**Software Requirements Specification (SRS)**

**Project Title:** Job Application Tracker App (MAUI + Web API)

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**1. Introduction**

**1.1 Purpose**

This document outlines the functional requirements, system architecture, and design elements for a mobile application built using .NET MAUI, ~~with a backend Web API~~. The application enables users to track job applications, interviews, companies, contacts at companies, and interview preparation.

**1.2 Scope**

The application will:

* Allow users to add and manage job applications, interviews, and interview preparation
* Track applications and interviews
* Store company, company contact details, and interview preparation notes
* Possibly store resumes and cover letters used to apply for jobs
* ~~Communicate with a secure Web API for data persistence~~
* Use MVVM architecture with dependency injection

**1.3 Target Audience**

* Individuals searching for jobs across multiple platforms like Indeed, Monster, LinkedIn, ZipRecruiter, etc.

**2. System Overview**

The system is composed of three layers:

* **Frontend (MAUI app):** Handles user interaction and view logic
* **~~API Service Layer:~~** ~~Generic HTTP clients for calling the backend~~
* **Backend (~~Web AP~~I + Repositories):** Handles business logic and data persistence using Entity Framework Core

**3. Functional Requirements**

**3.1 Application Management**

* Add new job applications
* Possibly add new resumes and cover letters
* View/edit/delete applications
* Search for application by job title
* Search by companies applied at

**3.2 Interview Tracking**

* Add/view/edit interview details
* Track follow-up on applications
* Add/view/edit/~~delete~~ interview preparation notes

**3.3 Company Management**

* Add/view/edit/~~delete~~ companies
* Add/view/edit/~~delete~~ company contacts

**4. Non-Functional Requirements**

* Cross-platform compatibility (Android)
* Scalable backend architecture
* ~~Secure API communication~~
* Clean separation of concerns (MVVM + Repository Pattern)

**5. Architecture Overview**

**5.1 Diagram Reference**

The UML class diagram defines:

* **Models** such as Application, Company, Interview, etc.
* **DbContext**: JobAppDbContext exposes DbSet<T> for all entity types
* **Repositories**: JobAppRepository<T> provides base CRUD methods; specific repositories inherit it
* **~~Controllers~~**~~: JobAppApi<T> defines RESTful endpoints~~
* **~~API Service Layer~~**~~: JobAppApiService<T> wraps HTTP communication~~
* **ViewModels**: Each entity has a ViewModel (e.g., ApplicationViewModel) consuming JobAppApiService<T>

**5.2 MVVM Pattern**

* ViewModels are responsible for view logic and UI bindings
* Services are injected into ViewModels
* ViewModels communicate with API via the JobAppApiService<T> class

**5.3 Dependency Injection**

All services and repositories are registered in the DI container. Services and DbContext are injected where needed.

**6. Class Responsibilities**

**6.1 Models**

* Define schema and relationships

**6.2 DbContext**

* Manages EF Core data access

**6.3 Repositories**

* Base and specific logic for data manipulation

**6.4 Web API**

* RESTful endpoints for frontend interaction

**6.5 API Services**

* Generic client-side services wrapping HTTP logic

**6.6 ViewModels**

* Manage ObservableCollections, user commands, and service calls

**7. Future Enhancements**

* Authentication/authorization using JWT
* Cloud-hosted API (Azure App Service)
* ~~SQLite offline caching No SQL~~, all stored in json Files for user only
* Notifications for scheduled interviews
* Save Resumes and Cover Letters specifically for jobs applied to

**8. Glossary**

* **MVVM:** Model-View-ViewModel
* **EF Core:** Entity Framework Core
* **API:** Application Programming Interface
* **DI:** Dependency Injection

**9. Change Log**

* Removed Asp.Net references. Causing issues.
* Rolled back target framework in Data Access to support Maui
* Changed so each model will save to it’s own json file. Attempting to continuously add/update etc to the json file that held the application and it’s components (company contact, contact, etc) was causing an issue with circular logic.
* Took out the delete button as that will have to be handled a little differently now that information is being stored in different files.
* Stil playing with holding resumes and cover letters. This may end up being an enhance feature later on as they will most likely have to be stored in their own json files to prevent circular logic.
* Made some design changes… still trying to track down the annoying purple outline.

**10 Checklist**

* Add Applications
* Update Applications
* Add Companies
* Update Companies
* Add Company Contacts
* Update Company Contacts
* View Models for binding and responsive logic for what is done
* Delete Applications and related data
* Delete companies once all applications associated with the company are deleted
* Consistent styling through out the view pages