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**Section: AI 4B**

**Programming for Artificial Intelligence**

**PROJECT:**

Fashion Design Recommendation Chatbot

1. Introduction

The Fashion Design Recommendation Chatbot is a natural language-based web application designed to recommend stylish outfits tailored to the user's preferences, gender, and occasion. Built using Python, Flask, and natural language processing (NLP), the chatbot offers fashion suggestions in a conversational manner. Users can interact via text or buttons, and the chatbot responds with curated outfit ideas. The main objective is to provide an engaging digital fashion assistant that mimics a real stylist's suggestions.

1. Tools & Technologies

Language: Python 3.x

Web Framework: Flask

NLP & Logic: Custom Rule-based NLP + JavaScript

Front-End: HTML, CSS, JavaScript

Styling: TailwindCSS + Custom CSS for professional fashion house look

Media: Background image inspired by a luxury fashion studio

Browser Interaction: JavaScript (Fetch API)

1. Project Structure & File Overview

3.1 File Descriptions

app.py: The Flask backend that handles user input from the frontend, processes it, and returns suitable fashion responses based on the gender and category.

templates/index.html: The main frontend layout of the chatbot. It includes gender and category buttons, a text input field, and a beautiful background styled to reflect a fashion house. It supports animated titles, responsive layout, and mobile-friendly design.

static/style.css: Contains the UI styles, including animations, colors, layout adjustments, and blur effects for background overlay. It uses gradient color schemes and text shadows for a premium look.

background.jpg: A high-resolution background image representing a modern luxury fashion house, enhancing the feel of the chatbot.

requirements.txt: List of Python libraries required to run the project (Flask, etc.).

3.2 File Connection & Execution Order

Startup: Run python app.py

Process Flow:

* The user interface loads with gender and fashion category options.
* Users either select a category or type a sentence (e.g., "Suggest me a wedding outfit").
* The chatbot determines the gender (if selected) and responds with a fashion recommendation.
* Flirty or stylistic lines are randomly appended to make the conversation more engaging.
* The response is shown dynamically using JavaScript.

1. How It Works

Homepage Load:

* Loads a fashionable UI with background image and blurred overlay for luxury feel.
* Gender and fashion category buttons displayed for quick interaction.

User Interaction:

* Gender can be selected as Male or Female.
* Categories include: Wedding, Casual, Party, Funeral, Breakupwear, Nightwear, Formal, Seasonal, Western, Eastern.
* Users can also type natural language sentences like "Hey, what should I wear to a party tonight?"

Response Logic:

* JavaScript processes the button input or sentence.
* Flask backend receives request and sends back category- and gender-specific fashion tips.
* Tips are presented with stylistic flair and conversational charm.

JavaScript Features:

* Typing animation for bot responses.
* Stylish replies with emojis and flirtatious or friendly lines (e.g., "You're going to steal the spotlight 💃✨").
* Input field support with Enter key.
* Scroll-to-bottom behavior on new response.

1. Results

Example Output:

Input: "Suggest me an outfit for a party."

Output: "For a female, a stunning sequin dress paired with silver heels and a clutch would be perfect for a party night. You're going to steal the spotlight 💃✨"

UI Elements:

* Gorgeous fashion house background
* Animated title using glowing effects
* Blurred overlay for chat visibility
* Responsive mobile-friendly layout
* Styled buttons and soft color gradients
* Typing animation to mimic real conversation

1. Conclusion

This project demonstrates the creative integration of natural language interaction and fashion recommendation. It simulates the experience of consulting a fashion stylist in an engaging, user-friendly format. With aesthetic UI and conversational tone, the chatbot is both informative and enjoyable.

Possible future improvements include:

* Integrating advanced NLP models like GPT for smarter conversation
* Expanding fashion categories with substyles
* Allowing users to upload images for style suggestions
* Adding multilingual support
* Saving user preferences for a personalized fashion experience