A website, named "Asteroid Tracker", that provides information about near earth objects (NEOs) and the closest approach of asteroids to earth. The main aim of the website is to educate people about the asteroids and NEOs.

The website will make use of NASA's APIs, specifically the Near-Earth Object Web Service API, to gather data about the NEOs and their closest approach to earth. This data will be displayed in an easy-to-understand manner, showing the name, size, distance from earth, and approach date of the asteroid. The website will also have a filter feature, allowing users to filter the displayed asteroids based on their distance from earth or size.

In addition to the asteroid data, the website will also display imagery taken by NASA, specifically the Mars photos and APOD (Astronomy Picture of the Day). The Mars photos section will display the latest images taken by the Mars rovers, while the APOD section will show a new astronomy-related image every day.

Finally, the website has the potential to add more data in the future, such as information about CMEs (Coronal Mass Ejections), GSTs (Geostationary Satellites), SEPs (Solar Energetic Particles), and the Magnetopause. These additions will further enhance the website's aim of educating people about the solar system and its various phenomena.

Overall, the "Asteroid Tracker" website will be a valuable resource for anyone interested in learning more about near earth objects and the potential dangers they pose, as well as for those interested in astronomy and space exploration in general.

# Requirements

1. User-friendly and visually appealing website design
2. Display of the name, size, distance from earth, and approach date of asteroids and NEOs
   * Filter feature to sort asteroids based on distance from earth or size
   * Search function to easily locate specific asteroids or space events
   * User-friendly presentation of asteroid and space data
3. Compatibility with phone and computer
4. Secure and reliable data storage and retrieval methods
5. Option for users to share information or links to the website with others

# User stories

User story priority is done from A to F, with A being given highest priority and F being given lowest priority.

The estimate of a user story is done in days.

|  |  |  |
| --- | --- | --- |
| Title: Website | Priority: A | Estimate: 4 weeks |
| User story:  As an amateur astronomer, I want to access a user-friendly and visually appealing website design, so that I can easily explore and learn about near earth objects, their closest approach to earth, and other related information without feeling overwhelmed or frustrated by a complicated or unattractive interface. | | |
| Acceptance criteria   1. The website has a clear and understandable navigation structure. 2. The website has a visually appealing layout. 3. The website uses appropriate font size and color schemes to improve readability. 4. The website is consistent through all pages. | | |

|  |  |  |
| --- | --- | --- |
| Title: NEO/Asteroid Data | Priority: B | Estimate: 2 weeks |
| User story:  **As an amateur astronomer, I want to access a website, which displays clear and detailed information about NEO’s and asteroids and their closest approach to earth. This includes the name, size, distance from earth, and approach date of the asteroids and NEOs. By having this information readily available, I can efficiently conduct my research and gain a deeper understanding of these celestial objects.** | | |
| Acceptance criteria   1. The website must clearly display the name, size, distance from earth, and approach date of each NEO and asteroid. 2. The information about NEO’s and asteroids should be up to do date to NASA’s data. 3. The Website could allow the user to filter the displayed objects based on their distance from earth, size, discovery date, etc. 4. The website should allow a search function to easily locate specific asteroids and/or space events. | | |

|  |  |  |
| --- | --- | --- |
| Title: Access from different devices | Priority: C | Estimate: Unknown |
| User story:  **As an amateur astronomer, I want to be able to seamlessly access a responsive and mobile-friendly website on both my computer and phone, so that I can conveniently research and stay up to date on near earth objects (NEOs) and asteroids, both at home and on-the-go. This will enable me to easily check the latest data and information while I'm observing the skies through my telescope.** | | |
| Acceptance criteria   1. The website must be accessible on both desktop and mobile devices, without any loss of functionality. 2. **The website must load quickly and efficiently on both desktop and mobile devices** 3. The website must be responsive and provide a seamless experience for users who   switch between desktop and mobile devices while accessing the site. | | |

|  |  |  |
| --- | --- | --- |
| Title: Data Retrieval Methods | Priority: B | Estimate: Unknown |
| User story:  **As a user, I want to be able to access and store information about near earth objects (NEOs) and the closest approach of asteroids to earth in a secure and reliable manner, so that I can have confidence in the accuracy and safety of my research and data. I want to be able to retrieve this information easily and quickly, without the risk of data loss or corruption.** | | |
| Acceptance criteria   1. The website must use secure and reliable data retrieval methods. | | |

# Context diagram

# Conceptueel model