Green University of Bangladesh

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Online Men's Fashion Store

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Contents

1 Introduction **2**

1.1 Overview 2

1.2 Motivation 2

1.3 Problem Definition 3

1.3.1 Problem Statement 3

1.3.2 Complex Engineering Problem 3

1.4 Design Goals/Objectives 3

1.5 Application 5

Chapter 1

Introduction

1.1 Overview

The Online Men's Fashion Store is a full-stack web application that enables customers to browse, select, and purchase men's clothing and accessories through an intuitive digital platform. This system combines a visually appealing frontend interface with a robust backend infrastructure to handle product management, user authentication, shop- ping cart operations, and order processing.

The application will be developed using HTML, CSS, and JavaScript for the client- side interface, while PHP and MySQL will power the server-side logic and database management. Unlike modern framework-heavy solutions, this project takes a funda- mental approach by building everything from scratch, which allows for greater control over performance, security, and customization. The system is intended to serve as a fully functional e-commerce solution that can be deployed for actual business use by small to medium fashion retailers.

1.2 Motivation

The rise of online shopping in Bangladesh has created significant opportunities for local fashion businesses, but many struggle to transition from traditional retail to digital com- merce. After observing several local clothing stores and discussing with small business owners, we identified recurring challenges that motivated us to develop this project.

Most small retailers either rely on social media pages for selling (which lack professional presentation and organized inventory management) or they avoid going online altogether due to perceived technical complexity. When they do attempt to build web- sites, they often face issues like expensive development costs, ready-made platforms with monthly subscription fees, websites that load slowly on mobile devices, difficulty updating products without technical knowledge, and lack of proper inventory tracking leading to overselling or confusion.

Additionally, from an educational standpoint, we wanted to deeply understand how e-commerce systems actually work behind the scenes. Building with raw PHP and MySQL rather than using frameworks like Laravel or WordPress gives us hands-

experience with fundamental concepts like session management, database design, security implementation, and server-side validation [**?**].

This project addresses a real market need while also fulfilling our goal of mastering core web development technologies that form the foundation of more advanced systems.

1.3 Problem Definition

1.3.1 Problem Statement

Small and emerging fashion retailers in Bangladesh face a complex set of interconnected challenges when attempting to establish a functional online store. Through preliminary research and informal interviews with local store owners, we've identified sev- eral critical pain points.

Many retailers currently depend on Facebook pages and WhatsApp for sales, which creates problems with professionalism, order tracking, and customer trust. There's no systematic way to manage inventory, leading to situations where customers order items that are actually out of stock. Payment collection is disorganized, usually happening through mobile banking apps with no automated record-keeping.

On the technical side, existing solutions present their own obstacles. Premium e-commerce platforms require ongoing subscription costs and often include unnecessary features that complicate the user experience. Open-source solutions need technical expertise to set up and maintain. Custom development is too expensive for most small businesses to afford.

From the customer perspective, many existing local fashion websites suffer from poor mobile optimization, confusing navigation, unclear product information, and slow loading times that frustrate users and drive them away before completing purchases.

This project aims to create a middle-ground solution: a complete, lightweight e-commerce system that small retailers can afford to develop and maintain, while providing customers with a smooth, trustworthy shopping experience comparable to larger platforms [**?**].

1.3.2 Complex Engineering Problem

The following table outlines the complex engineering attributes addressed by this project.

Table 1.1: Summary of the attributes touched by the mentioned projects

Name of the Attributes	How This Project Addresses It
P1: Depth of knowledge required	Requires understanding of HTML5, CSS3, JavaScript, PHP, MySQL, session management, password hashing, prepared statements, and responsive design principles.
P2: Range of conflicting requirements	Must balance attractive design with fast loading, security with usability, mobile optimization with desktop features, and code simplicity with produc- tion robustness.
P3: Depth of analysis required	Requires analyzing user shopping flows, cart management logic, checkout processes, admin CRUD operations, database relationships, and security vulnerabilities.
P4: Familiarity of issues	Addresses common e-commerce problems like product display, size selection, price calculations, inventory tracking, user authentication, and payment handling.
P5: Extent of applicable codes	Implements prepared statements for SQL injection prevention, password hashing with encrypt, input validation, CSRF tokens, session security, and responsive CSS techniques.
P6: Extent of stakeholder involvement	Serves multiple users: customers (easy shopping), admins (product management), developers (maintainable code), each with different technical knowledge levels.
P7: Interdependence	Product display depends on database queries, cart links to sessions and database, orders involve multi-table transactions, admin actions trigger cas- cading updates across related records.

1.4 Design Goals/Objectives

The main objectives of this project are organized into the following key areas:

Build a Working Online Store

Create a complete shopping website where customers can view products, add them to their cart, and place orders. The cart should remember items even if users close their browser and come back later.

Add User Login and Registration

Build a secure system where customers can create accounts and log in safely. Users should be able to see their past orders and update their profile. Store owners will have special admin access to manage everything.

Create Admin Dashboard

Make an easy-to-use admin panel where store owners can add new products with photos, change prices, update stock quantities, and organize items into categories. Changes should appear on the website immediately.

Use Database for Everything

Store all information (products, users, orders, cart items) in a MySQL database with proper organization. Connect related data using foreign keys so everything stays consistent and organized.

Make It Work on All Devices

Design the website to look good and work smoothly on phones, tablets, and computers. Navigation should be simple, product pages should be clear, and checkout should be easy to complete.

Keep It Fast

Make sure pages load quickly by using optimized images, writing efficient database queries, and showing products in pages instead of all at once. This is important for mobile users with slower internet.

Implement Strong Security

Protect the website from hacking by preventing SQL injection attacks, blocking dangerous scripts, using security tokens in forms, and storing passwords securely with encryption. Never save passwords as plain text [**?**].

Make It Ready for Real Use

Build this not just as a class project, but as something that could actually be used by a real store. Include proper error messages, user-friendly notifications, and an admin interface that non-technical people can learn to use.

1.5 Application

This system has practical applications in several real-world scenarios:

Local Fashion Retailers:
Small clothing shops in areas like Mirpur, Dhanmondi, or Uttara can use this platform to reach customers beyond walk-in visitors. For example, stores that currently sell only through Facebook can shift to this professional platform, giving customers more confidence to place orders and helping the shop track inventory, sizes, and colors more accurately.

Student Entrepreneurs:
Many students start small clothing brands or resell fashion items. This system gives them an affordable way to look professional online without paying monthly fees to platforms like Shopify. They can begin with a few products and gradually expand as their business grows.

Educational Purpose:
From an academic perspective, this project serves as a complete learning tool for understanding full-stack development. By building the system from scratch instead of relying on WordPress or CMS platforms, students gain real knowledge of how e-commerce systems work internally—valuable for job interviews and future projects.

Development Template:
Developers or agencies can use this project as a starting template for client work. They can customize the design and features according to client requirements while keeping the system lightweight and efficient.

Portfolio Demonstration:
The completed project demonstrates practical skills in frontend development, backend programming, database management, and security implementation—making it a strong portfolio piece for career advancement.

In our specific context, we are considering deploying this system for a family member who runs a small T-shirt printing business. Currently, they handle orders through Facebook Messenger, which often leads to confusion regarding size, color, and payment tracking. This system would make their operation more professional and help increase sales by attracting customers who prefer shopping on a proper website rather than through social media.