

Developing a Styling Assistant Android Chatbot Application for Clothing Industry

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Abstract - In this paper, we work on the chatbot for the assistant work of styling the customer. Our application provides suggestions and recommendation to the customer for better services in the field of styling outfits. This chatbot takes the command of customers and presents the results as well as recommended the additional things which can go with the purchase. Our product goes with any clothing company websites, apps thus it is easier to use. Customer and client both get benefit by this platform.

Key Words: NLP(natural language processing), Android studio, Kotlin, AI chatbot.

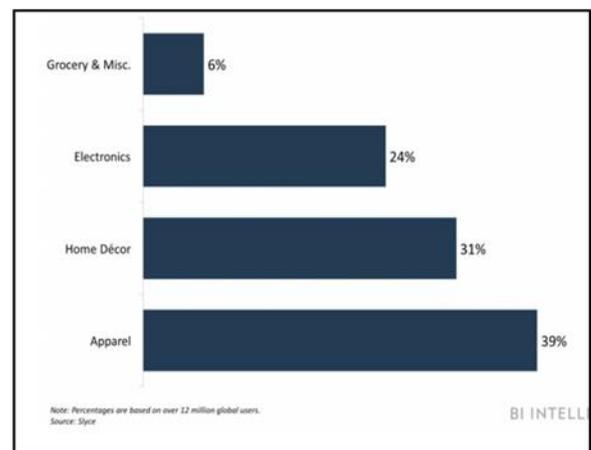
1.INTRODUCTION

It is the fact of Juji that commerce is showing a general trend towards going online. Fashion brands, as well as traditional offline stores, are keeping pace and implementing online shopping platforms. Most retailers are developing mobile applications to make online shopping easier and faster for their customers. At the same time, online shopping generally loses a separate approach, the 'personal touch' experienced in physical stores. This is especially felt in fashion stores. When we buy clothing, especially branded clothes, we want to take care of your special mood wants and want to get away from the store with the best moods that are the best in the world want to be treated. Unfortunately, online shopping is easy and convenient, but the shopping cart cannot say

"I think this color bottoms goes with these top "or "may I suggest a scarf that fits this blouse?"

Fashion brands rely on technology to help create personalized experiences. Retail chat bots help businesses provide a personal touch that may be scarce in the digital space. When customers buy clothing, especially designer brands, they want to feel the understanding of catering. Retail chat bots are helping brands like Burberry, ASOS, Sephora, Victoria's Secret and Tommy Hilfiger respond to customer needs. They are bridging the gap between customers and retailers in a convenient and personalized way. Retail chat bots are the new black for brands looking to stay competitive in an ever-changing industry. They help brands respond to customer inquiries. It seems to be written as well as by voice. It is also used to provide product recommendations through NLP (a good example is Alibaba or eBay). The Natural language processing concerned with how technology meaningfully interprets human language input and behaves accordingly. It

provides context and meaning to text-based user input so that AI can come up with the best response.



Fig(1) The retail categories consumer use visual search for(Article from dzone.com)

In the above graphical representation, we can observe that 6% searches is for Grocery & Misc, 24% searches for electronics, 31% searches for home décor and 39% searches for apparel .Total of the 41% the most of the visual search are for apparel which indicates that most of the peoples are very much concern about the apparel visualization.

Our product provides a platform which suggest you these things when the customers are not aware about the color concept of dresses, varieties of patterns combinations or outfit styling as your fashion assistant. In nowadays social media lifestyle, it is quite necessary for the peoples to look good, so they are very much concern about their overall outfits .Many of the people are troubled about the way they dress, and they are even being judge by others. Suppose someone wear a red top with red pants with other shades, others harshly mocking them or maybe they talked behind about like "what the heck is she or he is wearing" which is not good altogether it may affect the self-confidence of that particular person it's not his or her fault that they choose to wear that outfit it's just lack of knowledge about the shading combination it may occur to anyone else who are not know about that stuffs. For example, suppose a customer had a striped pants and he or she don't know what goes with it or what look good with them then a customer basically goes to the person or friends who knows little bit about outfit selection or simply searching it in google.

By searching about all combination and stuffs takes a lot of times, and thus our product came in here the customers don't have to do the whole searching, our platform provide best solution for your worry.

The customer just needs to write what goes with striped pants then our bot asks you about the color and type of pants and by writing those details our bot give you the best solution and even it provides you the available products results.

You can also set the price range and other stuffs but the important things is now you know what goes with that particular pants within some seconds you don't need to call a friend who is expert in fashion or searching links , images on google it saves lots of customer time . This product provided an advantage on the client-side to improve the online clothing store sales record. It is user-friendly because everyone can ask about patterns and combinations by writing and speaking queries like what goes with blue pants or if floral pants go with a floral shirt? This way, you can attract more customers to your platform because you can easily find collaborations of matching clothes. Even if the extra dress you aren't using doesn't know what to do with a strange colored shirt and pants, ask your bot about this. Customers get fascinated by knowing that they can wear clothes that match trends and styles.

2. METHODOLOGY

2.1 The Android Studio

For User Interface Java (Android) Best for providing a truly native, familiar UX on Android mobile devices. Android-specific; cross-platform development will require additional investment. The Android platform for developing apps is open source. This means that it is royalty-free and is not limited to the Android Market. This brings a lot of freedom and freedom to innovate and be creative. The SDK architecture is a huge plus for communicating with the community about future extensions of mobile app development. Platform integration is straightforward, and the SDK allows you to install and run your app on a device every time you compile. Developing applications on the Android platform is easy if you can code in Java natively. Programmers have found it simple to write scripts using code for mobile apps on the Android platform. The process of starting the application is simple and straightforward. The platform enables third-party marketplaces to be used for distribution and sales channels by developing new application stores or rapidly deploying to websites. 84.7% of mobile devices are based on the Android platform and offer a lot of potential for a bright future in app development. The platform is very user-friendly and very popular among developers.

2.2 Kotlin

Kotlin is a newly written language inspired by Java, but an improved version with many additional features. It is clean, relatively simple, and has fewer forms and conventions compared to Java and other programming languages. To program Android apps using this language, developers need to understand basic programming concepts and structures.

2.3 AI Chatbot

A chatbot is a software program developed using artificial intelligence (AI). They can communicate with people by text or voice commands in natural language. Bots utilize messaging

platforms such as Slack, Facebook Messenger, and Telegram to perform purposes such as ordering food, booking taxis, and conducting transactions. Building your own artificial intelligence bot requires some serious expertise. It doesn't go into detail about the nuances of intelligence in the form of NLP, deep learning, and other algorithms. At a basic level, input data is provided to an AI chat bot, interpreted and transformed into relevant output. That is, the response the user receives after asking a question. So the AI chatbot receives information from the programmer. And over time, it is "trained" to understand context through several algorithms, including part-of-speech tagging.

3. LITERATURE REVIEW

[1] Tommy Hilfiger stepped into the interactive commerce game, launched a chatbot on Facebook Messenger, and partnered with the lavish events of New York Fashion Week. Dubbed TMY.GRL (reminiscent of the popular Tommy Girl perfume from the 1990s), the service enables personalized and scalable conversations with fans surrounding the brand's new Fall 2016 line and its Tommy Gigi [Hadid] collection. Created in partnership with the artificial intelligence platform msg.ai, it aims to recreate a concierge-style experience through automated messages.

[2] Sephora has led the way in the beauty world with a focus on the use of chatbots for brand emojis and other uses of technology to improve the lives of their customers. The brand is also adding two new features to their chatbot service: Sephora Reservation Assistant and Sephora Color Match. The first of the two, the Sephora Reservation Assistant, sends a message to the Sephora chatbot to help Sephora consumers quickly and seamlessly schedule an appointment with a Sephora store's beauty expert.

The second new feature leverages a partnership with a company called ModiFace that uses augmented reality to help consumers select and match colors. With Sephora Color Match, an algorithm automatically detects when the user points the camera to any image or face and presents the user with the identified shades and other matching products from the Sephora line, such as lipsticks and eye makeup.

[3]Lingerie brand Victoria's Secret has taken another approach to communicating with customers via chatbots. Currently, the chatbot is dedicated to bra shopping. This is a slightly delicate case in which every woman appreciates both expert advice and friendly fellowship. The chat begins with a suggestion to display a new design created by the brand. In contrast to Tommy Hilfiger's chatbot, for Victoria's Secret, this primarily serves as the first navigation menu redirecting users to that page on their website. From choosing color, design and size to checkout, the actual shopping is already happening on your website, but the chatbot helps you jump to that page.

[4] Burberry's chatbot- luxury shopping and fashion shows on the same Facebook page. The Burberry chatbot starts with inviting you backstage where you can see models parading in exquisite Burberry outfits at the latest fashion shows. At the same time, you can browse the current collections and get complete looks with the chatbot suggesting matching items and accessories. The navigation is rather multi-directional, and you can easily find your way around. The collections are shown with the prices for each item together with the "Shop now" links which lead to Burberry's website.

[5] Asos is building a chat bot stylist that pivots between sales and ecommerce depending on whether it's used in messenger services and voice assistants. The online retailer has expanded the Enki chatbot into a virtual Google Assistant just 12 months after it debuted on Facebook Messenger. UK and US customers can start a conversation with Enki using the phrase 'Hey, Google, talk to Asos' from the Google Assistant app on their Android or iOS mobile device and the Google Home smart speaker. The chatbot then instructs the user to browse the six bestselling menswear or womenswear looks on the Asos site, depending on the product they want to display. Based on your comments, the chat box may cover more topics.

4. FUTURE IMPLEMENTATION

4.1 Opportunity for Freelance:

Social media influencer and fashion bloggers get maximum priority for freelance in our platform. They can get benefits by working under our applications program where they provide trending information and data through which we are going to update our application.

4.2 Adaptability in any platform:

Provides platform adaptability to perform in various platforms like website, app and social media platforms thus anyone can use this bot regardless of the platform barriers.

4.3 User Friend:

It provides a special friendly environment to the customer for interaction between them which gives the user a better experience in shopping. User can ask about his/her clothes even they don't know how to dress; it gives the user security and satisfaction that they are buying the right dress for the right combinations.

4.4 Wardrobe for user:

It also provides wardrobe functionality just like a wish list option, users just need to write the command and our chatbot fetched the details that the user adds into his/her buying list but the additional functionality we are giving the user is segregation. Our bot segregates options like a wardrobe.

4.5 User community:

We can also create our community server where we can add our friends & family where users can discuss and follow fashion bloggers and social media stars for their clothing styles and taste. Users can feel more involved when they shop together rather than buying and selecting all alone.

5. CONCLUSIONS

This app is for styling the outfit by providing information and recommendation to the user regarding types of clothes, accessories, beauty products with tips like color compatibility, pattern combination, and the type of apparel that fits with trends. We can also chat with friends simultaneously in this app. This app is mainly focusing and targeting a user who doesn't have any ideas regarding fashion and called nerds, who get bullied because they don't know how to get dressed. While using our application user get comfortable and friendly

environment which make them feel like they shop together without having any insecurities about trends.

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