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INVENTION AND INNOVATION EXHIBITION (I-JaMCSIIx) 2023

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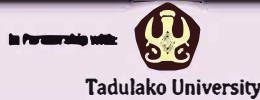
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Synergistic Cyber Security Awareness Model for the Elderly (SCSAM-Elderly)

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Abstract— An elderly person is defined as an individual aged 60 and above. Since the COVID-19 pandemic, almost all seniors are using technology such as mobile phones, making it crucial to spread cybersecurity awareness, especially among the elderly who may lack understanding of cybersecurity issues or the prevalence of cybercrimes. The elderly is at risk for certain types of cybercrime due to certain conditions, especially for having a nest of savings as financial support for their retirement which calls for the attention of cybercriminals to “attack” them via digital platforms. The elderly may be more vulnerable due to impairment and disabilities, solitude, unfamiliarity with technology, and generational inclination to trust authorities and hesitate to report the crime. Even though several existing cyber security awareness models are in existence, most of them are not suitable for the elderly due to advanced technologies that are rather technical, as well as the elderly’s limitations that are caused by impairments and disabilities. To overcome this problem, a new model has been developed name as Synergistic Cyber Security Awareness Model for the Elderly (SCSAM-Elderly). The SCSAM-Elderly model implements components of education which are theory, practical, and analysis. The SCSAM-Elderly has three layers which are theory, practical, and analysis in order to educate and increase awareness among the elderly. In the theory layer, there is preparation for the goals that should be achieved in cyber security for the elderly. It is important to identify the current cyber-attack against the elderly. The SCSAM-Elderly has educated the elderly by using the website by attaching all the current cybercrime theories that often happen to the elderly. In order to develop the websites, there are many aspects have been implemented with the elderly’s learning styles to make the website more elderly friendly. Therefore, the color used in the websites is high contrast color combination such as black type against white background. For hearing impairment, this website implements video, image and text that suitable for the elderly to enhance the knowledge and enjoyment of watching educational videos. The second layer is practical layer. In the practical layer, this model provides quizzes related to the current cybercrime for the elderly to answer. The third layer is the analysis layer, where the team will monitor all the quizzes’ answers to determine whether elderly awareness is increased or not. Based on the level of awareness, the team can then determine how to better educate the elderly about cybercrimes. Therefore, this model was validated by the questionnaire survey among the elderly and cyber security expert. This model could increase cybersecurity awareness and encourage educating the elderly to maximize their knowledge of cybersecurity.

Keywords—awareness, cybercrime, cybersecurity, education, elderly



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