

3-2 Milestone Two: Enhancement One: Software Design and Engineering Narrative

The artifact that I have taken is MainActivity class which developed for creating “Wellness Tracker” android app as part of the “CS 360: Mobile Architecture and Programming” course. MainActivity class contains the business logic to perform login and create user account functions. I have selected this class since it has unused variables & code, no password criteria, no documentation, and usernames can be duplicated which eventually could lead to privacy issue. I have improved the code maintainability by adding documentation, improved the efficiency by removing unused code and variables, improved the user experience by enhancing error handling and eliminated privacy issues by adding components to verify if username is taken or not before creating new. My software designing, development & testing skills are demonstrated in modifying most of the ‘MainAcitivity’ class and specifically, the ‘AddUser’ component is significantly re-written to cover error handling and fix the privacy issues.

Based on the module one feedback, I have selected more changes which include performing complex validations such as validating username and password are not empty before proceeding further and password is of minimum 6 chars of length. In addition, added logic to allow user to create a new username only if it doesn’t exist in the users table of database. With addition these new validations and enhancements, I have met the course objectives.

“Wellness Tracker” app was created only 3 months back by me but still, it was hard to recall, what the code is doing especially due to lack of documentation. This experience made me realize the importance of documentation to maintain the code. The string operations also challenged me a little especially, when implementing the validations for username and password to trim the space and checking length. After re-learning the String class and available methods, I

have gone back to the code and completed it. Secure coding course taken in last term helped me to identify and fix the allowing duplicate usernames.