Southern New Hampshire University

CS 499 – Computer Science Capstone

5-2 Milestone Four: Enhancement Three - Databases

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For my Milestone Four enhancement, I continued working with the weight‑tracking application I originally built in CS 360: Mobile Architecture and Programming. This project connects a mobile interface with a local SQLite database to let users create accounts, log in, and track their weight over time. For Milestone Two, I misunderstood the scope and ended up completing most of the database work then, so by the time I reached Milestone Four, I had already fixed or added nearly everything that needed to be done. This milestone gave me the chance to review those changes, fix the remaining issues, and document the process.

In Milestone Four, I mainly reviewed and finalized the database work I had already completed earlier. I changed date storage to ISO format (yyyy‑MM‑dd) and added an ORDER BY clause so entries sort correctly. I updated the query to filter by the logged‑in user’s ID and confirmed the display converts back to M/d/yyyy for clarity. I also checked that password hashing, and parameterized queries were still working as intended and made small clean‑ups to keep the database consistent.

Beyond the database, I fixed other issues that affected how the app worked. I corrected a refresh problem, so past entries load right after login. I also added SMS notifications when a new entry is saved, and I improved how the app keeps track of user data across screens. These changes were not strictly database fixes, but they connect directly to how the database is used and make the app more reliable.

Working through these updates gave me a better understanding of how database choices affect the rest of the app. I considered risks like plain text passwords and SQL injection and addressed them with hashing and parameterized queries. I also learned how important it is to store data in formats that support sorting and queries, not just what looks good on the screen. Debugging the refresh issue showed me how database logic and app state have to work together, and that small timing problems can confuse users if they are not coordinated. This milestone ended up being less about adding brand‑new features and more about tightening up the details, so the app runs smoothly and securely.

Overall, this artifact shows the progress I have made in database design and secure coding. It belongs in my ePortfolio because it demonstrates how I identified flaws and improved it into a working solution. Even though most of the database work was completed earlier in the course, this milestone gave me the chance to finish the last pieces, confirm everything was working, and reflect on what I learned in the process.