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IB Computer Science, Period 5

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**Criterion E: Evaluation**

**Evidence of Final Product Implementation**: See Appendix (B.5-6)

**Success Criteria from Criterion A**

| 1. The application must be able to display the locations of several teams within a single Google Map. When teams are added or deleted from the app, changes must be reflected within the map as well. 2. Teams must be able to add new tools to their accounts for lending. Each tool must have a labeled quantity and days of the week which it may be borrowed. 3. The user must be able to search for a tool by providing the tool’s name. The application must visually display the team closest to the user’s position which possesses the tool desired using Google Maps. 4. Teams must be able to submit emergency requests for tools not possessed by any other team, which are visible to and may be fulfilled by every team. 5. The application must prompt users to sign in when launching the app. Team credentials must be saved locally, and tools imported must be associated with only the teams which possess them. 6. The application must be able to delete tools from a team, as well as delete teams themselves from the application. 7. Implement an ergonomic graphical user interface which lends itself towards the mobile format using large text, high-contrast font, and buttons with sizes fit for the screen they are on Appendix (B.1). |
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**Evaluation of Success Criteria**

1. Success: An indefinite number of teams are able to be added into the application and shown in Google Maps, and once deleted will no longer appear. Ethan was able to add ten teams to the application’s map with no issues (B.6).
2. Success: Each team was capable of adding tools to their account while specifying the tools’ names, quantities, and availability. Every tool instance required at least a quantity of one day and an availability of one day of the week. The application prevents the user from adding two of the same tool to one team, overwriting the original tool instead.
3. Success: The user was able to search for a tool using the tool’s name. If the tool existed, the team closest to the logged-in team was highlighted. When a tool was searched for that did not exist, the user was prompted to submit an emergency request.
4. Success: Teams were able to submit requests for unfound tools using a desired quantity and name of tool. The list of emergency requests was visible to every team, and the requests disappeared upon being fulfilled.
5. Success: The user was unable to access the application without first logging in or creating a new team. Each team was able to edit only their information. Team data persisted between application reloads.
6. Success: Once teams were deleted from the application, they no longer appeared on the map, nor the tools they possessed. Deleted teams were unable to log back in.
7. Success: Every button within the application was larger than 36x50 pixels. Screen transitions possessed simple wipe animations.

**Recommendations for Future Development**

There are several ways in which the application could be improved in the future. Based on client and advisor feedback, the most beneficial improvements to be made are:

1. Save Team data in an online database rather than locally on each device. While local storage may work when only a few teams are using the application, it is not scalable for widespread implementation of the application. By using publicly available cloud storage systems such as Firebase. I will pursue an online solution for storing user data.
2. Adding a correlating image to every tool. Although each Tool instance possesses a name and quantity, important characteristics such as the tool’s brand, size, or quality are equally important. The quickest way for the user to express the state of their tools would be to add an image to every tool, which then displays upon searching for that tool.
3. Implement operating system-level notifications for when the user’s emergency request has been fulfilled. By implementing iOS and Android notifications, the user will become aware faster of any availability for tools they require.

**Word Count: 436**