Holly Briggs, 7/22/25

WDD 330

Project Proposal: "Night Watcher"

Overview

Night Watcher is a fun and informative web application designed for people interested in astronomy and space. It will feature data from at least three NASA APIs to provide users with a dynamic and engaging stargazing experience. The first is NASA’s astronomy photo of the day. Every day a beautiful photo, often taken by the Hubble space telescope is featured and the API makes it possible to dynamically generate and display it every day. Also there will be a feature that enables the user to choose any specific date in the past and display the photo of the day from that date. Also, there will be a feature displaying the phases of the moon and a section displaying the schedule for the international space station. It would display times the international space station (ISS) is directly overhead and available to view with binoculars or a telescope. This application solves the problem of accessing and visualizing NASA’s publicly available data by organizing it into a user-friendly, aesthetically pleasing format. It provides space enthusiasts with an easy way to explore astronomy content, plan viewing events, and learn something new each day.

Target Audience

This application is targeted at anyone who enjoys stargazing and amateur astronomy.

Major Functions

1. Displays NASA’s astronomy photo of the day

2. Allows the user to choose any previous photo of the day to view. For example: a person could look up what the photo of the day was on their last birthday or the day they got married, etc.

3. Displays the most recent ISS schedule. Users could check when and where to look for the internation space station to pass overhead.

4. Displays the current phases of the moon. This helps people to plan their moon gazing and star gazing activities.

Wireframes

Desktop

<https://www.figma.com/design/Sd3E6iWi79fAX0n6XlLwFY/Night-Watcher-desktop-view?node-id=0-1&t=R4tbtJNhSwEOVARg-1>

Mobile

<https://www.figma.com/design/bfDULLBrOfZ3hQbag3dLCI/Night-Watcher-Mobile-View?node-id=0-1&t=MKoOjNBR7oeJoGIb-1>

External Data

• Astronomy Photo of the Day (APOD): This section will display NASA’s daily astronomy photo, often captured by the Hubble Space Telescope or other space observatories. Users will also have the ability to select any date in the past to view the corresponding photo of the day.

• Farmsense Moon Phase API: This feature will display the current phase of the moon, along with helpful visuals or descriptions for sky watchers.

* Open Notify API: A schedule will show the times the ISS will be visible overhead at the user's location, making it easier to plan for viewing opportunities with binoculars or a telescope.

Data Storage

• Local Storage: To store user previously chosen dates for the astronomy photo of the day.

Module List

• UI Module: Handles all user interface elements, including rendering movie information, displaying user interactions, and managing navigation.

• API Module: Responsible for fetching data from the external APIs .

• Event Handling Module: Manages user interactions and events, such as button clicks and date selections, and form submissions.

• Data Management Module: Handles data storage and retrieval using local storage.

Graphic Identity

• Color Scheme: A black background with bright accent colors (e.g., bright blue and orange) to create a sci-fy feel.

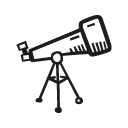
|  |  |  |  |
| --- | --- | --- | --- |
| **Primary** | **Starship Blue** | rgb(10, 25, 47) | Deep space background; great for dark themes |
| **Accent 1** | **Nebula Teal** | rgb(0, 255, 204) | Bright accent; buttons, highlights |
| **Accent 2** | **Plasma Purple** | rgb(178, 102, 255) | Hover states, borders, icons |
| **Neutral** | **Lunar Gray** | rgb(192, 192, 192) | Text, outlines, low-emphasis UI elements |
| **Highlight** | **Solar Flare** | rgb(255, 153, 51) | Warnings, calls to action, or bright detail pops |

Typography:

**Orbitron**

* **Link:** Orbitron on Google Fonts
* **Style:** Futuristic, digital, sci-fi display font
* **For:** Headers, logos, buttons

• Application Icon: Cute stylized telescope.



Timeline (Weeks 5-7)

• Week 5:

o Complete the HTML structure for all major views.

o Style the basic layout and navigation using CSS and the chosen CSS framework.

o Implement the API module to fetch and display content from Farmsense Moon Phase API.

o Implement the API module to fetch and display content from NASA’s APOD.

o Implement the API module to fetch and display content from NASA’s ISS Open Notify API.

• Week 6:

o Build the core JavaScript functionality for dynamically displaying the astronomy photo of the day and displaying the moon phases and the ISS tracker.

o Begin working on the "Store favorite dates" feature for the APOD.

• Week 7:

o Finalize all remaining functionality.

o Debug all code.

o Refine the UI, add CSS animations, and conduct thorough testing.

o Deploy the application and submit the project.

Project Planning

https://trello.com/invite/b/687f61529c82692a5ee3519f/ATTIf1709ce0d587d35d9aa8d9236408d83f8A74E41F/wdd-330-final-project

This project proposal outlines a plan to develop a visually engaging and informative web application that makes NASA's astronomy data more accessible and meaningful to everyday users. *Night Watcher* will be built using HTML, CSS, and vanilla JavaScript, and will integrate multiple external APIs to provide dynamic content such as the Astronomy Photo of the Day, current moon phases, and ISS viewing times. The application will follow modern web development best practices and demonstrate a thoughtful approach to user experience, responsive design, and data visualization within a real-world context