

INTERACTIVE INFOGRAPHICS

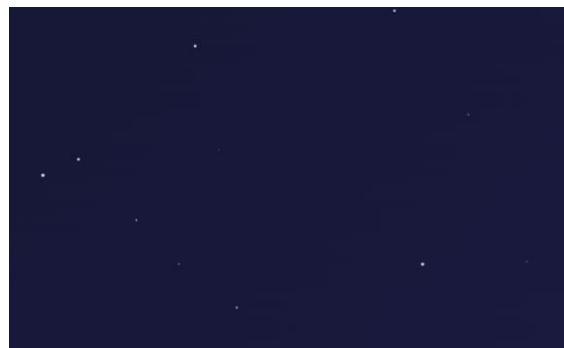
-Submitted by ABISHA J

Topic: Space Exploration Timeline

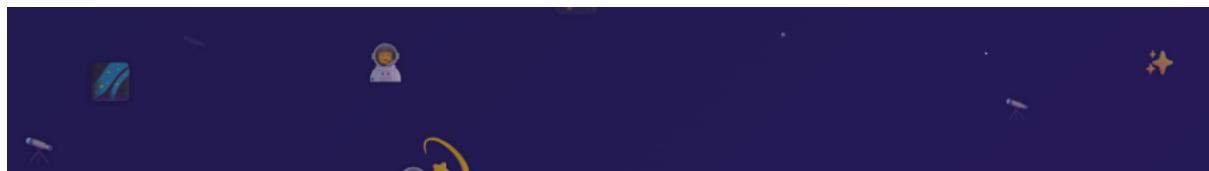
In this document I am going to explain how I built space exploration timeline webpage and how one can use it.

Design Choices:

Theme: Since the infographics topic I chose is Space Exploration Timeline, I went for a spacey look with dark background to look like space with little animated twinkling circles to make it look like twinkling stars in the space.



I also added few emojis like 🌙☀️☀️🛸🛰🌍Rocket🚀 as an animation to pop up from the down of webpage after few seconds in a floating way to make it more fun looking.



Colours: I used colours like blue, purple and pink for all texts and background to make it look like galaxies also white and grey for texts to read easily.

Fonts: Used simple fonts with bold texts to standout.

Layout of webpage:

- **Hero section:** This is for top part which has a big main title of webpage and also the text changes colour using gradient text effect. The gradient keyframe animation makes this gradient shift over time.



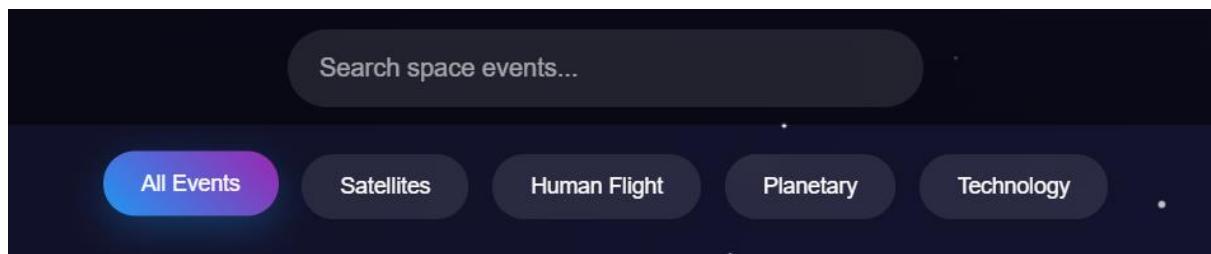
- **Search Bar and Buttons:** Right below Main heading I made a search bar and filter buttons which helps to find specific events according to their category.

.controls: This section centers elements related to user interaction.

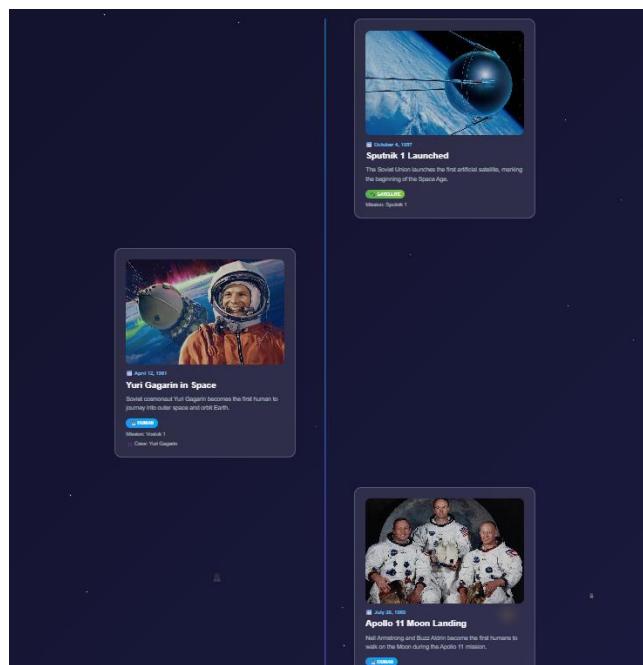
.search-box: A stylish input field for searching, with a transparent, blurred background rounded corners and a subtle transition effect.

.filters: A flexible container for filter buttons.

.filter-btn: Its an individual buttons for filtering content. They also have a transparent, blurred background and transition effects, changing to a gradient on hover or when active.

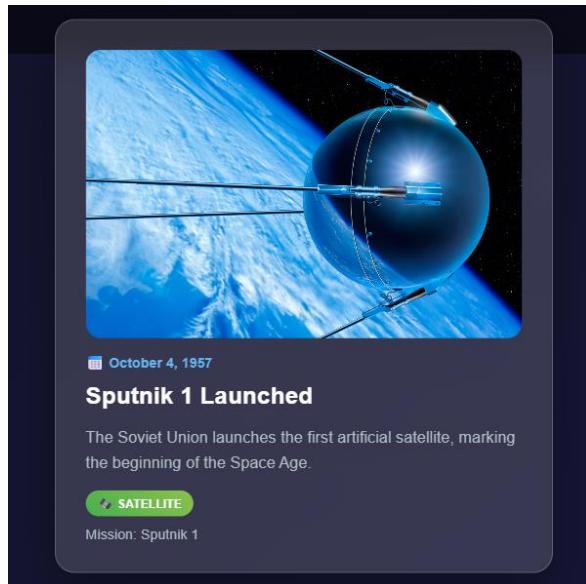


- **Timeline:** Each event is laid on a vertical line with events in a zig zag way. This makes the timeline flow look more visually nice while scrolling down.



- **Events:** each event in the timeline has their own box called cards. These cards show the event title, date, picture, short description and category. The event card is made with a blurred background and rounded corners. And I made a hover effect to it that makes it lift slightly with a subtle shadow.

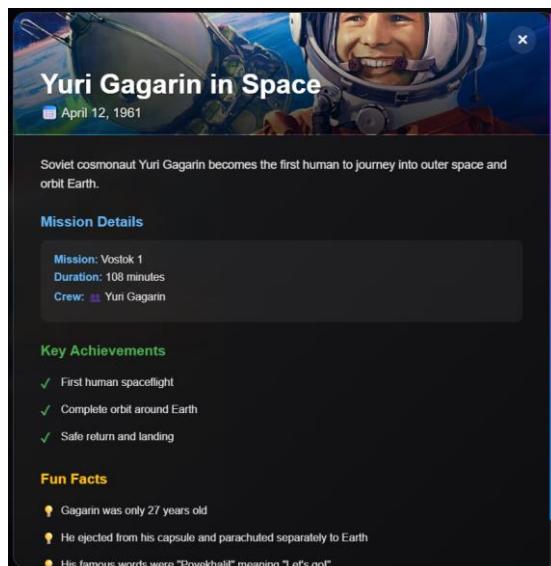
As of now I have made 10 event cards with their details.



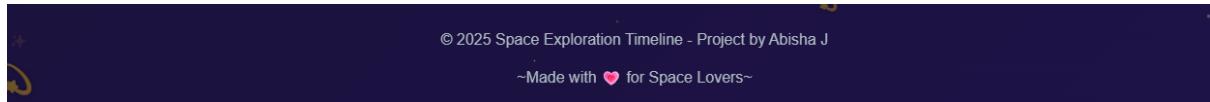
- **Popup details:** I made a popup info box so when you click on an event card a bigger window appears. The .popup and .popup-content classes create a modal window that appears on top of the content. This popup gives you more details, like key achievements and fun facts etc with a good styling and layout.

The popup box is made with blurred gradient background with rounded corners. .close-btn function is used to close the popup with a rotate effect on hover.

The top section of popup is designed with a background image that blends into gradient overlay displaying title using function .popup-header



- **Footer:** At the very end of page there is a small section with copyright info and a nice message.



Data Sources:

All the information about the space events are stored directly in script.js file. I put all these infos into a list so that the webpage can easily use it to display the timelines and popup details.

As of now I added only 10 space events in the webpage. In future more event cards with details can be added and updated in the codes for more informative interface.

Cool stuffs in the webpage:

- **Responsive design:** I made the webpage to be good in responsiveness like scrolling, using buttons also the screen sizes according to the device size.

I used @media and this media query applies styles specifically for screens with smaller size. This helps the positions of timeline, ensures event cards are on their positions, adjusts font sizes and makes the popup box to be fit according to smaller screens.

- **Events:** The webpage reads the events from script.js and then creates the event cards which makes it easy to add or change data accordingly.
- **Search and filter buttons:** These use JavaScript to instantly update the timeline. When we type in search bar or filter according to the category the code goes through all available events and only shows the matching one.
- **Smooth Scrolling:** I added a scroll down functionality which makes the webpage more interactive and helps to view the timeline smoothly. I did this using 'IntersectionObserver' in JavaScript.
- **Popup:** When you click on an event JavaScript takes the information of the specific event and give the popup window with more detailed information of the events.
- **Animated Backgrounds:** I made a twinkling circles to look like stars and emojis in a floating manner using CSS and JavaScript to imitate the space and make the webpage more visually attractive.
 - For twinkling effect of small circles I used @keyframes twinkle which makes the circle elements change the brightness and size.
 - For floating emojis I used @keyframes floatAndFade which makes the input emojis to start from down and float and fade out.
 - The createStars() function adds multiple elements in star container which is of random size and position, in that twinkle animation is done
 - The createFloatingEmojis() function generates random emojis from the given input emojis and applies floatAndFade animations
 - Both twinkling and emoji floating is set to some duration and delay.

- **Scrollbar:** I styled the scrollbar to match the overall space theme with a gradient.

And I used -webkit-scrollbar which helps to customize the appearance of scrollbar based on browsers.

-Some of the functions I used in JavaScript:

constructor(): used to set up initial data.

init(): this helps to begin the app by setting up interactions, displaying events, and creating animations.

setupEventListeners(): Listens for user actions like typing in search, clicking buttons, and closing the popup.

filterEvents(): filters the list of events based on search terms and chosen categories.

render(): Displays the filtered events on the timeline or a "no results" message if none are found.

createEventElement(): Builds the visual card for one event, alternating sides and adding a click to show details.

showPopup(): this fills a popup box with all the detailed information about a event.

setupScrollAnimation(): Makes event cards gracefully appear as we scroll.

createStars(): Generates and animates twinkling stars in the background.

createFloatingEmojis(): Creates and animates emojis that float around the background.

User Guide:

- **Open The webpage:** Just open index.html in browser
- **Explore by Scrolling:** Scroll down the page to see the events in order. They will appear as you scroll.
- **Search for Events:** At the top of the timeline, you will see a search box labeled "Search space events". Type keywords into this box, like Apollo or Mars to quickly find related events. The timeline will update as you type.
- **Filter Events by Category:** Below the search box I created some five filter buttons "All Events", "Satellites", "Human Flight", "Planetary", and "Technology". Click on any of these buttons to show only the events belonging to that specific category. The "All Events" button will show everything again.
- **View Event Details:** Click on any of the event cards in the timeline. A popup window will appear with more detailed information about that event including its mission details, key achievements, and fun facts. Even the popup has a good layout design style with scrolling down function.
- **Close the Popup:** To close the popup, you can click the X button in the top right corner of the popup. You can also click anywhere outside the popup content, or press the escape key on your keyboard

Running the webpage:

- Download and unzip the folder, the folder contains the index.html, style.css, script.js code files and also the image folder with images.
- Now open the index.html file in a browser to view the webpage.