E-commerce Website Project

Implementation

Slide 1: Project Overview

- E-commerce platform built with Flask
- Full-featured shopping cart
- User and admin functionalities
- Responsive design

Slide 2: Technology Stack

- Backend: Flask (Python)
- Database: SQLAlchemy with SQLite/PostgreSQL
- Frontend: Jinja2, Bootstrap, JavaScript
- Authentication: Flask-Login
- Forms: Flask-WTF

Slide 3: Key Features

User Features

- User authentication
- Product browsing and search
- Shopping cart
- Order management
- User profile

Admin Features

- Product management
- Order processing
- User management
- Dashboard

Slide 4: System Architecture

[Diagram showing Flask application structure]

- Blueprint organization
- Database models
- Template hierarchy
- Static file management

Slide 5: Database Design

[ER Diagram showing]

- Users
- Products
- Orders
- Shopping Cart
- Relationships

Slide 6: Security Features

- Flask-Login authentication
- CSRF protection
- Password hashing
- Role-based access
- Form validation

Slide 7-12: Live Demo Screenshots

Homepage

[Screenshot of the responsive homepage with navigation]

```
@app.route('/')
def home():
    products = Product.query.limit(6).all()
    return render_template('home.html', products=products)
```

Product Catalog

[Screenshot of product listing with filters]

```
@app.route('/products')
def products():
    page = request.args.get('page', 1, type=int)
    products = Product.query.paginate(page=page, per_page=12)
    return render_template('products/list.html', products=products)
```

Shopping Cart

[Screenshot of cart functionality]

```
@app.route('/cart')
@login_required
def cart():
    cart_items = session.get('cart', {})
    return render_template('cart/cart.html', items=cart_items)
```

Admin Dashboard

[Screenshot of admin interface]

```
@app.route('/admin')
@admin_required
def admin_dashboard():
    stats = get_dashboard_stats()
    return render_template('admin/dashboard.html', stats=stats)
```

Slide 13: Performance

- Response times
- Database optimizations
- Caching implementation
- Load testing results

Slide 14: Testing Results

- Unit test coverage
- Integration testing
- Security testing
- Performance benchmarks

Slide 15: Future Enhancements

- Product reviews system
- Advanced search features
- Email notifications
- Payment integration
- Analytics dashboard

Slide 16: Q&A

Thank you for your attention!