Effective user interface and user experience design for disaster-related applications: A review

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Abstract: Designing a good user interface in disaster-related applications is crucial to enable users to access and understand how to use the applications quickly in case of an emergency. As stated in multiple novel literatures, there still needed for improvement based on the concept of designing User Interface (UI) and User Experience (UX). Therefore, adapting the current UI based on practical guidelines and keeping up to date with the current design is essential. This research's literature review was performed to define the effective design for the user interface for disaster-related applications. The research articles related to the UI design from Scopus and Google Scholar were reviewed. The search keywords include ("User Interface" OR "User Experience") AND ("Application") AND ("Disaster").

The findings found that the effective way to design UI for disaster-related applications is to make it as user-friendly as possible. The design can help the victims to act and respond quickly during emergencies. In addition, it also needs to be created based on user-centric design principles. Three main aspects can be extracted from the two mentioned principles to support the designing process: (1) developing a set of design guidelines and mock-ups to address the identified usability issues significantly improved the usability and user satisfaction of the application (Kureerung et al. 2022; Molich 1994); (2) the icons, such as the alert button or the button that represent each feature, should be clear and easy to understand (Romano et al., 2016). And (3) a user-friendly and user-centered should be developed (Molich 1994; Rudiastuti et al. 2020; Suzianti et al. 2020).

Moreover, Estuar et al. (2014) suggested that the effective way to understand all the users' needs can be done by validating the design and testing it with the real users. In conclusion, adapting the core concepts from literature review can help users achieve their goals quickly, saving people's lives during the disaster period. Furthermore, the application users can also be able to use this to help others too.

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