



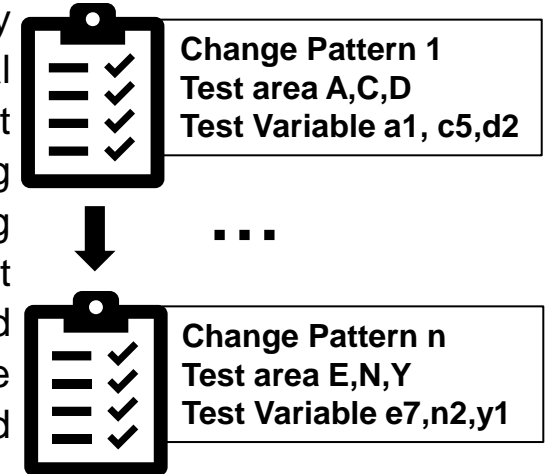
Generation of Change Patterns in PLC Program (MA)

Lehrstuhl für Automatisierung und Informationssysteme
Technische Universität München
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Aufgabenstellung:

In industrial automation, control programs like PLC-Project frequently change for various reasons. Such as pharmaceutical production or medical instrument manufacturing, each new version of the control software must be verified before deployment. Verification involves analyzing and testing the code to ensure all functions operate as designed, typically requiring significant time, money, and effort. However, these changes often exhibit specific patterns, where similar modifications result in similar impacts and side effects. Our work focuses on identifying these underlying change patterns, enabling developers to test new programs more quickly and effectively.

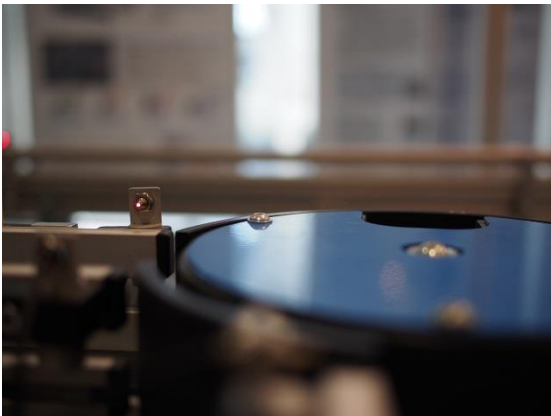


Your task:

- Define the concept and the workflow for the generation of change patterns.
- Standardization of the existing theories of the change descriptions at the software level.
- Identify the possible Interfaces between the changes in the system and the software levels.

Kenntnisse:

- Basic knowledge of automation and mechatronic systems
- Basic knowledge of PLC programming (in advantage)
- Independent and motivated



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