# PROJECT PROGESS REPORT (Week 2)

## "Caffeine Overflow's - Ai driven virtual try-on system in E-commerce"

Junior Design

CSE299

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Section: 15


**North South University**

**Department of Electrical & Computer Engineering**

*Submitted By*

**Aporbo Ghosh 1931458042**
**Tasfia Anjum Zuairia 2221233642**

*Under the guidance of*

**Ms. Tanzilah Noor Shabnam**
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.

## Projected Plan for Week 1:

- **Frontend Development:** Enhancing functionality with additional pages, cart, and virtual trial features.
- **3D Model Development: Preprocessing and integrating a new dataset for model training**
- **AR Integration**: Implementing AR functionality for virtual try-on.

## Progress Made in Week 2:

**1. Frontend Development:**

Significant progress was made in the frontend:

- **Categories and Product Display:** Zuairia developed functionality to display products from different categories.
- **Cart Page:** A fully functional cart page was created, allowing users to add products to the cart and view them.
- **Virtual Try-On Button:** The virtual try-on button is now more functional, leading to a new trial page.
- **Virtual Trial Page:** This page prompts users to either upload an image or open the camera for a virtual trial experience.

**Progress:**

Almost all core frontend functions, except login and signup, have been implemented successfully.

**2. Dataset Collection & Preprocessing:**

We have decided to move away from the previously collected dataset and focus on more efficient data processing with a new dataset:

- **New Dataset:** The DeepFashion2 dataset was collected and integrated with the smaller Street Try-On dataset**.**
- **Data Preprocessing:** Preprocessing steps such as resizing, cleaning, and normalizing images were completed.

- **Script Development:** Wrote Python scripts to handle image processing, annotation, and dataset integration between DeepFashion2 and Street Try-On**.**

**Progress:**

The new dataset is ready for use, and the scripts for processing have been completed, providing a solid foundation for future model training.

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**3. 3D Model Development:**

- **3D Task Script Development:** Wrote scripts to process and generate 3D tasks, such as image processing, pose annotations, and integrating them into the 3D modeling workflow**.**
- **3D Model Creation:** Initial steps in creating and refining 3D models from the new dataset using the processed data.

**Progress:**

Initial 3D modeling tasks have been set up, and the Street Try-On dataset has been fully processed for use in further modeling.

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## Challenges & Areas Yet to Be Completed:

- **3D Model Accuracy**: More work is needed to improve the accuracy of 3D models generated from the processed datasets E-commerce Integration: Although the basic frontend setup is done, the e-commerce features like cart functionality, user authentication, and product purchase systems are yet to be integrated.
- **Login and Signup System:** While the frontend is almost complete, the authentication system (login and signup) still needs to be implemented.

## Plan for Week 3:

- **3D Model Training**: Begin training the models for mapping 2D images to 3D models.
- **AR Functionality**: Continue refining the AR functionality to provide real-time try-on experiences for users.
- **Login & Signup**: Implement the login and signup functionality on the frontend.

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## Contribution:

| Aporbo | Tasfia |
|---|---|
| Led the **collection of a new dataset**, replacing the previous one with **DeepFashion2**, and integrated it with **Street Try-On**. | Worked on the **frontend development**, implementing the product display for different categories and navigation between product pages. |
| Performed **data preprocessing**, including cleaning, resizing, and normalizing images for the 3D model training process. | Developed a fully functional **cart page**, allowing users to add products to their cart and view them in real-time. |
| Developed Python scripts for **image processing** and **dataset integration** between DeepFashion2 and Street Try-On. | Implemented the **virtual try-on button**, leading to a newly created virtual trial page that allows users to try products via image upload or camera. |
| Initiated the **3D model development process**, focusing on creating tasks related to image processing and pose annotations for future training. | Built the **virtual trial page** that prompts users to either upload images or open the camera for a virtual trial experience. |
| **data annotation process**, preparing the dataset for integration into the 3D modeling workflow. | Designed and developed the **user interface** for a seamless user experience, ensuring smooth interaction across the website. |

## Conclusion:

Significant progress was made during Week 2 in both the frontend development and dataset processing for 3D model generation. With the frontend almost complete, focus will now shift towards refining 3D models and improving the AR functionality for the virtual try-on system. The groundwork has been set for integrating user authentication and finalizing the core features of the platform in the coming weeks.