IBM PROJECT - NALAIYA THIRAN SMART FASHION RECOMMENDER APPLICATION

DOMAIN: Cloud Application Development

Team ID: PNT2022TMID34490

TEAM MEMBERS

GOWRI SANKAR V - B.E CSE - 961819104303

SAHABUDEEN S - B.E CSE - 961819104073

JEFRIN AAKASH S - B.E CSE - 961819104042

SIVA RAMAKRISHNAN G - B.E CSE - 961819104082

| S.No | Table of Contents | Page No |
|------|---------------------------------------|---------|
| 1 | INTRODUCTION | 4 |
| | 1.1 Project Overview | 4 |
| | 1.2 Purpose | 4 |
| 2 | LITERATURE SURVEY | 5 |
| | 2.1 Existing Problem | 5 |
| | 2.2 References | 7 |
| | 2.3 Problem Statement Definition | 9 |
| 3 | IDEATION & PROPOSED SOLUTION | 10 |
| | 3.1 Empathy Map Canvas | 10 |
| | 3.2 Ideation & Brainstorming | 10 |
| | 3.3 Proposed Solution | 12 |
| | 3.4 Problem Solution Fit | 15 |
| 4 | REQUIREMENT ANALYSIS | 15 |
| | 4.1 Functional Requirements | 16 |
| | 4.2 Non-Functional Requirements | 18 |
| 5 | PROJECT DESIGN | 20 |
| | 5.1 Data Flow Diagrams | 20 |
| | 5.2 Solution & Technical Architecture | 21 |
| | 5.3 User Stories | 23 |
| 6 | PROJECT PLANNING & SCHEDULING | 27 |
| | 6.1 Sprint Planning & Estimation | 27 |
| | 6.2 Sprint Delivery Schedule | 29 |
| 7 | CODING & SOLUTIONING | 30 |
| | 7.1 Feature 1 | 31 |
| | 7.2 Technologies Used | 31 |
| 8 | TESTING | 33 |
| | 8.1 Test Cases | 33 |
| | 8.2 User Acceptance Testing | 33 |

| - | | |
|----|------------------------------|----|
| 9 | RESULTS | 34 |
| | 9.1 Performance Metrics | 34 |
| | | |
| 10 | ADVANTAGES AND DISADVANTAGES | 35 |
| 11 | APPLICATIONS | 36 |
| 12 | CONCLUSION | 37 |
| 13 | FUTURE SCOPE | 37 |
| 14 | APPENDIX | 38 |
| 15 | Source Code | 38 |
| | Output Screenshots | 67 |
| 16 | GITHUB & PROJECT DEMO LINK | 70 |
| | | |

CHAPTER-1

INTRODUCTION

1.1 Project Overview

In recent years, with the huge amount of information and users of the internet service, it is hard to know quickly and accurately what the user wants. This phenomenon leads to extremely low utilization of information, also known as the information overload problem. Traditionally, keywords are used to retrieve images, but such methods require a lot of annotations on the image data, which will lead to serious problems such as inconsistent, inaccurate, and incomplete descriptions, and a huge amount of work. To solve this problem, Content Based Information Retrieval (CBIR) has gradually become a research hotspot.

CBIR retrieves picture objects based entirely on the content. The content of an image needs to be represented by features that represent its uniqueness. Any picture object can be represented by its specific shapes, colors, and textures. These visual characteristics of the image are used as input conditions for the query system, and as a result, the system will recommend the nearest images and data set. This research designs and implements a two-stage deep learning-based model that recommends a clothing fashion style. This model can use a deep learning approach to extract various attributes from images with clothes to learn the user's clothing style and preferences. These attributes are provided to the correspondence model to retrieve the contiguous related images for the recommendation. Based on data-driven, this thesis uses a convolutional neural network as a visual extractor of image objects. This experimental model shows and achieves better results than the ones of the previous schemes.

1.2 Purpose

The combination of fashion preferences and the above-mentioned factors associated with clothing choices could transmit the image features for a better understanding of consumers' preferences. Therefore, analyzing consumers' choices and recommendations is valuable to fashion designers and retailers. A recommendation system is an artificial intelligence or AI algorithm, usually associated with machine learning, that uses Big Data to suggest or recommend additional products to consumers. These can be based on various criteria, including past purchases, search history, demographic information, and other factors. A recommender system aims **to** estimate the utility of a set of objects belonging to a given domain, starting from the information available about users and objects.

Product recommendation engines are an excellent way to deliver customers with an improved user experience. Leveraging advanced algorithms such as machine learning and AI, a recommendation system can help bring customers the relevant products they want or need. Product recommendations are part of an e-Commerce personalization strategy wherein products are dynamically populated to a user on a webpage, app, or email based on data such as customer attributes, browsing behavior, or situational context—providing a personalized shopping experience.

CHAPTER 2

LITERATURE SURVEY

2.1 Existing problem:

It is a process of collecting and interpreting facts, identifying the

problems, and decomposition of a system into its components. It is a problem-solving technique that improves the system and ensures that all the components of the system work efficiently to accomplish their purpose.

2.2 REFERENCE:

- 1. Park, D. H., Choi, I. Y., Kim, H. K. & Kim, J. K. (2011). A review and classification of recommender systems research. International Proceedings of Economics Development & Research.
- 2. Schafer, J. B., Konstan, J. & Riedl, J. (1999). Recommender systems in ecommerce. Proceedings of the 1st ACM conference on electronic commerce, 1999.
- 3. Beel, J., Langer, S., Genzmehr, M., Gipp, B., Breitinger, C. & Nürnberger (2013). A. Research paper recommender system evaluation: a quantitative literature survey, 2013.
- 4. Chakraborty, S.; Hoque, S.M.A.; Kabir, S.M.F. Predicting fashion trend using runway images: Application of logistic regression in trend forecasting. *Int. J. Fash. Des. Technol. Educ.* **2020**,
- 5. Garude, D.; Khopkar, A.; Dhake, M.; Laghane, S.; Maktum, T. Skin-tone and occasion oriented outfit recommendation system. *SSRN Electron. J.* **2019**.
- 6. Kang, W.-C.; Fang, C.; Wang, Z.; McAuley, J. Visually-aware fashion recommendation and design with generative image models. In Proceedings of the 2017 IEEE International Conference on Data Mining (ICDM), New Orleans, LA, USA, 18–21 November 2017.
- 7. Guan, C.; Qin, S.; Ling, W.; Ding, G. Apparel recommendation system evolution: An empirical review. *Int. J. Cloth. Sci. Technol.* **2016**, *28*, 854–879.
- 8. Liu, Y.; Gao, Y.; Feng, S.; Li, Z. Weather-to-garment: Weather-oriented clothing recommendation. In Proceedings of the 2017 IEEE International Conference on Multimedia and Expo. (ICME), Hong Kong, China, 31 August 2017; pp. 181–186.
- 9. Yamaguchi, K.; Kiapour, M.H.; Ortiz, L.E.; Berg, T.L. Parsing clothing in fashion photographs. In Proceedings of the 2012 IEEE Conference on Computer Vision and Pattern Recognition, Providence, RI, USA, 16–21 June 2012; pp. 3570–3577.
- 10. Polania, L.F.; Gupte, S. Learning Fashion Compatibility Across Apparel Categories for Outfit Recommendation. In Proceedings of the 2019 IEEE International Conference on Image Processing (ICIP), Taipei, Taiwan, 22–25 September 2019; pp. 4489–4493.
- 11. Akabane, T.; Kosugi, S.; Kimura, S.; Arai, M. Method to consider familiarity in clothing coordination recommender systems. In Proceedings of the 2011 3rd International Conference on Computer Research and Development, Shanghai, China, 11–13 March 2011
- 12. Suganeshwari, G.; Syed Ibrahim, S.P.A. Survey on collaborative filtering based recommendation system. In *Proceedings of the 3rd International Symposium on Big Data and Cloud Computing Challenges (ISBCC–16')*; Vijayakumar, V.,

- Neelanarayanan, V., Eds.; Springer International Publishing: New York, NY, USA, 2016; Volume 49, pp. 503–518.
- 13. Song, S., & Mei, T. (2018). When multimedia meets fashion. IEEE MultiMedia, 25(3), 102-108.
- 14. Guan, C., Qin, S., Ling, W., & Ding, G. (2016). Apparel recommendation system evolution: an empirical review. International Journal of Clothing Science and Technology.
- 15. Lu, J., Wu, D., Mao, M., Wang, W., & Zhang, G. (2015). Recommender system application developments: a survey. Decision Support Systems, 74, 1232.
- 16. Adomavicius, G., & Tuzhilin, A. (2005). Toward the next generation of recommender systems: A survey of the state-of-the-art and possible extensions. IEEE transactions on knowledge and data engineering, 17,
- 17. Al-Halah, Z., Stiefelhagen, R., & Grauman, K. (2017). Fashion forward: Forecasting visual style in fashion. In Proceedings of the IEEE international conference on computer vision.
- 18. Fan, W., Qiyang, Z., & Baolin, Y. (2014, October). Refined clothing texture parsing by exploiting the discriminative meanings of sparse codes. In 2014 IEEE International Conference on Image Processing (ICIP)
- 19. Yamaguchi, K., Hadi Kiapour, M., & Berg, T. L. (2013). Paper doll parsing: Retrieving similar styles to parse clothing items. In Proceedings of the IEEE international conference on computer vision
- 20. Zhu, S., Urtasun, R., Fidler, S., Lin, D., & Change Loy, C. (2017). Be were own prada: Fashion synthesis with structural coherence. In Proceedings of the IEEE international conference on computer vision
- 21. Huang, J., Feris, R. S., Chen, Q., & Yan, S. (2015). Cross-domain image retrieval with a dual attributeaware ranking network. In Proceedings of the IEEE international conference on computer vision.
- 22. Zhao, B., Feng, J., Wu, X., & Yan, S. (2017). Memory-augmented attribute manipulation networks for interactive fashion search. In Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition
- 23. Wang, Z., Gu, Y., Zhang, Y., Zhou, J., & Gu, X. (2017, December). Clothing retrieval with visual attention model. In 2017 IEEE Visual Communications and Image Processing (VCIP)
- 24. Park, S., Shin, M., Ham, S., Choe, S., & Kang, Y. (2019). Study on fashion image retrieval methods for efficient fashion visual search. In Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshop
- 25. Wu, Q., Zhao, P., & Cui, Z. (2020). Visual and textual jointly enhanced interpretable fashion recommendation
- 26. Song, X., Feng, F., Han, X., Yang, X., Liu, W., & Nie, L. (2018, June). Neural compatibility modeling with attentive knowledge distillation. In The 41st

- International ACM SIGIR Conference on Research & Development in Information Retrieval
- 27. Ding, Y., Ma, Y., Wong, W., & Chua, T. S. (2021). Modeling Instant User Intent and Content-level Transition for Sequential Fashion Recommendation. IEEE Transactions on Multimedia.
- 28. Stefani, M. A., Stefanis, V., & Garofalakis, J. (2019, July). CFRS: A TrendsDriven Collaborative Fashion Recommendation System. In 2019 10th International Conference on Information, Intelligence, Systems and Applications (IISA)
- 29. Gatys, L. A., Ecker, A. S., & Bethge, M. (2016). Image style transfer using convolutional neural networks. In Proceedings of the IEEE conference on computer vision and pattern recognition
- 30. Rodríguez, J. A. S., Wu, J. C., & Khandwawala, M. (2020). Two-Stage SessionBased Recommendations with Candidate Rank Embeddings. In Fashion Recommender System
- 31. Wen, J., Li, X., She, J., Park, S., & Cheung, M. (2016, December). Visual background recommendation for dance performances using dancer-shared images. In 2016 IEEE International Conference on Internet of Things (iThings) and IEEE Green Computing and Communications (GreenCom) and IEEE Cyber, Physical and Social Computing (CPSCom) and IEEE Smart Data (SmartData)
- 32. Chen, L. C., Yang, Y., Wang, J., Xu, W., & Yuille, A. L. (2016). Attention to scale: Scale-aware semantic image segmentation. In Proceedings of the IEEE conference on computer vision and pattern recognition
- 33. Limaksornkul, C., Nakorn, D. N., Rakmanee, O., & Viriyasitavat, W. (2014, March). Smart closet: Statistical-based apparel recommendation system. In 2014 Third ICT International Student Project Conference
- 34. Matzen, K.; Bala, K.; Snavely, N. StreetStyle: Exploring world-wide clothing styles from millions of photos. arXiv 2017
- 35. Guan, C.; Qin, S.; Ling, W.; Ding, G. Apparel recommendation system evolution: An empirical review. Int. J. Cloth. Sci. Technol. 2016
- 36. Sachdeva, H.; Pandey, S. Interactive Systems for Fashion Clothing Recommendation. In Emerging Technology in Modelling and Graphics; Mandal, J.K., Bhattacharya, D., Eds.; Springer: Singapore, 2022;

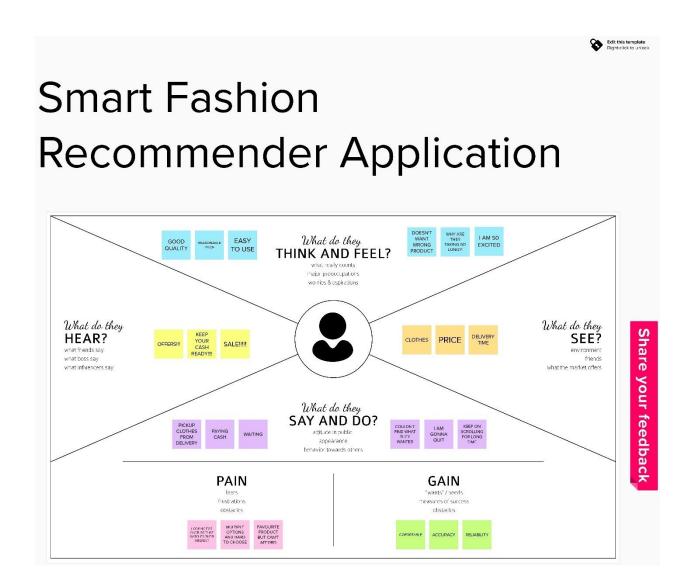
2.3 Problem Statement Definition:

A problem statement is a concise description of the problem or issues a project seeks to address. The problem statement identifies the current state, the desired future state and any gaps between the two. A problem statement is an important communication tool.

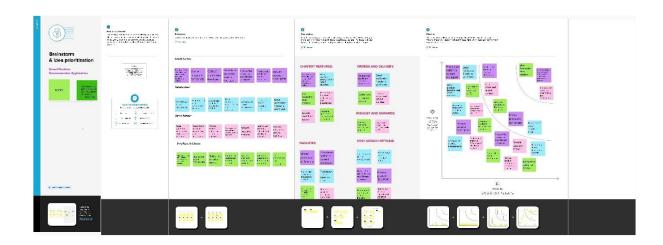
CHAPTER-3

IDEATION AND PROPOSED SOLUTION

3.1 Empathy Map Canvas



3.2 Ideation and Brainstorming



3.3 Proposed Solution

Project Design Phase -I

Proposed Solution Template

| Date | 10 October 2022 |
|-----------------------|---------------------------------------|
| Team ID | PNT2022TMID34490 |
| Project Name | Smart Fashion Recommender Application |
| Maximum Marks 2 Marks | |

Proposed Solution:

| S.No. | Parameter | Description | |
|-------|-------------------------------------|--|--|
| 1. | Problem Statement | In shopping apps navigating to the desired product is very difficult and no proper assistance will be provided. | |
| 2. | Idea/Solution Description | A proper assistance will be provided which offers a rich set of interactions that help improve preference elicitation and interact with users through natural language. chatbots can provide mechanisms to capture contextual information, as what has been intended by the so-called context-aware recommender systems. | |
| 3. | Novelty/Uniqueness | Customers can purchase the products without any search. The chatbot recommend their present based on their histories. | |
| 4. | Social Impact/Customer Satisfaction | The proposed model can recommend products that are more suitable to the customer. It can directly do online shopping based on customer choice without any search. It can also save a lot of time. | |
| 5. | Business Model (Revenue Model) | Due to market dynamics and customer preferences, there is a large vocabulary of distinct fashion products, as well as high turnover. This leads to sparse purchase data, which challenges the usage of traditional recommender systems. Better experience and Feasibility. | |

| 6. | Scalability of Solution | The application can be made scalable by | |
|----|-------------------------|--|--|
| | | increasing the number of products and | |
| | | varieties with the increasing customers. | |

3.4 Problem Solution Fit

PROBLEM SOLUTION FIT SMART FASHION RECOMMENDER TEAM ID: PNT2022TMID34490

Who is your customer?

Chatbot Shoppers:

Shoppers who prefer the ease of contacting a chatbot to buy a product instead of search.

• Website shoppers:

Shoppers who browse online to buy products.

 Discount seeking customers who often seek for discount in the product.

CUSTOMER CONSTRAINTS

What constraints prevent your customers from taking action or limit their choices

- Available of similar sites with good discount
- Website speed and search function
- Quick finding of customer related products.
 Reviews and ratings can distract customers
- Customers cannot bargain

AVAILABLE SOLUTIONS

Which solutions are available to the customers when they face the problem or need to get the job done? What have they tried in the past? What pros & cons dothese

- · FAQ's to sort out queries of customers.
- Availability of refund and return option
- Search for a specific product through search bar.
- Showing similar product of selected product
- Category wise product arrangement.

JOBS-TO-BE-DONE / PROBLEMS

Which jobs-to-be-done (or problems) do you address for your customers?

- Presence of chatbot can help in asking and resolving customer queries.
- Customer review of a product.
- Availability of sort and filter option to show products relevant to customer.
- Showing a comparison between products.
- Showing products that are most relevant to them.
- Availability of refund and return policies.
- Track order option.

PROBLEM ROOT CAUSE

What is the real reason that this problem exists? What is the back story behind the need to do this job?

- Network issue so that product could not load fast.
- Long delivery
- Poor Tracking
- · Product research and cross shopping.

BEHAVIOUR

What does your customer do to address the problem and get the job done?

- Cross check and compare with other sites
- Purchase the product and write a review
- Dispose goods and services over the internet
- · Monitoring and evaluation
- Identify the issues

TRIGGERS

- Easy return and refund policy
- Time consuming
- Social proof and novelty

EMOTIONS: BEFORE / AFTER

Before: Want to buy products on huge rush and frequently ask the vendor to show more products. After: Anywhere anytime shopping and can easily see any number of products even if they don't buy.

YOUR SOLUTION

- Chatbot will recommend products related to the shoppers searching for.
- Get detailed information about the product and the product care.
- Availability of review and rating option to give their feedback about the product bought.
- Can compare products with various brands.

CHANNELS of BEHAVIOUR

ONLINE

Chat with chatbot
Buy products
Track and pay for the purchased products

OFFLINE

In place search for a relevant shop Search for products by walk

CHAPTER 4

REQUIREMENT ANALYSIS

| 4.1 | Functional Requirements |
|-----|--------------------------------|
| | |

Project Design Phase-II Solution Requirements (Functional & Non-functional)

| Date | 16 October 2022 |
|---------------|---------------------------------------|
| Team ID | PNT2022TMID34490 |
| Project Name | Smart Fashion Recommender Application |
| Maximum Marks | 4 Marks |

Functional Requirements:

Following are the functional requirements of the proposed solution.

| FR | Functional Requirement | Sub Requirement (Story / Sub-Task) | |
|------|------------------------|--|--|
| No. | (Epic) | | |
| FR-1 | User Registration | Registration through Form | |
| | | Registration through Gmail | |
| | | Registration through LinkedIn | |
| | | Registration through mobile number | |
| FR-2 | User Confirmation | Confirmation via Email Confirmation | |
| | | via OTP | |
| FR-3 | User Login | Login using username & Password | |
| FR-4 | Advanced search | Search using sorting. | |
| | capabilities | Search using Filtering option | |
| | | Chat with chatbot to show recommended | |
| | | products. | |
| | | See similar products related to current | |
| | | product | |
| FR-5 | Wishlist | Store products that are liked by customer to | |
| | | buy later | |
| FR-6 | Shopping cart | To store products to buy now | |
| FR-8 | Payment method | Payment on cash on Delivery | |
| | | Payment through credit/debit card | |
| | | Payment through UPI payment | |
| FR-8 | Order Confirmation | Confirmation via Email Confirmation via | |
| | | Phone | |
| FR-9 | Track order status | To check the status of the ordered product | |
| | | through external software | |

| 4.2 | Non-Functional Requirements |
|-----|-----------------------------|
|-----|-----------------------------|

Non-functional Requirements:

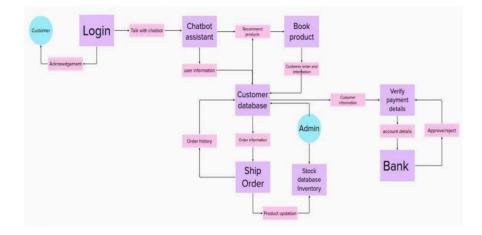
Following are the non-functional requirements of the proposed solution.

| FR | Non-Functional | Description | |
|------|----------------|---|--|
| No. | Requirement | **** | |
| NFR- | Usability | Ease of use of the application for the user | |
| 1 | | | |
| NFR- | Security | User privacy is the highest priority of the | |
| 2 | | application. Security measures are | |
| | | undertaken for the user | |
| NFR- | Reliability | It can handle more than 2000 users at a | |
| 3 | | time. It can process and initialize most | |
| | | functions | |
| NFR- | Performance | The application can handle complex tasks | |
| 4 | | and supports multi-tasking. | |
| NFR- | Availability | It is a free web and application available | |
| 5 | | on all platforms. | |
| NFR- | Scalability | With higher workloads the user will | |
| 6 | - | experience a 10 to 17% drop in | |
| | | performance | |

CHAPTER 5

PROJECT DESIGN

5.1 Data Flow Diagram



5.2 Solution & Technical Architecture

Project Design Phase-II Technology Architechture

| Date | 16 October 2022 | |
|---------------|---------------------------------------|--|
| Team ID | PNT2022TMID34490 | |
| Project Name | Smart Fashion Recommender Application | |
| Maximum Marks | 4 Marks | |

Technical Architecture:

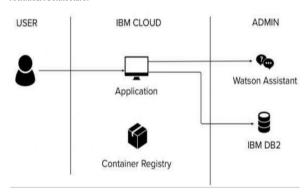


Table-1 : Components & Technologies:

| S.No | Component | Description | Technology |
|------|---------------------------------|---|--|
| 1. | User Interface | How user interacts with application e.g. Web UI, Mobile App, Chatbot etc. | HTML, CSS, JavaScript / Angular Js / Reac Js etc. |
| 2. | Application Logic-1 | Logic for a process in the application | Java / Python |
| 3. | Application Logic-2 | Logic for a process in the application | IBM Watson STT service |
| 4. | Application Logic-3 | Logic for a process in the application | IBM Watson Assistant |
| 5. | Database | Data Type, Configurations etc. | MySQL, NoSQL, etc. |
| 6. | Cloud Database | Database Service on Cloud | IBM DB2, IBM Cloudant etc. |
| 7. | File Storage | File storage requirements | IBM Block Storage or Other Storage Service or Local Filesystem |
| 8. | External API-1 | Purpose of External API used in the application | IBM Weather API, etc. |
| 9. | External API-2 | Purpose of External API used in the application | Aadhar API, etc. |
| 10. | Machine Learning Model | Purpose of Machine Learning Model | Object Recognition Model, etc. |
| 11. | Infrastructure (Server / Cloud) | Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration : | Local, Cloud Foundry, Kubernetes, etc. |

Table-2: Application Characteristics:

| S.No Characteristics | | Characteristics Description 7 | |
|----------------------|--------------------------|--|--|
| 1. | Open-Source Frameworks | List the open-source frameworks used | Technology of Opensource framework |
| 2. | Security Implementations | List all the security / access controls implemented, use of firewalls etc. | e.g. SHA-256, Encryptions, IAM Controls, OWASP etc. |

| 3. | Scalable Architecture | Justify the scalability of architecture (3 – tier, Microservices) | Technology used |
|------|-----------------------|---|-----------------|
| S.No | Characteristics | Description | Technology |
| 4. | Availability | Justify the availability of application (e.g. use of load balancers, distributed servers etc.) | Technology used |
| 5. | Performance | Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc. | Technology used |

5.3 User Stories

Project Design Phase-II User Stories

| Date | 25 October 2022 |
|---------------|---------------------------------------|
| Team ID | PNT2022TMID34490 |
| Project Name | Smart Fashion Recommender Application |
| Maximum Marks | 4 Marks |

User Stories

Use the below template to list all the user stories for the product.

| User Type | Functional Requirement (Epic) | User Story Number | User Story / Task | Acceptance criteria | Priority | Release |
|---------------------------|-------------------------------------|-------------------------|---|---|----------|----------|
| Customer (Mobile user) | Registration | USN-1 | As a user, I can register for the application by entering my email, password, and confirming my password. | I can access my account / dashboard | High | Sprint-1 |
| | | USN-2 | As a user, I will receive confirmation email once I have registered for the application | I can receive confirmation email & click confirm | High | Sprint-1 |
| | | USN-3 | As a user, I can register for the application through Facebook | I can register & access the dashboard with Facebook Login | Low | Sprint-2 |
| | | USN-4 | As a user, I can register for the application through Gmail | I can access my account/dashboard | Medium | Sprint-1 |
| | Login | USN-5 | As a user, I can log into the application by entering email & password | I can receive confirmation email & click confirm | High | Sprint-1 |
| | Dashboard | USN-6 | As a user, can view the new and latest product on the dashboard | I can receive the latest product details | High | Sprint-2 |

| Customer (Web user) | Web Search | USN-7 | As a user, can search the product on the various websites | Happy as the customer finding the numerous options | High | Sprint-2 |
|----------------------------|-------------------------------------|-------------------------|--|---|----------|----------|
| | | | As a user, I can chat with the chatbot for searching products | | | |
| | Orders | USN-8 | As a user, can order the product | I can receive the confirmation message when ordering the product | High | Sprint-3 |
| User Type | Functional Requirement (Epic) | User Story Number | User Story / Task | Acceptance criteria | Priority | Release |
| | Payment | USN-9 | As a user, can cancel the product and the payment can be returned to their account | Numerous payment option like Gpay, Amazon pay. An easy check out process | High | Sprint-4 |
| | Refund/Return | USN-10 | As a user, can exchange the product and cancelling the product | I can receive the message when I cancel the product and exchange the product | High | Sprint-4 |
| | Feedback | USN-11 | As a user, can share their feedback for the product on the feedback page | Friendly and helpful customer support | High | Sprint-4 |
| Customer Care Executive | Help line | USN-12 | As a User, Sometimes if the any issues in my ordering product that time I will use the customer care help line method | I solve my issues of my ordering product | Medium | Sprint-4 |
| Administrator | Data Base | USN-13 | As the Admin, I can check out the database about the stock and have a track of all the things that the users are purchasing. | I can check out the database about the stock and have a track of all | High | |

| | | the things that the users are purchasing. | |
|--|--|---|--|
| | | | |

CHAPTER 6

PROJECT PLANNING AND SCHEDULING

6.1 Sprint Planning & Estimation

Project Planning Phase Project Planning Template (Product Backlog, Sprint Planning, Stories, Story points)

| Date | 25 October 2022 | |
|---------------|---------------------------------------|--|
| Team ID | PNT2022TMID34490 | |
| Project Name | Smart Fashion Recommender Application | |
| Maximum Marks | 8 Marks | |

Product Backlog, Sprint Schedule, and Estimation (4Marks)

Use the below template to create product backlog and sprint schedule

| Sprint | Functional Requirement (Epic) | User Story Number | User Story/Task | Story Points | Priority | Team Members |
|----------|----------------------------------|----------------------|--|--------------|----------|--|
| Sprint-1 | User Panel | USN-1 | The user will log in to the website and go through the products available on the website | 20 | High | V Gowri Sankar S Sahabudeen S Jefrin Aakash G Siva Ramakrishnan |
| Sprint-2 | Admin Panel | USN-2 | The role of the admin is to check out the database about the stock and have a track of all the things that the users are purchasing. | 20 | High | V Gowri Sankar S Sahabudeen S Jefrin Aakash G Siva Ramakrishnan |
| Sprint-3 | Chat Bot | USN-3 | The user can directly talk to Chatbot regarding the products. Get the recommendations based on information provided by the user. | 20 | High | V Gowri Sankar S Sahabudeen S Jefrin Aakash G Siva Ramakrishnan |

| Sprint-4 | Final delivery | USN-4 | Container of applications using docker Kubernetes and deployment the application. Create the documentation and finally submit the application | 20 | High | V Gowri Sankar S Sahabudeen S Jefrin Aakash |
|----------|----------------|-------|--|----|------|---|
| | | | 90000 0000 € 000000 000000 000000 000 € 900000 00000000 | | | G Siva Ramakrishnan |

Project Tracker, Velocity & Burndown Chart: (4Marks)

| Sprint | Total Story Points | Duration | Sprint StartDate | Sprint End Date (Planned) | Story Points Completed (as On Planned End Date) | Sprint Release Date (Actual) |
|----------|-----------------------|----------|------------------|------------------------------|---|---------------------------------|
| Sprint-1 | 20 | 6 Days | 24 Oct 2022 | 29 Oct 2022 | | 29 Oct 2022 |
| Sprint-2 | 20 | 6 Days | 31 Oct 2022 | 05 Nov 2022 | | 05 Nov 2022 |
| Sprint-3 | 20 | 6 Days | 07 Nov 2022 | 12 Nov 2022 | | 12 Nov 2022 |
| Sprint-4 | 20 | 6 Days | 14 Nov 2022 | 19 Nov 2022 | | 19 Nov 2022 |

6.2 Sprint Delivery Schedule

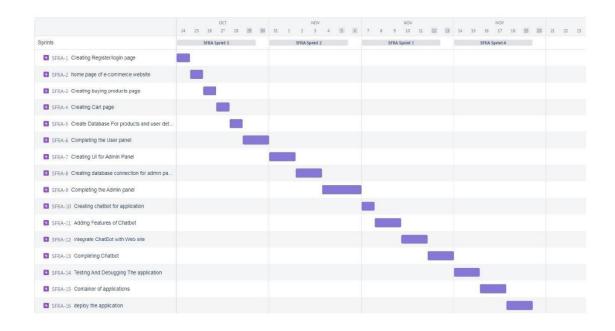
| Sprint-4 | Final delivery | USN-4 | Container of applications using docker | 20 | High | V Gowri Sankar |
|----------|----------------|-------|--|----|------|---------------------|
| | 20. | | Kubernetes and deployment the | | 1190 | S Sahabudeen |
| | | | application. Create the documentation and finally submit the application | | | S Jefrin Aakash |
| | | | imally submit the application | | | G Siva Ramakrishnan |

Project Tracker, Velocity & Burndown Chart: (4Marks)

| Sprint | Total Story Points | Duration | Sprint StartDate | Sprint End Date (Planned) | Story Points Completed (as On Planned End Date) | Sprint Release Date (Actual) |
|----------|-----------------------|----------|------------------|------------------------------|---|---------------------------------|
| Sprint-1 | 20 | 6 Days | 24 Oct 2022 | 29 Oct 2022 | | 29 Oct 2022 |
| Sprint-2 | 20 | 6 Days | 31 Oct 2022 | 05 Nov 2022 | | 05 Nov 2022 |
| Sprint-3 | 20 | 6 Days | 07 Nov 2022 | 12 Nov 2022 | | 12 Nov 2022 |
| Sprint-4 | 20 | 6 Days | 14 Nov 2022 | 19 Nov 2022 | | 19 Nov 2022 |

Burndown Chart

A burn down chart plots the amount of work remaining to perform against the amount of time. In agile software development approaches like Scrum, it is frequently employed. Burn down charts, however, can be used for any project that makes observable progress over time.



CHAPTER 7

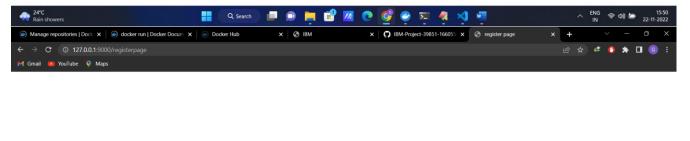
CODING AND SOLUTIONS

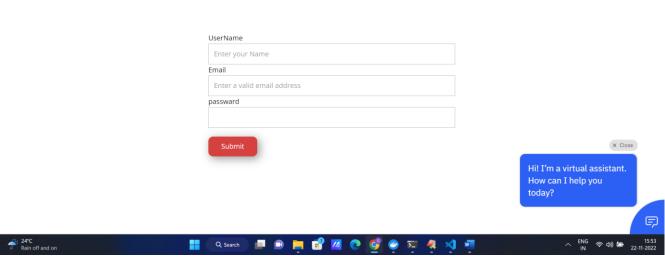
7.1 FEATURES



LOGIN PAGE







7.2 Technologies Used

Software:

- Python
- Flask
- Docker

Hardware:

- Processor Dual Core or higher
- Hard Disk 50 GB
- Memory 1GB RAM

CHAPTER 8

TESTING

8.1 Test Cases

| Section | Total Cases | Not Tested | Fail | Pass |
|---------------------|-------------|------------|------|------|
| Print Engine | 7 | 0 | 0 | 7 |
| Client Application | 51 | 0 | 0 | 51 |
| Security | 2 | 0 | 0 | 2 |
| Outsource Shipping | 3 | 0 | 0 | 3 |
| Exception Reporting | 9 | 0 | 0 | 9 |
| Final Report Output | 4 | 0 | 0 | 4 |
| Version Control | 2 | 0 | 0 | 2 |

8.2 User Acceptance Testing

| Resolution | Severity 1 | Severity 2 | Severity 3 | Severity 4 | Subtotal |
|----------------|------------|------------|------------|------------|----------|
| By Design | 10 | 4 | 2 | 3 | 20 |
| Duplicate | 1 | 0 | 3 | 0 | 4 |
| External | 2 | 3 | 0 | 1 | 6 |
| Fixed | 11 | 2 | 4 | 20 | 37 |
| Not Reproduced | 0 | 0 | 1 | 0 | 1 |
| Skipped | 0 | 0 | 1 | 1 | 2 |
| Won't Fix | 0 | 5 | 2 | 1 | 8 |
| Totals | 24 | 14 | 13 | 26 | 77 |

CHAPTER 9 RESULTS

9.1 Performance Metrics

The performance of a recommendation algorithm is evaluated by using some specific metrics that indicate the accuracy of the system. The type of metric used depends on the type of filtering technique. Root Mean Square Error (RMSE), Receiver Operating Characteristics (ROC), Area Under Cover (AUC), Precision, Recall, and F1 score is generally used to evaluate the performance or accuracy of the recommendation algorithms. Root-mean-square error (RMSE).

CHAPTER 10

ADVANTAGES AND DISADVANTAGES

10.1 ADVANTAGES:

- Easy to use
- Top brands
- Simple interface

10.2 DISADVANTAGES:

• Each type of clothing recommends only one top brand.

CHAPTER 11 APPLICATIONS

- Top brands
- Easy to use
- Simple interface

CHAPTER 12

CONCLUSION

Recent advancements in cloud computing helped ease the fashion industry transition from customer stores into modern online shops equipped with high-tech features such as virtual try-on and fashion synthesis systems. This article sheds some light on different applications related to these systems, tracked the research progress through the years, and illustrated the field's rapid growth. Although Scientists have achieved significant milestones, still many unsolved matters remain. One main issue is the systems' performance compared to human abilities; another important factor is the applicability of methods regarding computational effort and energy efficiency

CHAPTER 13

FUTURE SCOPE

12.FUTURE SCOPE:

- 1. Convenience on fingertips
- 2. Cross-platform consistency that delights
- 3. Context-driven at every interaction

CHAPTER 14

APPENDIX

Source Code

13.APPENDIX

Source Code Home-Page.html

```
<!DOCTYPE html>
<html style="font-size: 16px;" lang="en"><head>
    <title>Home Page</title>
    <link rel="stylesheet" href="{{</pre>
url_for('static',filename='css/firsthome.css') }}" media="screen">
<link rel="stylesheet" href="{{ url_for('static',filename='css/Home-Page.css')}</pre>
}}" media="screen">
    <script class="u-script" type="text/javascript" src="{{</pre>
url_for('static',filename='js/jqueryhome.js') }}" defer=""></script>
    <script class="u-script" type="text/javascript" src="{{</pre>
url_for('static',filename='js/firsthome.js') }}" defer=""></script>
    <link id="u-theme-google-font" rel="stylesheet"</pre>
href="https://fonts.googleapis.com/css?family=Roboto:100,100i,300,300i,400,400
i,500,500i,700,700i,900,900i|Open+Sans:300,300i,400,400i,500,500i,600,600i,700
,700i,800,800i">
    <script type="application/ld+json">{
    "@context": "http://schema.org",
    "@type": "Organization",
    "name": "home page"
}</script>
  </head>
  <body class="u-body u-xl-mode" data-lang="en"><header class="u-clearfix u-</pre>
header u-palette-2-base u-header" id="sec-c6db"><div class="u-clearfix u-sheet
u-sheet-1">
  <script>
  window.watsonAssistantChatOptions = {
    integrationID: "03613269-cebb-415d-9c93-124741457ce1", // The ID of this
integration.
   region: "au-syd", // The region your integration is hosted in.
```

```
serviceInstanceID: "43cde6bc-c030-427e-b5d7-f895b40d1c8c", // The ID of
your service instance.
   onLoad: function(instance) { instance.render(); }
 };
 setTimeout(function(){
   const t=document.createElement('script');
   t.src="https://web-chat.global.assistant.watson.appdomain.cloud/versions/"
+ (window.watsonAssistantChatOptions.clientVersion || 'latest') +
"/WatsonAssistantChatEntry.js";
   document.head.appendChild(t);
 });
</script>
       <nav class="u-align-left u-menu u-menu-hamburger u-offcanvas u-menu-1"</pre>
data-responsive-from="XL">
         <div class="menu-collapse">
           <a class="u-button-style u-nav-link" href="#" style="padding: 4px</pre>
0px; font-size: calc(1em + 8px);">
             <svg class="u-svg-link" preserveAspectRatio="xMidYMin slice"</pre>
viewBox="0 0 302 302" style=""><use xmlns:xlink="http://www.w3.org/1999/xlink"</pre>
xlink:href="#svg-5c50"></use></svg>
             <svg xmlns="http://www.w3.org/2000/svg"</pre>
xmlns:xlink="http://www.w3.org/1999/xlink" version="1.1" id="svg-5c50" x="0px"
y="0px" viewBox="0 0 302 302" style="enable-background:new 0 0 302 302;"
xml:space="preserve" class="u-svg-content"><g><rect y="36" width="302"
height="30"></rect><rect y="236" width="302" height="30"></rect><rect y="136"
width="302" height="30"></rect>
/g><g></g></g></s>
           </a>
         </div>
         <div class="u-custom-menu u-nav-container">
           <a</pre>
class="u-button-style u-nav-link u-text-active-palette-1-base u-text-hover-
palette-2-base" href="Home-Page.html" style="padding: 10px 20px;">Home
Page</a>
<a class="u-button-style u-nav-link u-text-active-</pre>
palette-1-base u-text-hover-palette-2-base" href="#" style="padding: 10px
20px;">About</a>
<a class="u-button-style u-nav-link u-text-active-</pre>
palette-1-base u-text-hover-palette-2-base" href="#" style="padding: 10px
20px;">Contact</a>
</div>
         <div class="u-custom-menu u-nav-container-collapse">
           <div class="u-align-center u-black u-container-style u-inner-</pre>
container-layout u-opacity u-opacity-95 u-sidenav">
             <div class="u-inner-container-layout u-sidenav-overflow">
              <div class="u-menu-close"></div>
```

```
u-nav-2"><a class="u-button-style u-nav-link"
href="Home-Page.html">Home Page</a>
<a class="u-button-style u-nav-link"</pre>
href="#">About</a>
<a class="u-button-style u-nav-link"</pre>
href="#">Contact</a>
</div>
        </div>
        <div class="u-black u-menu-overlay u-opacity u-opacity-70"></div>
      </nav>
    </div></header>
   <section class="u-align-center u-clearfix u-palette-1-dark-2 u-section-1"</pre>
id="carousel 167f">
    <div class="u-clearfix u-sheet u-sheet-1">
      SMART FASHION
RECOMMENDER
     <div class="u-carousel u-expanded-width u-gallery u-gallery-slider u-</pre>
layout-carousel u-lightbox u-show-text-on-hover u-gallery-1" id="carousel-
5016" data-interval="5000" data-u-ride="carousel">
       indicators-1">
         active u-grey-70 u-shape-circle" style="width: 10px; height: 10px;">
         grey-70 u-shape-circle" style="width: 10px; height: 10px;">
         grey-70 u-shape-circle" style="width: 10px; height: 10px;">
         grey-70 u-shape-circle" style="width: 10px; height: 10px;">
       <div class="u-carousel-inner u-gallery-inner u-gallery-inner-1"</pre>
role="listbox">
         <div class="u-active u-carousel-item u-effect-fade u-effect-hover-</pre>
zoom u-gallery-item u-carousel-item-1">
          <div class="u-back-slide" data-image-width="2000" data-image-</pre>
height="2000">
           <img class="u-back-image u-expanded" src="{{</pre>
url_for('static',filename='images/christmassale.jpg') }}">
          </div>
          <div class="u-align-center u-over-slide u-shading u-valign-</pre>
bottom u-over-slide-1">
           <h3 class="u-gallery-heading">Sample Title</h3>
           Sample Text
          </div>
         </div>
```

```
<div class="u-carousel-item u-effect-fade u-effect-hover-zoom u-</pre>
gallery-item u-carousel-item-2">
             <div class="u-back-slide" data-image-width="481" data-image-</pre>
height="600">
                <img class="u-back-image u-expanded" src="{{</pre>
url_for('static',filename='images/fashion2.jpg') }}">
              </div>
              <div class="u-align-center u-over-slide u-shading u-valign-</pre>
bottom u-over-slide-2">
                <h3 class="u-gallery-heading"></h3>
                </div>
            <div class="u-carousel-item u-effect-fade u-effect-hover-zoom u-</pre>
gallery-item u-carousel-item-3">
              <div class="u-back-slide" data-image-width="900" data-image-</pre>
height="600">
               <img class="u-back-image u-expanded" src="{{</pre>
url_for('static',filename='images/homeclothes3.jpg') }}">
              </div>
              <div class="u-align-center u-over-slide u-shading u-valign-</pre>
bottom u-over-slide-3">
               <h3 class="u-gallery-heading"></h3>
                </div>
            </div>
            <div class="u-carousel-item u-effect-fade u-effect-hover-zoom u-</pre>
gallery-item u-carousel-item-4">
              <div class="u-back-slide" data-image-width="2121" data-image-</pre>
height="1414">
                <img class="u-back-image u-expanded" src="{{</pre>
url_for('static',filename='images/homefashioncollage.jpg') }}">
              <div class="u-align-center u-over-slide u-shading u-valign-</pre>
bottom u-over-slide-4">
                <h3 class="u-gallery-heading"></h3>
                </div>
            </div>
          </div>
          <a class="u-absolute-vcenter u-carousel-control u-carousel-control-</p>
prev u-grey-70 u-icon-circle u-opacity u-opacity-70 u-spacing-10 u-text-white
u-carousel-control-1" href="#carousel-5016" role="button" data-u-slide="prev">
            <span aria-hidden="true">
              <svg viewBox="0 0 451.847 451.847"><path d="M97.141,225.92c0-</pre>
8.095,3.091-16.192,9.259-22.366L300.689,9.27c12.359-12.359,32.397-
c12.354,12.354,12.354,32.388,0,44.748L173.525,225.92l171.903,171.909c12.354,12
.354,12.354,32.391,0,44.744
```

```
c-12.354,12.365-32.386,12.365-44.745,0l-194.29-
194.281C100.226,242.115,97.141,234.018,97.141,225.92z"></path></svg>
           </span>
           <span class="sr-only">
             <svg viewBox="0 0 451.847 451.847"><path d="M97.141,225.92c0-</pre>
8.095,3.091-16.192,9.259-22.366L300.689,9.27c12.359-12.359,32.397-
12.359,44.751,0
c12.354,12.354,12.354,32.388,0,44.748L173.525,225.92l171.903,171.909c12.354,12
.354,12.354,32.391,0,44.744
c-12.354,12.365-32.386,12.365-44.745,01-194.29-
194.281C100.226,242.115,97.141,234.018,97.141,225.92z"></path></svg>
           </span>
         </a>
          <a class="u-absolute-vcenter u-carousel-control u-carousel-control-</pre>
next u-grey-70 u-icon-circle u-opacity u-opacity-70 u-spacing-10 u-text-white
u-carousel-control-2" href="#carousel-5016" role="button" data-u-slide="next">
           <span aria-hidden="true">
             <svg viewBox="0 0 451.846 451.847"><path</pre>
d="M345.441,248.292L151.154,442.573c-12.359,12.365-32.397,12.365-44.75,0c-
12.354-12.354-12.354-32.391,0-44.744
L278.318,225.92L106.409,54.017c-12.354-12.359-12.354-32.394,0-44.748c12.354-
12.359,32.391-12.359,44.75,01194.287,194.284
c6.177,6.18,9.262,14.271,9.262,22.366C354.708,234.018,351.617,242.115,345.441,
248.292z"></path></svg>
           </span>
           <span class="sr-only">
             <svg viewBox="0 0 451.846 451.847"><path</pre>
d="M345.441,248.292L151.154,442.573c-12.359,12.365-32.397,12.365-44.75,0c-
12.354-12.354-12.354-32.391,0-44.744
L278.318,225.92L106.409,54.017c-12.354-12.359-12.354-32.394,0-44.748c12.354-
12.359, 32.391-12.359, 44.75, 01194.287, 194.284
c6.177,6.18,9.262,14.271,9.262,22.366C354.708,234.018,351.617,242.115,345.441,
248.292z"></path></svg>
           </span>
         </a>
       </div>
       <a class="u-active-none u-border-none u-btn u-button-link u-button-</pre>
style u-hover-none u-none u-text-palette-1-base u-btn-1" href="{{
url_for('category') }}">CLICK HERE TO VIEW PRODUCTS!</a>
       </div>
   </section>
    <footer class="u-align-center u-clearfix u-footer u-grey-80 u-footer"</pre>
id="sec-75dd"><div class="u-clearfix u-sheet u-sheet-1">
       Smart Fashion
Recommender 2022
```

```
</div></footer>
</body></html>
```

Category-Page.html

```
<!DOCTYPE html>
<html style="font-size: 16px;" lang="en"><head>
    <title>Category Page</title>
    <link rel="stylesheet" href="{{</pre>
url_for('static',filename='css/firstcategory.css') }}" media="screen">
<link rel="stylesheet" href="{{ url_for('static',filename='css/Category-</pre>
Page.css') }}" media="screen">
    <script class="u-script" type="text/javascript" src="{{</pre>
url_for('static',filename='js/jquerycategory.js') }}" defer=""></script>
    <script class="u-script" type="text/javascript" src="{{</pre>
url_for('static',filename='js/firstcategory.js') }}" defer=""></script>
    <link id="u-theme-google-font" rel="stylesheet"</pre>
href="https://fonts.googleapis.com/css?family=Roboto:100,100i,300,300i,400,400
i,500,500i,700,700i,900,900i|Open+Sans:300,300i,400,400i,500,500i,600,600i,700
,700i,800,800i">
    <script type="application/ld+json">{
    "@context": "http://schema.org",
    "@type": "Organization",
    "name": "Category Page"
}</script>
  </head>
  <body class="u-body u-xl-mode" data-lang="en"><header class="u-clearfix u-</pre>
header u-palette-2-base u-header" id="sec-2053"><div class="u-clearfix u-sheet
u-sheet-1">
  <script>
  window.watsonAssistantChatOptions = {
    integrationID: "03613269-cebb-415d-9c93-124741457ce1", // The ID of this
integration.
    region: "au-syd", // The region your integration is hosted in.
    serviceInstanceID: "43cde6bc-c030-427e-b5d7-f895b40d1c8c", // The ID of
your service instance.
    onLoad: function(instance) { instance.render(); }
  };
 setTimeout(function(){
```

```
const t=document.createElement('script');
   t.src="https://web-chat.global.assistant.watson.appdomain.cloud/versions/"
+ (window.watsonAssistantChatOptions.clientVersion || 'latest') +
'/WatsonAssistantChatEntry.js";
   document.head.appendChild(t);
 });
</script>
       <nav class="u-align-left u-menu u-menu-hamburger u-offcanvas u-menu-1"</pre>
data-responsive-from="XL">
         <div class="menu-collapse">
          <a class="u-button-style u-nav-link" href="#" style="padding: 4px</pre>
0px; font-size: calc(1em + 8px);">
            <svg class="u-svg-link" preserveAspectRatio="xMidYMin slice"</pre>
viewBox="0 0 302 302" style=""><use xmlns:xlink="http://www.w3.org/1999/xlink"</pre>
xlink:href="#svg-5c50"></use></svg>
            <svg xmlns="http://www.w3.org/2000/svg"</pre>
xmlns:xlink="http://www.w3.org/1999/xlink" version="1.1" id="svg-5c50" x="0px"
y="0px" viewBox="0 0 302 302" style="enable-background:new 0 0 302 302;"
xml:space="preserve" class="u-svg-content"><g><rect y="36" width="302"
height="30"></rect><rect y="236" width="302" height="30"></rect><rect y="136"
width="302" height="30"></rect>
/g><g></g><g></g></s>
          </a>
        </div>
         <div class="u-custom-menu u-nay-container">
          <a</pre>
class="u-button-style u-nav-link u-text-active-palette-1-base u-text-hover-
palette-2-base" href="Category-Page.html" style="padding: 10px 20px;">Category
Page</a>
<a class="u-button-style u-nav-link u-text-active-</pre>
palette-1-base u-text-hover-palette-2-base" href="#" style="padding: 10px
20px;">About</a>
<a class="u-button-style u-nav-link u-text-active-</pre>
palette-1-base u-text-hover-palette-2-base" href="Contact.html"
style="padding: 10px 20px;">Contact</a>
</div>
        <div class="u-custom-menu u-nav-container-collapse">
          <div class="u-align-center u-black u-container-style u-inner-</pre>
container-layout u-opacity u-opacity-95 u-sidenav">
            <div class="u-inner-container-layout u-sidenay-overflow">
              <div class="u-menu-close"></div>
              u-nav-2"><a class="u-button-style u-nav-link"
href="Category-Page.html">Category Page</a>
<a class="u-button-style u-nav-link"</pre>
href="#">About</a>
```

```
<a class="u-button-style u-nav-link"</pre>
href="Contact.html">Contact</a>
</div>
           </div>
           <div class="u-black u-menu-overlay u-opacity u-opacity-70"></div>
       </nav>
     </div></header>
   <section class="u-align-center u-clearfix u-palette-1-dark-2 u-section-1"</pre>
id="carousel_5cc0">
     <div class="u-clearfix u-sheet u-sheet-1">
       1">CHOOSE CATEGORY
       <div class="u-expanded-width u-gallery u-layout-grid u-lightbox u-</pre>
show-text-on-hover u-gallery-1">
         <div class="u-gallery-inner u-gallery-inner-1">
           <div class="u-effect-fade u-effect-hover-zoom u-gallery-item"</pre>
data-href="{{ url_for('men') }}" title="Men">
             <div class="u-back-slide" data-image-width="610" data-image-</pre>
height="763">
              <img class="u-back-image u-expanded" src="{{</pre>
url_for('static',filename='images/blackman31.png') }}">
             </div>
             <div class="u-over-slide u-shading u-over-slide-1">
               <h3 class="u-gallery-heading"></h3>
               </div>
           </div>
           <div class="u-effect-fade u-effect-hover-zoom u-gallery-item"</pre>
data-href="{{ url_for('women') }}" title="Women">
             <div class="u-back-slide" data-image-width="864" data-image-</pre>
height="1080">
               <img class="u-back-image u-expanded" src="{{</pre>
url_for('static',filename='images/latinawoman1.jpg') }}">
             <div class="u-over-slide u-shading u-over-slide-2">
               <h3 class="u-gallery-heading"></h3>
               </div>
           </div>
         </div>
       </div>
       <h5 class="u-align-center u-text u-text-palette-1-base u-text-2">
         <a class="u-active-none u-border-none u-btn u-button-link u-button-</pre>
style u-hover-none u-none u-text-palette-1-base u-btn-1" href="{{
url_for('men') }}">MEN<br>
         </a>
       </h5>
```

```
<h5 class="u-align-center u-text u-text-palette-1-base u-text-3">
         <a class="u-active-none u-border-none u-btn u-button-link u-button-</pre>
style u-hover-none u-none u-text-palette-1-base u-btn-2" href="{{
url_for('women') }}">WOMEN<br>
         </a>
       </h5>
     </div>
   </section>
   <section class="u-clearfix u-section-2" id="sec-7ac3">
     <div class="u-clearfix u-sheet u-sheet-1"></div>
   </section>
   <footer class="u-align-center u-clearfix u-footer u-grey-80 u-footer"</pre>
id="sec-5bb5"><div class="u-clearfix u-sheet u-sheet-1">
       </div></footer>
</body></html>
```

Men.html

```
<!DOCTYPE html>
<html style="font-size: 16px;" lang="en"><head>
    <title>Men</title>
    <link rel="stylesheet" href="{{</pre>
url_for('static',filename='css/firstmen.css') }}" media="screen">
<link rel="stylesheet" href="{{ url_for('static',filename='css/Men.css') }}"</pre>
media="screen">
    <script class="u-script" type="text/javascript" src="{{</pre>
url_for('static',filename='js/jquerymen.js') }}" defer=""></script>
    <script class="u-script" type="text/javascript" src="{{</pre>
url_for('static',filename='js/firstmen.js') }}" defer=""></script>
    <link id="u-theme-google-font" rel="stylesheet"</pre>
href="https://fonts.googleapis.com/css?family=Roboto:100,100i,300,300i,400,400
i,500,500i,700,700i,900,900i|Open+Sans:300,300i,400,400i,500,500i,600,600i,700
,700i,800,800i">
    <script type="application/ld+json">{
```

```
"@context": "http://schema.org",
    "@type": "Organization",
    "name": ""
}</script>
  </head>
 <body class="u-body u-xl-mode" data-lang="en"><header class="u-clearfix u-</pre>
header u-palette-2-base" id="sec-b7b7" data-animation-name="" data-animation-
duration="0" data-animation-delay="0" data-animation-direction=""><div
class="u-clearfix u-sheet u-sheet-1">
  <script>
 window.watsonAssistantChatOptions = {
   integrationID: "03613269-cebb-415d-9c93-124741457ce1", // The ID of this
integration.
   region: "au-syd", // The region your integration is hosted in.
   serviceInstanceID: "43cde6bc-c030-427e-b5d7-f895b40d1c8c", // The ID of
your service instance.
   onLoad: function(instance) { instance.render(); }
 };
 setTimeout(function(){
    const t=document.createElement('script');
   t.src="https://web-chat.global.assistant.watson.appdomain.cloud/versions/"
+ (window.watsonAssistantChatOptions.clientVersion || 'latest') +
"/WatsonAssistantChatEntry.js";
   document.head.appendChild(t);
 });
</script>
       <nav class="u-align-left u-menu u-menu-hamburger u-offcanvas u-menu-1"</pre>
data-responsive-from="XL">
         <div class="menu-collapse">
           <a class="u-button-style u-nav-link" href="#" style="padding: 4px</pre>
0px; font-size: calc(1em + 8px);">
             <svg class="u-svg-link" preserveAspectRatio="xMidYMin slice"</pre>
viewBox="0 0 302 302" style="undefined"><use</pre>
xmlns:xlink="http://www.w3.org/1999/xlink" xlink:href="#svg-5c50"></use></svg>
             <svg xmlns="http://www.w3.org/2000/svg"</pre>
xmlns:xlink="http://www.w3.org/1999/xlink" version="1.1" id="svg-5c50" x="0px"
y="0px" viewBox="0 0 302 302" style="enable-background:new 0 0 302 302;"
xml:space="preserve" class="u-svg-content"><g><rect y="36" width="302"
height="30"></rect><rect y="236" width="302" height="30"></rect><rect y="136"
width="302" height="30"></rect>
/g><g></g></g></s>
           </a>
         </div>
         <div class="u-nav-container">
           <a</pre>
class="u-button-style u-nav-link u-text-active-palette-1-base u-text-hover-
```

```
palette-2-base" href="Home-Page.html" style="padding: 10px 20px;">Home
Page</a>
<a class="u-button-style u-nav-link u-text-active-</pre>
palette-1-base u-text-hover-palette-2-base" href="Men.html" style="padding:
10px 20px;">Men</a>
</div>
         <div class="u-nav-container-collapse">
           <div class="u-align-center u-black u-container-style u-inner-</pre>
container-layout u-opacity u-opacity-95 u-sidenav">
             <div class="u-inner-container-layout u-sidenay-overflow">
               <div class="u-menu-close"></div>
               u-nav-2"><a class="u-button-style u-nav-link"
href="Home-Page.html">Home Page</a>
<a class="u-button-style u-nav-link"</pre>
href="Men.html">Men</a>
</div>
           </div>
           <div class="u-black u-menu-overlay u-opacity u-opacity-70"></div>
         </div>
       </nav>
     </div></header>
   <section class="u-align-center u-clearfix u-palette-1-dark-2 u-section-1"</pre>
id="carousel 26da">
     <div class="u-clearfix u-sheet u-sheet-1">
       <div class="u-expanded-width u-gallery u-layout-grid u-lightbox u-</pre>
show-text-on-hover u-gallery-1">
         <div class="u-gallery-inner u-gallery-inner-1">
           <div class="u-effect-fade u-effect-hover-zoom u-gallery-item"</pre>
data-
href="https://www.firstcry.com/searchresult?sale=6&searchstring=brand@@@@1@0@2
o@@@@@@@@@@@@@@@@@@&sort=BestSeller&gender=boy,unisex&ref2=menu_dd_boy-
fashion_view-all_V" title="Boys">
             <div class="u-back-slide" data-image-width="853" data-image-</pre>
height="928">
               <img class="u-back-image u-expanded" src="{{</pre>
url_for('static',filename='images/boy.jpg') }}">
             </div>
             <div class="u-over-slide u-shading u-over-slide-1">
               <h3 class="u-gallery-heading"></h3>
               </div>
           </div>
           <div class="u-effect-fade u-effect-hover-zoom u-gallery-item"</pre>
data-href="https://ramrajcotton.in/collections/adjustable-dhoti-shirt-set"
title="Traditional">
```

```
<div class="u-back-slide" data-image-width="655" data-image-</pre>
height="655">
               <img class="u-back-image u-expanded" src="{{</pre>
url_for('static',filename='images/TRADITIONAL.jpg') }}">
             </div>
             <div class="u-over-slide u-shading u-over-slide-2">
               <h3 class="u-gallery-heading"></h3>
               </div>
           <div class="u-effect-fade u-effect-hover-zoom u-gallery-item"</pre>
data-href="https://www.myntra.com/men-casual-shirts" title="Casual">
             <div class="u-back-slide" data-image-width="500" data-image-</pre>
height="499">
               <img class="u-back-image u-expanded" src="{{</pre>
url_for('static',filename='images/CASUAL.jpg') }}">
             </div>
             <div class="u-over-slide u-shading u-over-slide-3">
               <h3 class="u-gallery-heading"></h3>
               </div>
           <div class="u-effect-fade u-effect-hover-zoom u-gallery-item"</pre>
data-href="https://www.allensolly.com/category/men/formal-shirts-
7571?source=menu&page=1&orderway=asc&orderby=popular" title="Formal">
             <div class="u-back-slide" data-image-width="691" data-image-</pre>
height="691">
               <img class="u-back-image u-expanded" src="{{</pre>
url_for('static',filename='images/FORMAL.jpg') }}">
             </div>
             <div class="u-over-slide u-shading u-over-slide-4">
               <h3 class="u-gallery-heading"></h3>
               </div>
           </div>
           <div class="u-effect-fade u-effect-hover-zoom u-gallery-item"</pre>
data-href="https://www.myraymond.com/product-
list?categoryType=Suit&categoryName=Suit&productCategory=6262ab2394be14fbc3aac
ce7" title="Coat Suits">
             <div class="u-back-slide" data-image-width="1349" data-image-</pre>
height="1348">
               <img class="u-back-image u-expanded" src="{{</pre>
url_for('static',filename='images/coatsuit.jpg') }}">
             </div>
             <div class="u-over-slide u-shading u-over-slide-5">
               <h3 class="u-gallery-heading"></h3>
               </div>
           </div>
```

```
<div class="u-effect-fade u-effect-hover-zoom u-gallery-item"</pre>
data-href="https://www.lee.in/men/bottoms-men/jeans/regular.html"
title="Regular Jeans">
              <div class="u-back-slide" data-image-width="450" data-image-</pre>
height="451">
                <img class="u-back-image u-expanded" src="{{</pre>
url_for('static',filename='images/jeans.jpg') }}">
              </div>
              <div class="u-over-slide u-shading u-over-slide-6">
                <h3 class="u-gallery-heading"></h3>
                </div>
            </div>
            <div class="u-effect-fade u-effect-hover-zoom u-gallery-item"</pre>
data-
href="https://www.zara.com/in/en/search?searchTerm=baggy%20jeans&section=MAN"
title="Baggy Jeans">
              <div class="u-back-slide" data-image-width="593" data-image-</pre>
height="593">
                <img class="u-back-image u-expanded" src="{{</pre>
url_for('static',filename='images/baggyjeans.jpg') }}">
              <div class="u-over-slide u-shading u-over-slide-7">
                <h3 class="u-gallery-heading"></h3>
                </div>
            </div>
            <div class="u-effect-fade u-effect-hover-zoom u-gallery-item"</pre>
data-href="https://www.myntra.com/cargo-pants" title="Cargo Pants">
              <div class="u-back-slide" data-image-width="659" data-image-</pre>
height="658">
                <img class="u-back-image u-expanded" src="{{</pre>
url_for('static',filename='images/cargopant.jpg') }}">
              </div>
              <div class="u-over-slide u-shading u-over-slide-8">
                <h3 class="u-gallery-heading"></h3>
                </div>
            </div>
            <div class="u-effect-fade u-effect-hover-zoom u-gallery-item"</pre>
data-
href="https://www.louisphilippe.com/search?search_query=formal+pant&page=1&ord
erway=asc&orderby=popular" title="Formal Pants">
             <div class="u-back-slide" data-image-width="1000" data-image-</pre>
height="1000">
                <img class="u-back-image u-expanded" src="{{</pre>
url_for('static',filename='images/formalpant1.jpg') }}">
             <div class="u-over-slide u-shading u-over-slide-9">
```

```
<h3 class="u-gallery-heading"></h3>
               </div>
           </div>
         </div>
       </div>
     </div>
   </section>
   <section class="u-clearfix u-section-2" id="sec-528a">
     <div class="u-clearfix u-sheet u-sheet-1"></div>
   </section>
   <footer class="u-align-center u-clearfix u-footer u-grey-80 u-footer"</pre>
id="sec-76c3"><div class="u-clearfix u-sheet u-sheet-1">
       <h4 class="u-text u-text-1">Smart Fashion Recommender 2022</h4>
     </div></footer>
</body></html>
```

Women.html

```
<!DOCTYPE html>
<html style="font-size: 16px;" lang="en"><head>
    <title>Women</title>
    <link rel="stylesheet" href="{{</pre>
url_for('static',filename='css/firstwomen.css') }}" media="screen">
<link rel="stylesheet" href="{{ url_for('static',filename='css/Women.css') }}"</pre>
media="screen">
    <script class="u-script" type="text/javascript" src="{{</pre>
url_for('static',filename='js/jquerywomen.js') }}" defer=""></script>
    <script class="u-script" type="text/javascript" src="{{</pre>
url_for('static',filename='js/firstwomen.js') }}" defer=""></script>
    <link id="u-theme-google-font" rel="stylesheet"</pre>
href="https://fonts.googleapis.com/css?family=Roboto:100,100i,300,300i,400,400
i,500,500i,700,700i,900,900i|Open+Sans:300,300i,400,400i,500,500i,600,600i,700
,700i,800,800i">
    <script type="application/ld+json">{
```

```
"@context": "http://schema.org",
   "@type": "Organization",
   "name": "women"
}</script>
 </head>
 <body class="u-body u-xl-mode" data-lang="en"><header class="u-clearfix u-</pre>
header u-palette-2-base u-header" id="sec-afa3"><div class="u-clearfix u-sheet
u-sheet-1">
 <script>
 window.watsonAssistantChatOptions = {
   integrationID: "03613269-cebb-415d-9c93-124741457ce1", // The ID of this
integration.
   region: "au-syd", // The region your integration is hosted in.
   serviceInstanceID: "43cde6bc-c030-427e-b5d7-f895b40d1c8c", // The ID of
your service instance.
   onLoad: function(instance) { instance.render(); }
 };
 setTimeout(function(){
   const t=document.createElement('script');
   t.src="https://web-chat.global.assistant.watson.appdomain.cloud/versions/"
+ (window.watsonAssistantChatOptions.clientVersion |  'latest') +
/WatsonAssistantChatEntry.js";
   document.head.appendChild(t);
 });
</script>
       <nav class="u-align-left u-menu u-menu-hamburger u-offcanvas u-menu-1"</pre>
data-responsive-from="XL">
         <div class="menu-collapse">
           <a class="u-button-style u-nav-link" href="#" style="padding: 4px</pre>
0px; font-size: calc(1em + 8px);">
             <svg class="u-svg-link" preserveAspectRatio="xMidYMin slice"</pre>
viewBox="0 0 302 302" style=""><use xmlns:xlink="http://www.w3.org/1999/xlink"</pre>
xlink:href="#svg-5c50"></use></svg>
             <svg xmlns="http://www.w3.org/2000/svg"</pre>
xmlns:xlink="http://www.w3.org/1999/xlink" version="1.1" id="svg-5c50" x="0px"
y="0px" viewBox="0 0 302 302" style="enable-background:new 0 0 302 302;"
xml:space="preserve" class="u-svg-content"><g><rect y="36" width="302"
height="30"></rect><rect y="236" width="302" height="30"></rect><rect y="136"
width="302" height="30"></rect>
/g><g></g></g></s>
           </a>
         </div>
         <div class="u-custom-menu u-nay-container">
           <a</pre>
class="u-button-style u-nav-link u-text-active-palette-1-base u-text-hover-
palette-2-base" href="Women.html" style="padding: 10px 20px;">Women</a>
```

```
<a class="u-button-style u-nav-link u-text-active-</pre>
palette-1-base u-text-hover-palette-2-base" href="#" style="padding: 10px
20px;">About</a>
<a class="u-button-style u-nav-link u-text-active-</pre>
palette-1-base u-text-hover-palette-2-base" href="#" style="padding: 10px
20px;">Contact</a>
</div>
         <div class="u-custom-menu u-nav-container-collapse">
           <div class="u-align-center u-black u-container-style u-inner-</pre>
container-layout u-opacity u-opacity-95 u-sidenav">
            <div class="u-inner-container-layout u-sidenav-overflow">
              <div class="u-menu-close"></div>
              u-nav-2"><a class="u-button-style u-nav-link"
href="Women.html">Women</a>
<a class="u-button-style u-nav-link"</pre>
href="#">About</a>
<a class="u-button-style u-nav-link"</pre>
href="#">Contact</a>
</div>
           </div>
           <div class="u-black u-menu-overlay u-opacity u-opacity-70"></div>
         </div>
       </nav>
     </div></header>
   <section class="u-align-center u-clearfix u-palette-1-dark-2 u-section-1"</pre>
id="carousel fd20">
     <div class="u-clearfix u-sheet u-sheet-1">
       <div class="u-expanded-width u-gallery u-layout-grid u-lightbox u-</pre>
show-text-on-hover u-gallery-1">
         <div class="u-gallery-inner u-gallery-inner-1">
           <div class="u-effect-fade u-effect-hover-zoom u-gallery-item"</pre>
data-href="https://www.firstcry.com/girls-clothes?ref2=menu_dd_catlanding"
title="Girl">
            <div class="u-back-slide" data-image-width="600" data-image-</pre>
height="600">
              <img class="u-back-image u-expanded" src="{{</pre>
url_for('static',filename='images/girl.jpg') }}">
            </div>
            <div class="u-over-slide u-shading u-over-slide-1">
              <h3 class="u-gallery-heading"></h3>
              </div>
           </div>
           <div class="u-effect-fade u-effect-hover-zoom u-gallery-item"</pre>
data-href="https://www.kalkifashion.com/sarees.html" title="Sarees">
```

```
<div class="u-back-slide" data-image-width="1715" data-image-</pre>
height="1715">
               <img class="u-back-image u-expanded" src="{{</pre>
url_for('static',filename='images/Saree.jpg') }}">
             </div>
             <div class="u-over-slide u-shading u-over-slide-2">
               <h3 class="u-gallery-heading"></h3>
               </div>
            </div>
           <div class="u-effect-fade u-effect-hover-zoom u-gallery-item"</pre>
data-href="https://www.libas.in/search?q=churidhar" title="Churidhars">
             <div class="u-back-slide" data-image-width="800" data-image-</pre>
height="799">
               <img class="u-back-image u-expanded" src="{{</pre>
url_for('static',filename='images/chudidhar.jpg') }}">
             </div>
             <div class="u-over-slide u-shading u-over-slide-3">
                <h3 class="u-gallery-heading"></h3>
               </div>
            <div class="u-effect-fade u-effect-hover-zoom u-gallery-item"</pre>
data-href="https://www.westside.com/collections/view-all-westernwear"
title="Western Wears">
             <div class="u-back-slide" data-image-width="763" data-image-</pre>
height="763">
               <img class="u-back-image u-expanded" src="{{</pre>
url_for('static',filename='images/modernwomen.jpg') }}">
             </div>
             <div class="u-over-slide u-shading u-over-slide-4">
               <h3 class="u-gallery-heading"></h3>
               </div>
            </div>
            <div class="u-effect-fade u-effect-hover-zoom u-gallery-item"</pre>
data-href="https://vnhnaiduhall.com/collections/womens-nighty" title="Nighty">
             <div class="u-back-slide" data-image-width="794" data-image-</pre>
height="794">
               <img class="u-back-image u-expanded" src="{{</pre>
url_for('static',filename='images/nighty.jpg') }}">
             </div>
              <div class="u-over-slide u-shading u-over-slide-5">
                <h3 class="u-gallery-heading"></h3>
               </div>
            </div>
            <div class="u-effect-fade u-effect-hover-zoom u-gallery-item"</pre>
data-href="https://www.enjean.com/collections/sale" title="Torn Jeans">
```

```
<div class="u-back-slide" data-image-width="1500" data-image-</pre>
height="1500">
               <img class="u-back-image u-expanded" src="{{</pre>
url_for('static',filename='images/tornjeans.jpg') }}">
             </div>
             <div class="u-over-slide u-shading u-over-slide-6">
               <h3 class="u-gallery-heading"></h3>
               </div>
           </div>
           <div class="u-effect-fade u-effect-hover-zoom u-gallery-item"</pre>
data-href="https://www.shoppersstop.com/women-indianwear-bottomwear-pants/c-
A20104030" title="Pants">
             <div class="u-back-slide" data-image-width="640" data-image-</pre>
height="640">
               <img class="u-back-image u-expanded" src="{{</pre>
url_for('static',filename='images/womanpant.jpg') }}">
             </div>
             <div class="u-over-slide u-shading u-over-slide-7">
               <h3 class="u-gallery-heading"></h3>
               </div>
           </div>
           <div class="u-effect-fade u-effect-hover-zoom u-gallery-item"</pre>
data-href="https://myprisma.in/collections/leggings" title="Leggings">
             <div class="u-back-slide" data-image-width="600" data-image-</pre>
height="600">
               <img class="u-back-image u-expanded" src="{{</pre>
url_for('static',filename='images/leggings.jpg') }}">
             </div>
             <div class="u-over-slide u-shading u-over-slide-8">
               <h3 class="u-gallery-heading"></h3>
               </div>
           </div>
           <div class="u-effect-fade u-effect-hover-zoom u-gallery-item"</pre>
data-href="https://www.myntra.com/skirts" title="Skirts">
             <div class="u-back-slide" data-image-width="1920" data-image-</pre>
height="1920">
               <img class="u-back-image u-expanded" src="{{</pre>
url_for('static',filename='images/skirtswomen.jpg') }}">
             </div>
             <div class="u-over-slide u-shading u-over-slide-9">
               <h3 class="u-gallery-heading"></h3>
               </div>
           </div>
         </div>
       </div>
```

Emailfailure.html

```
<!DOCTYPE html>
<html lang="en">
 <title>register failure</title>
 </head>
 <body>
 <script>
 window.watsonAssistantChatOptions = {
    integrationID: "03613269-cebb-415d-9c93-124741457ce1", // The ID of this
integration.
   region: "au-syd", // The region your integration is hosted in.
   serviceInstanceID: "43cde6bc-c030-427e-b5d7-f895b40d1c8c", // The ID of
your service instance.
   onLoad: function(instance) { instance.render(); }
 setTimeout(function(){
    const t=document.createElement('script');
    t.src="https://web-chat.global.assistant.watson.appdomain.cloud/versions/"
+ (window.watsonAssistantChatOptions.clientVersion | | 'latest') +
"/WatsonAssistantChatEntry.js";
   document.head.appendChild(t);
 });
</script>
 <center><h1>email is in incorrect form</center></h1>
 </body>
</html>
```

loginfailure.html

```
<!DOCTYPE html>
<html lang="en">
 <title>login faliure</title>
 </head>
 <body>
 <script>
 window.watsonAssistantChatOptions = {
    integrationID: "03613269-cebb-415d-9c93-124741457ce1", // The ID of this
integration.
    region: "au-syd", // The region your integration is hosted in.
    serviceInstanceID: "43cde6bc-c030-427e-b5d7-f895b40d1c8c", // The ID of
your service instance.
   onLoad: function(instance) { instance.render(); }
 setTimeout(function(){
    const t=document.createElement('script');
    t.src="https://web-chat.global.assistant.watson.appdomain.cloud/versions/"
+ (window.watsonAssistantChatOptions.clientVersion || 'latest') +
"/WatsonAssistantChatEntry.js";
   document.head.appendChild(t);
 });
</script>
 <center><h1>the password or username may be wrong</h1></center>
 </body>
</html>
```

Passwordfailure.html

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <title>register failure</title>
    </head>
    <body>
```

```
<script>
 window.watsonAssistantChatOptions = {
    integrationID: "03613269-cebb-415d-9c93-124741457ce1", // The ID of this
integration.
    region: "au-syd", // The region your integration is hosted in.
    serviceInstanceID: "43cde6bc-c030-427e-b5d7-f895b40d1c8c", // The ID of
your service instance.
   onLoad: function(instance) { instance.render(); }
 };
 setTimeout(function(){
    const t=document.createElement('script');
    t.src="https://web-chat.global.assistant.watson.appdomain.cloud/versions/"
+ (window.watsonAssistantChatOptions.clientVersion || 'latest') +
"/WatsonAssistantChatEntry.js";
    document.head.appendChild(t);
 });
</script>
 <center><h1>password only contain alpha numberic character </center></h1>
 </body>
</html>
```

register.html

```
<!DOCTYPE html>
<html style="font-size: 16px;" lang="en"><head>
    <title>register page</title>
    <link rel="stylesheet" href="{{ url_for('static',filename='css/Lr.css')}</pre>
}}" media="screen">
<link rel="stylesheet" href="{{ url for('static',filename='css/register.css')}</pre>
}}" media="screen">
    <script class="u-script" type="text/javascript" src="{{</pre>
url for('static',filename='js/jqueryLr.js') }}" defer=""></script>
    <script class="u-script" type="text/javascript" src="{{</pre>
url_for('static',filename='js/Lr.js') }}" defer=""></script>
    <link id="u-theme-google-font" rel="stylesheet"</pre>
href="https://fonts.googleapis.com/css?family=Roboto:100,100i,300,300i,400,400
i,500,500i,700,700i,900,900i|Open+Sans:300,300i,400,400i,500,500i,600,600i,700
,700i,800,800i">
    <script type="application/ld+json">{
    "@context": "http://schema.org",
```

```
"@type": "Organization",
    "name": "dress"
}</script>
    </head>
  <body class="u-body u-xl-mode" data-lang="en"><header class="u-clearfix u-</pre>
header u-header" id="sec-b7b7" data-animation-name="" data-animation-
duration="0" data-animation-delay="0" data-animation-direction=""><div
class="u-clearfix u-sheet u-sheet-1">
 window.watsonAssistantChatOptions = {
    integrationID: "03613269-cebb-415d-9c93-124741457ce1", // The ID of this
integration.
    region: "au-syd", // The region your integration is hosted in.
    serviceInstanceID: "43cde6bc-c030-427e-b5d7-f895b40d1c8c", // The ID of
your service instance.
   onLoad: function(instance) { instance.render(); }
 setTimeout(function(){
    const t=document.createElement('script');
    t.src="https://web-chat.global.assistant.watson.appdomain.cloud/versions/"
+ (window.watsonAssistantChatOptions.clientVersion || 'latest') +
"/WatsonAssistantChatEntry.js";
    document.head.appendChild(t);
 });
</script>
        <nav class="u-menu u-menu-dropdown u-offcanvas u-menu-1">
          <div class="menu-collapse" style="font-size: 1rem; letter-spacing:</pre>
0px;">
            <a class="u-button-style u-custom-left-right-menu-spacing u-</pre>
custom-padding-bottom u-custom-top-bottom-menu-spacing u-nav-link u-text-
active-palette-1-base u-text-hover-palette-2-base" href="#">
              <svg class="u-svg-link" viewBox="0 0 24 24"><use</pre>
xmlns:xlink="http://www.w3.org/1999/xlink" xlink:href="#menu-
hamburger"></use></svg>
              <svg class="u-svg-content" version="1.1" id="menu-hamburger"</pre>
viewBox="0 0 16 16" x="0px" y="0px" xmlns:xlink="http://www.w3.org/1999/xlink"
xmlns="http://www.w3.org/2000/svg"><g><rect y="1" width="16"
height="2"></rect><rect y="7" width="16" height="2"></rect><rect y="13"
width="16" height="2"></rect>
</g></svg>
            </a>
          </div>
          <div class="u-nav-container"></div>
          <div class="u-nav-container-collapse">
            <div class="u-black u-container-style u-inner-container-layout u-</pre>
opacity u-opacity-95 u-sidenav">
              <div class="u-inner-container-layout u-sidenav-overflow">
                <div class="u-menu-close"></div>
```

```
u-nav-1">
             </div>
           </div>
           <div class="u-black u-menu-overlay u-opacity u-opacity-70"></div>
          </div>
      </div></header>
    <section class="u-clearfix u-image u-section-1" id="sec-cf89" data-image-</pre>
width="1200" data-image-height="500">
      <div class="u-clearfix u-sheet u-sheet-1">
        <div class="u-form u-form-1">
          <form action="\register" name="form2" method='POST/GET'>
            <div class="u-form-group u-form-name u-form-group-1">
              <label for="name-17d6" class="u-label">UserName</label>
              <input type="text" placeholder="Enter your Name" id="name-17d6"</pre>
name="username" class="u-border-1 u-border-grey-30 u-input u-input-rectangle
u-white" required="">
           </div>
           <div class="u-form-email u-form-group u-form-group-2">
              <label for="email-ecd9" class="u-label">Email</label>
              <input type="text" placeholder="Enter a valid email</pre>
address" name="email" class="u-border-1 u-border-grey-30 u-input u-input-
rectangle u-white" required="">
           </div>
           <div class="u-form-group u-form-group-3">
              <label for="text-d53c" class="u-label">passward</label>
              <input type="pasword" placeholder="" name="password" class="u-</pre>
border-1 u-border-grey-30 u-input u-input-rectangle u-white">
           </div>
           <div class="u-align-left u-form-group u-form-submit">
              <a href="#" class="u-btn u-btn-round u-btn-submit u-button-style</pre>
u-palette-2-base u-radius-11 u-btn-1">Submit</a>
              <input type="submit" value="submit" class="u-form-control-</pre>
hidden">
           </div>
         </form>
       </div>
      </div>
    </section>
</body></html>
```

```
<!DOCTYPE html>
<html style="font-size: 16px;" lang="en"><head>
    <title>register page</title>
    <link rel="stylesheet" href="{{ url_for('static',filename='css/Lr.css')}</pre>
}}" media="screen">
<link rel="stylesheet" href="{{ url for('static',filename='css/register.css')}</pre>
}}" media="screen">
    <script class="u-script" type="text/javascript" src="{{</pre>
url for('static',filename='js/jqueryLr.js') }}" defer=""></script>
    <script class="u-script" type="text/javascript" src="{{</pre>
url_for('static',filename='js/Lr.js') }}" defer=""></script>
    <link id="u-theme-google-font" rel="stylesheet"</pre>
href="https://fonts.googleapis.com/css?family=Roboto:100,100i,300,300i,400,400
i,500,500i,700,700i,900,900i|Open+Sans:300,300i,400,400i,500,500i,600,600i,700
,700i,800,800i">
    <script type="application/ld+json">{
    "@context": "http://schema.org",
    "@type": "Organization",
    "name": "dress"
}</script>
    </head>
  <body class="u-body u-xl-mode" data-lang="en"><header class="u-clearfix u-</pre>
header u-header" id="sec-b7b7" data-animation-name="" data-animation-
duration="0" data-animation-delay="0" data-animation-direction=""><div
class="u-clearfix u-sheet u-sheet-1">
  <script>
 window.watsonAssistantChatOptions = {
    integrationID: "03613269-cebb-415d-9c93-124741457ce1", // The ID of this
    region: "au-syd", // The region your integration is hosted in.
    serviceInstanceID: "43cde6bc-c030-427e-b5d7-f895b40d1c8c", // The ID of
your service instance.
   onLoad: function(instance) { instance.render(); }
 };
  setTimeout(function(){
    const t=document.createElement('script');
    t.src="https://web-chat.global.assistant.watson.appdomain.cloud/versions/"
+ (window.watsonAssistantChatOptions.clientVersion || 'latest') +
'/WatsonAssistantChatEntry.js";
    document.head.appendChild(t);
 });
</script>
        <nav class="u-menu u-menu-dropdown u-offcanvas u-menu-1">
          <div class="menu-collapse" style="font-size: 1rem; letter-spacing:</pre>
0px;">
```

```
<a class="u-button-style u-custom-left-right-menu-spacing u-</pre>
custom-padding-bottom u-custom-top-bottom-menu-spacing u-nav-link u-text-
active-palette-1-base u-text-hover-palette-2-base" href="#">
              <svg class="u-svg-link" viewBox="0 0 24 24"><use</pre>
xmlns:xlink="http://www.w3.org/1999/xlink" xlink:href="#menu-
hamburger"></use></svg>
              <svg class="u-svg-content" version="1.1" id="menu-hamburger"</pre>
viewBox="0 0 16 16" x="0px" y="0px" xmlns:xlink="http://www.w3.org/1999/xlink"
xmlns="http://www.w3.org/2000/svg"><g><rect y="1" width="16"</pre>
height="2"></rect><rect y="7" width="16" height="2"></rect><rect y="13"
width="16" height="2"></rect>
</g></svg>
          </div>
          <div class="u-nav-container"></div>
          <div class="u-nav-container-collapse">
           <div class="u-black u-container-style u-inner-container-layout u-</pre>
opacity u-opacity-95 u-sidenav">
              <div class="u-inner-container-layout u-sidenav-overflow">
                <div class="u-menu-close"></div>
                u-nav-1">
             </div>
           </div>
           <div class="u-black u-menu-overlay u-opacity u-opacity-70"></div>
          </div>
        </nav>
     </div></header>
    <section class="u-clearfix u-image u-section-1" id="sec-cf89" data-image-</pre>
width="1200" data-image-height="500">
     <div class="u-clearfix u-sheet u-sheet-1">
        <div class="u-form u-form-1">
          <form action="\register" method='POST' name="form2" >
            <div class="u-form-group u-form-name u-form-group-1">
              <label for="name-17d6" class="u-label">UserName</label>
              <input type="text" placeholder="Enter your Name" id="name-17d6"</pre>
name="username" class="u-border-1 u-border-grey-30 u-input u-input-rectangle
u-white" required="">
           <div class="u-form-email u-form-group u-form-group-2">
              <label for="email-ecd9" class="u-label">Email</label>
              <input type="text" placeholder="Enter a valid email</pre>
address" name="email" class="u-border-1 u-border-grey-30 u-input u-input-
rectangle u-white" required="">
           </div>
            <div class="u-form-group u-form-group-3">
              <label for="text-d53c" class="u-label">passward</label>
              <input type="pasword" placeholder="" name="password" class="u-</pre>
border-1 u-border-grey-30 u-input u-input-rectangle u-white">
```

registersuccessfully.html

```
<!DOCTYPE html>
<html lang="en">
 <head>
 <title>register success</title>
 </head>
 <body>
 <script>
 window.watsonAssistantChatOptions = {
    integrationID: "03613269-cebb-415d-9c93-124741457ce1", // The ID of this
integration.
    region: "au-syd", // The region your integration is hosted in.
    serviceInstanceID: "43cde6bc-c030-427e-b5d7-f895b40d1c8c", // The ID of
your service instance.
   onLoad: function(instance) { instance.render(); }
 };
 setTimeout(function(){
    const t=document.createElement('script');
    t.src="https://web-chat.global.assistant.watson.appdomain.cloud/versions/"
+ (window.watsonAssistantChatOptions.clientVersion || 'latest') +
"/WatsonAssistantChatEntry.js";
    document.head.appendChild(t);
 });
</script>
<center><h1>you are successfully register </center></h1>
 </body>
</html>
```

usernamefailure.html

```
<!DOCTYPE html>
<html lang="en">
 <title>register error</title>
 <body>
 <script>
 window.watsonAssistantChatOptions = {
    integrationID: "03613269-cebb-415d-9c93-124741457ce1", // The ID of this
integration.
    region: "au-syd", // The region your integration is hosted in.
    serviceInstanceID: "43cde6bc-c030-427e-b5d7-f895b40d1c8c", // The ID of
your service instance.
   onLoad: function(instance) { instance.render(); }
 setTimeout(function(){
    const t=document.createElement('script');
    t.src="https://web-chat.global.assistant.watson.appdomain.cloud/versions/"
+ (window.watsonAssistantChatOptions.clientVersion || 'latest') +
"/WatsonAssistantChatEntry.js";
    document.head.appendChild(t);
 });
</script>
 <center><h1>already username contain </center></h1>
 </body>
</html>
```

fashion.py

```
from flask import Flask,render_template,request,redirect,url_for,session
import ibm_db
import re

app=Flask(__name__)
app.secret_key='a'
conn=ibm_db.connect("DATABASE=bludb;HOSTNAME=b70af05b-76e4-4bca-a1f5-
23dbb4c6a74e.clogj3sd0tgtu0lqde00.databases.appdomain.cloud;PORT=32716;SECURIT
Y=SSL;SSLServerCertificate=DigiCertGlobalRootCA.crt;UID=ktb49368;PWD=clKwviKTg
dS7EdbM",'','')
@app.route('/')
```

```
def login():
    return render template('Login.html')
@app.route('/login', methods=[ "GET", "POST"])
def loginframe():
   global userid
   msg=''
    if request.method == "POST":
        username=request.form.get("username")
        password=request.form.get("password")
        sql="SELECT * FROM users WHERE USERNAME=? AND PASSWORD=?"
        stmt=ibm_db.prepare(conn,sql)
        ibm db.bind param(stmt,1,username)
        ibm_db.bind_param(stmt,2,password)
        ibm_db.execute(stmt)
        account = ibm_db.fetch_assoc(stmt)
        print(account)
        if account:
            session['loggedin']=True
            session['id']=account['USERNAME']
            userid=account['USERNAME']
            session['username']=account['USERNAME']
            msg="logged in suceccfully"
            return render_template('Home-Page.html')
        else:
            return render template('loginfailure.html')
    return render_template('Login.html')
@app.route('/registerpage')
def registerpage():
    return render_template('registers.html')
@app.route('/register', methods=['GET','POST'])
def registers():
    if request.method== "POST":
        username=request.form.get("username")
        email1=request.form.get("email")
        password=request.form.get("password")
        sql="SELECT * FROM users WHERE USERNAME=?"
        stmt=stmt=ibm_db.prepare(conn,sql)
        ibm_db.bind_param(stmt,1,username)
        ibm_db.execute(stmt)
        account = ibm_db.fetch_assoc(stmt)
        print(account)
        if account:
            return render_template('usernamefailure.html')
        elif not re.match(r'[^0]+@[^0]+\.[^0]+',email1):
            return render template(emailfailure.html)
        elif not re.match(r'[A-Za-z0-9]+',password):
            return render_template('passwordfailure.html')
        else:
            insert sql="INSERT INTO users VALUES(?,?,?)"
```

```
prep_stmt=ibm_db.prepare(conn,insert_sql)
            ibm_db.bind_param(prep_stmt,1,username)
            ibm_db.bind_param(prep_stmt,2,password)
            ibm_db.bind_param(prep_stmt,3,email1)
            ibm_db.execute(prep_stmt)
            return render_template('registersuccessfully.html')
    return render_template('registers.html')
@app.route('/category')
def category():
    return render_template('Category-Page.html')
@app.route('/Men')
def men():
   return render_template('men.html')
@app.route('/Women')
def women():
    return render_template('women.html')
if __name__=='__main__':
  app.run(debug=True, port=9000)
```

Dockerfile

```
FROM python:3.6

WORKDIR /app

ADD DigiCertGlobalRootCA.crt/ /app

COPY requirements.txt /app

ADD ./templates/. /app/templates

ADD ./static/images/. /app/static/images

ADD ./static/js/. /app/static/js

ADD ./static/css/. /app/static/css

ADD fashion.py/ /app

RUN python3 -m pip install -r requirements.txt

RUN python3 -m pip install ibm_db

EXPOSE 9000

CMD ["python", "fashion.py"]
```

Requirements.txt

Flask

ibm_db

sendgrid

Output Screenshots

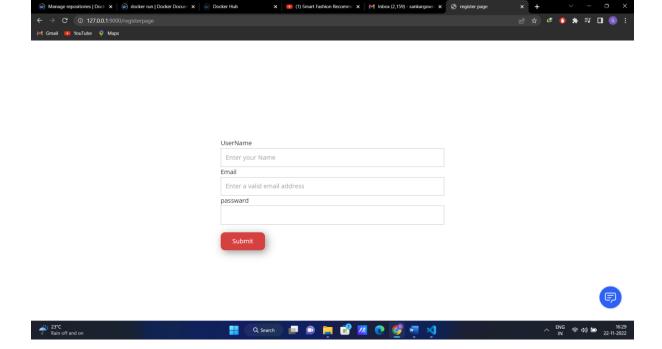


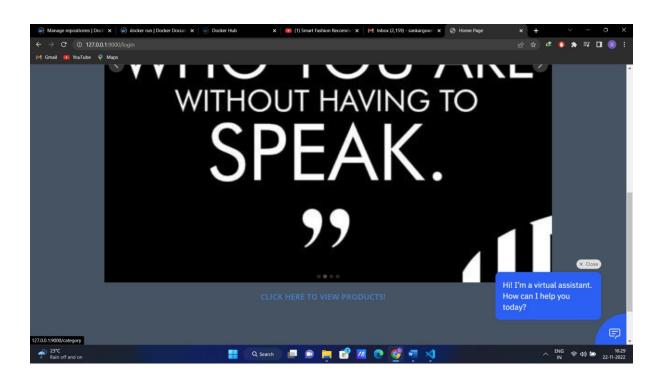
LOGIN PAGE

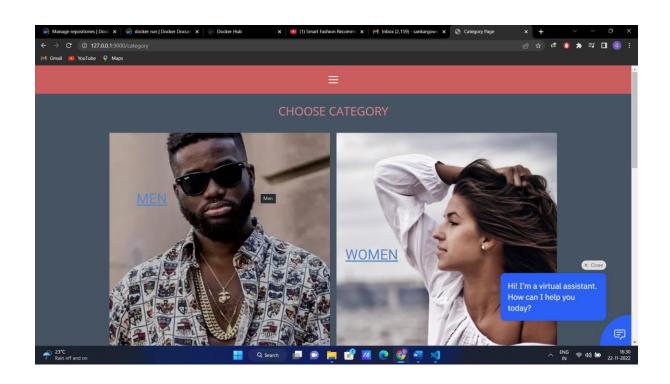


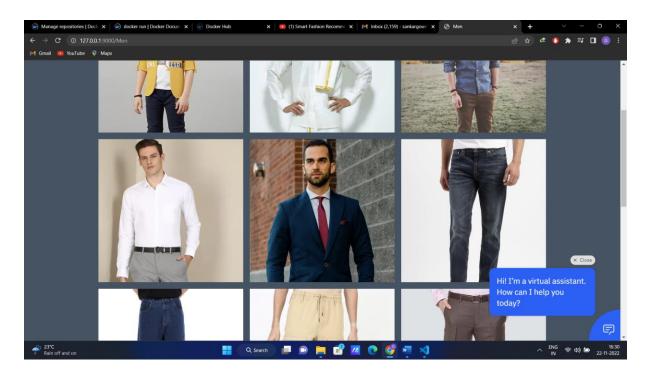


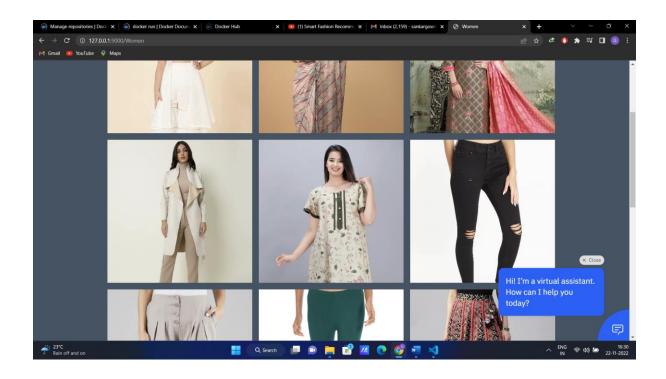












GITHUB AND PROJECT DEMO LINK

GitHub Link:

https://github.com/IBM-EPBL/IBM-Project-39851-1660554843

Demo Video Link:

