Control and Monitoring Software for a High-Rise Water Supply and Drainage Model with PROFINET Data Management

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***Abstract*—This thesis presents the development of a monitoring and control software for a high-rise water supply and drainage model, focusing on the use of PROFINET communication. The author describes the theoretical background, system analysis, and programming of the software. The work is based on the use of Step7 and PLCSIM for programming and WinCC for simulation and monitoring. The author acknowledges the limitations due to lack of practical experience and inadequate resources. The software prototype has been developed, but its practical deployment and effectiveness remain untested.**

***Index Terms*—Monitoring, Control, Water Supply, PROFINET, SCADA, PLC**

I. Introduction

The thesis introduces the development of a monitoring and control software for a high-rise water supply and drainage model, emphasizing the use of PROFINET communication. The author highlights the importance of automation in industrial applications and the role of PLC programming and SCADA systems in enhancing user interaction and system control. The project aims to develop a software solution that can monitor and control the high-rise water supply and drainage model, with a focus on PROFINET communication. The author acknowledges the limitations due to the lack of practical experience and inadequate resources [1]. Published books on the methods and subject of this project provide context for this English summary [4]. Published articles on the methods and subject of this project provide context for this English summary [5], [6], [7]. Published books on the methods and subject of this project provide context for this English summary [8].

II. Methods

The author uses Step7 and PLCSIM for programming and WinCC for simulation and monitoring. The software is designed to monitor and control the high-rise water supply and drainage model, with a focus on PROFINET communication. The author describes the theoretical background, system analysis, and programming of the software. The software prototype has been developed, but its practical deployment and effectiveness remain untested. The author acknowledges the limitations due to the lack of practical experience and inadequate resources [1].

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III. Results

The author has developed a software prototype for monitoring and controlling the high-rise water supply and drainage model. The software uses Step7 and PLCSIM for programming and WinCC for simulation and monitoring. The software is designed to monitor and control the high-rise water supply and drainage model, with a focus on PROFINET communication. However, the practical deployment and effectiveness of the software remain untested. The author acknowledges the limitations due to the lack of practical experience and inadequate resources [1].

IV. Discussion

The author discusses the challenges faced during the development, including limited practical experience and resource constraints. The author suggests further research into new technologies to improve the system's performance and reliability. The author acknowledges the limitations due to the lack of practical experience and inadequate resources. The software prototype has been developed, but its practical deployment and effectiveness remain untested [1].

V. Conclusion

The author concludes that the software development process has been completed, but acknowledges the need for further improvements and practical experience to enhance the system's functionality. The author acknowledges the limitations due to the lack of practical experience and inadequate resources. The software prototype has been developed, but its practical deployment and effectiveness remain untested. The source specifically proposes field testing the model to identify faults caused by real operating conditions and improve the water-system design [1].

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