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Title: Bracket Boys

Automated Tests:

Django, the web development tool that we are using to develop our app, uses Python's built-in `unittest` module in order to conduct automated tests. Thus, the automated tests we will be conducting our tests with this module, which is nearly identical to the unit tests done in Lab 11. Because running our app on a local server is tedious to set up, we found that it would be easier to show how our tests are conducted via command line.

By running the command line `python3 manage.py test`, each of the tests that we code will be checked. In this example, the Tournament table in our backend database is being tested to assure that everything is built into the server correctly.

```
(bracketsenv) user@cu-cs-vm:~/Documents/git_repo_2/Bracket-Boys/brackets$ python3 manage.py test
Creating test database for alias 'default'...
System check identified no issues (0 silenced).
.....
-----
Ran 4 tests in 0.012s

OK
Destroying test database for alias 'default'...
(bracketsenv) user@cu-cs-vm:~/Documents/git_repo_2/Bracket-Boys/brackets$
```

Test #1

Test Writer: Dylan Cassidy						
Test Case Name:		Creating and Updating User Account Test Plan			Test ID #:	BB-AT-01
Description:		This test examines the user account creation functionality of the [Brackets] web application. It demonstrates that the user is able to create an account, log in, log out, and update and view their first name, last name, and email.			Type:	Black Box
Hardware Ver:		ACCEP.1			Time:	n/a
Setup:		<p>The following steps will not be necessary after the website is live. To create a local instance of the website from the files uploaded on github, follow the steps below. Clone Bracket-Boys/ repository from github. Use the cd command to enter the directory, then run the command "sudo pip install virtualenv", followed by "virtualenv bracketsenv" and "source bracketsenv/bin/activate" to set up the virtual environment. Next, run "pip install django" to install the django framework in the virtual environment. Enter "cd brackets/brackets" to enter the second brackets directory and save the file settings.py here. Then install the sql client using "pip install mysqlclient", use "cd .." to return to the first brackets directory, and run the server on the local host by entering "python manage.py runserver". Then, open a web browser and type Localhost:8000 as the url. Make sure localhost is in the ALLOWED_HOSTS array in settings.py.</p>				
Step	Action	Expected Result	Pass	Fail	N/A	
1	Click on the "Sign Up" link.	The user is taken to a form and prompted to enter a username and password, along with password confirmation.				
2	Type in a username and password. Deliberately enter a different password into the Password confirmation box.	The user is taken back to the form and a warning is displayed reading "The two password fields didn't match."				
3	Enter two passwords which match and press the Sign up button.	The user is returned to the sign-in form and prompted to enter their username and password.				
4	Enter the username and password in the fields and press the login button.	The user is returned to the [Brackets] home page and logged into their account. Text at the top of the page will greet them "Hello, <username>!" along with a tab to view My Info and Log Out.				
5	Press Logout.	The user is logged out of their account and returned to the home page. The home page should then show Login and Sign Up tabs				
6	Press Login and re-enter username and password.	The user is logged back into their account and remains on the home page.				
7	Click the link to the "My Info" page, then the link to "My Profile Info"	The user is taken to a page listing their First Name, Last Name, Email, and the date they created their account.				
8	Press the Update button.	The user is taken to a form prompting them to enter their New first name, New last name, and/or New email.				
9	Enter a first name, last name, and email address into the relevant fields and press submit. Then return to the "My Profile Info" page.	The First Name, Last Name, and Email fields are now populated with the updated information.				
Overall Test Result:						

Test #2

Test Writer: Dylan Cassady						
Test Case Name:		Tournament Creation Test Plan			Test ID #:	BB-AT-02
Description:		Tournament creation is the backbone of the [Brackets] site. This test demonstrates the bracket generation functionality of the site for a simple four-player tournament. It also demonstrates how the tournament appears in the tournament creator's My Tournaments page.			Type:	Black Box
Hardware Ver:		ACCEP.1			Time:	n/a
Setup:		This test assumes that the setup performed in test 1 is still valid and the locally hosted server is still running. Additionally, it assumes that the user has created and logged into an account, as outlined in the "Creating and Updating User Account" acceptance test. Repeat previous setup steps as necessary and return to the homepage of the website by clicking on the [Brackets] link at the top of the page.				
Step	Action	Expected Result	Pass	Fail	N/A	
1	From the homepage, press the Create button.	The user is taken to the Create a Tournament form.				
2	Add a tournament name and optionally, a password for the tournament and press submit.	The user is taken to the Tournament page. An input box labeled Player name is available for adding players to the tournament.				
3	Type a player name into the Player name field and press Join.	The player's name will appear on the list of Players at the bottom of the page.				
4	Repeat step (3) for three additional players.	All four player names are present on the Players list.				
5	Press Start Tournament.	The user is taken to the active tournament page. All four players' names are listed under a header with the label "Round 1"				
6	Press the My Tournaments link.	Under "My Tournaments" the user's tournament is displayed with the label "Active"				
7	Press the tournament link on the My Tournaments list.	The user is returned to the appropriate tournament page.				
8	Select a winner for each match by clicking one of the two players per match in order to advance them.	The winners' names are highlighted green and the losers' names are greyed out. A second column appears with the winners' names under the header "Round 2"				
9	Select a winner from the remaining players and click on their name.	The winner's name appears with a green background, while the runner up's name is greyed out. Additionally, a header appears at the top of the page reading "Champion: <Username>!"				
10	Press the My Tournaments link.	Under "My Tournaments" the user's tournament is displayed with the label "Complete"				
Overall Test Result:						

Test #3

Test Writer: Dylan Cassidy						
Test Case Name:		Tournament Creation with Non-Standard Number of Players Test Plan			Test ID #:	BB-AT-03
Description:		This test demonstrates how the application handles generating a tournament bracket for number of players that is not a power of two. The bracket generation code creates play-in matches and the winners are then added to a typical power-of-two style bracket. In the test below, the first match will be played between players 1 and 2, and the winner will move on to a four player tournament, similar to the example from the previous acceptance test.			Type:	Black Box
Hardware Ver:		ACCEP.1			Time:	n/a
Setup:		This test assumes that the setup performed in test 1 is still valid and the locally hosted server is still running. Additionally, it assumes that the user has created and logged into an account, as outlined in the "Creating and Updating User Account" acceptance test. Repeat previous setup steps as necessary and return to the homepage of the website by clicking on the [Brackets] link at the top of the page.				
Step	Action	Expected Result	Pass	Fail	N/A	
1	From the homepage, press the Create button.	The user is taken to the Create a Tournament form.				
2	Add a tournament name and optionally, a password for the tournament and press submit.	The user is taken to the Tournament page. An input box labeled Player name is available for adding players to the tournament.				
3	Type a player name into the Player name field and press Join.	The player's name will appear on the list of Players at the bottom of the page.				
4	Repeat step (3) for four additional players, bringing the total number of players to 5.	All five player names are present on the Players list.				
5	Press Start Tournament.	The names of the first and second players appear for a play in match to resolve the atypical number of players to a normal power of two.				
6	Press the My Tournaments link.	Under "My Tournaments" the user's tournament is displayed with the label "Active"				
7	Press the tournament link on the My Tournament's list.	The user is returned to the tournament page.				
8	Select a winner from the pair of players and click each winner to advance them.	The winner's name is highlighted green and the loser's name is greyed out. A second column appears with four usernames under the header "Round 2"				
9	Select a winner from the remaining players and click on their name.	The winner's names appear with green backgrounds, while the losers' names are greyed out.				
10	Select a winner for the finals match.	The winner's name is highlighted green and the loser's name is greyed out. The winner's username is printed in a header at the top of the page labeled "Champion: <Username>!"				
11	Press the My Tournaments link.	Under "My Tournaments" the user's tournament is displayed with the label "Complete"				
Overall Test Result:						