

Requirements:

1. The server shall maintain that each group is allocated at least one admin account.
2. The DBMS shall ensure that all of the queries being made by us are as efficient as they can be, and that they will run smoothly. Similarly, we will make use of prepared statements to ensure that the system is not vulnerable to SQL injection attacks.
3. The server shall be stable and ensure that multiple users connected at the same time will not create lags within the system. It will also be stable to be sure that there are no random logouts from users or problems where users cannot submit their answers to questions.
4. A game/matchup shall not begin until two users are connected.
5. The website shall ensure that the user does not have the ability to compete in two versus matches simultaneously.
6. The master account list shall ensure that a username does not already exist upon account creation.
7. The project will be web based and contain a mobile application developed on Android.
8. The web site must be able to allow users to complete timed programming challenges by accepting their source code from over the Internet.
9. The user must be able to have access to creating their own respective group to conduct programming challenges.
10. The user must be able to maintain the group by granting and revoking admin privileges as dictated. Users must be able to retrieve the leaderboards for the current group they are entered in.
11. The website must make use of modern encryption algorithms to protect the confidentiality and integrity of the account information.

12. The admin user or users of the group must be able to maintain the group's settings.
13. The user must be able to maintain their personal settings and information for their account.
14. The user must be able to create a group and have access to creating tournaments and group events.
15. The website must allow for users to navigate to the games page.
16. The website must allow for users on the game page to decide whether they would rather be placed into a single player or versus mode.
17. The DBMS must maintain the properties of ACID, atomicity, consistency, isolation, and durability.