Project Report: Trendy Thrift Website

Title: SmartThrift - AI-Enhanced Thrift Clothing Web Platform

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1. Introduction

SmartThrift is a web-based platform that revolutionizes online thrift shopping by integrating AI-driven features. The website allows users to explore second-hand clothing, find matching outfits, discover local fashion trends, and use AI tools to enhance shopping experiences. The aim is to make sustainable fashion accessible, personalized, and interactive.

2. Problem Statement

Online thrift shopping lacks personalization, trend insights, and intelligent search tools. Users find it difficult to:

- Get quick assistance for queries.

- Discover trending clothes in their location.

- Find matching outfits from available items.

- Search for clothes using reference images.

3. Objectives

- Build an easy-to-use thrift store website.

- Integrate an AI chatbot for instant support.

- Display city-based trending clothing.

- Recommend matching top-bottom color combinations.

- Enable image-based clothing search.

4. Proposed Solution

The platform is built using HTML, CSS, JavaScript (frontend), and Node.js with Express.js (backend). MongoDB stores product data. AI components include image recognition, color-matching algorithms, and a chatbot using Dialogflow or OpenAI API.

5. Methodology

- Design the website layout and user flow.

- Build frontend with responsive design.

- Create backend APIs for product handling.

- Train simple AI models for image similarity and outfit matching.

- Integrate chatbot and trend modules.

6. Expected Deliverables

- Fully functional responsive thrift store website.

- AI chatbot for user queries.

- Outfit recommendation engine.

- Image-based product search.

- City-specific trending items section.

7. Target Audience

- Eco-conscious fashion buyers

- Teenagers and young adults

- Budget-conscious shoppers

8. Unique Selling Proposition (USP)

Combines AI with sustainable shopping by offering personalized and trend-based thrift experiences through modern tools like image search and outfit recommendations.

9. Software & Tools Used

- HTML, CSS, JavaScript, Node.js, Express.js

- MongoDB, Vercel, Render

- Dialogflow/OpenAI API, TensorFlow.js/OpenCV

- Figma (UI Design)

10. Challenges and Limitations

- Limited dataset for image recognition.

- Integration complexity for AI tools.

- Hardware resource constraints for training.

11. Conclusion

SmartThrift merges sustainability with AI, providing a modern thrift shopping experience. It simplifies user interaction, promotes reuse, and adds smart features to make fashion more accessible.

12. References

- MDN Web Docs (HTML/CSS/JS)