

Sporty Shoes - E-commerce Website Prototype

Final Specification & Delivery Record

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1 Project & Developer Details

- **Project name:** *SportyShoes.com*
- **Developer:** *Dharani Kumar S*
- **GitHub repo:** <https://github.com/speznik/sportyshoes.com>
- **Runtime:** Java 17
- **Build:** Maven 3.x (mvn clean package)

2 Technology & Dependencies

- **Spring Boot 3.x:** application framework, embedded Tomcat.
- **Thymeleaf:** server-side templating engine for dynamic HTML.
- **Spring JDBC:** JdbcTemplate for DAO implementations.
- **MySQL Connector/J:** mysql-connector-java for database driver.
- **Spring Validation:** spring-boot-starter-validation for request validation.
- **Spring DevTools:** hot-reload during development.

3 Architecture & DAO Functionality

The application follows a simple MVC pattern with a single controller `MainController` and five DAOs:

- **UserDao:** handles user signup and authentication (`findByEmailAndPassword`, `findAll`, `save`).
- **AdminDao:** handles admin authentication (`findByUsernameAndPassword`).
- **ProductDao:** manages products (`findAll`, `findById`, `saveOrUpdate`, `delete`).
- **CategoryDao:** manages categories (`findAll`, `save`, `delete`).
- **OrderDao:** records orders and items (`saveOrder`, `saveItem`, `findReports`).

The controller routes requests based on session role (`user` or `admin`), enforces access control, and delegates to DAOs for all CRUD operations.

4 Database Schema

```
CREATE TABLE admin (  
    id INT AUTO_INCREMENT PRIMARY KEY,  
    username VARCHAR(50) UNIQUE NOT NULL,  
    password VARCHAR(100) NOT NULL  
);  
CREATE TABLE user (  
    id INT AUTO_INCREMENT PRIMARY KEY,
```

```

    email VARCHAR(100) UNIQUE NOT NULL,
    full_name VARCHAR(100),
    password VARCHAR(100) NOT NULL
);
CREATE TABLE category (
    id INT AUTO_INCREMENT PRIMARY KEY,
    name VARCHAR(100) NOT NULL
);
CREATE TABLE product (
    id INT AUTO_INCREMENT PRIMARY KEY,
    name VARCHAR(150) NOT NULL,
    description TEXT,
    price DECIMAL(10,2) NOT NULL,
    image_url VARCHAR(255)
);
CREATE TABLE orders (
    id INT AUTO_INCREMENT PRIMARY KEY,
    user_id INT,
    order_date DATETIME DEFAULT CURRENT_TIMESTAMP,
    total_amount DECIMAL(10,2),
    FOREIGN KEY(user_id) REFERENCES user(id)
);
CREATE TABLE order_item (
    id INT AUTO_INCREMENT PRIMARY KEY,
    order_id INT,
    product_id INT,
    quantity INT NOT NULL,
    FOREIGN KEY(order_id) REFERENCES 'order'(id),
    FOREIGN KEY(product_id) REFERENCES product(id)
);

```

5 Features

User Workflow

- **Login / Sign-up:** common page for both roles.
- **Product Catalogue:** list and view details of 8 sample shoes.
- **Add to Cart:** session-backed cart with quantities.
- **Checkout:** records order and clears cart, redirects back to catalogue.

Admin Workflow

- **Dashboard:** landing page with links to all admin functions.
- **Manage Customers:** view list of registered users.
- **Manage Categories:** add, update, delete shoe categories.
- **Manage Products:** add, update, delete products and their images.
- **Purchase Reports:** view all orders with filters (date, customer).