**User Registration:**

1. Intuitive: As an end user, it is easy for me to understand what I am supposed to do on the create account page as I know I need to enter a username and password to create my account.
2. Easy to use: As an end user, creating my account is simple (just inputting my username and password). However, a frustration that I have with this page is the unclear notifications that appear when I fail to create an account. It would be much more beneficial for the user to have error notifications to display why account creation failed like username already taken, username too short, password too short, etc. Additionally, it is great that pressing enter is mapped to submit when inputting my username and password, making the account creation process easier.
3. Inspires confidence: This does not inspire confidence as successfully creating an account will display a notification that reveals a user’s password in plaintext, thus creating a security issue. Furthermore, the page creates a big inconvenience to the user as successfully creating an account does not direct them back to the login, essentially locking the user in place if they don’t know how to use the go back button. Additionally, the page doesn’t include a strong password system (like an 8 character minimum, at least one number, etc.) resulting for attackers to easily crack users’ passwords. In short, this page doesn’t inspire confidence for potential security issues and inconvenience to the user.
4. Pleasing to look at: As an end user, it looks pleasing to look at. Additionally, I think it would be cool if the page includes a visual for the inputted username, visually telling the user that the username has been taken or not, and a visual for the inputted password, visually telling the user that their password is acceptable. These changes are not necessary but would help the user a lot visually.

**User Login:**

1. Intuitive: As an end user, it is easy for me to understand what I am supposed to do in the login page as I know I need to input my username and the correct password to access my account. Additionally, if I don’t have an account, I know I can press on the create account button to go to the create account page.
2. Easy to use: As an end user, logging into my account is simple (just inputting my username and password). However, a frustration that I have with the page is the create account button. It is too tiny to see and to press, making it a little bit more difficult for me to find where to create my account. My solution for this is to make the button appear bigger so that a user can easily find it. Additionally, it is great that pressing enter is mapped to submit when inputting my username and password, making logging in easier.
3. Inspires confidence: This does inspire confidence as successfully logging in will redirect an user to their home page and unsuccessful attempts will display an error message. Nevertheless, it would be great if the error message displays “Wrong username or password submitted” as that is a more standard approach to login pages.
4. Pleasing to look at: As an end user, it does look pleasing overall. However, the create account button/hyperlink does not look pleasing to look at as it is very small to see (like what was listed earlier) and it appears in an inconsistent style compared to everything else. My suggestion is to make the create account button to fully look like a button, make it bigger, make it appear like the login button, and place it directly underneath the login button.

**Planet/Moon Visibility:**

1. Intuitive: As an end user, I can easily see the planets and moons that I own on my home page. However, I do not understand some of the attributes displayed by the planets/moons such as id and owner. It would be easier for me if only the names and types are displayed and the name of the planet that a moon revolves around. Additionally, I can easily log off of my account via the logout button.
2. Easy to use: As an end user, looking at my collection of planets and moons is easy since they are always displayed on my home page.
3. Inspires confidence: This does not inspire confidence as a user can see every user’s moons on the home page. This should not happen as a user’s moons should be visible to the owner and the owner alone. Thus, this can be a potential data breach. Additionally, accessing the home page via “<planetarium.com>/planetarium” after logging in does not display the user’s planets and displays the user’s username as null, thus session data is not handled properly. In short, this does not inspire confidence because of potential data breaches and session data not saved correctly.
4. Pleasing to look at: As an end user, the home page does not look appealing to look at. The image used for the background of the home page is bad for looping as there is a visible cut mark when the next loop appears. Additionally, the presentation of the home page looks very 2000s so a little out of time compared to what most home pages look like. Additionally, there is no home tab (front tab that holds everything). The logout button can be included on this home tab so that it doesn’t look like it is just flying randomly in space (hah).

**Planet Creation:**

1. Intuitive: As an end user, it is easy for me to understand how to create a planet (inputting a planet along with an image for the planet).
2. Easy to use: As an end user, it is difficult for me to find the tab for planet creation as I need to enable the planet tag on the top of the home page in order to have access to this feature. It would be easier if there was a button that said “Create Planet” for the user to see and press rather than the tab manipulation. In addition, it would be beneficial for the user to have more specific error messages on why planet creation fails (like too many characters for a planet name, planet name has already been chosen, etc.). Other than that, the process is simple for me to understand/what to input.
3. Inspires confidence: This does not inspire confidence as a user couldn’t create a planet without supplying an image for the planet first, thus failing one of the requirements for planet creation.
4. Pleasing to look at: It does not look pleasing to look at as it all looks forced in on the top of the home page. To make it look better, I recommend creating a button on the home tab called “Create” and have a drop down menu for planet and moon. When planet is selected, a form can pop out and display what the user needs to input to create a planet. Hence, this would make the operation more appealing to look at since it wouldn’t be bunched up and sloppy on the top of the home page.

**Planet Deletion:**

1. Intuitive: As an end user, it is easy for me to understand how to delete a planet (inputting the planet name).
2. Easy to use: As an end user, it is easy for me to delete a planet. However, it would be more beneficial if there was a “Delete Planet” button for the user to press rather than to manipulate the tabs in order to enable planet deletion. Additionally, more specific error messages would be nice in the notifications when planet deletion fails (i.e. planet \_\_\_\_ does not exist).
3. Inspires confidence: This does not inspire confidence as a user cannot delete a planet that has moons orbiting around it. Hence, it breaks one of the requirements of Planetarium and creates a big inconvenience to the user as they have to manually delete each moon of the planet before deleting the planet. Furthermore, the notification does not display the name of the planet that the user failed to delete. In short, this does not inspire confidence as deleting planets with moons does not work and the error notification appears to be sloppily made.
4. Pleasing to look at: It does not look pleasing to look at as it all looks forced in on the top of the home page. To make it look better, I recommend creating a button on the home tab called “Delete” and have a drop down menu for planet and moon. When planet is selected, a form can pop out and display what the user needs to input to delete a planet. Hence, this would make the operation more appealing to look at since it wouldn’t be bunched up and sloppy on the top of the home page.

**Moon Creation:**

1. Intuitive: As an end user, I do not understand how to create a moon because I do not understand what the planet orbit id is. Perhaps it would be more intuitive for me if I can put the name of the planet rather than the orbit id.
2. Easy to use: As an end user, it is a little bit difficult for me to find the moon creation operation but less so compared to the planet creation operation. It would be easier if there was a button that said “Create Moon” for the user to see and press rather than the tab manipulation. In addition, it would be beneficial for the user to have more specific error messages on why planet creation fails (like too many characters for a moon name, planet chosen for moon does not exist, etc.). Furthermore, it would be easier for me to list the planet name rather than the planet id as I can easily remember the name of the planet rather than its id in the Planetarium database.
3. Inspires confidence: This does not inspire confidence as a user couldn’t create a moon without supplying an image for the moon first, thus failing one of the requirements for moon creation. More importantly, a user can create a moon for another user’s planet, thus creating a potential data injection problem and violating the requirement that one user’s data is for that user only.
4. Pleasing to look at: Refer to planet creation notes.

**Moon Deletion:**

1. Intuitive: As an end user, it is easy for me to understand what I am supposed to do for moon deletion (inputting the name of the moon that I want to delete).
2. Easy to use: As an end user, it is simple for me to perform a moon deletion operation. However, it is a pain for me to find the tab for moon creation as I need to enable the moon tag on the top of the home page in order to have access to this feature. It would be more beneficial if there was a “Delete Moon” button for the user to press rather than to manipulate the tabs in order to enable moon deletion. Additionally, more specific error messages would be nice in the notifications when planet deletion fails (i.e. moon \_\_\_\_ does not exist).
3. Inspires confidence: This does not inspire confidence as a user can delete another user’s moon, thus this can lead to important data being lost from deletion attacks. In addition, the error notifications are sloppily made as they do not display the name of the moon that could not be deleted.
4. Pleasing to look at: Refer to planet deletion notes.