**Project Requirements**

Eric Johnston

Grand Canyon University

CST 452: Senior Project II

Professor Jeff Stucker

September 29, 2024

|  |  |  |
| --- | --- | --- |
| Requirement | Outcome | Justification |
| User Authentication and Authorization | Met |  |
| Workout Routine Creation | Met |  |
| Workout Routine Tracking | Partially met | Users can log completed exercises, sets, reps, and weights. Data is correctly stored and retrievable for progress reports. |
| Exercise Management | Met |  |
| Timezone Management | Met |  |
| Responsive UI/UX | Partially met | The design is responsive on desktop and tablet, but mobile layouts still have issues with modals and certain components not displaying correctly. |
| Logging and Error Tracking | Met |  |
| Database Synchronization (Azure SQL) | Partially Met | The system behaves inconsistently when switching between local and Azure SQL databases. User-created exercises sometimes fail to retrieve properly from Azure SQL. |
| Documentation and README | Met |  |
| Testing and Quality Assurance | Not Met | Some unit tests exist, but there’s limited coverage for integration testing, especially with edge cases and database interactions. |
| Secure API Endpoints | Met |  |
| Data Validation | Partially Met | Basic data validation is implemented for forms, but more complex rules (e.g., workout routine uniqueness or input sanitization) could improve user experience and data integrity. |
| User Profile Management | Not Met | Was not able to fit in the time |
| User Notifications and Alerts | Not Met | The app currently lacks a notification system for things like workout reminders, progress milestones, or alerting users to upcoming features or system updates. |
|  |  |  |
|  |  |  |
|  |  |  |

**Planned Improvement**

* Mobile Responsiveness: Optimize the user interface for mobile devices, particularly modal behavior.
* Error Handling: Improve user-facing error messages and strengthen error logging mechanisms.
* Testing Coverage: Expand the testing suite to ensure reliability and minimize regression issues.
* Azure SQL Consistency: Address performance and retrieval issues when using Azure SQL
* Performance Improvements: Optimize database queries, caching, and overall application performance for larger data sets and increased traffic.
* User Analytics: Add workout performance charts and statistics to show users how they are improving over time.
* Security Enhancements: Integrate security best practices such as CSRF tokens, input sanitization, and XSS prevention for better protection.