

Usability Evaluation and Recommendation of User Interface Design for e-HAC Application by using User-Centered Design Method

Salsabilla Rinaldi, Arfive Gandhi, Nungki Selviandro

Department of Informatics, Telkom University, Indonesia

salsabillarinaldi@telkomuniversity.ac.id, arfivegandhi@telkomuniversity.ac.id, nselviandro@telkomuniversity.ac.id

Abstract—Regarding the rapid spread of Covid-19 in Indonesia, the Ministry of Health of Indonesia has developed an e-HAC (Electronic – Health Alert Card) application to reduce the risk. That mobile application has a purpose to detect, prevent, and control public health emergencies through point of entries. Besides, the users of the e-HAC application have trouble on using the application. The issues are specifically on navigation between the menus, and the lack of aesthetics and appealing of user interface. Those issues lead to the main purpose of this research, which is to upgrade the interface design of e-HAC application to a suitable User Interface by using User-Centered Design (UCD) method. There are also specific objectives: first is to conduct usability testing in form of questionnaires and interview two times: one is a pre-survey, to evaluate the problems of the e-HAC application based on user experience; and the another one is a post-survey, to find out whether the upgraded design that has been made can ease the users to access the e-HAC application. Then, the second specific objective is to implement the System Usability Scale (SUS) method for measuring the system usability based on questionnaires. After the implementation of the UCD method, the researcher re-surveyed and obtained a test scores of SUS, from 53.87 previously to, 85.12. That means the acceptability ranges that were originally Low changed to Acceptable. Moreover, for the Grade Scale, which was originally D into category B.

Keyword—Covid-19, System Usability Scale, Usability testing, User Interface, User-centered Design.



Salsabilla Rinaldi, born in Pekanbaru, 29 October 2000 is a student in international class of Telkom University, Bandung-Indonesia. She is in last semester of Informatics Engineering field. She is passionate with UI UX domain. Currently, she is an independent student in Huawei ICT Academic, and at the same time doing her research in UI UX area to get bachelor's degree, in February 2022, in Informatics Engineering major.



Arfive Gandhi is currently pursuing Ph.D. degree in Faculty of Computer Science, Universitas Indonesia. He received his master's degree in Information Technology from Universitas Indonesia after finished bachelor's degree in Institut Teknologi Telkom. As lecturer in Telkom University, he is also affiliated with Software Engineering Research Group and Information Science and Engineering Laboratory. His current research interests are digital business, information security, e-government, e-learning, and user experience.



Nungki Selviandro received both BSc and MSc degrees in Computer Science from the University of Indonesia, Indonesia, and a Ph.D. degree in Computer Science from the Department of Computer Science, The University of York, UK. Currently, he is a lecturer at the School of Computing, Telkom University, Indonesia. He is also a member of the Software Engineering Research Group at the School of Computing, Telkom University, Indonesia. His research interests include Software Engineering, Model-Driven Software Engineering, Assurance Cases, and XAI.