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| Marwadi University | **Marwadi University**<br>**Faculty of Technology**<br>**Department of Information and Communication Technology** | |
| **Subject: Capstone Project** | **Ideation and stakeholder need analysis - Intermediate Review** | |
| | **Date: 24/09/2025** | **Enrolment No: 92200133001** |

**Team Member:**

1. Ritesh Sanchala (92200133001)

**Problem Statement:**

Tailors, shoppers and especially in the fashion and tailoring domains, face difficulties in visualizing how a garment will look on their own body before purchase or stitching. This results in high product return rates, customer dissatisfaction, and inefficiencies in tailoring processes due to miscommunication about design, fit, or fabric. Existing virtual try-on solutions are expensive, or fail to handle complexities such as varied body measurements, fabric textures, and occlusions like hair overlapping clothing.

**Virtual try-on system** that leverages **computer vision, pose estimation, and segmentation techniques** to realistically overlay garments on a user's image while addressing accuracy, usability, and scalability.

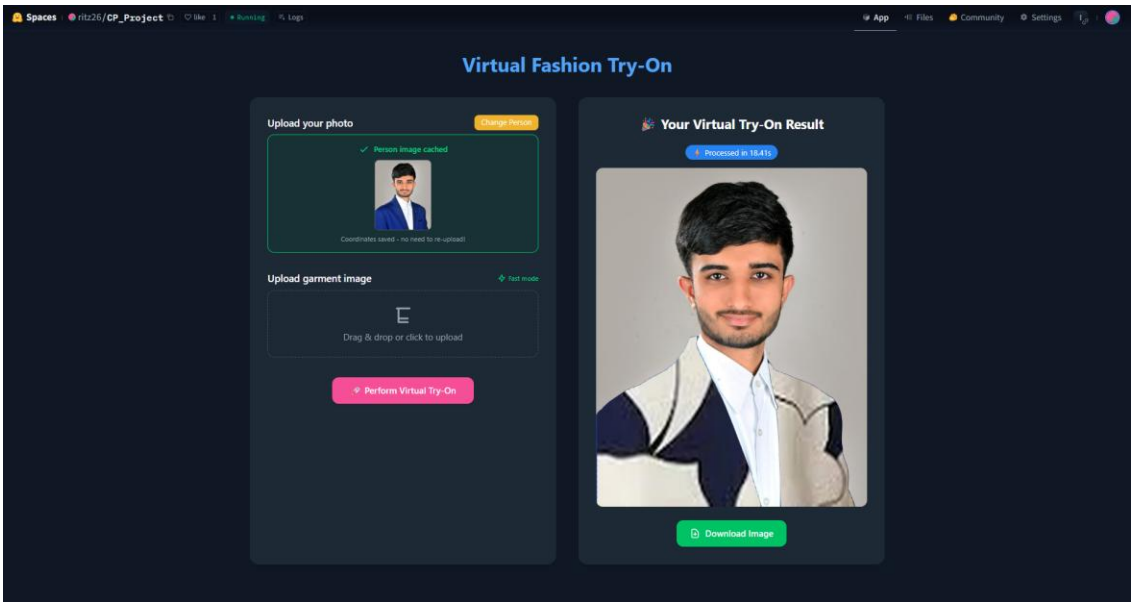
**Versions:**

**Version 1 (V1): Basic Try-On with Raw Garment Upload**

• Users could upload a raw garment image.
• The system overlaid this garment on the detected body region.
• Limitation: Users were not able to perform try-on from any online model image or fashion source.
• Purpose: Validate the feasibility of garment overlay using pose estimation + segmentation.

**Version 2 (V2): Enhanced Try-On with Garment Selection**

• Extended functionality: Users can now upload a raw garment image or select a specific part from any outfit/model image (e.g., just the top from a catalog photo).
• Introduced region selection & cropping to isolate the garment portion before overlay.
• Improvement: Gave flexibility for users to virtually try-on garments not just from raw uploads but also from online models or outfits.



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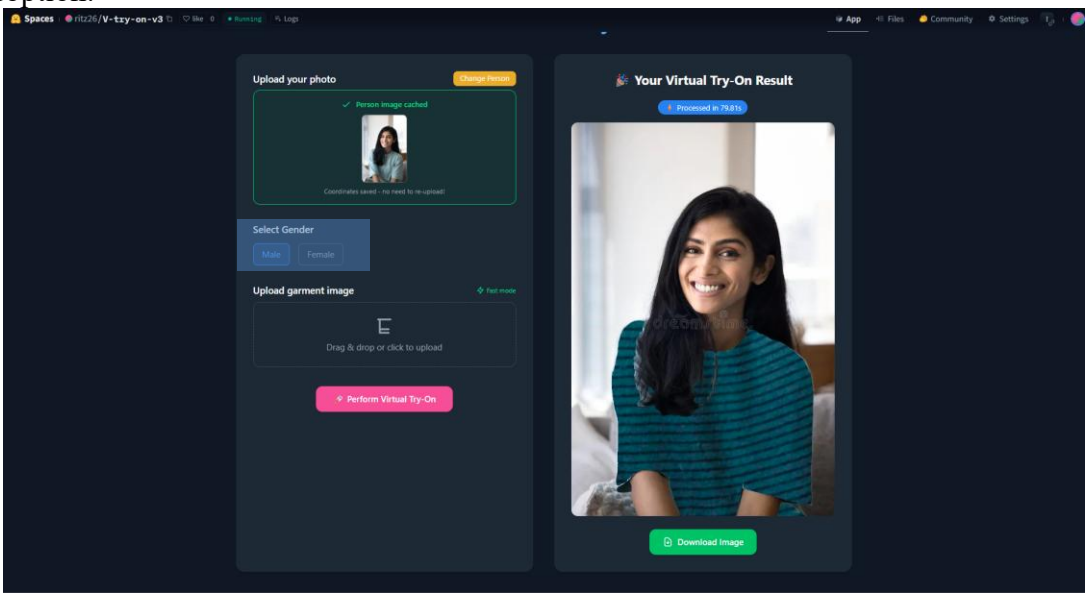
**Version 3 (V3): Female-Specific Optimization**

• Identified a major issue: In V2, female try-ons often misaligned due to hair occlusion on shoulders, causing garments to appear incorrectly positioned on hair.

• Optimized the model by refining segmentation to differentiate between hair and garment/body regions.

• Result: More accurate and realistic outputs for female users, making the solution more inclusive and practical for broader adoption.




| V-Try On (v2) | V-Try On (v3) |
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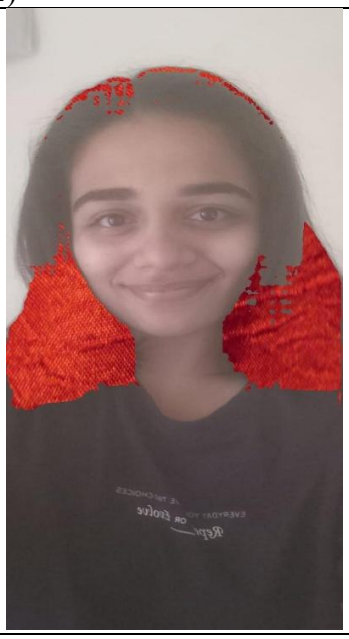
|  |  |

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