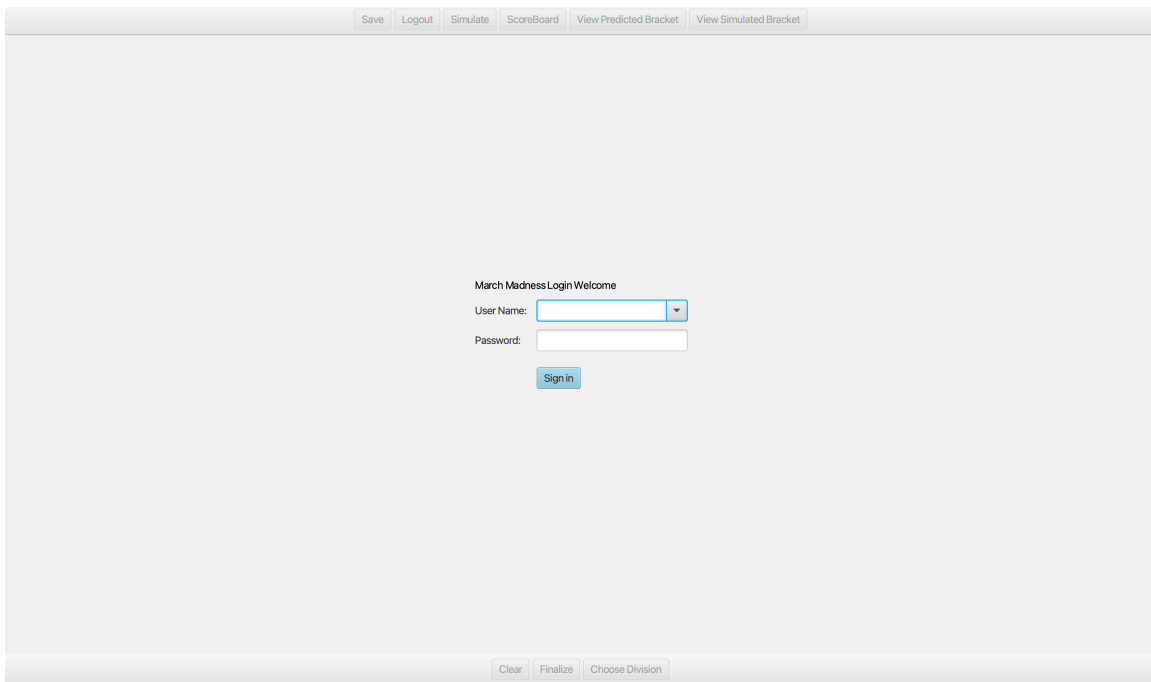# Welcome to the March Madness Simulation Guide!
This guide will serve as a basic tutorial on how to navigate the simulator, how to properly make a prediction bracket, and view results/scores afterwards.

When the user starts the application, they are greeted with a login screen. Below is a snapshot of what the login screen looks like:

The graphical interface of this app has a multitude of buttons, as well as incorporating text fields and labels to communicate with the user.
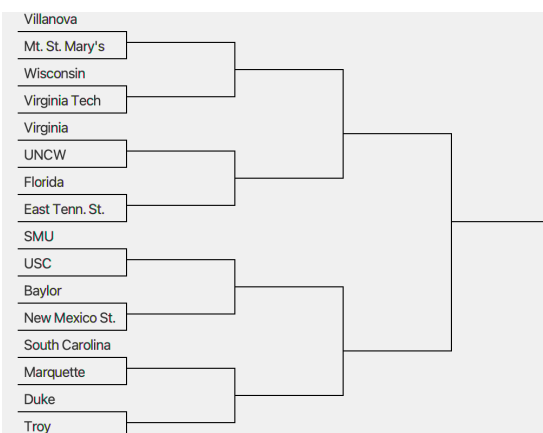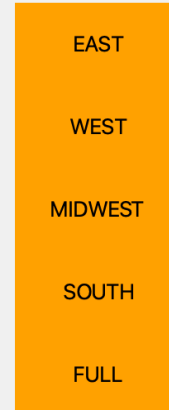
In order to log into the application for the first time, the user has to create a new user. To do so, the creation of a username and password combo that can be easily remembered. The application will remember your username and password for the next time you log in with matching credentials.

After logging in for the first time, this dialogue will appear. If this appears, the user has successfully logged into the app!
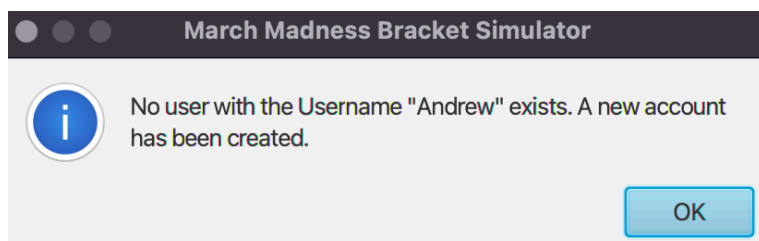
Following logging in, users will have the option to pick which part of the bracket they would like to predict. For those who do not know, here is a quick explanation of March Madness:

1) Annual college basketball tournament run by the NCAA, divided up by region
2) 68 teams from the men's Division 1 and 64 teams from women's Division 1 leagues
3) Single-elimination format, and winner is crowned national champion.
4) Teams seeded by 1 (strongest team) and 16 (weakest team)
5) Tournament starts with First Four to determine the teams coming in (this is the play-in tournament for the real thing)
6) Round of 64 and Round of 32 are the opening rounds of the tournament, and the Sweet Sixteen subsequently follows these stages

EAST
WEST
MIDWEST
SOUTH
FULL

7) From the Sweet Sixteen (16 teams remaining), it goes to the Elite Eight and lastly, the Final Four. The Final Four has its own weekend in a different city every year, and the semifinals and finals of the tournament happen over the last weekend of the event.
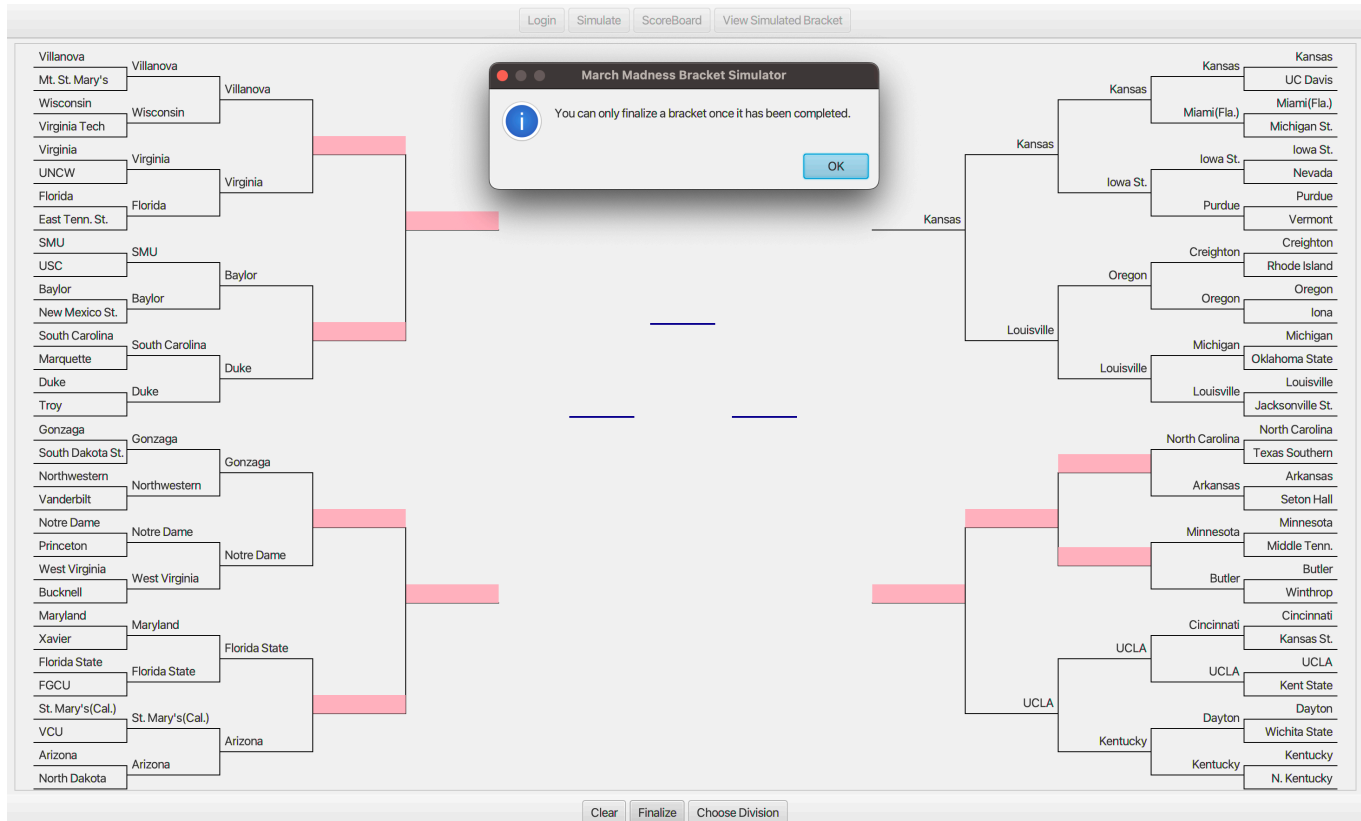
Bracket
Villanova
Mt. St. Mary's
Wisconsin
Virginia Tech
Virginia
UNCW
Florida
East Tenn. St.
SMU
USC
Baylor
New Mexico St.
South Carolina
Marquette
Duke
Troy

When you click on one of the region boxes, it will display the part of the tree that correlates with that region. For example, if you select the "East" button, the East Region part of the bracket will be displayed. To the left here is what the associated bracket looks like to the user when in the application. The user can make their predictions on the bracket by clicking each team's name. By clicking a team name, the user can make their picks for who will win each game.

To the right here is a finalized region bracket. You can select each bracket's region to finalize it that way, or you could select the "Full" option and see the entire bracket, make your selections, and then move onto the the next step: bracket finalization.
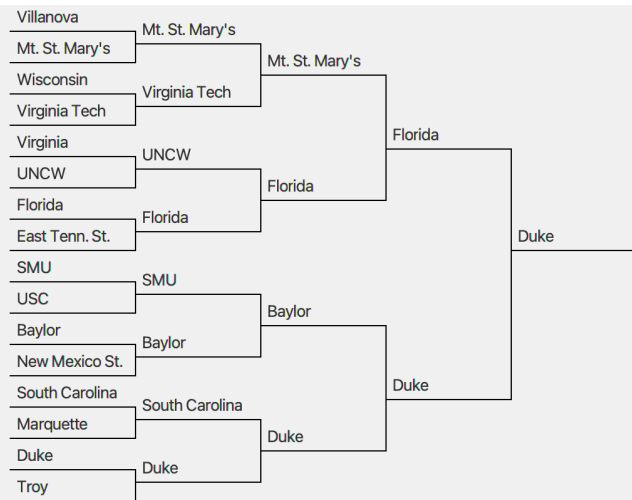
If the user attempts to submit an unfinished bracket, it will highlight the unfinished selections and display this:

After creating a finalized bracket, it should look very similar to this:
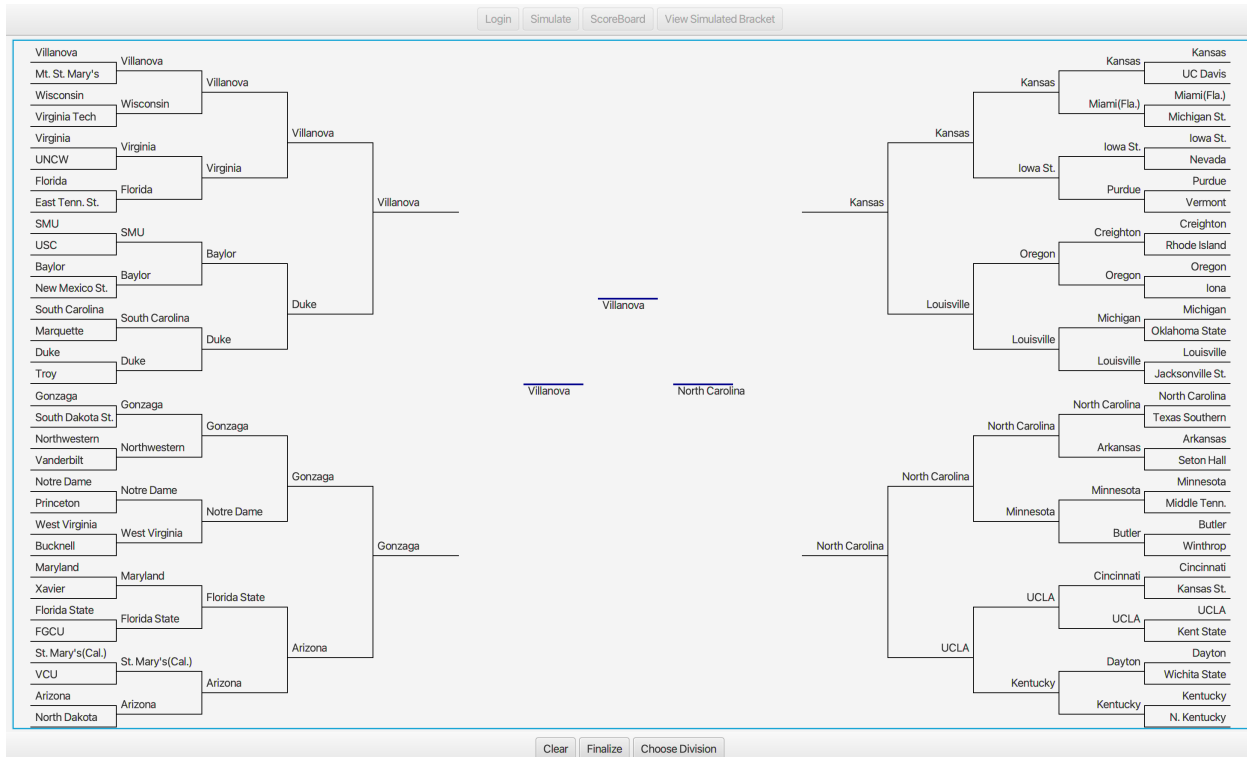
Prior to progressing, if the user decides to restart their predictions, the "Clear" button on the bottom row of buttons can be clicked to reset the progress of the user's selections. In the same row, the "Finalize" button is the tool to use to progress through the bracket's simulation. Upon clicking that button, the user's selections will be <u>locked</u> and only allow for 2 commands afterwards: logout and simulate.

The incorrect guesses are highlighted in red, and the correct matchup guesses are highlighted green. Here is a sample of a completed bracket:
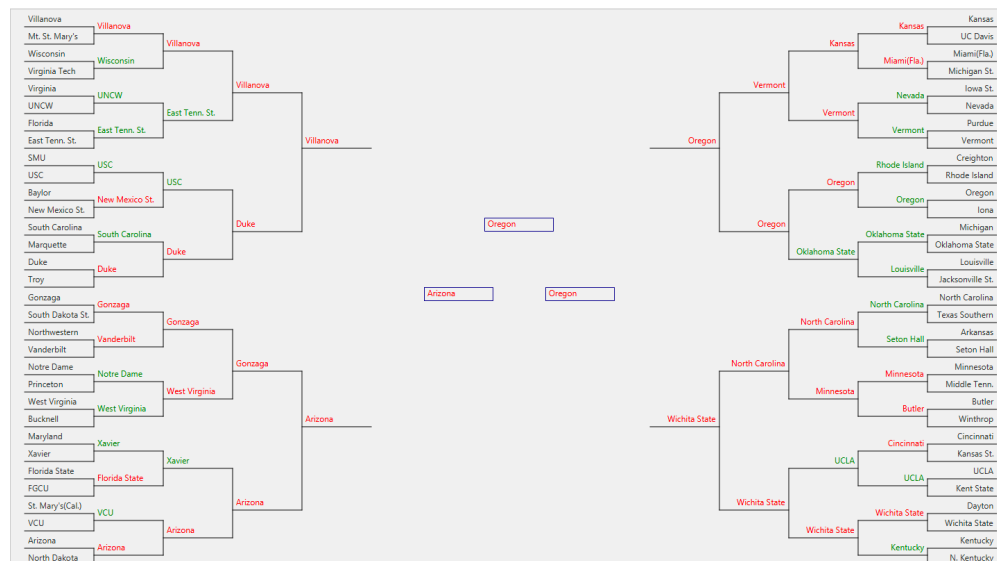
Once the user has locked their selections, and the simulation begins and completes. The simulation constructs the "simulated bracket" by using weighted randomizations to determine scores for each matchup, and advancing the team that generates the higher score value. Depending on how strong the team is, the higher probability of them progressing deeper into the tournament. Upon completion, the application moves to the next screen which is the scoreboard. Users

Username	Total Points
a	42
ty	30
Andrew	20

"a" and "ty" are innately part of the program, so they do not apply to the user. The score associated with the user's username will be displayed on the board. For example, to the right here is what the scoreboard looks like following a simulation. The user can sort the scoreboard alphabetically ascending or descending, as well as ascending or descending total points.

After viewing the scoreboard, the user can navigate to view their predictions or view the simulated bracket that their predictions were scored against. On the top bar of buttons, these buttons are appropriately labeled:

| Save | Logout | Simulate | ScoreBoard | View Predicted Bracket | View Simulated Bracket |

Upon viewing the simulated bracket, the user can see what the system generated for a simulation. The simulated bracket appears in the same format as the bracket the user created, but the entries might differ from what the user selected, as the program will generate a completed bracket.

In order to perform another prediction, a user must create a new login to the system to link a bracket to. A fun aspect of the program is how it stores and tracks previous account's scores, as it allows for multiple users to make predictions to compare to a newly-simulated bracket each time the simulation is performed.

Finally, this is the end of the guide. Now, with the new knowledge that you, the reader, possesses, open the application and start predicting - **<u>let the madness begin!</u>**