ALTEN CALSOFTLABS
AN ALTEN GROUP COMPANY

CLOUD BASED BIOMETRIC AUTHENTICATION SOLUTION FOR AN ONLINE TESTING AND ASSESSMENT COMPANY

THE CLIENT

The Client is a leading provider of online exam solutions across the globe. More than 400 enterprises and institutes use client's online exam solution for conducting admission and certification exams.

BUSINESS NEED

To secure the authentication process and eliminate fraud, the client planned to introduce a biometric student authentication process for verifying and confirming a user's identity using something that's part of the user, such as fingerprint or iris.

The computation requirements for such a matching system is very high since the whole process for any exam centre needs to be completed within a span of 30 minutes prior to exam. Also the fingerprints of both the hands require to be analyzed against not lesser than 500-1000 samples.

TECHNOLOGY USED

- ⊙ Cloud Environment: Amazon Web Services
- ⊙ Microsoft VC++
- ⊙ ASP.Net, C#
- ⊙ Windows Server, MS SQL Server

SOLUTION DELIVERED

ALTEN Calsoft Labs with its vast experience in imaging and streaming technologies delivered superior systems involving biometrics initiatives. ALTEN Calsoft Labs has built a rugged and reliable cloud based Biometric fingerprint authentication system after careful examination of computing and other needs. The overview of the solutions is explained below:

- ⊙ One of its kind cloud based analytics & reporting system on top of Amazon Web Services
- ⊙ Faster image capture and search using standard algorithms & applications
- ⊙ Finger print recognition:
  - ▪ Also known as 'Image Acquisition'. Numerous images of the fingerprints are captured at the centers which are then converted into black and white images.
- ⊙ Faster Template creation including the location, position, as well as the type and quality of the image
- ⊙ Speedy Template Matching:
  - ▪ The system will either attempt to verify or identify an individual, by comparing the enrolled template against the verification template
  - ▪ Any application that requires such authentication can be interfaced with Biometrics system using standard API's known as BioAPI or BAPI. These API's s are open-systems standard consisting a set of function calls to perform basic actions like enroll user, discover identity etc,
- ⊙ Supreme Security: PKI or 3DES has been used to secure the image data flow between the client PC and the server.
- ⊙ Response time for the whole process is less than 1 min
- ⊙ Auto scaling to support higher load

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