Virtual Try On with the Coupon Reward Platform integration: MedusaJs & Hyperswitch

1. **Problem Statement**While customers will want to have a more interesting and interactive online buying experience, especially in fashion and accessories, the task of motivating purchases over high-value amounts is a necessary precursor to revenue generation. Our project addresses these concerns in two ways-first, the Virtual Try-On platform would allow users to apply products virtually, and second, a coupon reward on any purchase above ₹5000. And secure payment processing has been ensured through MedusaJs and Hyperswitch Plugin.
2. **Solution Overview**Our solution is to create an interactive and secure online shopping portal through which the customers can virtually try the products before buying them.  
   Those customers with products over ₹5000 would be entitled to a coupon with a unique code that avails luxurious gifts.  
   The coupon and payment will be fully integrated with MedusaJs for the e-commerce functions of Hyperswitch Plugin in order to secure and encrypt the payments.

**Key Solution Features:**

* **Virtual Try-On Experience-** Virtual view: It provides users with the experience of trying their products- clothing, accessories, eyewear-before buying it.
* **Coupon Reward System:**  
  Coupons will be automatically generated for purchases over ₹5000   
  Every coupon will have a unique code that shall redeemed offers some luxurious gift. The coupon shall be used with security while checkout
* **Secure Payments**

The Hyperswitch Plugin will ensure high-grade security for all payments and transactions and redemption of coupon codes. Different payment methods, including credit cards and digital wallets, will be available to the users to make a payment.

1. **Technical Stack  
   *Front-end:***React.js front end for UI development so the whole application is AR try-on ready with good user engagement.  
   ARKit or WebAR for virtual try on.  
   ***Backend:***MedusaJs with core feature management, shopping cart, coupon generation, and order processing.  
   *Hyperswitch Plugin* for payment gateway, processing coupons, etc  
   Node.js/Express in a type of multiple API responses between  
   frontend, MedusaJs, and Hyperswitch.
2. **Implementation Plan**

**Phase 1:** Configuration of Virtual Try-on Platform

Creating the Frontend: Functional UI where users can select products and apply virtual try on.

AR Implementation: AR to display the selected products in real time, straight to the user's camera.

**Phase 2**: MedusaJs Integration of ECommerce

Product Management: integration with the MedusaJs to manage stocks of products, inventory, and cart functionality.

Order Fulfillment Support creation and payment trigger via MedusaJs.

**Phase 3:** Coupon Module

Coupon Generation Algorithm Dynamic coupon generation algorithm which would send unique coupon codes to the customer if the total amount in their shopping cart crosses ₹5000.

Coupon Validation Coupon should not be duplicate and used only once for any given customer account, and it should be usable at the time of checkout.

**Phase 4:** Hyperswitch Plugin Integration

Secure Payment Processing: Hyperswitch Plugin would be integrated for secure processing with multi payment methods' support.

Coupon Redemption : Coupon discount or the luxurious gift, which he has earned, should be verified through Hyperswitch. He can verify and apply the coupon discount or luxurious gift at the checkout time.

**Phase 5:** Testing and Security

Unit Testing: Test each feature-that is, try-on, product management, the coupon system, payment processing for proper working and reliability.

Security Testing: The coupon system should be fraud-proof, and all sensitive payments' details to be encrypted and safe.

**Phase 6:** Deployment

Deploy the platform for use, monitor the system for issues and collect some feedback for further improvement

1. **Key Issues and Solutions**

* Coupon Fraud Prevention: Create coupons with an encryption mechanism to avoid duplication or usage of any code resulting from misuse. Direct coupon codes connection with user accounts via MedusaJs to avoid being transferred or used more than once.
* Seamless AR performance: The try-on AR feature must be seamless, smooth and non-time-lagging across devices.
* Secure Payment Processing: With Hyperswitch Plugin, you can even encrypt the sensitive data that comes in at the checkout process while entering payment information and coupon codes.

1. **Expected Result**

* Fully functional Virtual Try-On service that enables users to try fashion or eyewear products and buy them securely.
* The coupon system encourages users to spend more than ₹5000, hence increasing sales.
* It should be seamless and secure at the checkout stage, using the Hyperswitch Plugin, which means generating trust among customers.

1. **Further Future Expansion Opportunities**

Tiered Coupon Rewards: This can be done by implementing coupons for higher values. But tiers should be provided with significantly more value-coupons for purchasing over ₹10,000 and so on.

Loyalty program- Develop a points loyalty system. Reward the frequent customers with points that they can redeem for a voucher with discount coupons for future use.

Additional product categories: Expand the virtual try-on feature to beauty, furniture, or accessories.