ABSTRACT

Safe storage that when this happens, break-ins often occur which resulted in substantial material loss. This is caused if people others see our passwords. Therefore we need a new system for security to be more secure.

In this final project, the writer designed a safe prototype using using facial recognition and fingerprint integrated features IoT (Internet of Things). Faces and fingerprints were chosen because they were easily accepted by the public. For the face algorithm used is LBP (Local Binary Pattern) as clarification and the Haar cascade as detection. There is an IoT feature to function for realtime safe monitoring. The microcomputer in this final project uses the Raspberry Pi to processing algorithm and runing sensor. This system is designed to provide a safe breach alert via notification on android application.

After testing, the conclusion is that facial scanning will run optimally when conditions are bright. The recommended position for fingerprint scanning finger is a flat position. In LOS conditions the best distance is at 4 meters with a value 0.373 seconds delay and 3680,533 bytes/s throughput. Whereas in non-LOS conditions the best distance is 2 meters with a delay value of 0.380 seconds and throughput 4055.73 bytes/s.

Keywords: *Internet of Thing*, *Fingerprint*, *face recognition, Safe box*.