Astro Adventures
CSCI-3308-012 Group 6 - Spring 2023

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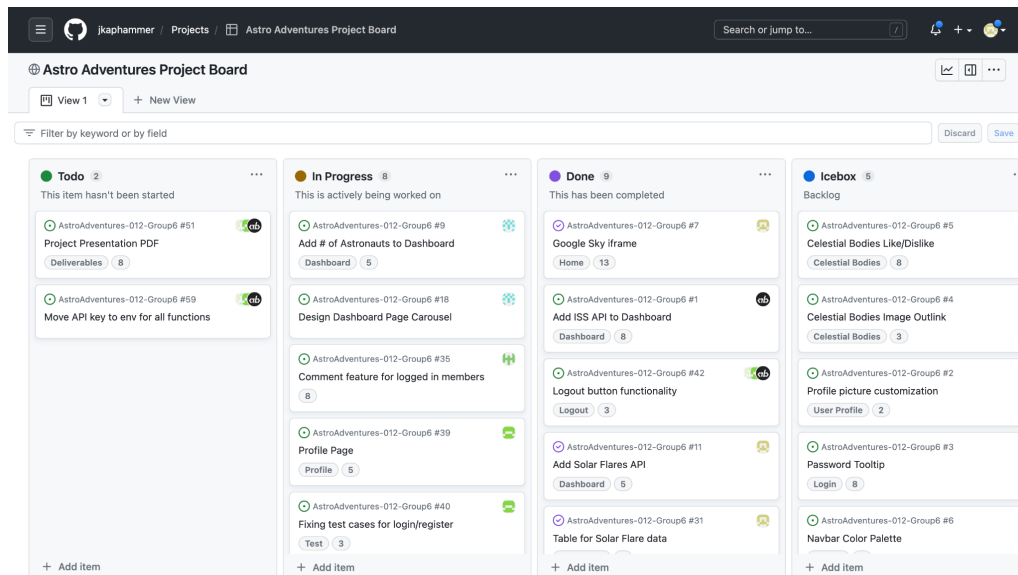- Arthur Barbosa - arba9752@colorado.edu - GitHub: arba9752

Project Description

Our project is a functional public website that enables students to learn current information about space and astronomy. Some features include learning about NASA's Picture of the Day, data on recent solar flares, where the ISS is currently located, and what astronauts are currently in space. Each page highlights an education description of what is being viewed. The home page features NASA's Picture of the Day, the dashboard features NASA's FLR API (for solar flares) and depicts how many astronauts are in space, and the ISS page gives a description of the ISS and its real-time location displayed on a map. Users can also navigate to the Google Sky dropdown, which allows them to interact with Google Sky's star, moon, and mars map with different views available. There is also a feature where users can register for an account. An account is not required to access most of the website's features, but it does have added benefits such as being able to comment on the home page and like/dislike different astronomy photos. Once registered for an account, users can log-in and log-out with the same information whenever they please. Registered users also have the ability to change their profile picture to a few different pre-loaded options of space-themed photos to increase personalization.

Project Tracker

[Link to GitHub Project Board](#)
Screenshot of project board being linked to GitHub repository

Product Demo Video

Version Control System

Contributions

Jenn Kaphammer:

      I contributed mainly to the development of the dashboard and Google Sky pages. Within index.js, I wrote a call that gathered data within a 30-day range from NASA's DONKI-FLR API; this provides data on solar flares. I then used EJS to implement this info onto a table located in the dashboard. I also included an education description of solar flares on the dashboard.

      I created 3 Google Sky pages that are accessible using a dropdown menu. They are all iframes that outlink to 3 map options. Additionally, I styled the overall favicon and created a dashboard stylesheet.

Brian Ramirez:

      I worked on implementing the login, logout and registration functionality which required technologies such as HTML, JavaScript and PostgreSQL. Additionally, I contributed to the creation of the profile page, where I displayed the user's information and a profile picture. I also styled all these pages using CSS to make it more visually appealing and to the outer space theme. Finally, I wrote and executed test cases using the Mocha and Chai libraries to ensure our code worked as expected.

Joseph Allred:

      My contributions to the project were focused on the development and display of the home page. On the home page I wrote an API to fetch and display an Astronomy Picture of the Day from NASA. Through my ejs page, a relevant title, picture, and explanation is shown, which refreshes every day at midnight EST to be replaced by new data. A comment modal underneath accepts comments from registered users, and also displays all existing comments made by users relevant to the photo they commented on.

Elijah White:

      My contributions to the project were focused on how the user interacts with pictures, and how they show up on the website at launch. I added the pictures page, the like and dislike function, and the liked pictures showing up on the profile page, which is done using an API call to retrieve NASA's photo library, and storing photos that the user has liked into a database of liked pictures. I also added the people in space API to the dashboard page.

Arthur Barbosa:

       I played a role in this project by creating an ISS page that features a built-in map that shows the current location of the International Space Station, this required using different APIs to gather and to display the data. This page contains an overview of the International Space Station and its exact coordinates accompanied by a map with a marker showing its current location. Additionally, I contributed to the overall design of the website by styling key elements such as the header and footer, ensuring that the website was visually appealing and easy to navigate. This included utilizing different backdrops and different colors for elements to ensure it was visually appealing.

Use Case Diagram
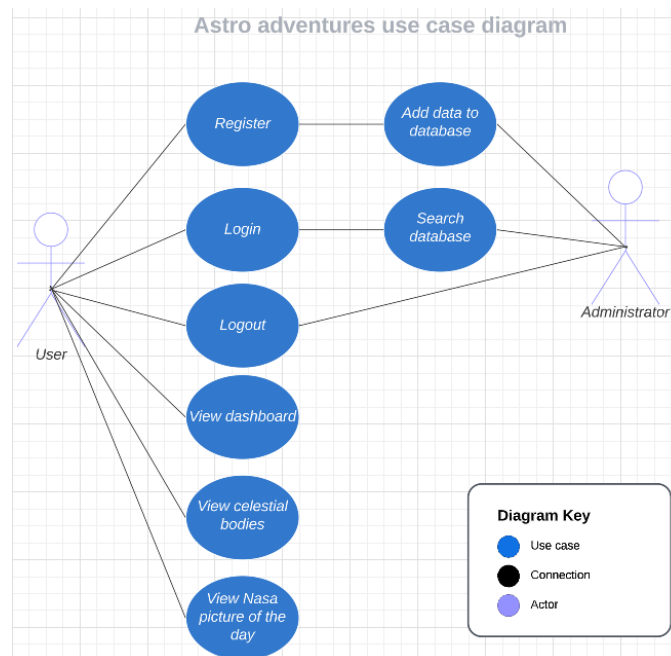
Test Results (from Lab 11)

Recap of UAT Criteria written from Lab 11 & New Results:

User Acceptance Test 1:

→ Test Data Description:

User should be able to click the home page button in the navigation bar and view the home page displayed with NASA's astronomy picture of the day API and relevant description.

→ Test Environment:

These test cases will be conducted by the members of the CSCI3308-012-06 Lab group, in a reserved study room. Hardware and software will be provided on the laptop.

→ Test Results:

If the Astronomy Picture of the Day API is displayed with the relevant description, then the test is passed. Else if the home page isn't rendered, or if any part of the API isn't displayed correctly and legibly, then the test isn't passed.

→ UA Tester Information:

Primary User Acceptance Tester will be Jenn Kaphammer, a member of the lab group who did not write this specific API. Other UA Testers will be the other members of Group 6.

Test Result:

Developer of this feature, Joseph Allred, conducted personal testing to ensure that the API was displayed correctly on the home page and was being updated to the most recent version of the API call at 12:00am EST daily. Once he completed testing, Jenn Kaphammer conducted testing to ensure that nothing was missed. The feature was verified as test cases passed and the test was closed.

User Acceptance Test 2:

→ Test Data Description:

User should be able to navigate to the dashboard page and select the NASA DONKI API from the carousel, which will render information on the dashboard page on current Solar Flares.

→ Test Environment:

These test cases will be conducted by the members of the CSCI3308-012-06 Lab group, in a reserved study room. Hardware and software will be provided on the laptop.

→ Test Results:

If the DONKI API is displayed with the relevant information, then the test is passed. Else if the User is not able to navigate to the API, or the API rendered incorrectly, then the test is failed.

→ UA Tester Information:

Primary User Acceptance Tester will be Joseph Allred, a member of the Lab group who did not write this specific API. Additional UA Testers will be the other members of Group 6.

Test Result:

Developer of this feature, Jenn Kaphammer, conducted personal testing to ensure that the API was rendering correctly on the dashboard displayed within a table. The API should receive frequent updates and the data table should change to information on a different recent solar flare about once every day (subject to change based on how often the FLR database is updated by NASA). Once she completed testing, Joseph Allred conducted testing to ensure that nothing was missed. The feature was verified as test cases passed and the test was closed.

User Acceptance Test 3:

→ Test Data Description

User should be able to click on various elements of the navbar to navigate through different pages.

→ Test Environment

These test cases will be conducted by the members of the CSCI3308-012-06 Lab group, in a reserved study room. Hardware and software will be provided on the laptop.

→Test Results

When an element on the navbar is clicked, an API call should be sent to render the selected page. If a user selects the profile page but is not logged in, they should be redirected to the login page with an additional option to register.

→ Tester Information

Primary UAT will be Brian Ramirez, a member of group 6 who developed the login/register features. Secondary UAT will be Arthur Barbosa.

Test Result:

Developer of a part of this feature, Brian Ramirez, conducted personal testing to ensure that the navbar linked to the correct pages. A critical part of the navbar passing the test is to redirect the user to the login page if they click the profile header and are not logged in. Once Brian ensured these features were working, Arthur Barbosa conducted testing to ensure nothing was missed. The feature was verified as test cases passed and the test was closed.

User Acceptance Test 4:

→ Test Data Description

Logged in User should be able to link and dislike images on the Pictures page; liked pictures should be added to User's profile page.

→ Test Environment

These test cases will be conducted by the members of the CSCI3308-012-06 Lab group, in a reserved study room. Hardware and software will be provided on the laptop.

→Test Results

When a logged in user clicks on the Pictures page, they should see a grid of pictures derived from NASA's Image Database API. There should be green 'like' buttons for photos not currently liked. If the user clicks on a green like button, the button changes to a red 'unlike'. When navigating to the profile page, the users should be able to see all of their liked photos on the Liked Pictures section of the page.

→ Tester Information

Primary UAT will be Arthur Barbosa, a member of group 6 who did not work on this feature. Secondary UAT will be Joseph Allred.

Test Result:

   Developer of this feature, Elijah White, conducted personal testing to ensure that the Pictures page linked correctly to the Profile page. He also conducted personal testing to see if the NASA Pictures API displayed in a balanced grid on the Pictures page. Once Elijah ensured these features were working, Arthur Barbosa and Joseph Allred conducted testing to ensure nothing was missed. Once they located a Pictures viewing bug and edited code to fix it, the feature was verified as test cases passed and the test was closed.

<div align="center">Deployment</div>

The website was deployed using Azure's free virtual machine for students. The link to the launched website is here:

http://recitation-012-team-006.eastus.cloudapp.azure.com:3000/home

(Website may not be currently deployed unless requested due to preserving the amount of free hours given by Azure. Please contact Jenn Kaphammer if you would like to see the website deployed.)

You can also run the website locally by downloading the repository and utilizing docker; more info on how to do this can be found in the README.md of the repository.