

Worker guidance systems in the assembly line – Investigating the impact of hardware on process result and employee evaluation

Institutsvorstand

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Worker guidance systems are cognitive assistance systems that provide process-relevant information to employees in a context-adapted manner. Thus, they "guide" them through the work process. In addition to the degree of information and the information design, the information device, i.e. the hardware of the system, is regarded as the decisive design element of such worker guidance systems.

The information device is at the centre of this thesis, which aims to investigate the influence of hardware on process results and employee evaluation. The following research question is raised: What influences of information devices on process results and employee evaluation can be identified when working with a worker guidance system? To answer the research question, an empirical study is to be carried out in the IIM LEAD factory with n=30 test persons, for whom 2 different information devices are available: A touchscreen-based system and AR glasses. The methodology is based on Stockinger (2019) and includes the recording of process results, employee characteristics and employee evaluation using established questionnaires. In detail, the following tasks have to be fulfilled:

- Preparation of the state of the art of research and technology for worker guidance systems, touch screens and data glasses and derivation of research hypotheses
- Discussion of the research methodology and adaptation to the planned study
- Preparation of the two worker guidance systems for the study with regard to the degree of information and information design
- Carrying out the study in the learning factory of the IIM with a total of n=30 test subjects
- Statistical evaluation of the study with regard to process results and employee evaluation
- Discussion of the results
- Preparation of the study results for a journal publication

The procedure for the individual working steps and the results obtained must be carefully documented and discussed. The literature sources are to be administered with Citavi.

Field of studies:

- Maschinenbau; Maschinenbau-Wirtschaft
- Softwareengineering and Management

Sonstiges | Misc

Duration: 6 Months

IAD

Start: immediately possible

This project is carried out and supervised jointly with the IAD of the TU Darmstadt.

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**INNOVATION
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