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TITLE:  
“Cognitive Overload in User Interfaces”

### ABSTRACT

This presentation introduces the concept of cognitive overload in the context of user interface (UI) design, which is a critical topic in UX design that impacts users' ability to interact effectively with digital environments. It explains cognitive overload, which occurs when users are confronted with an excess of information or complex interactions that exceed the capacity of their working memory, leading to frustration, decision fatigue, and decreased productivity.

The presentation delves into key theories, such as cognitive load theory, which explains how overloading working memory can lead to errors and slow performance. It also examines the role of decision fatigue, where the mental energy required to make decisions is depleted by excessive choices, and visual clutter, which obstructs users' focus by introducing unnecessary distractions. As well as principles and concepts from experts like Krug, Nielsen and Norman.

Additionally, the research takes a cross-cultural perspective, comparing interface designs from Japan and Poland to explore how cultural differences influence cognitive overload. Japanese interfaces, which often feature dense layouts, are contrasted with Polish designs that emphasize simplicity, clarity. This comparison delves into how cultural communication styles: high-context vs. low-context, and cognitive approaches: holistic vs. analytical influence user interaction with technology. The method discussed for assessing cognitive overload will be the possible use of the NASA Task Load Index (NASA-TLX), a tool designed to measure workload on various dimensions.

By examining these cultural nuances, the presentation seeks to inspire a more culturally informed approach to UI design, potentially reducing cognitive overload and enhancing global usability. Examples of e-commerce interfaces from both cultures will be discussed to illustrate these principles.

Ultimately, the future research seeks to acknowledge how interface design, accounting for both cognitive and cultural factors, can affect cognitive overload and user experience across diverse digital environments.