

SkillCourt

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PROBLEM

Soccer players struggle to remember their game stats. Having someone else keep tabs on them is challenging and prone to mistakes made by humans. SkillCourt was created to address this!

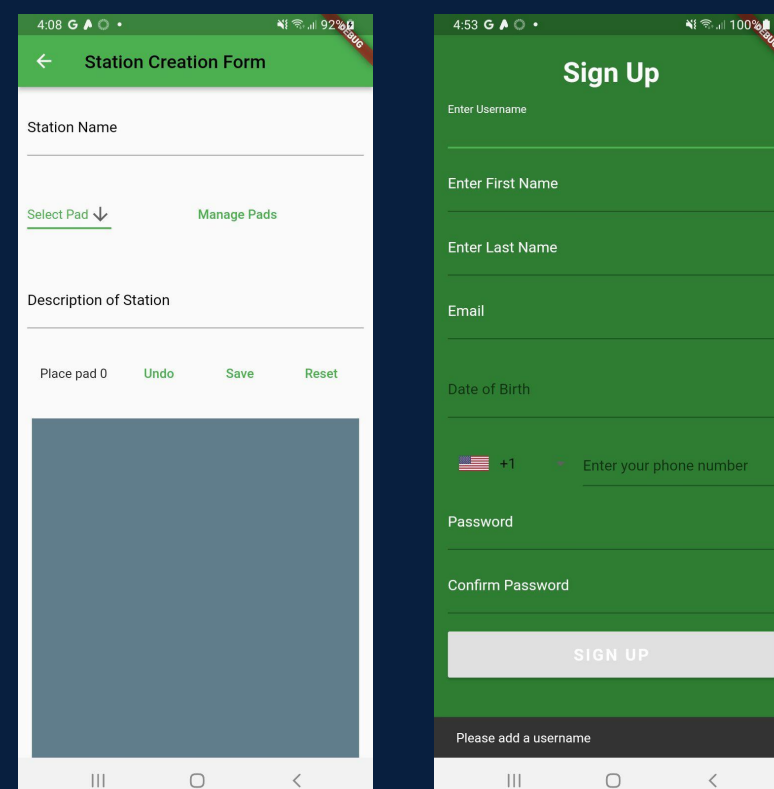
However, the following issues currently exist:

- The app does not currently exist in a functioning form for iOS or Android.
- The pads' ability to connect to the application plugin has problems.
- Flutter does not allow us to connect to the pads.

SYSTEM DESIGN

To create this application for Android and iOS, the technology is presently being implemented in Flutter. Additionally, we had to make it possible to connect or disconnect the pads. Also, it allow us to place the pads wherever we want in the field using the application.

SCREENSHOTS

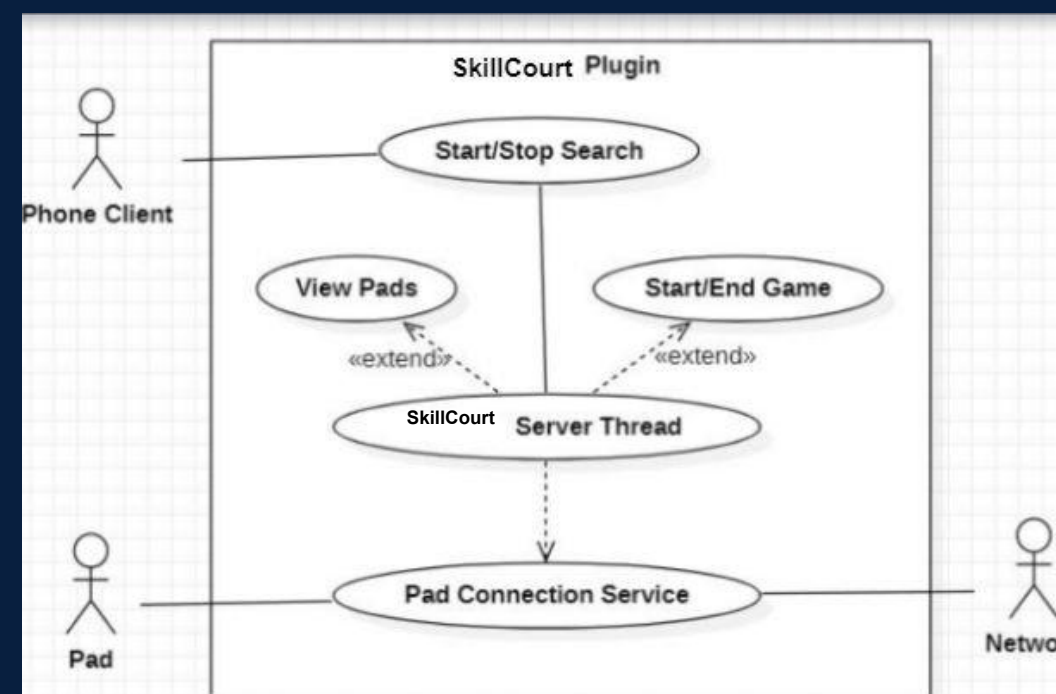


CURRENT SYSTEM

The current version of the SkillCourt app, which is being created in Flutter, is accessible to both Android and iOS users. Players can put up LED panels called "pads" that they can strike with a soccer ball; when they do, the LED panels light up and communicate with an app. Based on the hits, the pads gather data that is relayed to the app. As for the website, it is built on reactJS using Ubuntu and Docker.

OBJECT DESIGN

Figure 1: Use Case Diagram for SkillCourt Pad Pugin



REQUIREMENTS

In order to work on this project, the proper environment is needed. The following is necessary:

- A computer with the following software
 - Java Runtime Environment of version 1.8 or higher
- Git, with either the git-flow-avh or another plugin for the git-flow workflow.
- The Flutter SDK
- Android Studio or XCode, depending on whether developing for iOS or Android.
- Python 3 (for the pad emulator)
- Docker Desktop
- Ubuntu

To run the system in a production (or production-like) setting, it requires the following:

- An iOS device running iOS version 9 or later, or an Android device running Jelly Bean or any later version (optimized for Android 11).
- Several physical pads with embedded sensors.
- A soccer ball.

IMPLEMENTATION

This application is planned to be installed in IOS and Android devices. For the implementation in Android and IOS, we used a flutter plugin for each implementation to transfer data.



SUMMARY

First, we made changes to the branding of SkillCourt on the website and mobile app. We changed all names on the website that refer to Agineek and altered all branding for SkillCourt. Our team worked together to accomplish this task after conducting research on how to implement server synchronization using GraphQL and the client side. Then, using the mobile application that stores JWT data and transfers it to the GraphQL API, we needed to build up a test. We verified that the GraphQL API is displaying successful logins after testing the JWTs authentication with the mobile team. Additionally, we wanted to be able to properly build a means for adding new users to the mobile application. We intended to incorporate two buttons in the mobile app: one that sends a code to the pad emulator and another that sends a code to several pads at once. We also looked into ways to connect and communicate when logging into the server via the website and mobile app. The server needed to be set up such that it could talk to both the website and the mobile app at once.

ACKNOWLEDGEMENT

The material presented in this poster is based upon the work supported by Guðmundur Traustason. We thank the product owner and Joseph Quinn for the assistance and mentorship that we received throughout the course