

Project Proposal: TechXpress

Roles and Responsibilities

Backend Developer

- Implement NTier Architecture (Presentation, Business Logic, Data Access layers).
- Design database schema using Entity Framework Core.
- Develop generic/specific repositories and Unit of Work pattern.
- Integrate Stripe payment gateway and ensure atomic transactions.
- Set up ASP.NET Identity for authentication and role management (RBAC).
- Handle shopping cart business logic (totals, promotions) and session management.

Frontend Developer

- Create responsive UI using Bootstrap, custom CSS, and JQuery.
- Develop product listings with search/filters and integrate DataTables for admin panels.
- Implement dynamic elements (live search, interactive features).
- Design admin dashboard layouts and user profile pages.

Full-Stack Developer

- Bridge frontend and backend for shopping cart integration.
- Develop user profile pages with order history and account management.
- Assist in connecting UI components (e.g., admin dashboard) with backend repositories.

DevOps Engineer

- Deploy the application to Microsoft Azure/Hostinger.
- Configure CI/CD pipelines (if applicable).
- Ensure scalability and monitor performance post-deployment.

QA Tester

- Test shopping cart functionality, payment flows, and RBAC permissions.
- Validate end-to-end user journeys (registration to order placement).
- Perform stress testing and ensure cross-browser compatibility.

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Project Manager

- Oversee timelines and deliverables for each week.
- Coordinate collaboration between roles (e.g., backend-frontend integration).
- Finalize project documentation (architecture, user manuals).

Weekly Task Breakdown

Week 1

Backend Developer: NTier setup, EF Core schema design, repository/Unit of Work implementation.

Frontend Developer: Basic product listing page with search/filters.

Backend/Security Developer: ASP.NET Identity setup for user authentication.

Week 2

Backend Developer: Shopping cart logic, RBAC implementation.

Frontend Developer: Admin dashboard UI with DataTables.

Full-Stack Developer: Integrate cart UI with backend session management.

Week 3

Backend Developer: Order placement logic, Stripe API integration.

Full-Stack Developer: User profile page and order history integration.

QA Tester: Begin testing payment processing and order workflows.

Week 4

Frontend Developer: Polish UI with Bootstrap and JQuery enhancements.

DevOps Engineer: Deploy to Azure/Hostinger.

QA Tester: Conduct final testing (functionality, responsiveness).

Project Manager: Compile documentation and ensure all deliverables are met.

Collaboration Points

- Backend + Frontend Developers: Admin dashboard integration (DataTables with repositories).
- Backend + Frontend Developers: Shopping cart UI-business logic synchronization.
- Full-Stack + Backend Developers: User profile updates and order history data retrieval.
- Project Manager + All Roles: Weekly sync-ups to track progress and resolve blockers.