothing that fits well, I want a system that can suggest clothing items that are the right size and shape for my body type, so I can feel comfortable and confident in my clothing choices.
- As a person with a unique skin tone, I want a system that can suggest clothing brands and colors that will complement my complexion, so I can feel confident and comfortable in my clothing choices.

PROJECT PLANNING

SPRINT PLANNING AND ESTIMATION

Sprint 1: Set up the development environment and project structure

- Gather and analyze requirements

- Select appropriate machine learning algorithms and models

Sprint 2: Collect a diverse dataset of skin tone images

- Preprocess the dataset by cleaning

- Train using machine learning model

- Test and evaluate the accuracy of the skin tone detection model

PROJECT PLANNING

SPRINT PLANNING AND ESTIMATION

Sprint 3: Gather a dataset of fashion brand with associated color palettes

- Develop algorithms to analyze color palettes and identify suitable dress colors for different skin tones

- Train the color analysis model using the fashion dataset

- Test and evaluate the accuracy of the color analysis model

Sprint 4: Integrate the skin tone detection and color analysis models into the recommendation system

- Implement a recommendation engine that suggests dress colors based on the user's skin tone

- Incorporate customer review and rating data to suggest top brands and products

PROJECT PLANNING

SPRINT DELIVERY SCHEDULE

Sprint	Total Story Points	Duration (days)	Start Date	End Date (Planned)	Story Points Completed (as on PlannedEnd Date)	Sprint ReleaseDate (Actual)
1	20	7	16.03.2023	22.03.2023	20	22.03.2023
2	20	7	06.04.2023	12.04.2023	20	12.04.2023
3	20	7	20.04.2023	26.04.2023	20	26.04.2023
4	20	8	27.04.2023	04.05.2023	20	04.05.2023

SOLUTIONING

In the presentation, it is important to provide a clear and concise explanation of the solution offered by the smart fashion recommendation system. Here are some key points to consider:

- Personalized Recommendations
- Top Brand Suggestions
- Dress Color Suggestion
- Time-Saving and Convenient
- Ethical and Sustainable Fashion

TESTING

User Acceptance Testing (UAT) for a smart fashion recommendation system involves evaluating the system's performance, usability, and overall user satisfaction.

- Test Objectives
- Create Test Cases
- Set Up Test Environment
- Conduct UAT Sessions
- Evaluate System Performance
- Analyze Results

RESULTS

	Brand Name	Product Info
48	Tissu	Women Floral Print A-Line Kurti
11	Anubhutee	Ethnic Motifs Printed Kurti
155	Anubhutee	Women Printed Kurti
66	YASH GALLERY	Printed A-Line Kurti
27	Anubhutee	Women Printed Straight Kurti
102	AKIMIA	Embroidered Pure Cotton Kurti
88	Tissu	Women Floral Printed Straight Kurti
3	Anubhutee	Ethnic Motifs Printed Kurti
42	Rain & Rainbow	Women Printed Pure Cotton Pure Cotton A-Line K...
18	GERUA	Ethnic Motifs Printed Kurti

	Product Ratings	Score	Selling Price	Discount	Color
48	4.4	4.338320	549.0	(45% OFF)	green
11	4.4	4.300868	521.0	(70% OFF)	white
155	4.4	4.296895	486.0	(72% OFF)	ruby red
66	4.5	4.295568	629.0	(55% OFF)	deep purple
27	4.3	4.274815	521.0	(70% OFF)	khaki
102	4.5	4.273667	767.0	(52% OFF)	green
88	4.3	4.267992	548.0	(39% OFF)	white
3	4.3	4.267992	521.0	(70% OFF)	browns
42	4.4	4.264685	797.0	(50% OFF)	white
18	4.6	4.262359	449.0	(70% OFF)	green

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Class: MEDIUM

Confidence Score: 99 %

You can choose most colours, but warm earthy tones such as browns, tan, khaki, yellow, green, orange, grey, blues and reds

CONCLUSION

The smart fashion recommendation system is a powerful tool that uses machine learning algorithms to provide personalized recommendations top brand suggestions, and dress color suggestions based on a user's skin tone. The system is poised to become an indispensable tool for fashion-conscious consumers looking to enhance their fashion shopping experience.

With the potential for future expansion and enhancement, the smart fashion recommendation system is set to continue evolving and improving, providing even more personalized and accurate recommendations in the future.

FUTURE SCOPE

The future scope of the smart fashion recommendation system for expansion and improvement. Some potential areas for development and enhancement include:

- Integration with Virtual Try-On
- Expansion to Accessories and Beauty Products
- Integration with Social Media
- Integration with Augmented Reality
- Personalized Outfit Creation

REFERENCES

- [1] “Fashion Recommendation Using Joint Matrix Factorization of Social and Visual Data” by Xin Wang et al. (IEEE Transactions on Multimedia, 2015)
- [2] “Deep Learning for Fashion Recommendation and Classification” by Cao et al. (IEEE Access, 2019)
- [3] “Brand Recommendation Based on the Preference of Users in Social Network” by Xiaohua Xu et al. (International Journal of Advanced Computer Science and Applications, 2017)
- [4] “Brand Recommendation using Social Media Data: A Case Study on Facebook” by Kannan et al. (Journal of Marketing Analytics, 2018)
- [5] “Fashion Recommendation for Cold-start Users via Personalized Attributed Network Embedding” by Chen et al. (ACM Conference on Information and Knowledge Management, 2019)
- [6] “Color Palette-based Outfit Recommendation” by Gao et al. (ACM Conference on Computer-Supported Cooperative Work and Social Computing, 2020)

THANK YOU