

## Phase 2 Requirements - Implementation Map

### Team Contribution Table

Team Member	Student ID	Tasks Completed
Ahmed Bader Rashid Al Abri	136696	Q1: Database Application Q4: Teamwork and Submission
Almakhtar humaid khalfan albadawi	136720	Q2: Direct Data Access (Parameterized Queries, Validation)
Mohammed Sultan Rashid Al Abri	136382	Q3: Entity Framework (LINQ Implementation)

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### Question 1: Database Application

#### 1.1 Three Database Tables

- **File:** Database/MaysaraDeliveryDB.sql
- **Tables:** USERS, RESTAURANTS, PRODUCTS, ORDERS, ORDER\_ITEMS (5 tables)

#### 1.2 User Login Table

- **File:** Database/MaysaraDeliveryDB.sql (Lines 8-23)
- **Table:** USERS (Email, Password, Name, Phone, Role)

#### 1.3 Primary & Foreign Keys

- **File:** Database/MaysaraDeliveryDB.sql (Lines 83-113)
- **Primary Keys:** 5 tables with IDENTITY
- **Foreign Keys:** 6 relationships with Cascade/Restrict

#### 1.4 Constraints

- **File:** Database/MaysaraDeliveryDB.sql (Lines 115-147)
- **CHECK:** 11 constraints
- **DEFAULT:** 10+ constraints
- **NOT NULL:** All required fields

#### 1.5 Database View

- **View:** Database/MaysaraDeliveryDB.sql (Lines 150-162) - VW\_OrderSummary
- **Usage:** Pages/Admin/Dashboard.cshtml.cs (Lines 210-230)

## 1.6 Sample Data

- **File:** Database/SeedData.sql
  - **Data:** 8 users, 4 restaurants, 15+ products, 5+ orders
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## Question 2: Direct Data Access

### 2.1 SELECT Statements

- **Dashboard.cshtml.cs** - COUNT, SUM, AVG, GROUP BY, TOP 5, View
- **Restaurants/Index.cshtml.cs** - SELECT with WHERE, ORDER BY, LIKE
- **Restaurants/Details.cshtml.cs** - SELECT with INNER JOIN

### 2.2 INSERT/UPDATE/DELETE

- **File:** Pages/Restaurants/Manage.cshtml.cs
- **INSERT:** Lines 85-115
- **UPDATE:** Lines 165-210
- **DELETE:** Lines 240-275 (soft delete)

### 2.3 Parameterized Queries

- **Index.cshtml.cs** Line 60 - SqlParameter with @SearchTerm
- **Details.cshtml.cs** Line 68 - SqlParameter with @RestaurantID
- **Manage.cshtml.cs** Lines 100-108 - All fields parameterized

### 2.4 Form Validation

- **All forms have:**
    - ModelState validation
    - Data annotations ([Required], [Range], [EmailAddress])
    - Exception handling (try/catch)
    - asp-validation-for tags
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## Question 3: Entity Framework

### 3.1 EF Model

- **DbContext:** Data/MaysaraDbContext.cs
- **Models:** Models/User.cs, Restaurant.cs, Product.cs, Order.cs, OrderItem.cs
- **Enums:** Models/Enums/UserRole.cs, OrderStatus.cs, PaymentMethod.cs

### 3.2a Authentication

- **Login:** Pages/Auth/Login.cshtml.cs (LINQ Where, Lines 48-52)
- **Register:** Pages/Auth/Register.cshtml.cs (LINQ Any, Add, Lines 38-55)
- **Logout:** Pages/Auth/Logout.cshtml.cs

### 3.2b State Management

- **File:** Services/SessionManager.cs
- **Config:** Program.cs (Lines 14-20)
- **Session:** UserId, UserName, UserEmail, UserRole

### 3.2c Access Restriction

- **File:** Filters/AuthorizePageFilter.cs
- **Registration:** Program.cs (Lines 22-25)
- **All pages protected except Login/Register/Logout**

### 3.3a LINQ Styles

- **Query Syntax:** Pages/Products/Edit.cshtml.cs (Lines 56-62)
- **Method Syntax:** Pages/Auth/Login.cshtml.cs (Lines 48-52)
- **Mixed Syntax:** Pages/Orders/MyOrders.cshtml.cs (Lines 121-127)

### 3.3b Lambda Types

- **Where:** Login, Products, Orders (8+ pages)
- **OrderBy:** Products/Create (Lines 63-64), MyOrders (Line 70)
- **Select:** MyOrders (Lines 113-118)
- **Sum/Count/Avg:** MyOrders (Lines 114-116)
- **Any:** Register (Line 39)
- **GroupBy:** MyOrders (Lines 110-118)

### 3.3c LINQ Constructs

- **WHERE:** All EF pages (8+ pages)
- **ORDER BY:** Products/Create, Orders/MyOrders, Orders/Checkout
- **GROUP BY:** Pages/Orders/MyOrders.cshtml.cs (Lines 110-118)
- **Multi-table:** MyOrders (3-table JOIN, Lines 87-100)
- **Include:** Products pages, Orders pages (4+ pages)

### 3.3d CRUD

- **CREATE:** Register (Lines 45-55), Products/Create (Lines 75-85), Checkout (Lines 147-165)
- **READ:** All EF pages (Where, Find, FirstOrDefault, ToList)
- **UPDATE:** Pages/Products/Edit.cshtml.cs (Lines 105-125)

- **DELETE:** Pages/Products/Delete.cshtml.cs (Lines 85-100)
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## Quick File Reference

**Database:** - Schema: Database/MaysaraDeliveryDB.sql - Data: Database/SeedData.sql

**ADO.NET (Direct SQL):** - Helper: Data/AdoNetDataAccess.cs - Admin: Pages/Admin/Dashboard.cshtml.cs - Restaurants: Pages/Restaurants/\*.cshtml.cs

**Entity Framework (LINQ):** - Context: Data/MaysaraDbContext.cs - Auth: Pages/Auth/\*.cshtml.cs - Products: Pages/Products/\*.cshtml.cs - Orders: Pages/Orders/\*.cshtml.cs