

RCOS 2.0: An UI Reformation



Old RCOS

RCOS, or **Remote Control Operation System**, is a software created by Siemens for the global automation of cranes. This system allows operators to control cranes from the comfort of their offices, eliminating the need to work 50 meters above the ground and experience various discomforts. The vision of RCOS is to provide maximized production with security and safe crane operations. However, in this software Siemens neglected the user-friendliness of the UI.

The design of RCOS was driven by a few engineers who based it on their logical assumptions, resulting in several issues regarding user-friendliness. The UI suffered from inconsistent use of interactive buttons, poor task alignment, lack of recovery features, inconsistent color coding, absence of a dark mode, inconsistent icon usage, and an overall lack of aesthetic appeal. In particular, the following six design principles were not adequately addressed:

- Clarity
- Compatibility
- Comprehensibility
- Recovery
- Configurability
- Familiarity



New RCOS

RCOS 2.0 focuses on enhancing the user-friendliness and optimizing the concentration levels of the operator. The new design features a soft UI style, neu-minimalism, which utilizes simplistic icons to provide operators with clear information about the functionality of the elements. This new UI style mimics the look of a real button, allowing operators to understand their state without relying solely on color, a significant advantage for colorblind users.

Eye tracker tests were conducted to establish clear alignment between elements and task hierarchy, ensuring operators can follow tasks efficiently. To make the life of the operator a little easier, the system now offers multiple recovery elements, elements that can be personalized and more. Additional features of the redesign include:

- Help desks for additional information on all functions
- Dark mode for night use
- A persona to guide the operator through tasks
- Elements mimicking the real functionality behind components on crane

All these features and improvements to guide the operator a safer and user-friendlier use!

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