Project Deliverables: A Website Of The Biography Of Richard Feynman.

1. Problem Definition

Objective:
To design and develop an informative, user-friendly, and accessible single page website that chronicles the life, research, achievements, and contributions of a Nobel Prize laureate in science genre. The website aims to serve as a centralized repository for scholars, students, and enthusiasts seeking detailed information about the laureate.

Key Challenges:

- **Content Organization:** Ensuring that extensive biographical data, research works, awards, and references are well structured for easy navigation.
- **User Experience (UX):** Creating an intuitive, interactive and responsive interface.
- **Accessibility:** Complying with web accessibility standards to make the content available to users on different browsers.
- **Scalability:** Designing the website architecture to accommodate future additions, such as multimedia content.

2. Design Specifications

2.1. Functional Requirements:

- The Top of the Page should be presented with a suitable logo and various images of the Nobel laureate.
- The site must be divided into various sections Biography, Research, Awards and Honors, Selected Works, Gallery, and Sitemap.
- The site should include the complete personal details about the nobel laureate.
- User should also be able to get the glimpse of education and carrier of the Nobel laureate.
- There should be carrier graph and struggle of the Nobel laureate.
- One should be able to get to know the complete details about the Nobel laureate's achievements.
- There should also be a section that includes details specifying research/experiment for which Nobel Prize was awarded.
- There should be a section where one can get to know the available books related to the Nobel laureate.
- Gallery with various images of the Nobel laureate should be added.
- Site map should be provided in the webpage.
- Display a continuous scrolling ticker at the bottom of the page with current date, time, and location.
- Display a visitor count at the top right corner of the page beside a logo image.
- The menu options should change color on hover and also after clicking.

2.2. Non-Functional Requirements:

- **Performance:** Optimize website loading times for a seamless user experience.
- **Compliance:** Adhere to web standards and regulations making the website compatible with different browsers like Edge, Chrome, Mozilla Firefox, Safari.

2.3. Technical Stack:

- **Frontend:** HTML5, CSS3, JavaScript, jQuery, Figma, XML
- **Data store:** JSON File
- **Hosting:** Github

2.4. System Requirements:

- **Device:** PC, Laptop, Tablet, or Smartphone
- **Browser:** Latest version of Chrome, Firefox, Edge, or Safari
- **Internet:** Stable connection (for images and interactive content)

3. ILLUSTRATIONS

3.1. Site Map:

A hierarchical representation of the website's structure:

- Home
    - Biography
        - Early Life
        - Personal Life
        - Personality and Passions
        - Lifestyle
    - Education and Career
        - Education
        - Career Graph
        - Public Legacy
        - Death and Influence
    - Research
        - Research Areas
        - Key Publications
        - Collaborations
    - Awards
        - Nobel Prize
        - Other Honors
    - Works
        - Books
        - Articles
        - Lectures
    - Gallery

        - Photos
    - Footer
        - Page Links
        - Copyright
        - Timeline and Location

3.2. User Flow Diagram (Illustration):

Illustrates the typical path a user might take:

1. **Landing Page:** User visits the website and views Introduction and overview slides.
2. **Navigation:** User selects a section from the main menu.
3. **Content Exploration:** User reads through the selected content.
4. **Footer:** User navigates to the footer page for page links and location information.

3.3. Data Flow Diagram (Illustration):

The illustration below depicts how data moves through the system:

- **Visitor:** Visits Website.
- **Processing:**
    - Visitor's IP address is retrieved from api.ipify.org
    - Date data is retrieved from JavaScript Date Function
    - Geo-location data is retrieved from HTML5 Geo-location navigator.
    - Human Readable Location is retrieved from openstreetmap with reverse geocoding.
    - Visitor IP address record is retrieved from online JSON store
    - Unique visitor count and record is updated.

- **Output:** Displays an updated visitor count, Visitor’s Location and current datetime.
- **Data Storage:** All IPs and visitor count data are stored securely in the online JSON File.

4. Troubleshooting

ISSUE	CAUSE	SOLUTION
Page not loading	Internet connection issue	Check your connection and refresh
Visitor counter not updating	Slow Internet Connection/ api network issues	Wait for a few seconds and refresh else you have already been counted.
Location Unavailable	Browser is outdated or user did not give permission or network issues	Update browser to latest version, allow permission, refresh the page and try again.

5. FILE STRUCTURE

```
/root
 │   index.html
     aptech_eProject_documentation.pdf
     other status report forms and excel sheets

 │
 ├── CSS/
 │    └── main.css
 │

 ├── images/
 │        └── pictures
 │
 ├── js/
 │    └── index.js
 │    └── main.js
```

6. SETUP INSTRUCTIONS

- **Unzip e_project File**
- **Open index.html with your favorite browser.**
- **Explore the website on your favorite browser.**

7. UPDATE CONTENTS

- **Text & Images:** Edit the index.html page.
- **Unique Visitor Tracking:** Ensure main.js is linked in the index.html file. Ensure that you visit the website with different IP addresses to update the counter
- **Data:** Store online in structured JSON format**.**

8. SECURITY

- **Authentication for Json storage access.**

9. Project Timeline

PHASE	DURATION	ACTIVITIES
Planning	4 days	Requirement gathering, defining scope
Design	4 days	Creating wireframes, mockups, and diagrams
Development	13 days	Frontend development
Deployment	1 day	Hosting the website
Documentation	2 days	Documenting the development and flows of the website

10. Conclusion

This project aims to create a comprehensive and engaging platform that honors the legacy of a Nobel Prize laureate. By adhering to the outlined specifications and utilizing best practices in web development, the website will serve as a valuable resource for a global audience.