Flipkart GRiD 5.0

Problem Statement Title:

Conversational Fashion Outfit Generator powered by GenAI.

Team Name: 686157-UMBC1361

Team members details

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Team Members >	**1 (Leader)**	**2**	**3**
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Deliverables/Expectations for Level 2 (Idea + Code Submission)

1. The generator displays appropriate outfits based on the user prompts
2. The generator recommends appropriate outfits based on occasion, gender, aesthetics, and conversation history of the user.
3. The system generates virtual try on images based on the outfits the user has selected till now.
4. The system also suggests supplementary outfits that are compatible with the outfit chosen by the user

Use-cases

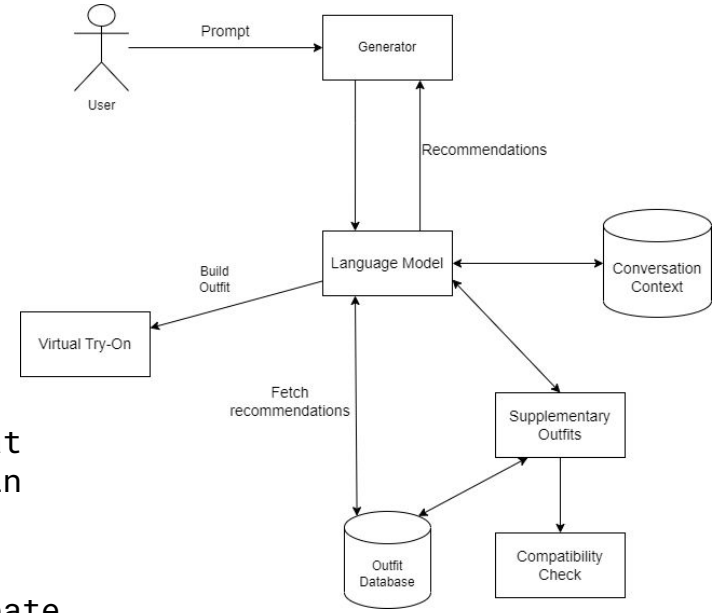
- Personal Styling Assistance:- Tracking user specific data like past purchase history, wishlist, browsing data and the fashion sense provides in-depth and specific outfit recommendations.

- Event and Occasion Dressing :- The user can ask the generator to suggest outfits for different occasions like festivals or seasons and also for different usage like party wear, formal wear, etc.

- Virtual Try-Ons: Users can "try on" different outfits virtually through the system. Users can visualize how different clothing combinations would look on like before making a purchase.

Solution statement/ Proposed approach

- Understanding user prompts - Using LLMs(large language models) to understand what the user is looking for.
- Recommending appropriate outfits - The LLMs transfers the contextual meaning to a model agent which then fetches appropriate outfits from the database
- Finding Supplementary Outfits - Using a color based image matching approach along with conditionals for occasions for recommending compatible outfits to supplement the user's choice.
- Preserving Conversation Context - Storing the conversat history of all outfits that the user has liked and usin for future recommendations
- Virtual Try On - Making use of diffusion models to create virtual try on images using the outfits chosen by the user



Limitations

- Limited Understanding of Context - The language model may often fail to understand the exact intent of the user resulting in incorrect recommendations

- Technical Constraints - Processing natural language and generating relevant responses can be computationally intensive and might lead to delays in providing recommendations.

- Subjectivity of Fashion - Fashion is highly subjective and can vary widely from person to person. The system's recommendations might not align with a user's unique sense of style and individuality.

Future Scope

- Augmented Reality Integration: Integration with augmented reality (AR) technology could allow users to virtually "try on" outfits through their devices. This would provide a more immersive and realistic shopping experience.
- Collaborative Filtering: The System could use social networks and user interactions to provide outfit recommendations based on trends and choices made by users with similar preferences.
- Multi-Modal Inputs: The Systems could better understand user preferences by interpreting not only text but also images, voice commands, and even video descriptions of outfits.

Instructions (You Can Delete this Slide)

Dear Team,

Congratulations on reaching this stage - We look forward to some amazing & innovative solutions.

Please find some important instructions before you begin to prepare your submission decks.

Slide Limit : 10 Slides of Content **post (after)** this Slide
Saving Format : Save the file as a PDF to ensure your formatting remains intact
Submission Guide: Only the **'Team Leader'** will be able to submit the Deck.
Only the latest submission will be considered as final
(You can keep updating your deck within the deadline)

Wishing you all the very best !

Team Flipkart GRiD

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Thank You