

# Report on the Development of SMC Website

## Introduction

Social Media Campaigns Ltd. (SMC) aims to create a platform that educates teenagers about safe practices on social media. To achieve this, we developed a responsive and dynamic website that not only provides valuable information but also allows users to interact with the platform by registering for a monthly newsletter. This report will discuss the development of the SMC website, focusing on the integration of web services, the use of various web development tools, and the role of PHP in managing user data and database interactions. We will also evaluate how well the website meets the objectives and requirements outlined in the project scenario.

## Advantages of Integrating Web Services

The incorporation of web services into the SMC website adds significant value by enhancing user engagement and interactivity. Two key web services have been integrated: a real-time air quality checker and a daily fact generator.

1. **Air Quality Checker:** This service provides users with real-time air quality information for different cities. This feature aligns well with SMC's mission to promote awareness of safe behaviors, both online and offline. By including air quality data, the website encourages teenagers to be mindful of environmental conditions, further promoting overall safety.
2. **Daily Fact Generator:** This service provides a new interesting fact every day. The addition of this feature aims to keep the website's content fresh and engaging, which can lead to repeated visits. It adds an element of curiosity and learning, which complements the website's educational goals.

These web services were integrated using external APIs, allowing the website to fetch up-to-date information dynamically. The use of web services demonstrates the capability of the website to provide relevant content that changes regularly, thus maintaining the users' interest and engagement.

## Use of Web Development Tools

The development of the SMC website was done using fundamental web technologies such as HTML5, CSS, JavaScript, and PHP. These tools were chosen for their flexibility and control over the website's design and functionality, ensuring that all project requirements were met.

1. **HTML and CSS:** The structure and styling of the website were achieved through HTML5 and an external CSS file. The site consists of seven interconnected pages: Home, Information, Most Popular Social Media Apps, How Parents Can Help, Livestreaming, Contact, and Legislation and Guidance. Each page was designed to fulfill specific purposes, such as providing educational content or allowing user interaction. The CSS was crafted to ensure consistency across all pages, with a focus on mobile responsiveness. This includes custom cursors, responsive images, and text that adjusts well across different devices, enhancing usability.
2. **JavaScript:** JavaScript was used extensively to add interactivity and improve the user experience. Scripts like `apps.js` handle CRUD (Create, Read, Update, Delete) operations for managing a list of popular social media apps, allowing dynamic content updates without the need for a page refresh. This enhances the website's functionality and keeps users engaged. The `toggle.js` script was developed to manage the navigation bar's visibility, making it more user-friendly. These scripts were designed to improve the overall navigation and usability of the website.

## PHP and Database Management

PHP was employed to handle server-side processes, including user data management and interactions with the MySQL database. The backend is designed to ensure secure, efficient operations that comply with project requirements.

1. **CRUD Operations for Popular Apps:** One of the primary functionalities of the website is managing a list of popular social media apps. The `apps.php` script allows users to add, edit, and delete apps from a database. This feature enables users to interact with the website content dynamically, thereby providing a more engaging experience. PHP's `mysqli` extension was used to handle database queries securely, preventing SQL injection attacks.
2. **User Authentication and Security:** Security is a critical aspect of the SMC website. The `login.php` script handles user authentication by verifying credentials against the database. To enhance security, the script incorporates a mechanism that locks the user out after three failed login attempts for ten minutes. This feature is crucial to prevent brute-force attacks and protect user data. Additionally, PHP's `password_verify()` function is used to securely compare hashed passwords, ensuring that user credentials are handled safely.
3. **Database Design and Management:** The MySQL database was designed to store user information for the membership feature, such as first names, surnames, and email addresses. This information is essential for managing newsletter subscriptions. The `config.php` file is used to establish a secure connection to the database, ensuring that all interactions are conducted securely. All database-related operations, such as adding or updating records, are performed through prepared statements to avoid potential vulnerabilities.

## Evaluation of the SMC Website

The SMC website successfully fulfills the objectives outlined in the project scenario. By integrating web services, such as the air quality checker and daily fact generator, the site becomes more than just an informational platform—it becomes interactive and engaging, adding value to the user experience.

The responsive design approach used in CSS, including media queries and flexible layouts, ensures that the website is accessible on various devices, from desktops to smartphones. This is crucial for reaching a broader audience, as teenagers often access websites via mobile devices. The site's responsive nature ensures that content remains readable and visually appealing, regardless of the screen size.

Moreover, the use of PHP to manage user data and database interactions has been effectively implemented. Features like account lockout after multiple failed login attempts and input validation for forms demonstrate a strong commitment to security. This is particularly important given the target audience of teenagers and the need to protect their personal information.

In conclusion, the SMC website is a well-rounded platform that addresses all the project requirements. Through the use of web services, responsive design, and secure PHP scripting, the website provides an interactive and educational experience for its users. The development process adhered to the guidelines, ensuring that the final product is both unique and functional. Moving forward, the website is well-positioned to serve as a valuable resource for promoting safe social media practices among teenagers.

## Reflection on the Website Development Assignment

During the development of the SMC website, I used a combination of HTML, CSS, JavaScript, and PHP. The project began by creating the structure and layout using HTML5, followed by styling the pages with CSS to ensure a consistent and visually appealing design. One of my primary focuses was on making the site responsive, which involved using media queries to ensure compatibility across various devices. JavaScript was utilized to enhance interactivity, particularly in managing dynamic content updates for the "Most Popular Social Media Apps" page.

On the backend, PHP was used extensively to handle user data and manage the MySQL database securely. This included developing scripts for user registration, authentication, and CRUD operations for the popular apps feature. A significant challenge was ensuring the security of user data, which I addressed by implementing account lockout mechanisms and using prepared statements to prevent SQL injection.

From this project, I learned the importance of building a website from scratch, which allowed me to understand the intricate workings of both frontend and backend development. I realized that web development requires a balance between aesthetics and functionality, especially when dealing with user interactions. If I were to tackle a similar project in the future, I would focus on further optimizing user experience by leveraging more advanced JavaScript libraries and frameworks. I would also consider using version control systems like Git to better manage the development process and collaborate more effectively. Overall, this assignment has deepened my understanding of web development and equipped me with valuable skills for future projects.

## References

WampServer. [online] Available at: <https://wampserver.aviatechno.net/>

API Ninja. Facts, Air Quality API. [online] Available at: <https://api-ninjas.com/api/>