Heritage Town Museum Website - Final Project Report

Standard Formatting Used In This Documentation:

- **Font:** Times New Roman
- **Title:** 18 pt
- **Heading 1 (h1):** 16 pt
- **Heading 2 (h2):** 14 pt
- **Heading 3 (h3):** 13 pt
- **Body Content:** 12 pt

Introduction

Business observation

The Heritage Town Museum site was designed to achieve an online appearance for the museum to promote further visitor interaction and access to the material of the museum. The website provides a huge information platform where visitor's museum may experience performance, events, learning programs and media on hand, along with expected visitor information.

Website structure

The site consists of six core interconnected pages, each with a unique function:

1 **Homepage** (Index.html): Primary entry page heroes with museum observation, highlight the box for greeting, and performance, events and news. This visitor also shows information such as hours, address and entry.

2 **About us** (about.html): History, Mission, provides background information on the museum in classes on a historical timeline of team members and museum development.

3 **Exhibitions and Collections** (Exhibits.html): Provides a responsible grid of display cards with filtering to view permanent or temporary performances, as well as a special collection section displays special displays.

4 **Events** (events.html): This file display upcoming events with an interactive calendar, category filtering and educational programs.

5 **Media Gallery** (Media.html): The photo library of the museum adjusts with the virtually displayed image showcase, thumbnail grid with category filtering, and virtual tour field with embedded videos.

6 **Contact us** (contact.html): There is a contact form, description of museum location with an embedded Google map, opening and social media links.

AI Use

Use of Ai tools used Many AI-operated equipment was implemented in the website construction process for increased functionality and purpose:

1. **AI generic for Content Development**: employed to write initial materials for different classes, such as museum details, performance texts and historical deadline.
2. **Image adaptation through AI**: Automatically used to shape and compress images throughout the site, which makes it quickly loaded without renunciation of visual quality.
3. **Smart search functionality**: Special displays with natural language processing integrate to assist visitors in quick detection of events, or notifications.
4. **Visitor Path Analysis:** User is used to follow the paths on the site, which most frequently viewed the path and possible navigation hurdles.

Before/after adaptation AI before implementation:

- Human material manufacture included significant research and writing time
- Images require manual adaptation for different screen sizes
- Simple keyword discovery with limited success
- Limited knowledge of user navigation patterns

After AI Implementation:

- Material production time reduced by about 60%
- Automatic Judicial Image Processing for all devices types
- Better discovery with visitor Query's cemented understanding
- Data-powered site structure optimization based on user behavior analysis
- Dynamic content suggestions according to visitor interests

Accessibility & Usability

Techniques Used

Accessibility Features:

- Semantic HTML structure on every page for screen reader accessibility
- ARIA labeling for interactive elements like the nav menu and form controls
- Sufficient color contrast ratio of at least 4.5:1 between text and background
- Alternate text descriptions on all images and media content assistant
- Keyboard accessibility to all interactive components
- Focus indicators for interactive features
- Text resizing without breaking layouts
- Validated forms with prominent error messages

Usability Improvements:

- Responsive mobile-first design that ensures proper display across all screen sizes
- Hamburger menu for mobile navigation with smooth toggle functionality
- Easy filtering mechanisms for exhibits and events
- Consistent navigation hierarchy across all pages
- Visual feedback interactive elements (hover effects, animations)
- Optimized page loading time through image compression and code minification
- Validated forms with feedback

Screenshots & Visuals

From Wireframe to Final Site

Homepage Development:

- Initial wireframe focused on bold hero image and three highlight boxes
- Final design features smooth transitions, responsive layout, and visitor counter animation

Exhibits Page Evolution:

- Initial wireframe with simple grid layout for exhibit cards
- Final implementation features category filtering, hover over effects, and modal popups for detailed views

Events Page Transformation:

- Wireframe with simple event listing concept
- Final version consists of interactive calendar, event cards with description, and educational program listings

Media Gallery Implementation:

- Simple wireframe showing thumbnail idea
- Final design incorporates featured image viewer, category filter, and integrated virtual tour

Contact Page Development:

- Simple version includes form validation, styled social media links, and responsive design

Reflection

What I Learned

Throughout the building of the Heritage Town Museum website, I learned valuable skills in several key areas:

1. **Responsive Design Implementation**: Maintaining a consistent user experience across devices required careful planning of layouts and breakpoints. I became proficient in using CSS Grid and Flexbox to create fluid, adaptive layouts.

2. JavaScript Interactivity: Creating features such as the exhibit filtering system, interactive calendar, and modal popups helped me understand DOM manipulation and event handling better.

3. Accessibility Best Practices: Applying ARIA labels, semantic HTML, and keyboard navigation taught me the need to design for all users, irrespective of ability.

4. Integration of AI: Training on how to utilize AI solutions efficiently for content generation and optimization taught me how to balance automated and human customization needed in certain aspects.

Challenges Faced

1. Stability of the design: Ensuring visual stability in six diverse pages proved to be difficult to meet each of their specific functional requirements. It was resolved by a fully design system design based on consistent elements.

2. Mobile navigation complexity: An easy-to-use mobile navigation system that creates all site segment, took several versions to get it in balance and balance the visual appeal.

3. Adaptation for Performance: Achieving both high quality visual elements and loading speeds, especially for virtual tour and media gallery segments, include image adaptation and close probe of code.

4. Cross-browse compatibility: Continuous functionality in various types of browsers required further testing and fine-tuning, mostly for CSS animation and JavaScript behavior. Reaction and enhancement

Feedback and Improvements:

According to the initial user tests, the reforms below were affected:

1. Better form verification: Increase in descriptive error text and live contact form verification.

2. Better performance filtering: Relaxing and improved the filtering interface at the response from users, how people were confusing the original implementation.

3. **Better mobile layout:** The converted location and touch point on the mobile display to meet the useful needs of small screen.

4. More content: For more information, the user provided more advanced information to facilitate the details according to the response.

The future growth for the implementation in the upcoming phase includes:

1. Online ticket sales: Including functionality for the visitors of the website to purchase direct entry tickets from the website.

2. Individual user accounts: Applying user accounts to allow visitors to protect preferred performance and rescue