

Access Control System For The Central Vista Project Using SCOSTA Based Smart Cards

Smart Card is a device with a microprocessor having an operating system (OS), internal memory that allows the card to store, process personal, demographic and biometric data. NIC has been implementing various Smart Card-based projects since 2002 in India. A PoC was conducted jointly by NIC and ECIL for Access Control System for MHA.

A home-grown OS for the smart card i.e. SCOSTA (Smart Card Operating System for Transport Application) was developed in 2002 by NIC, to provide generic, interoperable and deployment-ready solutions for all kinds of Identity and access control applications. Hence it is highly recommended to implement Access Control System using SCOSTA compliant OS card in Central Vista Project and other MHA controlled buildings.



Projects Executed



Applications developed for various Ministries

MoRTH	<ul style="list-style-type: none"> • Server-Client based DL & RC Applications • Web Based DL/RCMS Application • NFC enabled mobile application for reading for DL/RC cards
RGI	<ul style="list-style-type: none"> • Coastal Residence Identity Card
Department of Fishries	<ul style="list-style-type: none"> • ID card for Marine Fishermen
Govt. of Odisha	<ul style="list-style-type: none"> • Biju Krushak Kalyan Yojana (BKKY) Card for farmers
MEA	<ul style="list-style-type: none"> • Electronic Passport for Indian Diplomats & Govt. officials

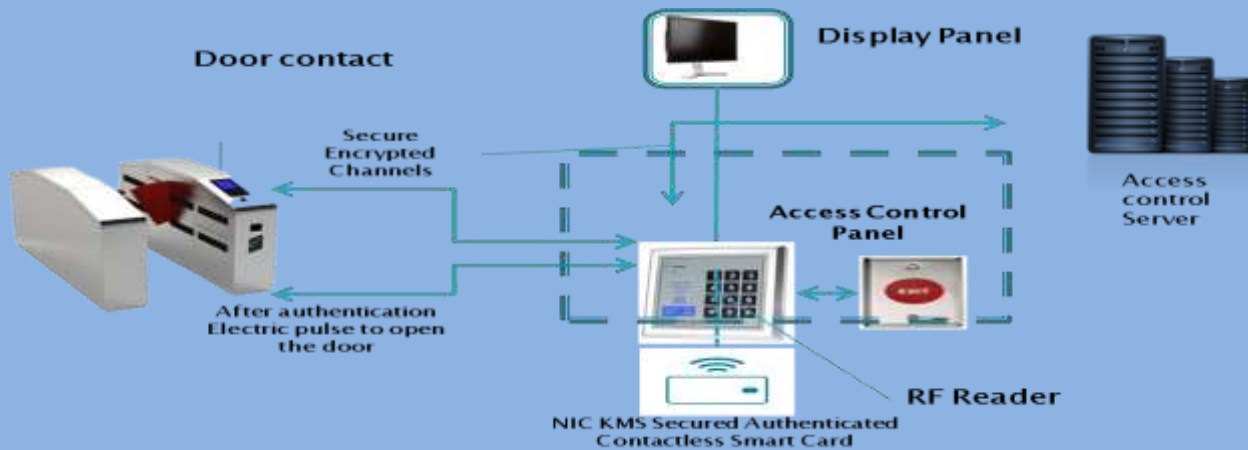
Access Control System for Central Vista Project

There is a need for a single smart card that will serve as an identity card for an employee and also shall allow entry to the authorised buildings. Currently, about 2.5 lakhs employees are serving in different government offices in Delhi apart from pensioners. Presently the plastic card-based identity cards issued by the Ministry of Home Affairs (MHA) are issued to enter MHA notified buildings. There are around 65 buildings under MHA control in Delhi. The Parliament House, PMO, Rashtrapati Bhavan have different access control cards with a different operating system. The access control cards issued are not interoperable. So the need of the hour is to have an interoperable access control card for accessing all the buildings. The access of the buildings can be controlled at the card level and there is no need to access the database of every building.

Smart cards can be used for Secured Physical Access to the employees. In the Secured Physical Access Management System the smart card shall contain identity details of the individual. After successful authentication, it shall allow access to the building. The smart cards are contactless and can be read from a distance of 10cms to 10 meters. For the senior Govt. functionaries readers with 10 meter range can be used for easy access.

Smart card-based Access Control for government employees shall be used for accessing different buildings which are under MHA supervision. The smart card will securely store the demographic and biometric (Photo) information of its holders and provide access for users to the only authorized entity. This authorization will be facilitated by the robust Key Management System (KMS) to be developed around it by NIC.

PoC of Access Control System



A Proof of Concept was successfully carried out at NIC premises for Access Control System using SCOSTA-CL cards as requested by MHA. ECIL and NIC jointly carried out the PoC. On successful authentication with the user's SCOSTA-CL card, the Photograph along with demographic detail was displayed on the monitor, and the flap barrier gate was opened.

Services to be provided by Smart Card Technologies Division, NIC for Access Control System

How KMS Secures the SCOSTA Based Access Control Card

- KMS shall manage symmetric keys for every building in such a way that single SCOSTA smart card can be used to get access to all the authorised buildings as the smart cards issued are interoperable.
- A Unique secret key is stored in every user card.
- The Secret Key stored in Smart Card is never exposed to outside world by any means.
- No reverse engineering / brute force attack methodologies will be successful in decrypting encryptions based on symmetric key algorithm.
- The KMS applications are executed in a controlled environment with adequate controls to mitigate the risk of Key compromise.

Consultancy Services provided by NIC

- NIC provides consultancy services for projects using SCOSTA cards.
- NIC has developed expertise in KMS and has implemented KMS for various PAN India projects.
- The Smart Card Technologies division, NIC can also design and develop KMS for Access Control Systems selected by CPWD/MHA to be deployed/ installed in all the MHA controlled buildings, PMO, Rashtrapati Bhavan and Parliament House, using SCOSTA complaint cards.

Multi-function card

A single smart card that has the capability of providing role-based security support to multiple applications such as identity cards, attendance, CGHS cards, canteen cards, Library cards and access control cards etc. Multifunction smart cards allocate card memory into independent files assigned to a specific application. Unlike other operating systems, o/s controls access to the on-card user memory. This capability permits different applications to reside on the card, allowing businesses to issue and maintain a diversity of 'products' through the card. For the card user, multifunction means greater convenience and security, and ultimately, consolidation of multiple cards down to one card that serves many purposes.

Personalisation application for Multi-function card shall be developed by NIC for multifunction card. These multifunction cards can be issued to employees of Central Government/ PSU's etc.

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For SCOSTA Specifications and more

information please visit www.scosta.gov.in