Construction of a Virtual Trading Platform for the Financial Market

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***Abstract*—This thesis presents the construction of a virtual trading platform for the financial market, focusing on the use of NodeJS and related technologies. The author developed a website that provides information about the cryptocurrency market, aiming to reduce the time and cost of user and administrator work. The project utilized NodeJS for its event-driven capabilities and API integration, but did not report any specific performance metrics or evaluations. The website was designed to be efficient and cost-effective, but its actual performance was not measured or reported.**

***Index Terms*—NodeJS, API, Websocket, Cryptocurrency, Market Information, Website**

I. Introduction

The thesis introduces the theoretical foundations of NodeJS, APIs, and websockets, and discusses their relevance to the construction of a virtual trading platform for the financial market. The author aimed to enhance the efficiency of information provision and reduce costs for users and administrators. The project focused on developing a website that would provide real-time information about the cryptocurrency market, leveraging NodeJS for its event-driven nature and API capabilities. The author also explored the use of websockets for real-time data transmission and AJAX long polling for improved user experience [1]. Related earlier ICTU undergraduate theses provide context for this English summary [8]. Published books on the methods and subject of this project provide context for this English summary [9].

II. Methods

The methods section covers the theoretical background of NodeJS, APIs, and websockets, and the design and implementation of a website for cryptocurrency market information. The author did not conduct any specific tests or evaluations of the platform's performance. The website was developed using NodeJS, which was chosen for its event-driven architecture and ability to handle real-time data. The author also integrated APIs from cryptocurrency exchanges to fetch real-time market data. Websockets were used to enable real-time updates, and AJAX long polling was employed to improve the user experience by fetching data in the background without requiring a full page reload [1].

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III. Results

The author developed a website that provides information about the cryptocurrency market using NodeJS and related technologies. The project did not report any specific numerical results or evaluations. The website was designed to be efficient and cost-effective, but its actual performance was not measured or reported. The author implemented functions to fetch real-time market data from APIs and display it on the website. Websockets were used to enable real-time updates, and AJAX long polling was employed to improve the user experience by fetching data in the background without requiring a full page reload [1].

IV. Discussion

The discussion section reflects on the author's learning experience and the potential for future improvements, such as integrating the website with other management software and applying it to daily work. The author expressed a desire to further explore NodeJS to maximize its benefits. The project did not report any specific performance or evaluation results. The author acknowledged the limitations of the project, such as the lack of performance metrics and the need for further testing and validation. The author also mentioned the potential for future improvements, such as integrating the website with other management software and applying it to daily work [1].

V. Conclusion

The author concluded that the project helped to deepen their understanding of web development and management, and they plan to continue researching NodeJS to leverage its capabilities. The project did not report any specific performance or evaluation results. The author acknowledged the limitations of the project, such as the lack of performance metrics and the need for further testing and validation. The author expressed a desire to further explore NodeJS to maximize its benefits and improve the website's functionality and performance [1].

References

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