

Workshop On Operational Evaluation (FRR Testing)

04.10.2013

SCOPE

- Iris Authentication Device
- Fingerprint Authentication Device

Device Characteristics	Specification	Reference
Functional		
Spatial Resolution	> 60% @ 2.0 LP/mm ¹	ISO/IEC 19794-6;2011 B.1
Pixel Resolution	> 10 pixels/mm	ISO/IEC 19794-6;2011 B.1
Image Margins	Left & right $\geq 0.6 \times$ iris radius Top & bottom $\geq 0.2 \times$ iris radius	ISO/IEC 19794-6;2011 6.1
Imaging Wavelength	700-900 nm	ISO/IEC 19794-6;2011 B.7
Spectral Spread	Power in any 100nm band > 35% of total power	UID specifications BDCS-03-08
Pixel Depth	8 bits/pixel	ISO/IEC 19794-6;2011 B.6
Sensor Signal to Noise Ratio	Noise should not be observable in the captured image	ISO/IEC 19794-6;2011 B:10
Scan Type	Progressive	UID specifications BDCS-03-08
Output Image	At least IMAGE_TYPE_CROPPED_AND_MASKED with JPEG2000 compression.	ISO/IEC 19794-6:2011 Section 6.1,6.4
Contrast	The iris image should have good grey level separation between the iris and sclera and between the iris and pupil and should have sufficient contrast to reveal the iris texture.	ISO/IEC 19794-6;2011 B.4
Optical Distortion	The iris image should not exhibit effects of optical distortion including spherical aberration, chromatic aberration, astigmatism and coma consistent with standard optical design practices	ISO/IEC 19794-6;2011 B.9
Noise	No compression artifacts, particularly blocks, except from a single pass of JPEG2000 compression	UIDAI Iris authentication reports
Capture Mode	Auto capture with built-in quality check	UID specifications BDCS-03-08
Usability and Ergonomics	Refer to detailed requirements below.	UIDAI Iris authentication reports
Operational Performance	FRR < 1% at FAR of 1 in 100000 with images conforming to Kind7 (Cropped and masked) of size less than 2.5KB (Binary IIR per ISO 19794-6:2011)	Reference – Kind7 iris accuracy report – UIDAI
Capture time	<5 sec*	Refer to Notes section below item f for more details.

Specification

Notes:

- Per ISO/IEC 19794-6:2011, Annex B.1 measured by MTF using a sine-wave target. In addition, upper limit of 1.05 on MTF is required at all frequencies to discourage image processing that produces excessive edge sharpening, which can add false details to an image. The output image of sine wave target shall not exhibit any significant amount of aliasing. Aliasing will be investigated by quantitative analysis and from visual observation of the softcopy-displayed image.
- Per ISO/IEC 19794-6:2011, annex B.6, the image should have a dynamic range spanning 256 grey levels, allocating one byte (8 bits) per intensity value, and providing at least 7 bits of useful intensity information.
- Operational Performance – Based upon findings during two iris POCs[refer to reports Iris authentication reports – [Report 1](#) - [Report 2](#)
 - Successful Authentication of any one eye at FAR of 1 in 100000 is considered as authenticated.
 - 6 allowed authentication attempts for both eyes. All devices vendors are required to follow the sequence of authentication till successful authentication: Left eye-Right eye-Left eye-Right Eye-Left eye-Right eye. Please note that the authentication attempt refers to single eye authentications and not fusion. Authentication packet is expected to carry single iris image
 - During certification, only Kind7 (cropped and masked) with sizes less than 2.5KB (Binary IIR per ISO 19794-6:2011) is allowed for authentication.
 - Quality of image to be computed within the device without use of any external quality software. No external quality checking software used during the authentication field exercise. Note that device vendor is not expected to use any host (PC) based quality algorithm. All quality checking should be done inside the device or in device driver. There is no requirement to return any quality estimate through the API or logs.
 - 1% FRR as measured against population whose iris is already authenticated using an enrollment camera.
 - Capture time refers to time gap between starting the capture event from application and capture complete event sent from the camera. UIDAI API and POC application will be used to measure the average capture time. While using single eye camera, capture time refers for single eye capture only and while referring dual eye cameras, capture time refers to time taken to capture both eyes.
 - Further details of the operations tests would be extracted from POC9 and POC10 documents.

Reference Standard

- **ISO/IEC 19795-6:2011**
Testing Methodologies for Operational Evaluation

- ***FRR (False Rejection Rate):***

Proportion of verification transaction with truthful claims of identity that are incorrectly denied.

- ***Operational Evaluation:***

Evaluation in which the performance of a complete Biometric system is determined in a specific application environment with a specific target population .

Data collected with a non-controlled set of test subjects (i.e., a set of test subjects reflective of the subject base of the operational system).

FINAL
DRAFT

INTERNATIONAL
STANDARD

ISO/IEC
FDIS
19795-6

ISO/IEC JTC 1

Secretariat: **ANSI**

Voting begins on:
2011-11-08

Voting terminates on:
2012-01-08

**Information technology — Biometric
performance testing and reporting —**

**Part 6:
Testing methodologies for operational
evaluation**

*Technologies de l'information — Essais et rapports de performances
biométriques —*

Partie 6: Méthodologies d'essai pour l'évaluation opérationnelle

Golden Supplier

Under the scheme OEM shall appoint their golden supplier in India who is responsible to interact with STQC for the purpose of certification. The term golden supplier has no business connotation and term is used for operation convenience. OEM can have their own models for multiple authorized suppliers.

Venue

Dadu Majra
Community Centre
Sector 38, West (DMC)
Chandigarh
(Distance From Airport 15 Km & Distance From
Railway
Station 20Km)

Test Fee

Rs 3.5 Lac Including Service Tax
DD in favour of C-DAC, Mumbai

Test & Certification fee 7 Lac+Service Tax(New Client)
Excluding FRR Test fee.

Test & Certification fee 6 Lac+Service Tax(Old Client)
Excluding FRR Test fee.

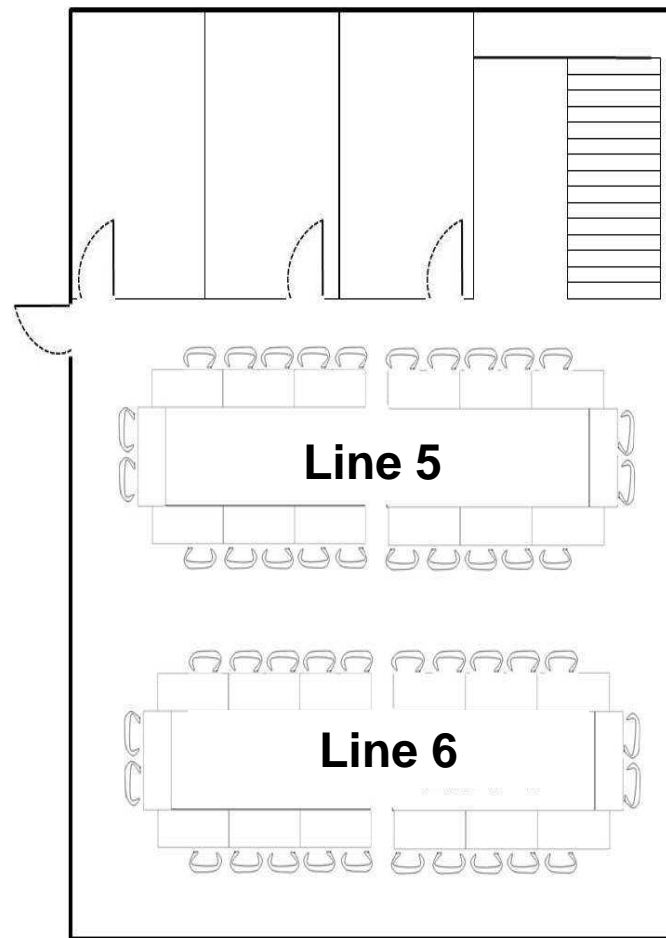
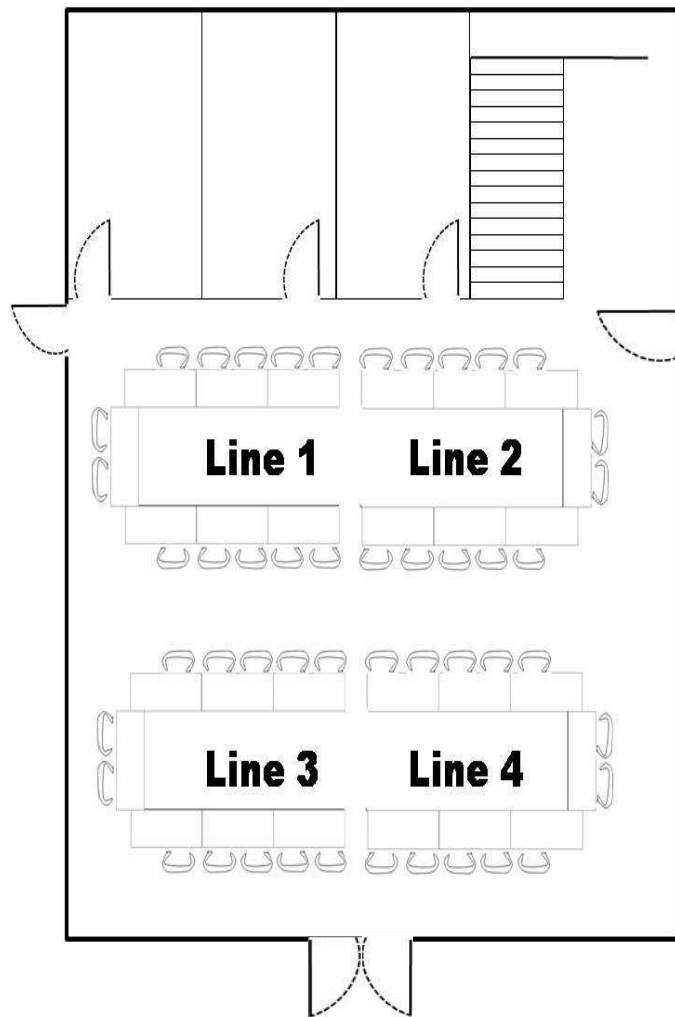
Last Date Of Application 14th Oct 2013

Test Requirements

- Sample size ~5000+
- No of Devices- 6 per type (for 6 lines)
- No of operators – 6 (sitting space for 6+1 operator available onsite)
- Strictly One participating Device per Laptop– Responsibility Vendor /Applicant
- Connectivity - Data Card - Responsibility Vendor /Applicant
- FRR Client Application Responsibility Vendor /Applicant
- UDC,FDC,IDC (for Respective devices) will be provided at the time of applying for Certification.
- Bar Code Scanner - Vendor

Dadu Majra Community Hall

BUILDING LAYOUT



• 12 config /line

⇒

72 Operators

+ 4 Gate Keepers

+ 72 Residents

+ 20 Organizing Team

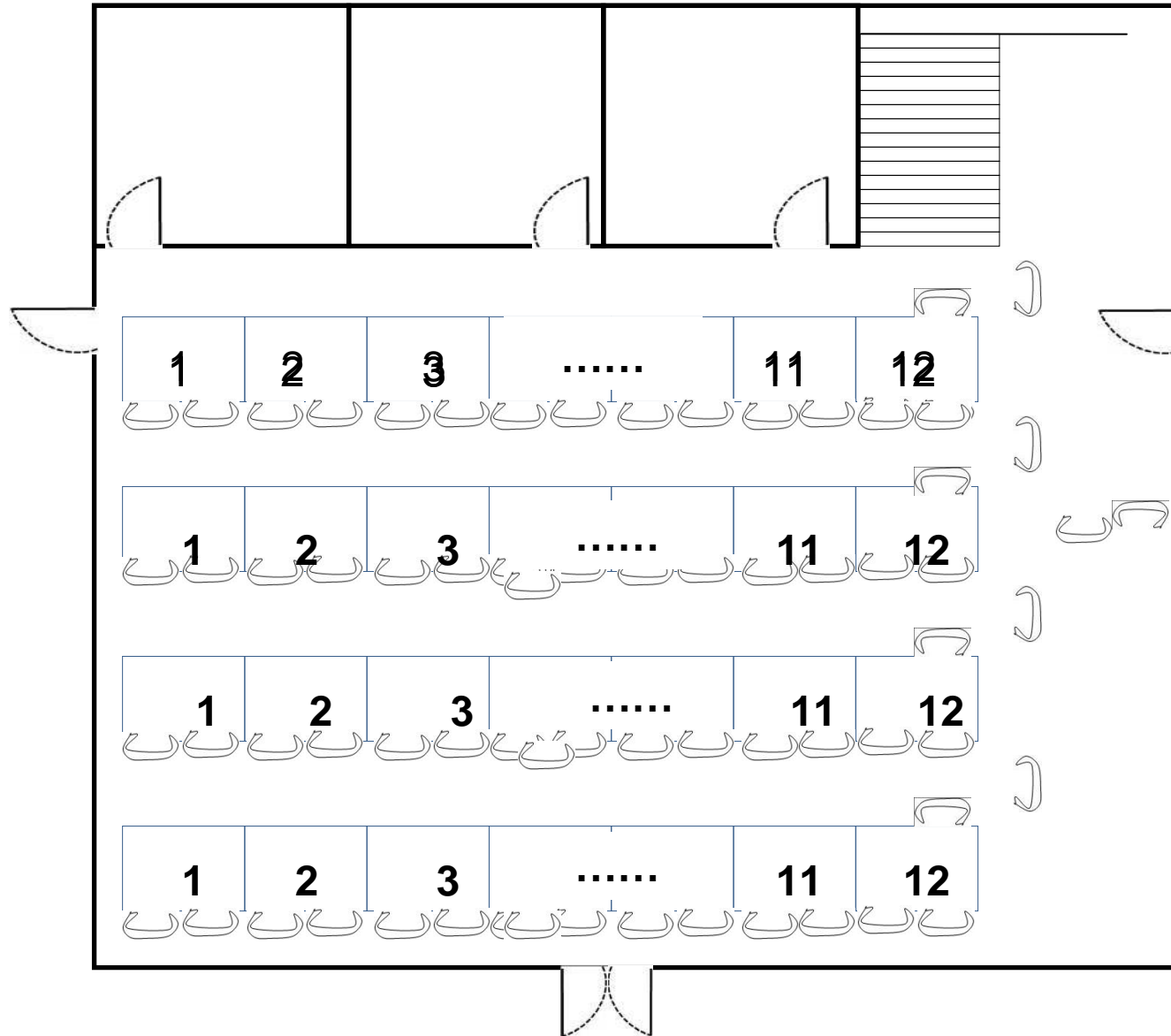
+ 30 Miscellaneous
Team

= 198 people

(Approx estimate)

⇒ 1.7 m² per people

Dadu Majra BUILDING LAYOUT (CASE 2)



Thank You