

CS Capstone Design

Technical Demo Grading Sheet (100 pts)

TEAM: Ceres

Overview: The main purpose of the “Technical Demos” is to very clearly communicate the extent to which the team has identified key challenges in the project, and has proven solutions to those challenges. Grading is based on how complete/accurate the list of challenges is, , and how convincingly and completely the given demos cover the given challenges.

This template is fleshed out by the team, approved by CS mentor, and brought to demo as a grading sheet.

Risky technical challenges

Based on our requirements acquisition work and current understanding of the problem and envisioned solution, the following are the key technical challenges that we will need to overcome in implementing our solution:

C1: Custom querying and applying analysis tools to data: Our application should allow users to search through the database of asteroids using customized filters for the desired features they are looking for. Users should also be able to apply data analysis tools to any set of data they have acquired, which mainly comprises generating various plots and graphics that help with data analysis.

C2: Mechanisms for exporting and saving subsets or current plots: Our application should have a mechanism for users to be able to save any set of data as well as plots that they have generated using our application. Data can either be bookmarked for later use, or saved directly to the users machine.

C3: User accounts with preferences and saved research notes: Our application should have an account page that is personalized for each user when they login. Users should have the ability to set account preferences within this page as well as view data and plots that they have previously saved.

C4: Responsive and reliable application: Our application should remain responsive to the user at all times when they are making queries to the database. Additionally this means our application should be reliable and have consistent performance. Overall these two combine really well when analyzing the responsiveness of our application. The application should remain responsive with reliable performance at all times to the user.

C5: Link between other existing data sources: Our application should have a feature to link between other existing databases when we a user is viewing a specific asteroid. This will allow the user to get access to even more information about the body they are viewing, as well as view images stored in these databases.

Challenges covered by demos:

In this section, we outline the demonstrations we have prepared, and exactly which of the challenge(s) each one of them proves a solution to.

Demonstration 1: Querying and Analyzing Data

Challenges addressed:

- C1
- C4
- C5

Flight Plan: Step by step overview of demo

1. Open homepage of web application
2. Navigate to search page, show the variety of filters to apply
3. Search for a subset of asteroids by a desired feature
4. Show new list of asteroids ranked by previously selected feature
5. Demonstrate that analysis tools are on the page as well as links to each asteroid page
6. Show generic graph of asteroid over time
7. Show more specific feature selection for plotting
8. Move to an individual asteroids page
9. Show generic graph here
10. Link to other existing repositories for further information on an asteroid
11. Mention how all of the above shown load times are live and that the website is very reliable and does not lose responsiveness

Evaluation:

The purpose of this demo is to show that we have successfully added custom searching/filtering of asteroid data, as well as a link to other existing databases for each asteroid. Additionally, by performing these queries on the database live, we hope to demonstrate the reliability and responsiveness of our application.

- ✓ Convincingly demo'd each of listed challenges?
- ✓ Other evaluative comments:

Demonstration 2: Saving/Exporting Data and Plots

Challenges addressed:

- C2
- C4

Flight Plan:

1. Start from the application homepage
2. Create some form of query and search
3. View the resulting data presented
4. Navigate to the save section of the data being presented
5. Choose to save to the users local machine
6. Show that the user now has the data saved to their local directory
7. Navigate to the page of an asteroid
8. Show the default plot of the asteroid page has a similar save feature
9. Save the graphic to the local machine
10. Show the graphic has been successfully downloaded to the local directory
11. Note that all of the activities have happened live, furthering our case that the application is reliable and responsive

Evaluation:

The purpose of this demonstration is to show we have integrated mechanisms that allow for the saving/exporting of data and plots the user has generated. By showing this works, we further strengthen the claim that our application is reliable.

- ✓ Convincingly demo'd each of listed challenges?
- ✓ Other evaluative comments:

Demonstration 3: Accessing the Account Page via Login

Challenges addressed:

- C3
- C4

Flight Plan:

1. Start from the application homepage
2. Go to the Accounts page
3. Show there is no user signed in
4. Click to go to sign in page
5. Create account
6. Show that account creation works and redirects to account page
7. Show we can go to settings from here
8. Settings has just a few preferences for now, and a reset password link
9. Sign out
10. Go to sign in page
11. Show sign in page works
12. Redirects to account page
13. Done

Evaluation:

The purpose of this demonstration is to show that we have successfully created a mechanism for having custom user accounts with authentication. This will show the beginning of the construction of the user profile page. Having this work will show our application is secure and reliable.

- ✓ Convincingly demo'd each of listed challenges?

- ✓ Other evaluative comments:

Other challenges recognized by not addressed by demo:

If there were challenges you listed earlier that were *not* covered by a demo, list here. This will hopefully be a short list...but better to be clear about where you are. If you have items here, you could list (if applicable) any pending plans to reduce these risks.