

## ABSTRACTION

Automation system growth in the globalization era was going forward rapidly. Automatic system which is used and developed mostly is Programmable Logic Controller (PLC) utilizing as a process control. Automation system development base on PLC is not supported by human resources skill and capability. It is caused by PLC study limitation, especially in PLC programming study. For that reason, PLC programming study mechanism which facilitate students and teachers in learning PLC programming is needed without being limited by instrument and cost limitation. Therefore, in this final project will be designed a PLC programming study simulation software for Technical Senior High School.

In the system design, there are several stages to solve the problem which is divided into five stages in outline; preliminary study, initialization, creative, design analyzing and testing, and also conclusion and suggestion. Preliminary study consists of problem and research objective definition. In initialization step consists of literature study and field study which will be continued with system analysis, was system which has been made appropriate with first purposes or not and how system can be implemented. Finally the last step is conclusion and suggestion.

This final project divided into chapters; chapter I is about background, research objective, advantages of the final project and problem restrictions. Chapter II consists of literature study about PLC (Programmable Logic Controller), PLC study syllabus and also In-Touch. Chapter III consists of conceptual model of the system and problem formulation. Chapter IV as the core of the final project discussion consists of system design and continued with system analyzing on Chapter V. The last Chapter that is fifth chapter consists of conclusion and suggestion.

From the result of this research, has been obtained the conclusion that with implementing PLC programming study simulation software will facilitate students especially Technical Senior High School students in PLC programming study.

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