Survey App

**Technology stack:**

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| **Layer** | **Technology** | **Purpose** |
| **Frontend** | Angular, Angular Material | UI development & user interactions |
| **Backend** | .NET (C#) | API development & business logic |
| **Database** | SQL Server Express | Data storage & management |
| **Development Tools** | VS Code, Visual Studio | Code writing, debugging |

**Development Plan**

**Project Overview**

* The **Survey App** is a web-based platform designed to simplify the process of creating, distributing, and analyzing surveys. It offers **role-based access**, allowing administrators to create and manage surveys while enabling users to respond effortlessly. The app includes authentication, survey creation, response validation, real-time result analysis, and sharing capabilities.

**Core Features & Modules**

**User Authentication**

* Users can register with email & password.
* Password encryption for security.
* **Admin**: Can create and manage surveys, view responses, and export data.
* **User**: Can only respond to surveys.

**Survey Creation (Admin Panel)**

* Admins can create new surveys with a title, description, and deadline.
* Multiple-choice (Single/Multiple Selection)
* Text-based Questions (Short Answer/Long Answer)
* Define a **start and end date** for survey availability.
* Automatically disable expired surveys.

**Survey Response (User Panel)**

* Users can navigate through questions seamlessly.
* Prevents submission if required fields are missing.
* Input constraints (e.g., text limits, numeric validations).
* Shows how much of the survey is completed.

**Survey Results & Export**

* Graphicalrepresentation of survey results (bar charts, pie charts).
* Filterresponses by date, user, or question type.
* Export as CSV
* Export as PDF
* Option to see a detailed view of each user’s responses.

**Survey Share Link**

* Each survey has a unique link for easy distribution.
* Users can access surveys without logging in.

**API** **Endpoints**

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| **1. User Authentication API** | |  |  |
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| Handles user registration, login, and authentication. | |  |  |
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| **Method** | **Endpoint** | **Description** | **Access** |
| POST | /api/auth/register | Register a new user (Admin/User) | Public |
| POST | /api/auth/login | Authenticate user and return JWT token | Public |
| GET | /api/auth/user | Get logged-in user details | Authenticated |
| POST | /api/auth/logout | Logout user | Authenticated |
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| **2. Survey Management API (Admin Only)** | | |  |
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| APIs for creating and managing surveys. | |  |  |
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| **Method** | **Endpoint** | **Description** | **Access** |
| POST | /api/surveys | Create a new survey | Admin |
| GET | /api/surveys | Get all surveys created by the admin | Admin |
| GET | /api/surveys/{surveyId} | Get details of a specific survey | Admin |
| POST | /api/surveys/{surveyId} | Update survey details | Admin |
| DELETE | /api/surveys/{surveyId} | Delete a survey | Admin |
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| **3. Survey Question Management API (Admin Only)** | | |  |
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| APIs for adding, updating, and deleting survey questions. | | |  |
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| **Method** | **Endpoint** | **Description** | **Access** |
| POST | /api/surveys/{surveyId}/questions | Add a new question to a survey | Admin |
| GET | /api/surveys/{surveyId}/questions | Get all questions for a survey | Admin |
| POST | /api/surveys/{surveyId}/questions/{questionId} | Update a question | Admin |
| DELETE | /api/surveys/{surveyId}/questions/{questionId} | Delete a question | Admin |
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| **4. Survey Response API (User)** | |  |  |
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| APIs for users to respond to surveys. | |  |  |
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| **Method** | **Endpoint** | **Description** | **Access** |
| POST | /api/surveys/{surveyId}/responses | Submit survey response | User |
| GET | /api/surveys/{surveyId}/responses | Get all responses for a survey | Admin |
| GET | /api/surveys/{surveyId}/responses/{responseId} | Get a specific response | Admin |
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| **5. Survey Results & Export API (Admin Only)** | | |  |
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| APIs for viewing, filtering, and exporting survey responses. | | |  |
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| **Method** | **Endpoint** | **Description** | **Access** |
| GET | /api/surveys/{surveyId}/results | Get aggregated survey results (summary) | Admin |
| GET | /api/surveys/{surveyId}/export/csv | Export survey responses in CSV format | Admin |
| GET | /api/surveys/{surveyId}/export/pdf | Export survey responses in PDF format | Admin |
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| **6. Survey Sharing API** | |  |  |
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| APIs for generating and managing survey links. | |  |  |
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| **Method** | **Endpoint** | **Description** | **Access** |
| GET | /api/surveys/{surveyId}/share-link | Generate a shareable survey link | Admin |