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DEVELOPING SECURE AND FAST 3D BIOMETRIC SYSTEM : AN IMPLEMENTATION

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Abstract— The biometric based security has been upgraded in this research paper. Here the advance three dimensional biometric system has been proposed. This system would consume less space as well as it would take less time in processing. Here the use of edge extraction has been made in order to reduce the size of image. The best among them is canny based edge detection. The proposed work is fast during comparison process as only important edges have been compared.

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I. INTRODUCTION

Biometrics

The biometric based security has been divided on the bases of physiological and behavioural characteristics. The physiological characteristics consists of face, DNA, iris and finger recognition based biometric systems. But the behavioural characteristics involve keystroke, voice and signatures. The theme of this paper is to introduce the concept of security in cloud computer with biometric techniques.

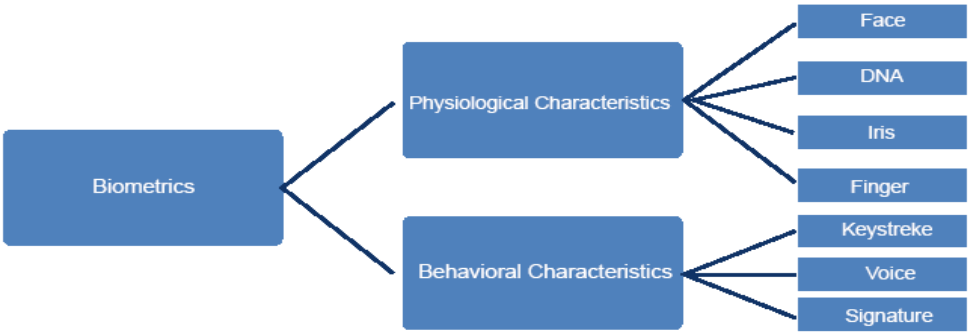

Fig 2 Physiological versus Behavioural characteristics

II. TOOLS & TECHNOLOGY

Edge Detection

In order to make the biometric detection fast we need the use of Edge detection mechanisms. These may be canny, sobel, prewitt and Robert. The best among them is canny based edge detection. The physiological characteristics are considered in this research the objective of research is to provide fast and more efficient biometric security to the cloud based systems.

In case of canny based edge detection John Canny considered mathematical problem of deriving an optimal smoothing filter given criteria of detection, localization & minimizing multiple responses to a single edge. He showed that optimal filter given these assumptions is a sum of four rapidly growing terms.

He also showed that this filter could be well approximated by first-order unoriginal of Gaussians. Canny also introduced notion of non-maximum suppression, which means that given pre smoothing filters, edge points are as points where gradient magnitude assumes a local maximum within gradient direction.