Criterion A - Planning

[A.X] Appendix index.

The problem and its proposed solution:

Throughout the past years of running a Sari-Sari store (mom-and-pop convenience store), the owner (Client A) has experienced a great deal of inconvenience in promoting and verifying their store loyalty rewards promotions. As a small family-run store, it is important to ensure that profits are maximized, this involves ensuring that promotions are seen and loyalty is tracked [A.1]. Currently, loyalty is tracked through a sticker system, where as they spend more money they gain more stickers and with more stickers, they qualify for free rewards. They promote these promotions using posters at their store. A large issue with these current methods is that stickers can easily degrade over time and stickers have been faked and forged in the past to get free items [A.2]. Loyal and new customers alike also are unable to be notified of these promotions in advance due to the store being located in an alley, separate from the main road where many houses are located [A.3]. This shows the need for methods that improve loyalty tracking and promotion opportunities.

With these problems in mind, I proposed an idea of an easy way to fix these issues. Some potential solutions include using pen and paper to track each person and expanding to poster promotions outside of the alley the store is located in. The primary issue of using pen and paper leads to the same issues as the stickers, with too many people it gets hard to track and paper also degrades in quality over time. For expanding the range of posters past the alleyway, there are already a lot of official advertisements, causing any external posters to be removed. [A.4] Therefore it was decided that a digital solution would be required to ensure ease and safety of tracking.

Rationale:

Once I had noted all the issues that my client faced, I decided that in order to accomplish all that my client wants, I must create an easy-to-use and simple app that allows for efficient exchange of information. This is done in order to tackle the issue of loyalty tracking, in using a digital program to load data onto the app removes the need for extra time and energy spent calculating total amount spent and allocating stickers. The login interface will allow users to securely access and view their account information while at the same time removing the issue of verification as the app has built in verification [A.1]. Most customers primarily have phones, android to be specific, with 61.5% of the population using phones, 85% of which are Androids according to Statista[1] [2]. Considering this, I have deduced a mobile application on the Google Play store to be the optimal platform for this app. In regards to the creation platform, I have decided on the Unity engine using the language C#. Unity was chosen due to its seamless Android accessibility,

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[1] "Philippines: Major Mobile OS by Market Share 2024." Statista, https://www.statista.com/statistics/931129/philippines-mobile-os-share/. Accessed 26 Feb. 2024.
[2] "Smartphone Users in the Philippines 2029." Statista, https://www.statista.com/statistics/467186/forecast-of-smartphone-users-in-the-philippines/. Accessed 26 Feb. 2024.

allowing for testing and programming in an Android-simulated environment with no third-party dependencies.

Success Criteria:

High Priority:
- The application must allow users to create an account and password, with proper error handling and security.
- The application must enable a user with admin access to load data through their camera and QR code
- The program must allow for changing and retrieving of data like loyalty points from a secured database.
- The application must allow for admin-to-client interaction on an Android platform

Medium Priority:
- The UI must be easy to use, having self-explanatory buttons and a detailed information section on how to operate the application
- The system could allow users and administrators to view customer purchasing behaviors from previous purchases (proof of purchase)

Low Priority:
- The application should allow users to view recent promotions for the store
- The program should have a way for users to view the rewards that they qualify for, given the amount of loyalty they have accumulated