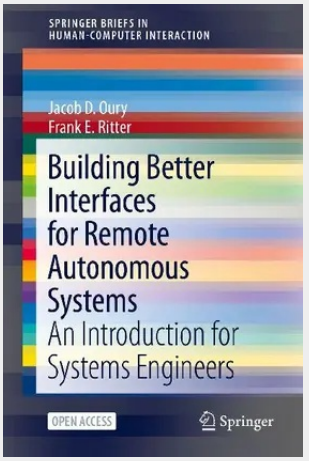
Oury / Ritter

Building Better Interfaces for Remote Autonomous Systems

An Introduction for Systems Engineers



This 'Open Access' SpringerBrief provides foundational knowledge for designing autonomous, asynchronous systems and explains aspects of users relevant to designing for these systems, introduces principles for user-centered design, and prepares readers for more advanced and specific readings. It provides context and the implications for design choices made during the design and development of the complex systems that are part of operation centers. As such, each chapter includes principles to summarize the design implication that engineers can use to inform their own design of interfaces for operation centers and similar systems.

It includes example materials for the design of a fictitious system, which are referenced in the book and can be duplicated and extended for real systems. The design materials include a system overview, the system architecture, an example scenario, a stakeholder analysis, a task analysis, a description of the system and interface technology, and contextualized design guidelines. The guidelines can be specified because the user, the task, and the technology are well specified as an example.

Building Better Interfaces for Remote Autonomous Systems is for working system engineers who are designing interfaces used in high throughput, high stake, operation centers (op centers) or control rooms, such as network operation centers (NOCs). Intended users will have a technical undergraduate degree (e.g., computer science) with little or no training in design, human sciences, or with human-centered iterative design methods and practices. Background research for the book was supplemented by interaction with the intended audience through a related project with L3Harris Technologies (formerly Harris Corporation).

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