Anthony Arroyo

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Software Systems Engineer

Visual Studio | SQL | Azure Foundry

Technology

- C# 12, HTML5, SSMS, RESTful web services, Agile methodology, Architectures, Software Development Lifecycle, Management, SOA, OOD, DDD, Design Patterns, Model Context Protocol (MCP), Machine Learning, Version Control, Swagger API, Documentation, Dependency Injection, Project Management, Client Management, Git, Powershell, Azure, Mac, Windows

Core Compentencies

- Systems-first thinking with emphasis on long-term maintainability and evolution
- Translating ambiguous business problems into concrete domain models and workflows
- Designing backend systems around rules, state, and lifecycle management
- Building headless, API-driven platforms to support multiple future clients or interfaces
- Structuring applications for extensibility without premature complexity
- Isolating business logic to reduce coupling and improve testability
- Designing software around real operational processes
- Incremental system design with clear boundaries and ownership
- Strong focus on correctness, data integrity, and predictable behavior
- Applying Model Context Protocol (MCP) to integrate AI-driven workflows

Experience

Gracie Tampa Network
-Martial Arts Academy Management Platform
Saved instructors hours of manual administrative work each week by designing and developing a custom academy operations platform that streamlined student promotion workflows and centralized

attendance, scheduling, and membership data. The system eliminated manual spreadsheets and guesswork around promotion eligibility by providing a single source of truth for student progress. Architected using a layered, clean architecture, separating API, application services, domain logic, and data access.

- Designed the domain model around students, memberships, classes, instructors, attendance records, and promotion states
- Implemented promotion eligibility logic based on attendance, time-in-rank, and instructor-defined criteria
- Built a RESTful API using ASP.NET Core following Clean Architecture principles
- Applied Repository and Service patterns to isolate business rules from persistence concerns
- Created the SQL schema using Entity Framework Core (Code First)
- Delivered a headless API enabling future web or mobile tools while saving instructors hours of manual work per week

Ultimate Pain Care and Wellness Chiropractic
- Chiropractic Practice Management CRM
Reduced administrative workload and improved patient follow-up consistency by building an AI-enabled practice management CRM for a chiropractic clinic. The system automated visit documentation, follow-up creation, and record enrichment by integrating AI through Model Context Protocol (MCP), allowing agents to operate with structured access to patient history and clinical context. Responsibilities and technical focus included:

- Designed data models for patients, visits, visit types, follow-ups, notes, etc.
- Implemented domain-driven service logic to manage visit lifecycles and follow-up workflows
- Used Repository pattern for data access and Service layer for business rules and orchestration
- Built asynchronous CRUD and query operations using EF Core and LINQ
- Implemented DTOs and mapping to decouple API contracts from internal domain models

Frequent Music Discord
- AudioQuiplash Application
Increased community membership by 27% while hired to design and build a custom interactive knowledge-driven game for a creator's community. The system combined structured note-taking, tagging, and search mechanics to power fast content retrieval, progression logic, and repayable challenges. Built with a strong emphasis on efficient querying, data consistency, and long-term maintainability using clean architecture principles.
Responsibilities and technical focus included:

- Designed application states to manage idle, armed, triggered, and playback phases
- Implemented event-driven logic to handle randomized audio triggers and conditional execution
- Structured the application for extensibility, enabling new audio rules, triggers, or behaviors to be added without modifying core logic

- Focused on clear separation between control logic and audio execution, improving maintainability and testability

No Name Cannabis Company
- Notes & Documentation Management Application
Built a personal knowledge management system that improved information retrieval speed and reduced cognitive overhead through structured note-taking, tagging, and search. Designed for efficient querying, data consistency, and long-term maintainability using clean architecture principles.
Responsibilities and technical focus included:

- Designed a flexible note and tag domain model supporting many-to-many relationships
- Implemented search and filtering logic using LINQ and indexed queries
- Applied separation of concerns between controllers, services, and repositories
- Designed API endpoints optimized for incremental feature expansion
- Focused on system consistency and data integrity rather than UI-driven logic
- Structured the project to allow future enhancements such as full-text search and versioning

Academic Skills and Certifications

Architectures	***Azure AI Engineering Certification***	***C# Certification***	***Software Development***
Object Oriented Design/UML	***Debugging***	***Web Services/APIs***	***Testing***

- *Developed an understanding of system-oriented software design, from modeling application logic to implementing maintainable backend code*
- *Translated abstract business requirements into structured technical solutions, including backend logic, data models, and workflows*
- *Applied object-oriented design principles and common design patterns to build readable and extensible codebases*
- *Built and consumed RESTful APIs, focusing on clear contracts, data flow, and separation of concerns*
- *Utilized strong debugging and troubleshooting methodologies to identify root causes across application and data layers*
- *Gained experience with testing fundamentals, validation logic, and error handling to support reliable backend behavior*
- *Demonstrated strong written and verbal communication skills, especially when documenting system behavior and technical decisions*