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Online Judge App

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Problem
To create a judging app that can be used on popular smartphones and tablets. Specifically - creating the web application to facilitate the process.

During the Senior Project final demonstrations, grading each student on paper is inefficient. Also, it is an enormous task for any one person to keep track of the different scores assigned to the students during this time. It is too time consuming for one person to ensure that all students are being judged sufficiently, without any duplications taking place.

Current System
The current process for judging students includes, grading each student on an individual sheet of paper, by multiple judges. Therefore generating a large number of scores that must be handled very carefully.

No application is currently in use, that optimizes this process.

Requirements
In order to use this system, the following requirements must be met by the judges, admin, and students -
• Every judge willing to use the system needs to have either an iOS, or an Android capable smartphone or tablet.
• The admin needs a computer with a web browser, to view the compiled results, and set judge limits.
• The students may register via the web browser. And view their rankings on the web as well as on the app.

System Design
The client server design was used for this project.
• Client - The app (Android, iOS, Web), which provides, different services, depending on he actor using it.
• Server - The database which stores all the information gathered via the app.

Object Design

Implementation
To address the problem of optimizing the Senior Project Judging process, we designed apps that work on Android, and iOS devices. With additional support offered by a web application.

I worked on the web application. This app allows the students to register in order to be judged via the smartphone apps. It also allows the admin to view the complete results generated by the use of the apps.

Verification
We conducted dynamic verification, while implementing the project on the different platforms. Unit tests were conducted for every step. And integration tests were carried out on the completion of every major use case. A system test was carried out to ensure that all platforms worked properly with each other. The various tests were carried out on the emulators used, as well as on the devices that the system must work on.

Screenshots

Summary
Our group was able to implement all major requirements for this project on three platforms.

As a result of this system, paper scores should no longer be required. Also, judge assignments can be made by the admin, while ensuring that no duplications take place. Judge assignments will be random as a result of the algorithm implemented within the system. Scores can be viewed by the students in the form of rankings by their Panther ID; and the admin can view complete scores on the website.

This system can be ported to use for future Senior Project demonstrations.