**Using Content Management System (CMS) to upgrade the website of Educational Scientific Institute**

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## ABSTRACT

This paper provides an analysis of the three alternative options for creating a website for the Educational Scientific Institute. The paper identifies the best alternative option of creating the website as a Content Management System (CMS), which provides a more interactive experience than the static HTML option, as the CMS would allow content creation, such as blog posts and pages. The paper also outlines the responsibilities of the team, maintenance requirements, and measures of success. Additionally, the paper highlights the implications for making a website accessible, and the benefits of the chosen design solution. By creating the website with a CMS, the Educational Scientific Institute will be able to provide a modern, interactive experience for its users, cost effectively.

**Keywords:** Content Management System (CMS), Educational Scientific Institute, Web Development, Website Design, Web Accessibility.

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**Introduction**

The Educational Scientific Institute has an old fashioned website and follows a WEB 1.0 model, with static HTML 4.0 code and no external CSS code for presentation which is difficult to maintain and does not offer users a participative platform. This creates the need to upgrade the website in order to better educate the public on the scientific process and its four research categories: Descriptive research, exploratory research, Explanatory research, and Evaluation research.

**Background Assumptions:**

Understanding the target audience, their needs and how they will use the website is very critical when creating an effective website. In order to create an effective website, it is important to understand the target audience and how they will be using the website. General public who are looking to gain an understanding of the scientific process and its four research categories is our target audience for this website. The website should be user friendly and intuitive, and it should provide a modern design and interactive experience (De Troyer & Global., 2001)

## Alternative Option 1

It would be creating this website as a traditional static HTML5/CSS website which would involve creating a website with HTML5 and CSS code, with no dynamic elements or back-end databases, it is relatively simple and cost effective as this option would provide a basic website design and would not be as interactive as the other options.

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| --- | --- |
| Items | Financial Costs |
| Hosting | $36-$600/year |
| Domain | $10-$30 |
| Upfront Costs | $7,000-$10,000 initially |
| Maintenance Costs | $200-$500/year |
| Template | N/A |
| Images | $10-$60/each |
| Estimated Total Expenditures | $10,000-$20,000/year |

## Alternative Option 2

It would be creating the website as a Content Management System (CMS) which involves creating a website with a CMS, such as WordPress or Drupal. This option would provide a more interactive experience than the static HTML option, as the CMS would allow for the creation of content, such as blog posts and pages. This option would also be more cost effective than the Web 4.0 option, as the costs of a CMS are typically low.

|  |  |
| --- | --- |
| Items | Financial Costs |
| Hosting | $36-$600/year |
| Domain | $10-$30 |
| Upfront Costs | $7,000-$10,000 initially |
| Maintenance Costs | $100-$400/year |
| Template | $0-$500 |
| Images | $10-$60/each |
| Estimated Total Expenditures | $12,000-$20,000/year |

## Alternative Option 3

It would be creating the website as a Web 4.0 system. This option would involve creating a website with a Web 4.0 system, such as React or Angular which would provide the most interactive experience, as the Web 4.0 system would allow for the creation of dynamic content, as well as a more modern design. This option would also be the most expensive, as the costs of a Web 4.0 system are typically high.

|  |  |
| --- | --- |
| Items | Financial Costs |
| Hosting | $36-$600/year |
| Domain | $10-$30 |
| Upfront Costs | $10,000-$20,000 initially |
| Maintenance Costs | $100-$400/year |
| Template | $500-$2,000 |
| Images | $10-$60/each |
| Estimated Total Expenditures | $15,000-$30,000/year |

**Recommendation**

The website should be created with Content Management System (CMS) option Based on the analysis of the three alternative options as this option would provide a more interactive experience than the static HTML option, as the CMS would allow content creation, such as blog posts and pages. It would also be more cost effective than the Web 4.0 option, as the costs of a CMS are typically low. Additionally, the CMS would provide the ease to add and update content, as well as customized design for the website.

In order to create a constructive website, Information organization and web development maintenance are important aspects. The navigation menu should be arranged in an instinctive and easy way to use, as this will be the primary way that users navigate the website. It should be organized in a hierarchical manner that allow users to quickly find the information they are looking for. Moreover, considering scalability and maintainability when creating the navigation menu is paramount, as it should be designed in a way that it can easily be updated and expanded in the future.

The navigation menu will play an important role in all the alternatives in giving users quick access to the information. In the static HTML option, the navigation menu will be the primary means of navigating the website, as there will be no dynamic elements or back-end databases. In the CMS option, the navigation menu will also be important, as it will allow users to quickly find the blog posts and pages that have been created. Finally, in the Web 4.0 option, the navigation menu will be crucial, as it will provide users with quick access to the dynamic content that has been created.

I would recommend the option of Content Management System (CMS) in creating the website out of the three alternatives as this option would provide a more interactive involvement than the static HTML option, as the CMS would allow for the creation of content, such as blog posts and pages. This option would also be more cost effective than the Web 4.0 option, as the costs of a CMS are typically low. Moreover, the CMS would provide the ability to easily add and update content, as well as customize the design of the website.

## Benefits of the recommended (proposed) solution

There are many advantages of the chosen design solution which include; easy to use and navigate, with a modern design that is aesthetically pleasing. The CMS will enable the content creation, such as blog posts and pages, which will provide a more interactive experience for users. Additionally, the CMS will provide ease of customization of the website design, enabling the website to be tailored to suit the needs of the user. Additionally, it will enable easy maintenance and scalability of the website which will make it easy to update and expand the website in the future.

## Responsibilities and Maintenance

Web developer, a designer, a content creator, a project manager, and a quality assurance tester are the team members responsible for the task. The web developer will be responsible for creating the website, the designer for creating the look and feel of the website, the content creator for creating the content for the website, the project manager for ensuring that all tasks are completed on time and within budget, and the quality assurance tester for ensuring that the website is working properly and is bug-free (Zhang & Von Dran, (2000))

In order to ensure that the website remains up to date and functioning properly regular maintenance will be crucial. The web developer, designer, and content creator will be responsible for maintaining the website, as they will be responsible for creating and updating content, as well as making any necessary changes to the website design. The project manager will be responsible for overseeing the maintenance process and ensuring that all tasks are completed on time and within budget. (Kerzner, 2017)

To ensure that the website is functioning properly and meeting the needs of the user there will be need to take regular measures to monitor the progress and performance of the preferred option which is the project managers’ responsibility and ensuring that all tasks are completed on time and within budget. -free.

## Measures of Success

User experience will be used as the measure to examine the performance and progress of the recommended design, the website’s functionality, and the website’s aesthetics. The user experience should be monitored to ensure that users are able to access the information with ease, as well as interact with the website in a user-friendly manner. To ensure that the website is visually appealing, the website’s aesthetics should also be monitored as this will help to create an inviting environment for user (Albert & Tullis, 2013)

The team should use a variety of metrics to assess the performance of the design, such as page views, time on page, and user engagement which would help to provide insights into the user experience, as well as the functionality and aesthetics of the website. Additionally, to assess the user experience the team should use surveys and feedback forms, as well as conduct usability tests to assess the functionality of the website.

Regular reviews of the design should be used and make corrections where necessary. To ensure that the website remains functioning properly and provides users with a positive experience, issues should be addressed as quickly as possible and in order to ensure that the website is meeting the needs of the user the team should regularly review the website’s performance metrics and make adjustments where necessary.

## Web Content Accessibility implications for the chosen solution

Web Content Accessibility (WCA) guidelines are important to website design because they provide a set of standards that must be met in order to make a website accessible to all users. They cover a wide variety of topics, including the use of color, text contrast, and the use of images. The guidelines also cover the use of alternative text for images and videos, as well as the use of keyboard navigation and other assistive technologies.

The implications for making a website accessible are that the website must be designed in such a way that it can be easily used by all users, regardless of their abilities or disabilities which includes ensuring that the colors and text contrast are easy to see, that the headings and images are clearly labeled, and that the alternative text for images and videos is accurate and descriptive. Additionally, the website must be designed in such a way that it can be easily navigated using the keyboard, and it must be compatible with assistive technologies. Finally, the website must be tested regularly to ensure that it meets the WCA guidelines.

## Conclusion

In conclusion, Content Management System (CMS) is the best option to use in creation of the website for Educational Scientific Institute’s website as it would provide a more interactive experience than the static HTML option, as it would allow content creation, such as blog posts and pages. This option would also be more cost effective than the Web 4.0 option, as the costs of a CMS are typically low. Moreover, the CMS would provide the ability to easily add and update content, as well as customize the design of the website. Web developer to create the website, a designer to create the look and feel of the website, and a content creator to create the content for the website are among the team members responsible. The team should also include a project manager to ensure that all tasks are completed on time and within budget, and a quality assurance tester to ensure that the website is working properly and is bug-free. The website will require maintenance on a regular basis, and the progress of the chosen option will be monitored on a regular basis, in order to ensure that the website is functioning properly and meeting the needs of the user. By creating the website with a CMS, the Educational Scientific Institute will be able to provide a modern, interactive experience for its users, cost effectively.

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