

PROJECT PROGRESS REPORT (Week 5)

“Caffeine Overflow’s - Ai driven virtual try-on system in E-commerce”

Junior Design

CSE299

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Section: 15



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Lecture

Project Overview:

Our project focuses on developing an AI-driven virtual try-on system that leverages e-commerce technologies, augmented reality (AR), and 3D modeling to enhance online shopping experiences. This system will allow users to try on clothing virtually, making it easier to make purchasing decisions while reducing product returns.

Progress Made in Week 5:

1. Backend and Admin Integration with Frontend:

- **Admin and Backend Connection:** The backend and admin panel were successfully connected to the frontend, ensuring smooth communication and functionality.
- **Product Management:** New functionalities were implemented to allow the admin to add and remove products on the e-commerce platform through the AddProduct and RemoveProduct features. These updates are now reflected in the frontend, ensuring that products are added or removed from the site as needed.

Progress:

The backend, admin panel, and frontend integration is now fully functional, allowing real-time product management on the e-commerce site.

2. Cart Management and User Authentication:

- **Add to Cart/Remove from Cart:** Users can now add items to their cart or remove them, with the information being saved directly to the database for persistent tracking.
- **User Login and Sign-Up:** User authentication features were developed, allowing users to sign up, log in, and access their profiles.
- **Cart Accessibility:** To enhance security, users must be logged in to view their cart details, ensuring only authenticated users can access this information.

Progress:

User authentication and cart functionality are now operational, adding a layer of security and persistence to the e-commerce platform.

3. Model Training and 3D Model Results Generation:

- **Model Implementation:** Various models were implemented and trained with different configurations to optimize results.
- **3D Visualization with Depth:** Successfully generated test results that include aligned test pairs, final depth, and point cloud data, outputting .ply files viewable in **MeshLab**.
- **Dress-on-Human Visualization:** These files allow users to view a 3D representation of a dress on a human model, providing a realistic try-on experience.

Progress:

The model training has yielded successful 3D visualizations, allowing users to interact with 3D models that show realistic clothing on a human figure.

Challenges & Areas Yet to Be Completed:

- **Further Refinement of 3D Visualization:** While the 3D model generation and alignment are functional, improvements in quality and depth visualization will be necessary for a more seamless user experience.
 - **Additional E-commerce Features:** The next steps involve further integration with payment processing and order management for a complete e-commerce experience.
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Plan for Week 6:

- Continue refining 3D visualization and model depth alignment.
 - Integrate payment processing options and expand e-commerce functionality with order management and tracking.
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Contribution:

Aporbo	Tasfia
Implemented and trained various models for 3D generation, producing .ply files for viewing in MeshLab.	Integrated the backend and admin panel with the frontend for real-time product management.
Generated 3D visualization with depth, allowing users to view realistic dress-on-human models.	Enabled AddProduct and RemoveProduct features on the e-commerce platform.
Created aligned test pairs, final depth, and point cloud data for enhanced 3D try-on experiences.	Developed user authentication (login and sign-up) and cart management features. Ensured cart details are secure and accessible only to logged-in users.
Conducted data annotation to label and organize the dataset for the virtual try-on system.	Integrated the initial AR feature, ensuring the website's "Try On" button and navigation to the "Work in Progress" page

Conclusion:

Week 5 saw significant advancements in backend and frontend integration, enabling smooth product management and user authentication. The model training yielded successful 3D visualizations, enhancing the virtual try-on experience. Moving forward, focus will shift toward refining 3D quality and adding additional e-commerce features.