

Cairo University

Faculty of Computers and Information

**Project Name**

**True Owner**

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**Delivered To**

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**Introduction**

The project is Android based application made to secure the mobile using the bio-features of the human

It uses the human unique identifiers to recognize the user of the device and alert the real user on detecting unauthorized usage of the device.

**Goals**

* Make android Application to reach maximum security levels
* Help people by securing their private data
* Going in depth of android development and how to make the maximum usage of sensor
* Learning about the patterns and how to detect it
* Working more with SOAP and REST technology

**Features**

1. **Face detection:**

* The idea is simple we can take the mobile owner photo and detect other faces through front camera then recognize if they are the same or not.

1. **Eye detection:**

* The algorithm try to detect the eye cornea.

1. **Ear detection:**

* Shape of the ear can be used as Identity attribute for the human if it successfully can be captured and recognized.

1. **Typing speed:**

* Each user has a typing speed for sure maybe the same as many peoples but it still a good factor to know if the user is real mobile owner or not.

1. **Finger print:**

* If the touch screen support the finger print scanning (Android 6.0 “Marshmallow”) it can scan the finger print of the user and compare it with already existing one.

1. **Typing error:**

* Each person have a unique set of keys that he write it wrong due to finger sizes so the idea is to know the mobile owner keys and check when someone writes on keyboard whether they are the same or not.

1. **Finger pressure:**
   * Measure the pressure generated by the user pressing a button and compare it with

The pressure of owner pressure.

1. **Height :**

* Detect the difference between the people heights in their different positions.

1. **Acceleration:**

* Most of the time phone user keep the angle of the phone in specific range so we can save

The mobile owner range or angle and compare it from time to another based on mobile movements.

1. **Number of steps:**

* Of course the walking speed differs from one to another of if we could know number of steps in 10 m for example we can compare the rate for mobile owner and anyone else.

1. **Finger Size:**

* The touch screen can detect the touched area for the fingers and compare with the finger sizes stored in the history.

1. **Heart Pulses and Muscles:**

* The device sensors can emit rays that’s helpful to recognize the muscle and heart pulse rate.

1. **Voice recognition:**

* The application can detect the user voice and compare it with the owner of the phone.

**Reference**

* <https://software.intel.com/en-us/blogs/2013/10/28/implementing-face-detection-in-android>
* <https://developer.android.com/reference/android/hardware/Camera.Face.html>
* [https://l.facebook.com/l.php?u=https%3A%2F%2Fdeveloper.android.com%2Fguide%2Ftopics%2Fmedia%2Fcamera.html%23face-detection&h=XAQGovZT0](https://l.facebook.com/l.php?u=https://developer.android.com/guide/topics/media/camera.html)
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