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Prototype Development of Graphical Pattern Security System on Raspberry Pi (Conference Paper)

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Abstract

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Password is a primary security mechanism that consists of a secret phrase created using alphabetic, numeric, alphanumeric, and symbolic characters, or a combination. It is used to restrict access to a system, application, or service to only those users who have the authorization to use the system or device. Because of increased computing power, modern passwords must be very long and complicated, which will make them hard to remember. Some research studies show that it is easier for people to remember visual passwords instead of textual ones. Therefore, this research aims to enhance the authentication process's security using the graphical pattern unlock approach on Raspberry Pi. The grid size of 5 × 5 was selected in the implementation, as it provides the tradeoff between security strength and an easy pattern to remember. The proposed system could be connected to the smart home system, which can enhance their security. Prototype validation revealed that the prototype is working as intended, and the authentication process took around 1.2 s to complete. © 2021, The Author(s), under exclusive license to Springer Nature Switzerland AG.

SciVal Topic Prominence

Topic: Password | User Authentication | Hacker

Prominence percentile: 96.500

Author keywords

Graphical pattern | Raspberry Pi | Security enhancement | Smart home

Indexed keywords

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Engineering main heading: Authentication

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