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BUILDING A VIRTUAL TRY-ON WEB APPLICATION USING APIs AND WEB TECHNOLOGIES

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Abstract

This project presents a web-based Virtual Try-On application developed using HTML, CSS, JavaScript, PHP, and third-party image processing APIs. The system enables users to upload their photographs, select garments from an available collection, and visualize how the selected clothes appear on them. The application aims to improve the online shopping experience by providing customers with an interactive platform to preview outfits before purchasing. The project emphasizes API integration, responsive web design, image handling, and efficient backend processing. The proposed system offers a lightweight and cost-effective alternative to computationally intensive deep learning-based virtual try-on solutions.

Index Terms - Virtual Try-On, API Integration, HTML, CSS, JavaScript, PHP, Image Processing, E-commerce.

I. INTRODUCTION

The rapid growth of e-commerce has significantly transformed the fashion industry. Despite its convenience, online apparel shopping presents challenges because customers cannot physically try garments before purchasing them. This limitation often leads to dissatisfaction and increased product return rates.

Virtual Try-On technology provides a solution by allowing customers to digitally visualize clothing items on their own photographs. This project focuses on developing a web-based virtual try-on system using standard web technologies and external APIs.

The application accepts a user image and clothing selection as inputs. The backend communicates with an image processing API to generate a virtual try-on image, which is displayed on the website interface.

II. OBJECTIVES

- * Develop a web-based virtual try-on platform.
- * Integrate third-party APIs for clothing visualization.
- * Provide an intuitive and responsive user interface.
- * Enhance customer confidence in online shopping.
- * Reduce apparel return rates.

III. LITERATURE SURVEY

Several researchers have proposed virtual try-on systems using computer vision and deep learning models such as VITON, CP-VTON, and VITON-HD. These systems generate realistic clothing synthesis results but require high-end GPUs and extensive datasets.

API-based virtual try-on systems offer a practical alternative by utilizing cloud-based processing services. They eliminate the need for model training and provide easy deployment for small-scale applications.

IV. METHODOLOGY

4.1 Image Upload Module

Users upload their front-facing photographs through the website.

Supported formats include:

- * JPG
- * JPEG
- * PNG

4.2 Garment Selection Module

Users can browse and select garments from the available collection.

Examples include:

- * T-shirts
- * Shirts
- * Jackets
- * Dresses

4.3 API Integration Module

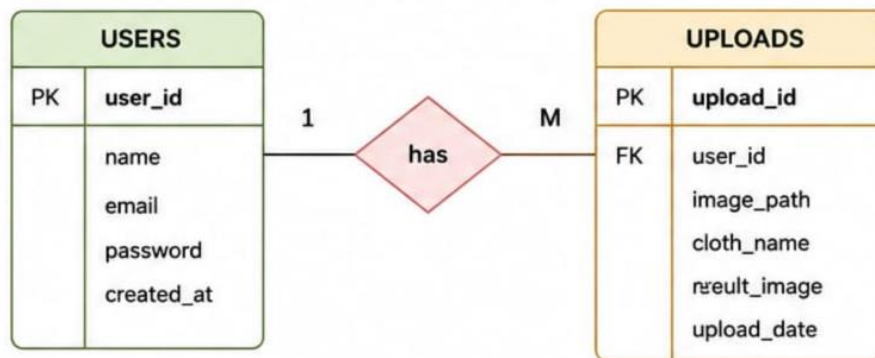
The selected garment and uploaded image are transmitted to an external Virtual Try-On API through PHP scripts.

The API processes the inputs and generates a new image containing the user wearing the selected garment.

4.4 Result Display Module

The generated image is returned to the application and displayed dynamically using JavaScript.

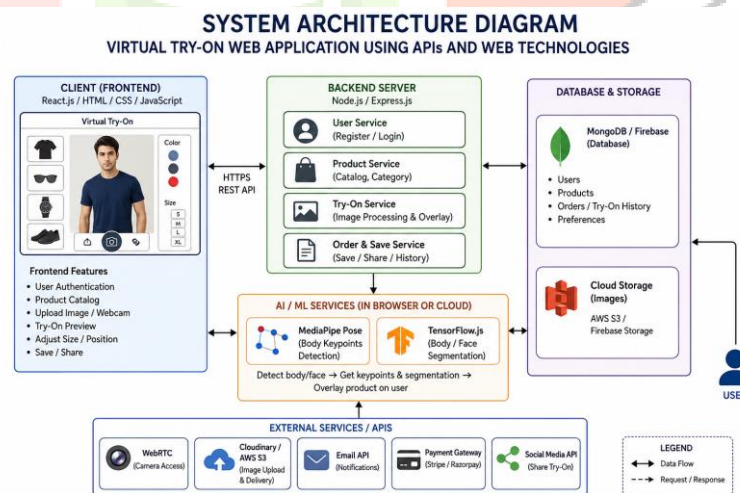
4. ER DIAGRAM



V. TECHNOLOGIES USED

- * HTML – Webpage Structure
- * CSS – User Interface Styling
- * JavaScript – Dynamic Functionality
- * PHP – Backend Processing
- * API – Virtual Try-On Image Generation
- * MySQL – Data Storage

VI. SYSTEM ARCHITECTURE



VII. FEATURES

- * Upload personal images
- * Browse clothing collections
- * Generate virtual try-on results
- * Responsive website design
- * API integration support
- * Image management

VIII. ADVANTAGES

- * Easy implementation
- * No requirement for GPU hardware
- * Faster response time
- * Improved customer satisfaction
- * Reduced return rates

IX. LIMITATIONS

- * Dependent on internet connectivity
- * Relies on third-party API availability
- * Limited accuracy for complex poses
- * Supports only predefined garments

X. FUTURE SCOPE

- * Integration with Augmented Reality
- * Mobile application development
- * AI-based body size estimation
- * Personalized clothing recommendations
- * 3D virtual try-on support

XII. CONCLUSION

The Virtual Try-On system successfully demonstrates how APIs and web technologies can be combined to create an interactive and user-friendly clothing visualization platform. The project provides an efficient solution for online fashion retailers by helping customers make informed purchasing decisions. Future enhancements can further improve realism and personalization.

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