CALEB WORTH

Kitakyushu, Japan
0413 534 851 | Email: calebworthpersonal@gmail.com LinkedIn: linkedin.com/in/calebworth Portfolio: calebworth.com
GitHub: github.com/calebworth

PROFILE

Software Engineer transitioning deep systems architecture skills into full-stack web development. I bring the engineering discipline of complex, offline-first applications (Java/SQL) into modern web ecosystems (React/TypeScript). My focus is scalable application delivery, bridging the gap between heavy data processing and responsive user interfaces. Based in Kitakyushu, Japan; open to remote work or local opportunities.

TECHNICAL SKILLS

- Languages: Java, TypeScript, JavaScript, C#, SQL, Python.
- Frontend: React, HTML5, CSS3, Responsive Design.
- Backend & Systems: JavaFX, Azure SQL, SQLite, Tekla Structures API.
- Architecture & Practices: Clean Architecture, MVC, Offline-first Sync (Outbox Pattern), Database Design & Migration, Concurrency (CompletableFuture), Testing.
- Tools: Git/GitHub, Azure, JIRA, CI/CD pipelines.
- Domains: Automotive Management, Inventory Systems, CAD Automation, Hybrid-cloud Synchronization.

PROFESSIONAL EXPERIENCE

Tech Lead Software Engineer | Medicar Auto Centre

Oct 2024 - Present | Brisbane, Queensland, Australia (Remote/Hybrid)

Major Duties:

- **System Architecture:** Designed a modular desktop application using Java and JavaFX. Implemented a Clean MVC Architecture with DAO patterns to support a robust automotive management system, featuring separate layers for UI controllers, business logic, and dual-mode data persistence.
- **Cloud Sync & Resilience:** Engineered a fault-tolerant synchronization engine (`SyncService`, `DualDatabaseExecutor`) using an "Outbox" pattern. The system writes to local SQLite for offline-first capability and asynchronously replicates data to Azure SQL, handling network partitions and conflict resolution automatically.
- **Database Engineering:** Developed a custom `DatabaseMigration` utility that manages schema evolution across disparate SQL dialects (SQLite vs Azure SQL Server). Implemented self-healing DDL scripts to ensure schema consistency, handling identity sequences and data type normalization dynamically on startup.
- **Core Business Logic:** Integrated comprehensive workshop management modules including complex Job Booking workflows (Mechanical, Service, Pre-Purchase Inspection), Calendar scheduling (CalendarFX), and dynamic PDF invoice generation (Apache PDFBox).
- **Concurrency:** Developed a thread-safe execution layer using `ExecutorService` and `CompletableFuture` to parallelize database operations. Implemented non-blocking UI updates via `Platform.runLater` to maintain application responsiveness during heavy synchronization tasks.

Successes:

- **Hybrid Cloud Reliability:** Achieved seamless offline capability where the application functions fully on local hardware and eventually consistently synchronizes with the cloud, robustly handling connection drops without data loss.
- **Cross-Platform Compatibility:** Solved complex SQL dialect incompatibilities between lightweight SQLite and enterprise Azure SQL, creating a unified abstraction layer that handles specific constraints, date formats, and sequence generators transparently.
- **Automated Deployment:** Reduced deployment friction by implementing an idempotent migration system that automatically detects and patches database schema drift on application launch, eliminating manual SQL script execution.
- **Complex Data Modelling:** Successfully modeled dynamic service workflows allowing for flexible invoice construction (merging standard service items with custom "extra work"), which are serialized and synced with high fidelity across the hybrid database architecture.

Software Engineer | Moddex

Web-based Operational Tools & CAD Automation

Overview:

- Focused on web-based operational tools, building React/TypeScript applications to manage parts databases and inventory.
- Developed C# extensions for Tekla Structures to automate drafting workflows, significantly reducing the manual overhead for design teams.

EDUCATION

Bachelor of Information Technology - Major in Computer Science

Queensland University of Technology (QUT), Brisbane

REFERENCES

References available upon request; reference page will be provided.