GamingMarket – Web Programming Final Project Report

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Course: Web Design and Programming
Project Type: Full-Stack Web Application
GitHub Repository Link: https://github.com/Bekoo10/gamingmarket-final-project.git

Project Description

This project is a full-stack e-commerce web application developed as a final project for the Web Programming course. The system is designed for gaming-related products such as laptops, peripherals, accessories and computer components. Users can browse products on the home page, view product details, add items to the shopping cart, update quantities and complete a basic checkout flow. The aim of the project is to design and implement a functional web system that integrates frontend, backend and database components within a single project structure.

Technologies Used

The frontend of the application is implemented using React and Material UI. The backend is developed using Spring Boot and provides REST API endpoints. Product data is stored in a PostgreSQL database and accessed through the backend using Spring Data JPA. Communication between the frontend and backend is handled via HTTP requests in JSON format.

System Architecture

The application follows a client–server architecture. The React frontend is responsible for the user interface, routing, product listing, product detail pages and cart operations. The Spring Boot backend is responsible for API processing and database operations. The PostgreSQL database contains product records and sample data used in the application. The project is structured into three folders: frontend (React application), backend (Spring Boot API) and database (PostgreSQL export file).

Main Features

• Product listing page (data retrieved from backend)

- Product detail page

- Shopping cart operations (add / remove / update quantity)

- Checkout and order confirmation flow

- Category-based browsing

- Basic help / support page

This document summarizes the structure, technologies and implemented features of the GamingMarket project. The project demonstrates full-stack web application development and database-backed system integration.