ABSTRACT

Nowadays, security is one of the important factors on information technology development. For example, the using of textual password as user authentication method. This password is expected capable to give a good security level. A textual password can be considered as a good password if that password consists of many combination characters . That is hardly to be made because of the difficulity of remembering the texts for people.

Based on the psychology research, people are more capable to remember visual shapes than textual shapes. From that research, we can develop an authentication system based on pictures, which is named as graphical password.

On this final project there have been created an authentication system using graphical password based on pixel selection. In this system, we give twelve pictures in 640x480 pixel resolution. Each pixel in the choosen picture will become input that can be combined as a password.

From system implementation that has been done, we obtained that effectiveness is 76,67%, and average input time is 16,61 seconds at complex picture condition. It is also known that the time needed to brute force cracking into password is $3{,}0544 \times 10^{11}$ years. From the questionnaire, there are 30% strongly agree and 57% agree with the satisfaction of the system overall.

Keywords : ***user authentication, textual password, graphical password, pixel, brute force***