Project Proposal: WebCraft

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Introduction

With the overwhelming presence of the Internet, advertising and social media in our daily lives, we seek a way to utilize our local network to understand the fundamentals behind the products we use every day. This project involves the creation of a LAN network that hosts comprehensive content on how to design, set up, and optimize a LAN. By doing so, it serves as a hands-on learning resource for students, professionals, and enthusiasts who seek to deepen their understanding of network configurations, security protocols, and troubleshooting techniques.

Objectives

WebCraft focuses on the following objectives:

- **DNS**: Explain DNS concepts, configuration, and security for setting up a local DNS server.
- **Web**: Differentiate between HTTP and HTTPS, explore web hosting, and understand basic web development (frontend and backend).
- **Email**: Discuss email protocols and email security.
- **FTP**: Compare FTP, SFTP, and FTPS, and provide practical examples for secure file transfer.
- **Streaming**: Implement on-demand streaming using protocols like DASH for media delivery.

Literature Review

The project is based on the following references:

- **DNS and BIND**: A guide to DNS and its configuration (Liu Albitz, 2006).
- **Website Design and User Engagement**: The role of design in user behavior and engagement (Garett et al., 2016).
- **Web Security, Privacy & Commerce**: Insights into securing web communication and online transactions (Garfinkel Spafford, 2002).
- **FTP Security**: Best practices for configuring FTP securely (Singh Goyal, 2023).
- **HTTP: The Definitive Guide**: A comprehensive exploration of HTTP protocol (Gourley Totty, 2002).

Methodology

The project follows these steps:

- **Define Scope**: Decide on static vs dynamic website and necessary features (authentication, email, etc.).
- **Set Up Environment**: Create a version control system (repository).
- **Build Website**: Develop frontend (HTML, CSS) and backend (Node.js, PHP) if needed.
- **Implement Services**: Set up email, FTP, and streaming functionalities.
- **Deploy and Secure**: Host the website, configure security measures, and optimize performance.

Project Timeline (Gantt Chart)

WebCraft															
Activities Per Week	February		March				April				May				June	Responsables
	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	
Literature review																Everyone
Set up development environment																Everyone
Register domain and build website																Everyone
Email Features																Everyone
FTP Features																Everyone
Streaming Features																Everyone
Final Documentation and Present																Everyone

Expected Results

Following this methodology can lead to promising outcomes, serving as a foundation for future student projects or other initiatives. Once the core functionalities are in place, this project can evolve into a versatile framework applicable in various contexts, such as industry-specific implementations, educational purposes, or entrepreneurial ventures. The adaptability of this approach ensures that new ideas and applications remain open-ended, fostering innovation and further development.

Conclusions

This project requires significant effort and dedication, but with proper organization, effective management, and strong teamwork, we can successfully achieve our objectives. Moreover, by documenting our process and sharing our knowledge, we can empower others to replicate and build upon our work, fostering a learning environment for future students and entrepreneurs.

References

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