

Grocery Delivery System

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Introduction

The Grocery Delivery System is a web-based app designed to allow it's users to browse food items, view product details, see prices, increase item count, and simulate checkout. It was built with PHP and MySQL to demonstrate database driven web development and user interactions.

Customer Problem Statement

Many customers (myself included) are either too busy to go to the store or really just don't love making the trip to pick up groceries every time they need to buy something. Stores are usually crowded, out of items you may be interested in, or even closed by the time you are actually ready to go shopping. This system was designed with these struggles in mind allowing customers to stay home, skip crowds/lines, and save time!

System Requirements

Functional Requirements

- Browse products with price and stock information
- Add, update, or remove items in cart
- Prevent adding more items than stock allows
- Checkout with automatic stock deduction
- Checkout with automatic stock deduction

Non-Functional Requirements

- Web-based, accessible through modern browsers
- Web-based, accessible through modern browsers
- Built using PHP, MySQL, HTML, CSS

Functional Requirement Specifications

Product Display: Displays all available products with images and prices. Related page: index.php

Product Detail: Shows individual product details and "Add to Cart" button. Related page: product_detail.php

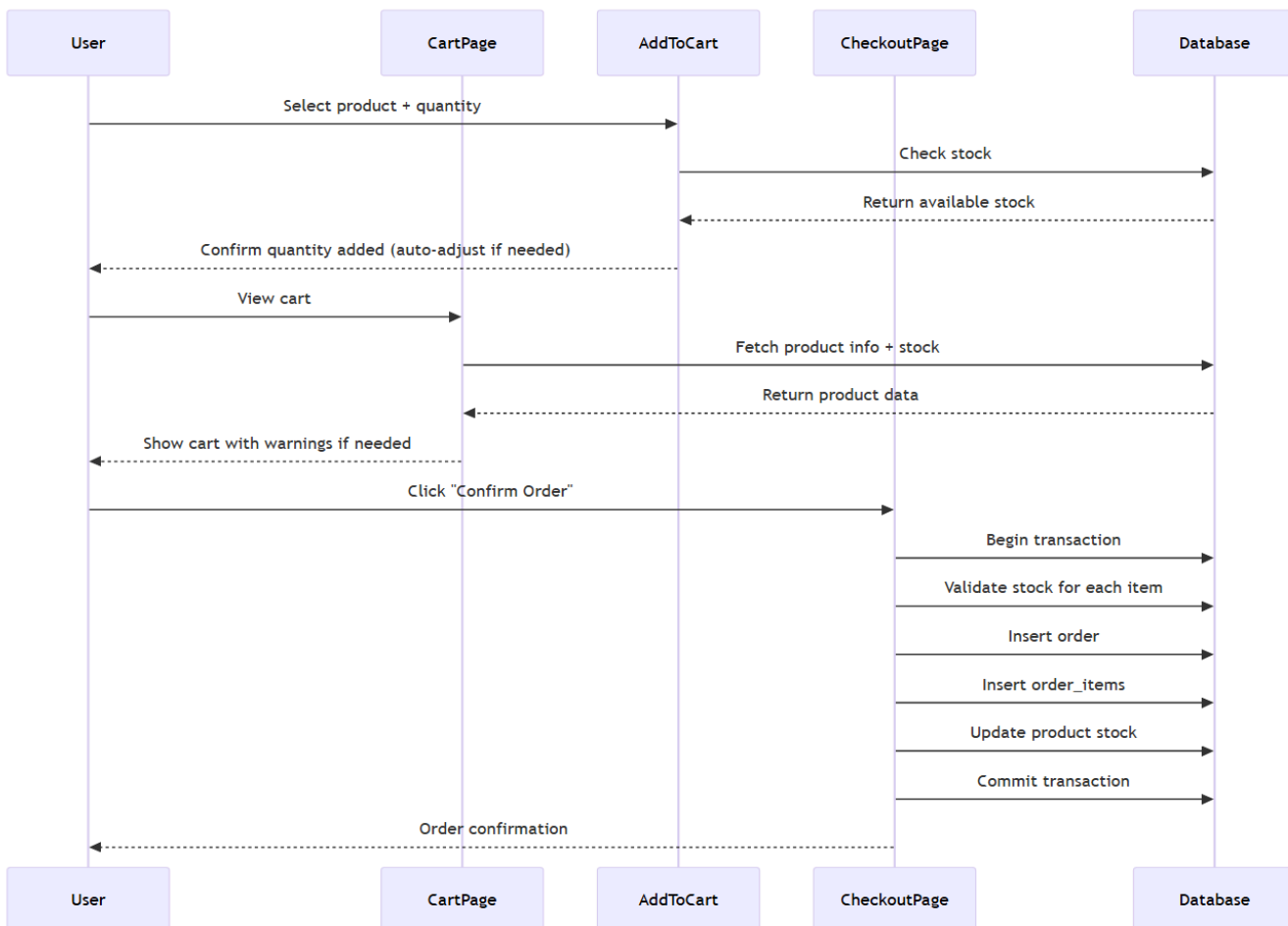
Shopping Cart: Lists all selected items with update/delete options. Related page: cart.php

Add to Cart: Handles adding items using sessions. Related page: add_to_cart.php

Clear Cart: Empties all session data for cart items. Related page: clear_cart.php

Checkout: Displays final cart summary and total. Related page: checkout.php

System Sequence Diagram



User Interface Specification

Page	Description	Main Elements
Home Page (index.php)	Displays list of grocery items	Product cards, Cart button
Product Detail (product_detail.php)	Shows individual product info	Product name, description, add to cart
Cart Page (cart.php)	Shows all added items	Item list, remove buttons, checkout
Checkout (checkout.php)	Displays total and order summary	Total price, checkout confirmation

Traceability Matrix

Requirement	Function	Test Case
Browse Products	index.php	Display all products
Add to Cart	add_to_cart.php	Quantity update
Prevent Oversell	product_detail.php	Exceed stock
Checkout	checkout.php	Stock deduction

System Architecture

Client-Server Architecture

Frontend: HTML, CSS, PHP

Backend: PHP scripts with MySQL database

Session Management: PHP sessions store cart

References

PHP Documentation: <https://www.php.net/docs.php>

MySQL Reference Manual: <https://dev.mysql.com/doc/>

W3Schools PHP Tutorial: <https://www.w3schools.com/php/>

[Draw.io](#) Diagram Tool: <https://app.diagrams.net/>