

TITLE: Using Software as a Service (SaaS) Model on Public Cloud, generating an Advanced Online Signature Recognition System

Abhishek Jambure, Shreya Khandelwal, Nikita B. Gunagi, Sayali Ragade, Prof. Dnyaneshwar Bhujbal

Engineering Student, Information Technology, SKN Sinhgad Institute of Technology and Science, Maharashtra, India

Engineering Student, Information Technology, SKN Sinhgad Institute of Technology and Science, Maharashtra, India

Engineering Student, Information Technology, SKN Sinhgad Institute of Technology and Science, Maharashtra, India

Engineering Student, Information Technology, SKN Sinhgad Institute of Technology and Science, Maharashtra, India

Assistant Professor, Information Technology, SKN Sinhgad Institute of Technology and Science, Maharashtra, India

ABSTRACT

Based on biometrics, various identity recognition systems are generated. Signature recognition is one of the most noteworthy research field in the area. Architecture for implementing online signature recognition system on a public cloud[1] had been proposed by the authors to generate a more reliable pluggable and faster online signature recognition system. But, an architecture which allows any type of client to communicate with it will ultimately result into a soothing quality architecture running both the web role VM' s as well as the worker role VM' s at the same time made the implementation cost of this architecture very high. More number of transaction routes were require to perform even a simple operation such as uploading, which increased its cost and time. This was due to the azure queue. The azure queue was used as the communication medium, but it did not allow communication with other client devices and applications. In this paper, a more scalable, pluggable and faster online recognition system with more cost effective approach is generated which will resolve all the issues discussed above.

Keyword: - *Signature recognition, blob storage, cloud service, worker role, feature vector, service bus*

1. Introduction

For identifying a person's identity, signatures are one of the great characteristics. Online and Offline are the two types of Signatures. The signature needs to be stored in the database in case of online recognition system. The offline system requires a high end machine. This machine results into low performance if used for multiple purpose. Using Cloud platform instead of biometrics can be a solution. The problems related to the biometrics are addressed by Cloud Computing.

The existing architecture was not complex. But its cost of implementation was high. This was due to the simultaneous execution of web role VM's and worker role VM's. Addition to it, the route was very long. This was due to the routing from web role to blob storage and azure queue, azure queue to worker role and finally from worker role to blob storage. Azure queue was used as a communication medium. But ,it was only able to communicate between web role and worker role. The direct communication with the applications was not possible.

In this paper, an altered architecture is introduced. This altered architecture will solve the various problems. Moreover, weighted feature mechanism is used for increasing its efficiency.

3. Literature Survey

3.1 A framework for secure cloud empowered mobile biometric

By offloading the present recognition process to the client, this paper states how computationally, characterized by a high degree biometric recognition can be performed on mobile device. This paper has portrayed a framework to carry out an action of biometric face recognition in a cloud environment.

3.2 Online Signature recognition using Software as a Service on Public cloud

As a scope of security and authenticity in terms of commercial as well as official transactions, the signature recognition systems are widely used. The biometric implementation has to be ascendible and adequate enough to deal huge datasets for magnanimous population. This is because of the increasing number of users. This paper proposes a highly scalable, pluggable and faster cloud based online signature recognition system, which is subject to operate tremendous amount of data, which accelerates the need for adequate storage capacity and substantial processing power.

2. System Architecture

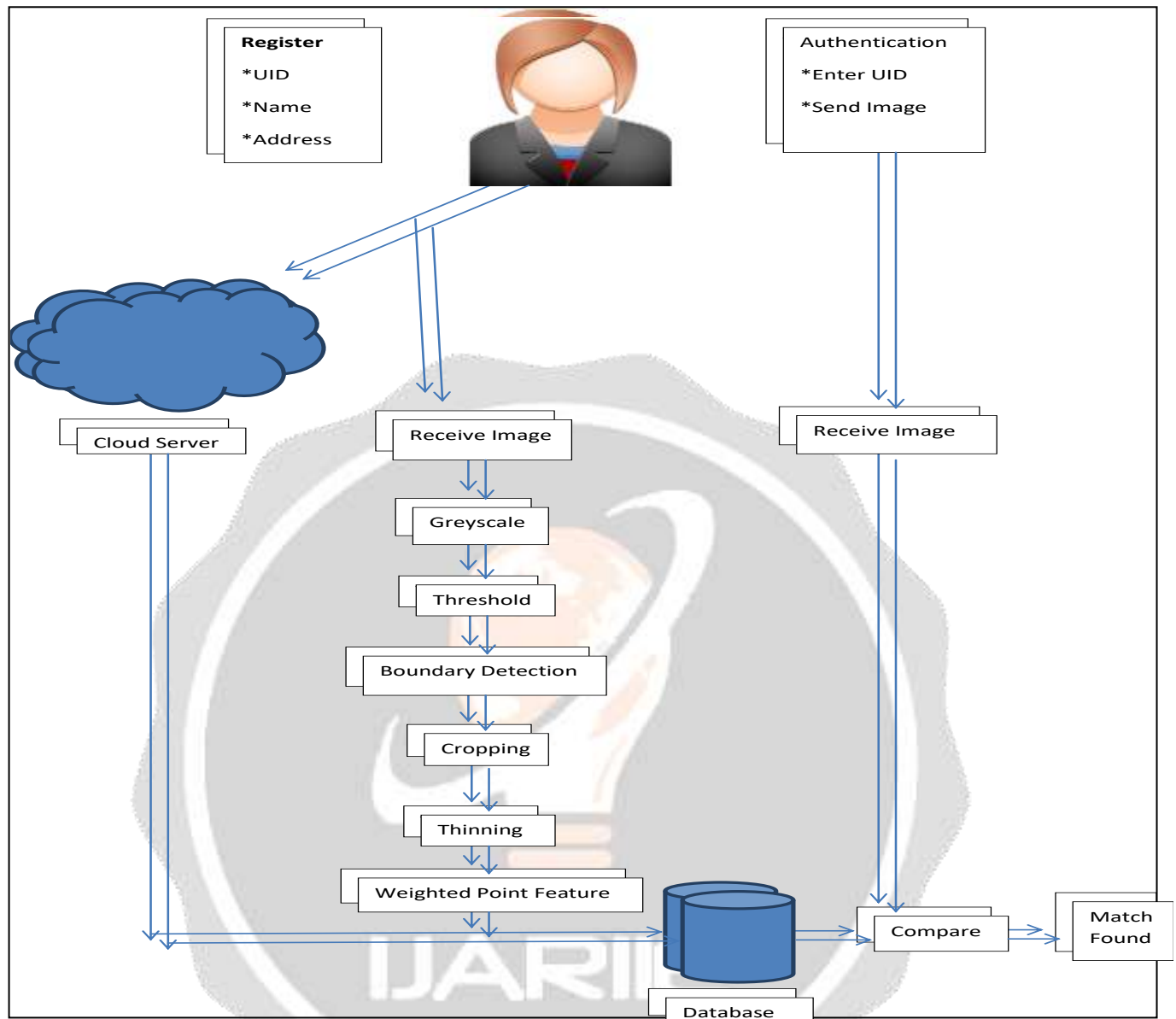
2.1 Enroll Operation

- a. Capture signature from tablet
- b. Upload signature to blob storage
- c. The container name is sent as a message to enrol service bus queue
- d. Worker role pulls down the message from service bus queue
- e. Signature files are downloaded from respective blob storage
- f. Feature vector extraction mechanism is performed
- g. File is uploaded to verify blob storage

2.2 Signature Verification

- a. Enter UID in the windows form
- b. Click on match signature button
- c. Ids are sent to service bus queue
- d. Verify worker role pulls down the message from queue
- e. Feature files are downloaded
- f. Matching Operation is done
- g. Result is displayed on the form





4. CONCLUSIONS

The Cloud based model presented aims to devise a highly scalable, pluggable and faster online signature recognition system with a more cost and time effective approach. It also aims at attaining a more efficient and accurate system. The elimination of mediators between the worker role VM’ s and the user is also fulfilled. The proposed model is capable of operating on huge amounts of data , which includes the need for sufficient storage capacity and significant processing power .

5. ACKNOWLEDGEMENT

The authors would like to show greatest appreciation to Prof. Dnyaneshwar Bhujbal and Prof. Anand Bone. They motivated and encouraged us everytime. We can’ t say enough thanks for their tremendous support and help. A special thanks to Prof. Ganesh Kadam for his contributions and guidance

6. REFERENCES

- [1] V.A.Bharadi and G.M.D' silva," Online Signature Recognition Using Software as a Service Model on Public Cloud " , in 2015 *International conference on Computing communication and automation ,2015*
- [2] www.wikipedia.org

