CS225 Software Development

Class Project

FURPS+

**Functionality**

Original by Katherine, edited by Phoenix.

* What will the system do?
  + Login Screen
    - A game description greeting the user.
    - User enters a username and password.
    - Creates a new account if username is unused.
    - Saved usernames shown in a dropdown!
    - Account is retained between sessions.
    - Entering credentials allows access to a previously created bracket.
  + Bracket Prediction
    - Either starts with an empty bracket or the bracket associated with an account.
    - User can construct their predicted bracket.
      * Teams can be moved forward and back on the bracket at will.
    - Can show team stats and information.
    - Bracket can be finalized once filled out which makes the prediction eligible for the leaderboard.
  + Simulation
    - Shows the winners of each match including their score.
    - Team’s scores are weighted based on their rank.
    - Calculate points earned by each user from correct predictions.
      * The later the matchup the higher the points.
      * Points earned for each matchup will be shown to user!
    - Show a user leaderboard of all accounts with finished brackets and their scores.
* When will it do it?
  + Login Screen
    - On program start.
  + Bracket Prediction
    - After a valid login is entered or account is created.
  + Simulation
    - When the simulation button is pressed after the bracket has been finalized.
* What kind of computation or data transmission will be performed?
  + The program computes winners using weighted randomizations.

Calculates scores for individual players for prediction results with weighted points.

**Usability**

* Scalable GUI
  + Elements in the GUI should resize once the GUI frame is resized.
* Reset Button
  + When this button is pressed the users bracket is erased so they can start from scratch
  + Once the finalize button is selected the reset button should not be visible.
* Display the simulated scores for each game
  + In each games individual bracket the teams scores should be displayed so it is clear to the user why a certain team won and the other lost.

**Reliability**

* Validate Bracket before finalizing
  + Ensure that all necessary fields are filled out, if not display a message to the user asking them to complete the bracket before finalizing.
* Catch input output exceptions
  + Catch for incorrect log in credentials

**Performance**

* Program should support up to 4 players
  + Each tournament will consist of 4 users.

**Supportability**

* Change teams in bracket
  + Allow the user to remove a previously selected team before finalizing bracket. Allow user to make edits to their bracket whenever as long as the finalize button has not been selected.
* Documentation on how to use software
  + Once user is logged in display an Instructions button which will give the user step by step instructions on how to use the software. Make this as simple as possible so the user does not get confused.

**PLUS**

* Providing stats for each team that influence the situation
  + Teams that are ranked in the top 10 will have a minor advantage against other teams to provide a real life simulation.
* Providing the option to compare the predicted bracket to the actual tournament.
  + Compare the users bracket (the simulated one) with the actual tournament winners from 2017.
* Display a tooltip next to the winning team
  + Tooltip will display the college information of the winning team once the mouse is has hovered over the tooltip icon.
  + Display tooltip with info of every team.
* Correctly predicted teams to be displayed with green text
  + If the user correctly chose a team to win the team name should be displayed in green.
* Incorrectly predicted teams to be displayed with red text
  + If the user incorrectly chose a team to win the team name should be displayed in red.