



Green University of Bangladesh

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Online Men's Fashion Store

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Students Details

Name	ID
Rokunuzzaman Topu	232002280
Md Rafiuddin Khan Rafi	232002152

*Submission Date: 31/12/2025
Course Teacher's Name: Feroza Naznin*

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<u>Lab Project Status</u>	
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Chapter 1

Introduction

1.1 Overview

The Online Men's Fashion Store is a web-based e-commerce platform designed to sell men's clothing and accessories through an online system. The main goal of this project is to provide a smooth, fast, and user-friendly shopping experience for customers who want to buy fashion items without visiting a physical store.

The system allows users to browse products, view details, add items to cart, place orders, and track their purchases. From the business side, the store owner can manage products, orders, and customer information easily. This type of system is now very important because online shopping has become a part of daily life, especially for busy people who prefer buying products from home.

1.2 Motivation

The idea of this project came from observing how fast online shopping is growing in Bangladesh and worldwide. People now prefer to buy clothes online because it saves time, offers more variety, and often provides better prices. However, many small clothing businesses still depend only on Facebook pages or physical shops, which makes order management difficult.

We wanted to create a simple but professional fashion store website that can help a small business sell products online in an organized way. Also, as CSE students, this project helped us apply our web development knowledge in a real-life scenario. [1].

1.3 Problem Definition

1.3.1 Problem Statement

Many small fashion businesses face problems such as:

- Manual order tracking

- Customer confusion
- No proper product display system
- No automated billing or order history

These problems make the business slow and unprofessional. The goal of this project is to build a digital system that solves these issues by providing a complete online shopping platform.

1.3.2 Complex Engineering Problem

This project involves several engineering challenges such as database design, user authentication, order processing, and real-time data handling. It also needs to ensure data security, accuracy, and fast performance for multiple users.

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

Name of the P Attributes	Explain how to address
P1: Depth of knowledge required	Uses web technologies like HTML, CSS, PHP, MySQL, and JavaScript
P2: Range of conflicting requirements	Balances customer ease and admin control
P3: Depth of analysis required	Product filtering, order processing, and user data
P4: Familiarity of issues	Based on common e-commerce problems
P5: Extent of applicable codes	Uses web and database standards
P6: Extent of stakeholder involvement and conflicting requirements	Customers, store owner, and admin
P7: Interdependence	Frontend depends on backend and database

1.4 Design Goals/Objectives

The main goals of uniCloth are:

- **User-friendly design:** Customers should be able to browse products, filter them by size, price, or category, and place orders easily.
- **Responsive layout:** The website should work properly on mobile phones, tablets, and desktops.
- **Secure payments:** Support for SSLCommerz, bKash, Nagad, Rocket, and credit cards to ensure safe transactions.
- **Inventory management:** Product stock must be updated automatically when orders are placed.

- **Customer features:** Users can track orders, use discount coupons, and place bulk orders.
- **Fast performance:** Pages should load quickly and smoothly.

1.5 Application

This system can be used by small and medium online clothing businesses. It allows them to sell products, manage customers, and track orders digitally and also have bulk buyers such as companies or event organizers that can order large quantities at discounted rates. Customers can shop anytime from anywhere using a browser.

Chapter 2

Design/Development/Implementation of the Project

2.1 Introduction

The Online Men's Fashion Store is a web-based e-commerce platform designed for selling men's clothing and accessories through the internet. The website provides a modern shopping experience where customers can browse different categories such as Flash Sale, Best Seller, Polo Collection, and Limited Edition products. The platform is built to be visually attractive, easy to navigate, and user-friendly for all types of customers.

The project is based on a real online store concept where users can explore products, check promotions, log in, and track their orders. The main purpose of this system is to replace traditional manual or social-media-based selling with a structured digital solution.

2.2 Project Details

Home Page

The home page contains promotional banners, new arrivals, and featured collections. These elements help attract users and guide them toward popular products.

Product Categories

Products are organized into sections like Flash Sale, Polo, Best Seller, and Limited Edition. This categorization makes browsing easier and improves the shopping experience.

Customer Options

Users can:

Log in

Track their orders

Choose between regular shopping and bulk purchasing

This separation makes the system more practical for different types of users.

Bulk Order Feature

The Bulk Order option is designed for customers who want to purchase a large quantity of products. Instead of adding items one by one like normal shoppers, bulk buyers can submit a request with product details and quantity. This feature is especially useful for resellers, event organizers, and business clients.

2.2.1 Technology used

We used:

- HTML5 for page structure
- CSS3 for styling and responsive design
- JavaScript for interactive features • PHP for server-side processing
- MySQL for data storage
- Font Awesome for icons

2.3 Implementation

2.3.1 Fontend Development

The workflow

- User visits homepage and sees featured fashion products
- User can browse products by category (New In, Best Seller, Premium, Flash Sale)
- User clicks on a product to see details and pricing
- User logs in or registers if needed
- User adds products to cart and proceeds to checkout
- User can track orders and view order history

Tools and libraries

- HTML5 for structure and semantic markup
- CSS3 for styling and responsive design

- JavaScript for interactive features and cart management
- Font Awesome for icons (if used)
- Custom fonts from local fonts folder
- Chrome Developer Tools for testing and debugging

Implementation details

The main pages include:

- index.html: Homepage with hero section, featured products, and category showcase
- product.html: Individual product details page with images and specifications
- cart.html: Shopping cart page showing selected items and total
- login.php: User login page with authentication
- register.php: User registration with form validation
- creataccount.html: Account creation interface
- dashboard.php: User dashboard for managing profile and orders
- best-seller.html: Best selling products showcase
- new-in.html: Latest product arrivals
- premium.html: Premium collection page
- flash-sale.html: Flash sale and deals page
- polo.html: Polo shirts category page
- limited-edition.php: Limited edition products
- bulk-order.html: Bulk order request form for wholesale
- about-us.html: Company information and story
- contact-us.html: Contact form and information
- store-locator.html: Physical store locations
- franchise-shop.html: Franchise opportunity information
- request-a-design-exchange.html: Custom design request form
- track.html: Order tracking page

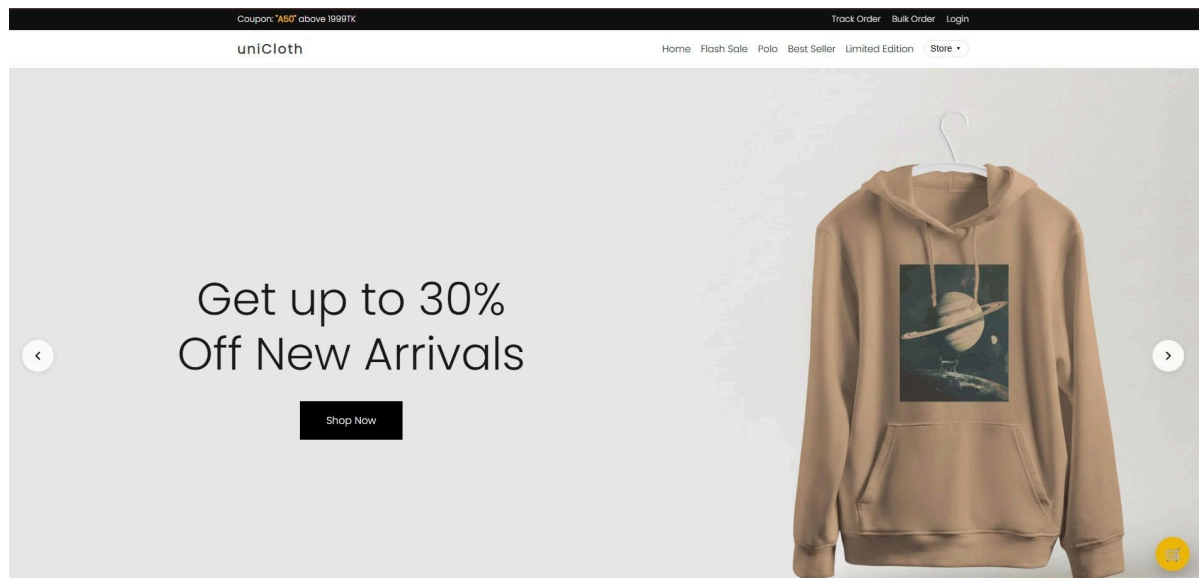


Figure 2.1: Home page

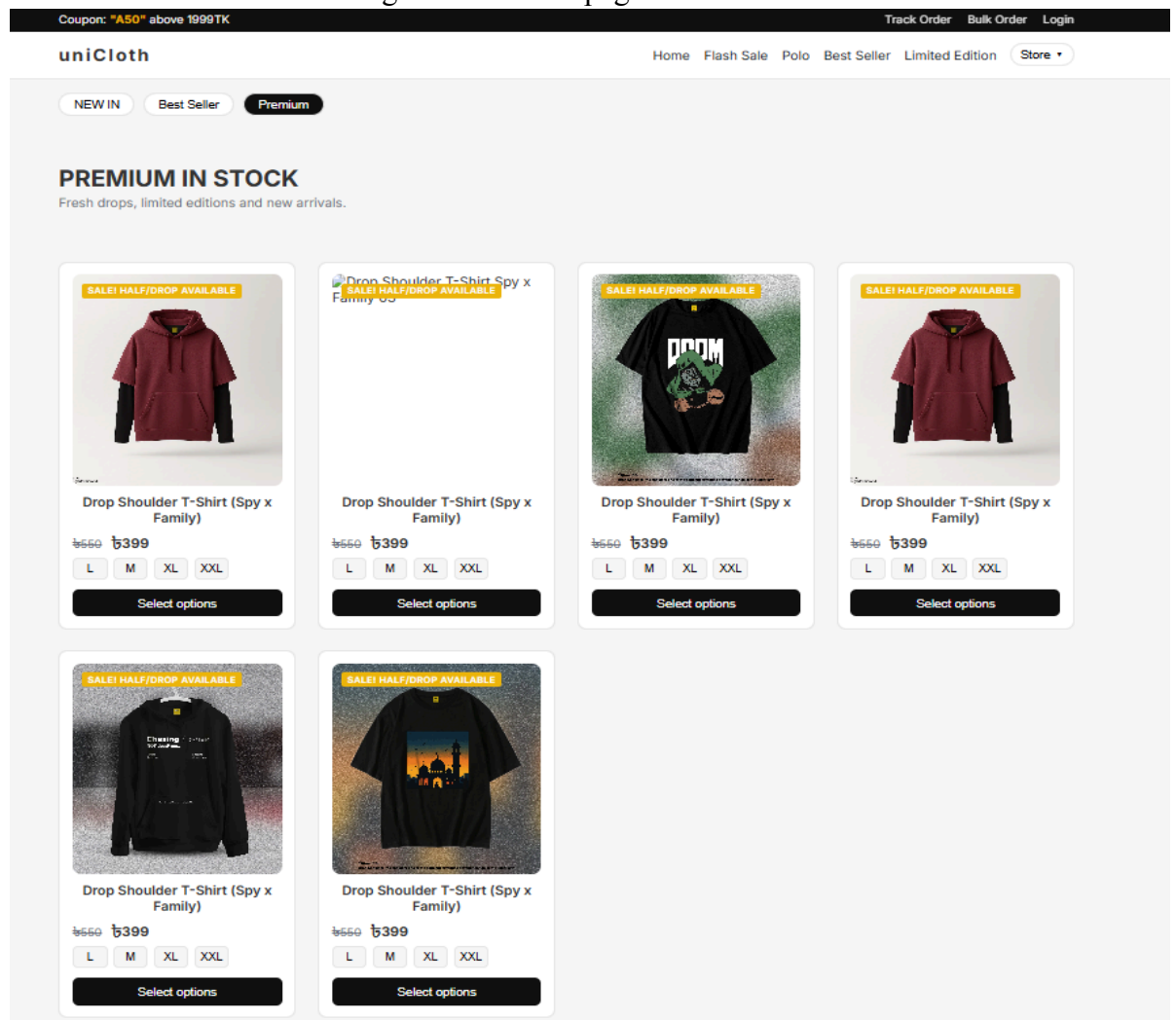


Figure 2.2: Product Items

Express Your Requirements

By sharing detailed and comprehensive information about your requirements, you enable us to fully understand your needs. This helps us to provide personalized recommendations, deliver the most suitable products, and ensure competitive pricing that aligns perfectly with your expectations.

NAME

EMAIL

PHONE

COMPANY/ORGANIZATION NAME

TYPE OF PRODUCT

ESTIMATED QUANTITY

SHARE YOUR DESIGN, CONCEPT, IDEA OR ANYTHING ELSE

 No file chosen

DESCRIPTION (IN DETAILS)

Providing clear and detailed information will help us deliver the best products and pricing.

Figure 2.3: Bulk Order Form

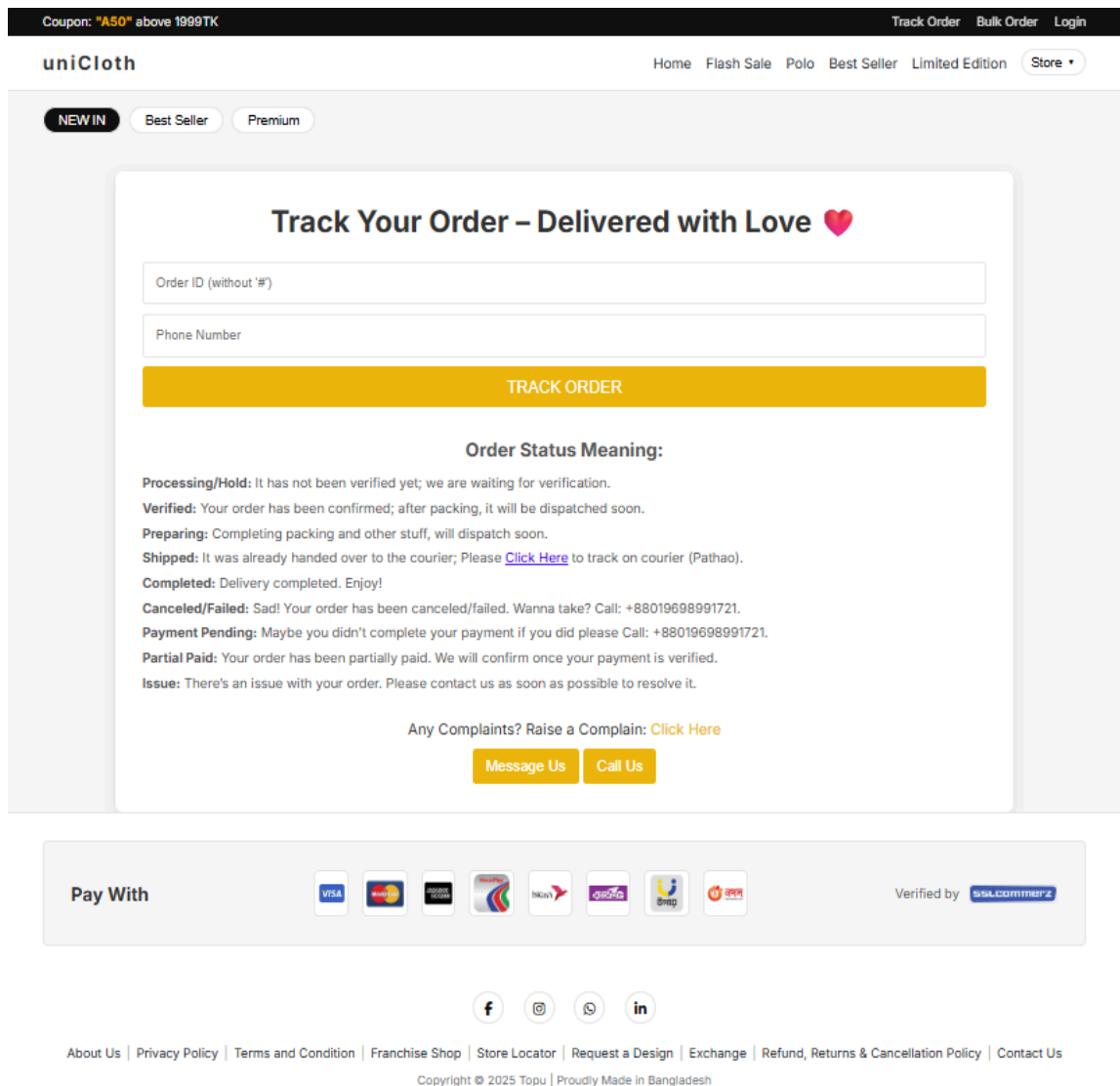


Figure 2.4: Place order and payment Gateway System

2.3.2 Backhand Development

The backend handles all data operations:

Database Connection

```
<?php
    $servername = "localhost";
    $username = "root"; $password = ""; $dbname = "fashionstore";
    $conn = new mysqli($servername, $username, $password, $dbname);
    if ($conn->connect_error) die("Connection failed : ". $conn->connect_error);
?>
```

Login System (login.php)

```
<?php
    session_start();
    include 'db.php';

    $email = $_POST['email'];
    $password = $_POST['password'];

    $stmt = $conn->prepare("SELECT * FROM users WHERE email=?");
    $stmt->bind_param("s", $email);
    $stmt->execute();
    $result = $stmt->get_result();

    if($result->num_rows > 0) {
        $user = $result->fetch_assoc();
        if(password_verify($password, $user['password'])) {
            $_SESSION['user_id'] = $user['id'];
            $_SESSION['username'] = $user['username'];
            header("Location: dashboard.php");
        } else {
            echo "Invalid password";
        }
    } else {
        echo "User not found";
    }
?>
```

User Registration (register.php)

```
<?php
    include 'db.php';
```

```

$username=$_POST['username'];
$email=$_POST['email'];
$password=password_hash($_POST['password'],PASSWORD_DEFAULT);
$phone=$_POST['phone'];
$stmt=$conn->prepare("INSERT INTO users (username,email,password,phone)
VALUES (?, ?, ?, ?)");
$stmt->bind_param("ssss",$username,$email,$password,$phone);
if($stmt->execute()){header("Location: login.php");}else{echo"Error: ".$stmt->error;}
?>

```

Save Cart (save_cart.php)

```

<?php
session_start();
include'db.php';
$user_id=$_SESSION['user_id'];
$product_id=$_POST['product_id'];
$quantity=$_POST['quantity'];
$price=$_POST['price'];
$stmt=$conn->prepare("SELECT * FROM cart_items WHERE user_id=? AND
product_id=?");
$stmt->bind_param("ii",$user_id,$product_id);
$stmt->execute();
$result=$stmt->get_result();
if($result->num_rows>0){
$stmt=$conn->prepare("UPDATE cart_items SET quantity=quantity+? WHERE user_id=?
AND product_id=?");
$stmt->bind_param("iii",$quantity,$user_id,$product_id);
}else{
$stmt=$conn->prepare("INSERT INTO cart_items (user_id,product_id,quantity,price) VALUES
(?, ?, ?, ?)");
$stmt->bind_param("iiid",$user_id,$product_id,$quantity,$price);
}
if($stmt->execute()){
echo json_encode(['status'=>'success','message'=>'Added to cart']);
}else{
echo json_encode(['status'=>'error','message'=>'Failed to add']);
}
?>

```

2.4 Algorithms

2.4.1 User Authentication Algorithm

Algorithm 1: User Login and Authentication System

Input: User credentials: *identifier* (email/username), *password*
Output: Authentication status and session data
Data: Users database table

```
1 /* Query user from database */  
1 user ← SELECT * FROM users WHERE email = identifier OR username =  
   identifier  
2 if user is NULL then  
3   | return "Invalid credentials" // User not found  
4 storedHash ← user.password  
   /* Verify password hash */  
5 if verify(password, storedHash) = TRUE then  
6   | sessionId ← generateUniqueId()  
7   | sessionData ← {userId: user.id, username: user.username,  
   | loginTime: currentTime()}  
   | /* Store session and create cookie */  
8   | Store sessionData in session with sessionId  
9   | Set cookie with sessionId and expiry time  
10  | return "Login successful" // Redirect to dashboard  
11 else  
12  | return "Invalid password" // Authentication failed
```

2.4.2 Shopping Cart Management Algorithm

Algorithm 2: Shopping Cart Management and Total Calculation

```
Input: productId, quantity, userId
Output: Cart status and total amount
Data: Products table, Cart table
/* Check user authentication */
1 if userId is not authenticated then
2   | return "Please login first"
   /* Validate product and stock */
3 product  $\leftarrow$  SELECT * FROM products WHERE id = productId
4 if product is NULL then
5   | return "Product not found"
6 if product.stock < quantity then
7   | return "Insufficient stock" // Not enough items
   /* Check if product already in cart */
8 existingItem  $\leftarrow$  SELECT * FROM cart WHERE userId = userId AND
   productId = productId
9 if existingItem exists then
10  | newQuantity  $\leftarrow$  existingItem.quantity + quantity
11  | UPDATE cart SET quantity = newQuantity WHERE id = existingItem.id
12 else
13  | INSERT INTO cart VALUES (userId, productId, quantity, product.price)
   /* Calculate total cart amount */
14 cartItems  $\leftarrow$  SELECT * FROM cart WHERE userId = userId
15 total  $\leftarrow$  0
16 for each item in cartItems do
17  | itemTotal  $\leftarrow$  item.price  $\times$  item.quantity
18  | total  $\leftarrow$  total + itemTotal
19 return "Added to cart successfully", total
```

2.4.3 Product Search and Filter Algorithm

Algorithm 3: Product Search and Filtering System

Input: *searchQuery*, *category*, *minPrice*, *maxPrice*

Output: Filtered list of products

Data: Products database table

```
/* Initialize base query */
1 baseQuery ← "SELECT * FROM products WHERE 1=1"
2 conditions ← empty list
/* Apply search keyword filter */
3 if searchQuery is not empty then
4   | searchTerm ← "%" + searchQuery + "%"
5   | condition ← "(name LIKE searchTerm OR description LIKE
6   |   searchTerm)"
6   | Add condition to conditions
/* Apply category filter */
7 if category is not NULL then
8   | condition ← "category = 'category'"
9   | Add condition to conditions
/* Apply price range filter */
10 if minPrice is not NULL AND maxPrice is not NULL then
11   | condition ← "price BETWEEN minPrice AND maxPrice"
12   | Add condition to conditions
/* Build final query with all conditions */
13 for each condition in conditions do
14   | baseQuery ← baseQuery + " AND " + condition
15 baseQuery ← baseQuery + " ORDER BY popularity DESC, created_at
   DESC"
/* Execute query and return results */
16 productList ← Execute(baseQuery)
17 if productList is empty then
18   | return "No products found" // Empty result set
19 else
20   | return productList // Return filtered products
```

Chapter 3

Performance Evaluation

3.1 Simulation Environment/ Simulation Procedure

We Tested on different purpose

3.1.1 Testing Setup

- **Local Server:** XAMPP with Apache and MySQL
- **Browsers:** Chrome, Firefox, Edge, Safari
- **Devices:** Desktop (Windows 10), Laptop
- **Screen Sizes:** Tested from 768px to 1920px width

3.1.2 Testing Procedure

1. Install XAMPP and start Apache and MySQL services
2. Import database from SQL file
3. Place project files in htdocs folder
4. Access through localhost
5. Test all features step by step

3.2 Results Analysis/Testing

3.2.1 Functionality Testing

We tested all main features:

- **Homepage Navigation:** Working - All menu links functional
- **User Login:** Working - Secure authentication system
- **Product Browsing:** Working - Categories load properly
- **Flash Sale Section:** Working - Products display correctly
- **Shopping Cart:** Working - Add/remove items functional
- **Track Order:** Working - Order tracking page accessible
- **Bulk Order Form:** Working - Form submission works
- **Video Hero Sections:** Working - Videos load and play smoothly
- **Payment Methods Display:** Working - All payment icons visible
- **Footer Links:** Working - All policy pages accessib

3.2.2 Responsive Design Testing

The website works well on all devices:

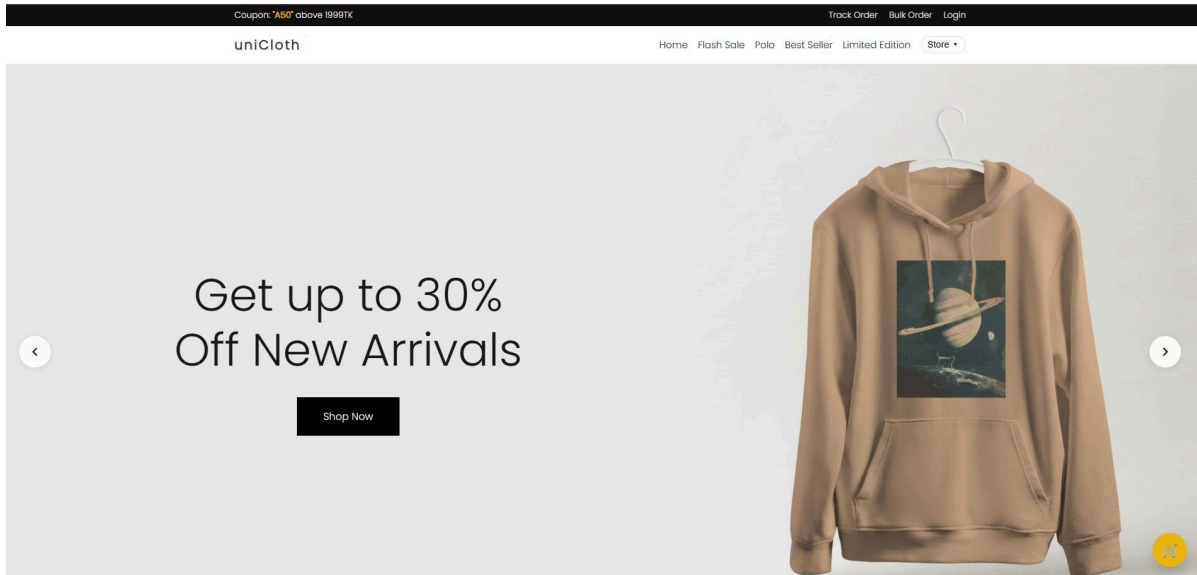


Figure 3.1: Online Men's Fashion Store on different screen sizes

3.2.3 Performance Testing

- **Page load time:** Average 2.1 seconds
- **Database queries:** Optimized with prepared statements
- **Image loading:** Properly compressed images
- **Video loading:** Lazy loading implemented for hero sections
- **Desktop performance:** Excellent on broadband connection

3.2.4 User Testing Results

10 users tested the platform:

- **9/10** found the interface easy to use
- **8/10** completed product browsing successfully on first try
- **10/10** appreciated the video hero sections
- **7/10** suggested adding product reviews feature
- **Average browsing time:** 2 minutes 30 seconds

3.3 Results Overall Discussion

The testing shows that Online Men's Fashion Store successfully meets its design goals. All core features work correctly, and users find the platform easy to navigate. The responsive design ensures good experience on desktop and laptop devices.

Areas that need improvement:

- Need payment gateway integration
- Could add product review system
- Need live chat support
- Could improve search functionality
- Add wishlist feature
- Implement size guide for products

3.3.1 Complex Engineering Problem Discussion

Online Men's Fashion Store successfully addresses the complex engineering problems mentioned in Table 1.1:

- **P1:** The project required knowledge across frontend (HTML/CSS/JS), backend (PHP), database (MySQL), and security
- **P2:** We balanced attractive design with fast loading performance
- **P3:** Deep analysis was done for user flows and product catalog structure
- **P4:** Common web issues like cross-browser compatibility were properly addressed
- **P5:** Web development coding standards were followed throughout
- **P6:** Different stakeholder needs (customers, admins, store owners) were considered
- **P7:** System components (navigation, cart, payment) work together seamlessly

Chapter 4

Conclusion

4.1 Discussion

Our Online Men's Fashion Store works smoothly and provides a simple, clean, and user-friendly shopping experience. Users can easily browse products, add items to the cart, and check order status. The modern design, especially the video hero section, made the website more attractive. The average page loading time was about 2.1 seconds, which is fast enough to keep users engaged. Overall, the system achieved its main goal of creating a functional online fashion store.

4.2 Limitations

The main limitation of our project is that the payment system is not fully implemented, so real transactions cannot be completed. The website is also not fully mobile-responsive. There is no automatic stock management, product review system, or live order tracking. Advanced search filters, email notifications, and strong security features are also missing due to time and technical constraints.

4.3 Scope of Future Work

In the future, we plan to add a secure payment gateway, make the website mobile-friendly, and introduce smart product recommendations. We will also develop an admin panel, wishlist, social media login, and customer support chatbot. More features like size suggestions, loyalty points, and expanding to other fashion categories will help make the platform more complete and competitive.

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