

CLOUD BASED BIOMETRIC AUTHENTICATION SOLUTION

for an online testing and assessment company



Services: Cloud, Microsoft

OVERVIEW

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.

CHALLENGES



To secure the authentication process and eliminate fraud, the client wanted 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 was very high since the whole process for any exam centre needed to be completed within a span of 30 minutes prior to exam. Also the fingerprints of both the hands required to be analyzed against not lesser than 500-1000 samples.

SOLUTION

ACL Digital with its vast experience in imaging and streaming technologies delivered superior systems involving biometrics initiatives. ACL Digital built a rugged and reliable cloud based Biometric fingerprint authentication system after careful examination of computing and other needs. The overview of the solutions include:

- 1 One of its kind cloud based analytics & reporting system on top of Amazon Web Services
- 2 Faster image capture and search using standard algorithms & applications
- 3 Finger print recognition:
 - › Also known as 'Image Acquisition'. Numerous images of the fingerprints were captured at the centers which were then converted into black and white images
- 4 Faster Template creation including the location, position, as well as the type and quality of the image
- 5 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 are open-systems standard consisting a set of function calls to perform basic actions like enroll user, discover identity etc
- 6 Supreme Security: PKI or 3DES has been used to secure the image data flow between the client PC and the server
- 7 Response time for the whole process is less than 1 min
- 8 Auto scaling to support higher load

TECHNOLOGY STACK

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

ACL Digital is a design-led Digital Experience, Product Innovation, Engineering and Enterprise IT offerings leader. From strategy, to design, implementation and management we help accelerate innovation and transform businesses. ACL Digital is a part of ALTEN group, a leader in technology consulting and engineering services.

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