Feasibility Study for Web Publishing System

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Prepared by: AbdelRahman Mohamed Shemies

# Introduction/ Background

## Statement of work

## Web Publishing System project for a local editor of a regional historical society. The project will include the development of a software system to assist in the automation of the article review and publishing process, as well as the integration of this system into the editor's existing workflows and processes.

## Scope of Work:

The scope of work for this project includes the development and implementation of an online journal website and related systems for managing and publishing articles. This will involve the creation of user interfaces for authors, reviewers, and editors, as well as the development of a database to store articles, authors, reviewers, and other relevant information. The hardware components of the project will include servers for hosting the website and database, and possibly client machines for the editors. The software components will include the web server software, database management software, and any custom software developed specifically for this project. The exact nature of the work will involve designing and implementing the user interfaces, setting up and configuring the hardware and software components, and testing and debugging the system.

The Web Publishing System will have the following features:

## An interface for the editor to create and manage a list of authors and reviewers, including the ability to add, edit, and delete entries.

## An interface for authors to submit articles for review, including the ability to attach files and enter metadata such as the article title and abstract.

## An interface for reviewers to view and review articles, including the ability to leave comments and feedback for the authors.

## An interface for the editor to view and manage the review process, including the ability to assign articles to reviewers, view comments and feedback, and make decisions on whether to accept or reject articles.

## An email system to facilitate communication between the editor, authors, and reviewers, including the ability to send and receive preformatted reply forms.

## A relational database to store information about authors, reviewers, and articles, including metadata such as the article title and abstract, and the status of the review process.

Main Actors

* Editor
* Author
* Reader
* Reviewers

## Location of Work:

The work for this project will primarily take place at the Headquarters of the company, where the managing, developing, and implementing will occur. Internal testing will be done on the company's servers where the online journal is hosted to assess security, performance, and unauthorized actions. Additionally, there will be beta testing for external users to evaluate the acceptance criteria and ensure a user-friendly interface for new users.

## Period of Performance:

The work is expected to start on 1st of February 2023 and end on 30th November 2023. The working hours are from 9 am to 5 pm from Sunday to Monday. A maximum of 70 hours can be billed per week.

## Deliverables Schedule:

1. Initial design document: This document should outline the overall architecture and functionality of the system, including user roles, use cases, and technical requirements.
2. Prototype: A functional prototype of the system. This should include basic functionality such as user authentication, article submission, and review process.
3. Final product: The complete and fully functional web publishing system should be delivered by the end of the project period. This should include all features and functionality specified in the initial design document, as well as any additional features that have been agreed upon during the course of the project.
4. User manual: A comprehensive user manual should be delivered along with the final product. This manual should include instructions on how to use all features of the system, as well as troubleshooting information and support contact details.
5. Training materials: If necessary, training materials such as video tutorials or slide decks should be provided to help users get up to speed with the system. These should be delivered along with the final product.
6. Project updates and progress reports: Regular updates and progress reports should be provided to keep stakeholders informed on the status and progress of the project.
7. Testing and QA: Adequate testing and quality assurance should be carried out to ensure the system is reliable and performs as expected.
8. Maintenance and support: A plan for ongoing maintenance and support should be established and communicated to ensure the smooth operation of the system after the project is completed.
9. Security and data protection: Measures should be put in place to ensure the security and protection of user data and the system as a whole.
10. Documentation: Detailed technical documentation should be provided for the system, including design and architecture, codebase, and any other relevant information.

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| Months |  |
| 1: February | * Initial design document * The main user interface (GUI) will be developed and delivered to the client for acceptance * User authentication functionality will be implemented to identify and verify the various actors (e.g. editors, authors, reviewers) in the system. |
| 2: March | * Prototype with basic functionality Months |
| 3-5: April-June | Meeting #1 confirming the Prototype   * The search engine will be fully developed and deployed in the system. * The backend functionality will be implemented, including any necessary data storage and processing. * The main databases for the system will be developed and implemented. * The user interface (GUI) may be modified as needed. * An external historical database will be implemented and integrated into the system. |
| 6-7:  July-August | Meeting #2   * The main and historical databases will be connected and used in the article management system. * Initial use cases for different actors (e.g. editors, authors, reviewers) will be implemented. * The editor, reviewer, and author functionalities will be added to the system. * Various use cases for these functionalities will be implemented. * Unit testing will be conducted to verify the functionality of individual components. * All test cases and scenarios will be completed. |
| 8-9: September- October | Meeting #3   * Internal and external testing will be carried out to ensure the system is reliable and performs as expected. * Testing scenarios and documentation will be provided, including any bugs discovered and how they were addressed. |
| 10: November | Meeting #4   * Integration testing will be completed to ensure all components of the system are working together as intended. * A comprehensive report will be compiled, including all testing scenarios and any bugs that were discovered and resolved. * User manual * Training materials * Project updates and progress reports * Maintenance and support plan * Security and data protection measures |

## Applicable Standards:

## Accessibility standards, such as the Web Content Accessibility Guidelines (WCAG), to ensure that the system is usable by people with disabilities.

## Security standards, such as the Payment Card Industry Data Security Standard (PCI DSS), to ensure that the system is secure and protects sensitive information.

## Data storage and management standards, such as the ISO/IEC 27001:2013 standard for information security management, to ensure that the system is designed and operated in a secure and compliant manner.

## Web development standards, such as the Hypertext Transfer Protocol (HTTP) and the HTML5 standard for web content, to ensure that the system is compatible with the latest web technologies and standards.

## Acceptance Criteria:

1. The system must be able to perform all of the specified functions, including allowing authors to submit articles, allowing reviewers to review articles, allowing editors to publish articles, and allowing readers to search and access articles.
2. The system must be able to interface with the Historical Society database to verify membership status for reviewers.
3. The system must be able to send and receive emails as described in the use cases.
4. The system must be able to update and maintain accurate and complete information in its database.
5. The system must be secure, with appropriate measures in place to prevent unauthorized access or modification of data.
6. The system must be easy to use and navigate for all user groups.
7. The system must be able to handle a reasonable volume of traffic and usage without experiencing performance issues.
8. Any necessary data backups and recovery procedures must be in place and functioning correctly.
9. The system must be tested and demonstrated to be in full compliance with any applicable industry or company standards.
10. The system must be able to handle a minimum number of concurrent users without experiencing performance issues.
11. The system must be able to store and retrieve data from the database without errors.
12. The system must be able to perform all required functions, as specified in the requirements specification document.
13. The system must be user-friendly and easy to navigate for both authors and reviewers.
14. The system must be able to send and receive email notifications and attachments.
15. The system must be able to verify the membership status of a reviewer through the Historical Society (HS) database.
16. The system must be able to search for articles by author, category, or keyword.
17. The system must be secure, with appropriate measures in place to prevent unauthorized write/delete access.
18. The system must meet any relevant industry or company standards or regulations.
19. The system must be tested and debugged prior to deployment.
20. The system must be documented with clear instructions for use and maintenance.

## Special Requirements:

* Implementing secure login and authentication measures, such as multi-factor authentication or password policies, to protect against unauthorized access.
* Ensuring that data is encrypted when it is transmitted or stored to prevent unauthorized access.
* Implementing a scalable database architecture to handle a large volume of data and ensure good performance.
* Designing a user-friendly interface with clear instructions and a logical layout of features and functions.
* Testing the system on a variety of devices and browsers to ensure compatibility.
* Allowing for customization options, such as personalization of the user interface or configurable settings for different user roles.
* Integrating the web publishing system with other tools or systems that may be used in conjunction with it, such as a content management system or a customer relationship management system.
* Ensuring compliance with any relevant regulations or industry standards, such as GDPR or HIPAA, that apply to the system. This might include implementing appropriate data protection measures and providing appropriate disclosures and consent forms to users.

# Business Objective

The Web Publishing System is designed to assist the local editor of a regional historical society in automating the review and publishing process for articles. It consists of two main parts: the Online Journal, which is accessible to authors, readers, and reviewers via the internet, and the Article Manager, which is used by the editor to manage the review process. The system aims to increase the editor's productivity and efficiency while being user-friendly and easy to understand.

There are four main actors in the system: authors, readers, reviewers, and the editor. Communication between the system and reviewers or authors occurs through email, while the editor has direct access to the entire system. The server hosting the Online Journal has security measures in place to prevent unauthorized write or delete access, but read access is unrestricted.

* Improving the speed and efficiency of the review and publishing process, reducing the time it takes for articles to be published.
* Increasing the reach and visibility of the articles, potentially attracting more readers and authors to the journal.
* Enhancing the reputation of the journal by providing a professional and reliable platform for publishing articles.
* Reducing the workload and administrative burden on the editor, allowing them to focus on other tasks.
* Providing a user-friendly and intuitive interface for authors, reviewers, and readers to interact with the system.
* Ensuring compliance with any relevant regulations or industry standards.
* Improving the quality of the articles published by the regional historical society by providing tools for thorough review and feedback.
* Reducing the time and effort required to communicate with authors and reviewers by using the email and preformatted reply forms provided by the system.
* Providing a valuable resource for authors and reviewers by giving them a platform to submit and review articles.

# Current Situation and Problem/Opportunity Statement

* The current situation is that the team members may not be fully trained and capable of working on all aspects of the project, which can lead to extra efforts and extra working hours. This may also result in additional training expenses and financial strain on the budget provided by the project sponsor.
* The impact of this situation is that team members may need to put in extra effort to become fully trained and proficient in all aspects of the project, which can lead to additional working hours and financial costs. This may also create tension within the team and a less favorable work environment.
* The desired state is to have all team members fully trained and capable of working on all aspects of the project, which will increase flexibility and reduce tension within the team. To achieve this, the team should discuss the additional expenses with the project sponsor and provide a report on the costs involved. This will allow the team to become fully trained and experienced, which will ultimately save costs in the long run if a team member is absent or sick.

# Critical Assumption and Constraints

Security constraints:

* Ensuring that user login credentials are encrypted and secure, to prevent unauthorized access to the system.
* Implementing measures to prevent data leaks or unauthorized access to sensitive data, such as article drafts or personal information of authors, reviewers, or readers.
* Protecting against malware or other security threats that could compromise the system or user data.
* Ensuring that the system is compliant with any relevant regulations or industry standards that apply to the handling of user data.

Potential constraints:

* Limited budget or resources for the project.
* Tight deadlines for the development and deployment of the system.
* Legal or regulatory requirements that must be met, such as accessibility standards or data protection laws.
* The need to integrate the system with existing workflows and processes of the regional historical society.

Potential assumptions:

* Users will have access to a device with an internet connection to use the system.
* Users will have an email address that they can use to communicate with the system.
* Users will have the necessary permissions and access to use the system, based on their role (e.g. editor, author, reviewer).
* The system will be hosted on a secure server with appropriate security measures in place.
* The system will be used for the intended purpose of managing and publishing articles for a historical society.

# Analysis of Option and Recommendation

It is important to carefully consider the various options and make a recommendation for the web publishing system that will best meet the needs and objectives of the client. In order to do this, we should conduct a thorough analysis of the options available, taking into account factors such as cost, technical feasibility, user needs, and potential risks.

* Option 1: Develop a custom web publishing system from scratch. This option would allow the company to build a system that is tailored to the specific needs of the client, but it may also be the most costly and time-consuming option.
* Option 2: Use an off-the-shelf web publishing system. This option would be quicker and less expensive than developing a custom system, but it may not offer as much flexibility or customization.
* Option 3: Use a combination of custom development and off-the-shelf components. This option would allow the company to take advantage of existing components while still being able to tailor the system to the specific needs of the client.

# Preliminary Project Requirements

* Implementing a user-friendly graphical user interface (GUI) to make the system easy to use and navigate for all users.
* Ensuring that the hardware and servers used for the system are energy-efficient and have low power consumption to reduce costs and environmental impact.
* Selecting stable servers and hardware to ensure reliable and consistent performance of the system.
* Improving usability by providing user documentation, such as a user manual or guide, to assist users in learning and using the system. Implementing secure login and authentication measures to protect against unauthorized access.
* Ensuring that data is encrypted when it is transmitted or stored to prevent unauthorized access.
* Implementing a scalable database architecture to handle a large volume of data and ensure good performance.
* Designing a user-friendly interface with clear instructions and a logical layout of features and functions.
* Testing the system on a variety of devices and browsers to ensure compatibility.
* Allowing for customization options, such as personalization of the user interface or configurable settings for different user roles.
* Integrating the web publishing system with other tools or systems that may be used in conjunction with it, such as a content management system or a customer relationship management system.
* Ensuring compliance with any relevant regulations or industry standards, such as GDPR or HIPAA, that apply to the system. This might include implementing appropriate data protection measures and providing appropriate disclosures and consent forms to users.
* Providing user documentation, such as a user manual or guide, to assist users in learning and using the system.
* Selecting stable servers and hardware with low power consumption to ensure reliable and efficient performance.

# Budget Estimate and Financial Analysis

The budget for the web publishing system project will be discussed and finalized in meetings with the project sponsor and HR manager. Some of the costs that may be included in the budget report include:

* Training expenses for team members to ensure that they have the necessary knowledge and experience for the project.
* Workshop fees to attend training or development sessions.
* Delivery and maintenance costs for the system.
* Bug fixing expenses to address issues that arise during the development process.
* Fees for web hosting and deployment.
* Costs for any paid technology frameworks or apps that may be needed for the project.

These costs will be detailed in the business case financials and payback documents to provide a full understanding of the expenses associated with the project.

# Schedule Estimate

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* Kick-off meeting and project planning: This milestone involves holding an initial meeting to discuss the project and develop a plan for its execution. This could include identifying the resources needed for the project, establishing a timeline, and outlining the roles and responsibilities of team members.
* Requirements gathering and analysis: This milestone involves collecting and analyzing the requirements for the system, including the needs and goals of the local editor and other stakeholders. This could involve conducting interviews, workshops, or other forms of stakeholder engagement to understand the specific needs and constraints of the project.
* System design and development: This milestone involves designing and developing the Web Publishing System according to the requirements gathered in the previous milestone. This could include creating user interfaces, implementing functionality, and integrating the system with existing workflows and processes.
* System testing and quality assurance: This milestone involves testing the system to ensure that it is working as intended and meets the requirements of the project. This could include conducting unit tests, integration tests, and user acceptance tests to identify and fix any issues with the system.
* Deployment of system to production environment, user training, and documentation: This milestone involves deploying the Web Publishing System to the production environment and providing training and documentation to the editor and other stakeholders. This could include installing the system on the production servers, conducting user training sessions, and creating documentation such as user guides and maintenance manuals.

# Potential Risks

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| **Ranking** | **Potential Risk** |
| 1 | Scope creep: This risk involves the project scope expanding beyond the original plan, resulting in increased costs and delays. |
| 2 | Budget overruns: This risk involves the project exceeding the allocated budget, which could impact the financial viability of the project. |
| 3 | Schedule delays: This risk involves the project falling behind schedule, which could impact the timeline and deliverables of the project. |
| 4 | Personnel shortages: This risk involves a shortage of personnel with the necessary skills and expertise to work on the project, which could impact the progress and quality of the project. |
| 5 | Technology issues: This risk involves problems with the technology used in the project, such as hardware or software failures, which could impact the functionality of the system. |
| 6 | Data security breaches: This risk involves unauthorized access or theft of sensitive data, which could impact the confidentiality and integrity of the system. |
| 7 | Legal or regulatory issues: This risk involves non-compliance with legal or regulatory requirements, which could impact the project's ability to operate and deliver value. |
| 8 | Stakeholder dissatisfaction: This risk involves stakeholders being unhappy with the project, which could impact the success of the project. |
| 9 | Integration issues: This risk involves problems integrating the Web Publishing System with existing systems or processes, which could impact the functionality and adoption of the system. |
| 10 | Change management: This risk involves difficulties in managing and implementing changes to the project, which could impact the progress and quality of the project. |

# Stakeholder analysis

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| **Name** | **Position** | **Internal/External** | **Project Role** |
| **AbdelRahman Shemies** | Project Manager | Internal | responsible for leading and coordinating the development of a project. |
| **Ahmed Salman** | Senior Project Manager | Internal | ensure the successful planning, execution, and delivery of projects. |
| **Adham Sharaf** | Project Sponsor | External | ensure that the project generates financial returns for the organization. |
| **Bassant Zalman** | The local editor of the regional historical society | External | responsible for providing direction and requirements for the system. |
| **Moustafa ElAhmar** | User 1 | External | reviewing articles and providing feedback through the system. |
| **Nada Elkobtan** | User 2 | Internal | review and evaluate the web publishing system to determine whether it meets the necessary criteria and standards for acceptance. |
| **Momen ElNadman** | Resource Manager | Internal | The resource manager is responsible for managing and allocating the resources |
| **Ezz ElMayal** | HR Manager | Internal | managing the human resources aspects of a project. |
| **Hamada** | Development Team | Internal | responsible for designing and building the system. |
| **Abdo** |
| **Aly Marn** | hosting and maintenance team | Internal | responsible for supporting and maintaining the system once it is deployed. |
| **Habiba Foad** |

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| **Name** | **Level of Interest** | **Level of Influence** |
| **AbdelRahman Shemies** | High | High |
| **Ahmed Salman** | High | High |
| **Adham Sharaf** | High | Low |
| **Bassant Zalman** | High | High |
| **Moustafa ElAhmar** | Medium | Medium |
| **Nada Elkobtan** | Medium | Medium |
| **Momen ElNadman** | Medium | High |
|  | Low | Medium |
| **Hamada** | Low | Low |
| **Abdo** | Low | Low |
| **Aly Marn** | Low | Medium |
| **Habiba Foad** | Medium | Low |