Criterion E

Product Implementation

The final product was implemented and used by Student Council during the first week of October 2018 (See Criterion B ROT). Prior to this, I carried out alpha testing and the client individually used the app for beta testing over a period of 2 weeks.

Success Criteria

Criterion Number	Description	Achieved or Not
1	Student Council members can be added and removed with levels of accessibility from the app	This aim was only partially achieved as the members could only be added through a web interface for the backend.
2	Student Council members have individual logins and passwords	Achieved.
3	Student Council members can access their account from any Android or iOS device using login details	Achieved with Flutter by releasing both an apk and an ipa file.
4	Information is synced across devices and accounts	Achieved using Firebase Cloud Firestore database to share information.
4	Products can be added and removed from the Stock List, only by administrators	Achieved by creating separate UIs for normal users and admin users.
5	Information about the product can be added, edited and deleted. (Selling Price, Stock, Name)	Achieved by creating a dialog for those procedures that communicates with database.
7	Stock of any Tuck Shop product can be checked at any given time.	Achieved.
6	A Tuck Shop checkout system can be used to calculate totals and update stock inventory and add transactions that can be used by all users	Achieved
9	A budget section showing the overall budget of Student Council is available	Achieved.
10	Spending and Income can be sectionalised and shown in a graph	Achieved by using the Charts package as well as Cloud Functions to aggregate transaction data.
11	Non-Checkout Transactions can be added, edited and deleted by administrative accounts	Achieved by using Cloud Firebase to keep list of transactions together with read write permissions

Client Feedback

Throughout the development process, I constantly kept my client updated on the development status and showed him the UI. This led him to make a few changes regarding the UI and the layouts of the app, such as the overall colour scheme of the app and reducing the amount of tabs in the app and moving the Stock and Transaction screens into options within Checkout and Finance Screens respectively (Appendix D-H).

However, due to a sudden change in the school policy during the development of the app, it became redundant as students were banned from carrying their phones around in school. However, I updated the app to be also able to run on iPads, so an iPad was used at the counter and Student Council members could access the finances when necessary at home, or if at an off-school Tuck Shop event, they could use their phones if necessary (Appendix G).

The client was overall pleased with the development process and the amount of information provided during the development process allowing him to have a lot of input in the design of the app. The client was also satisfied with the app and felt that it met all the requirements and was impressed by the user interface and how easy it was to navigate and use (Appendix I). He also commented that the Student Council members found it to be helpful in day to day tasks and that Student Council was recording an increased profit over the past weeks.

Future Recommendations

Client Suggestions

The client suggested several potential improvements to the app. Firstly, regarding the stock inventory, it would be useful to see which products are the best selling each month and also how profitable each product is. This could be done by adding more variables to the product and using similar functions to the transaction calculations and graphing. The client also suggested that for the transactions list, it would be useful to be able to query by year or by month, this could be done using a database query based on the users selection displaying transactions only in a certain time period as the time of a transaction is recorded (Appendix I).

I also think that the app could be extended to include a group chat making better use of the individual sign-ins and allowing for greater use of the app to centralise Student

Council operations and meetings. Another improvement would be to create notifications whenever stock is low to remind orders to be made. This could be done through Firebase's Cloud Messaging system or a local device notification.

A potential extension to the system would be the inclusion of a web app that connects to database and allow non-members to see the state of Student Council or also an interface that allows members to perform actions from a computer when necessary.

(523 Words)