

Pioneering Next-Gen Registries and Credentials to Empower Organizations with Low-Code Excellence



Sunbird RC is a groundbreaking "low code" framework, built in partnership with Sahaj and Ekstep, empowering organizations to swiftly construct cutting-edge electronic registries and verifiable credentials. It utilizes a configuration-based approach to accelerate registry development and automatically generate CRUD APIs without the need for manual coding. This dynamic framework also enables registry searches, grants open API access, manages verifiable credentials, facilitates user consent flows and orchestrates attestation and verification processes.

Features:

Building Registries with JSON Schema: Sunbird RC employs JSON schema to create Electronic Registries, acting as trustworthy repositories of common attributes. This ensures data integrity in a verifiable and audited manner, giving control to the actor for authentication and claims.

Verifiable Credential Generation: The system enables the issuance of digitally represented verifiable artifacts, allowing actors to make authenticated claims about their qualifications, achievements, milestones and more.

Sharing VCs as Certificates: Sunbird RC facilitates the seamless sharing of Verifiable Credentials as certificates with external systems, ensuring secure and tamper-proof transactions.

Actor Data Ownership: The framework empowers actors to have ownership over their data within the system, enhancing privacy and control.

Attestation Workflows: Sunbird RC enables digitally signed attestation workflows, ensuring the verification and authorization of specific data by authorized entities.

Discovery Mechanism: It provides a robust search and find mechanism for pinpointing specific entries within a registry, enhancing accessibility and retrieval of critical information.

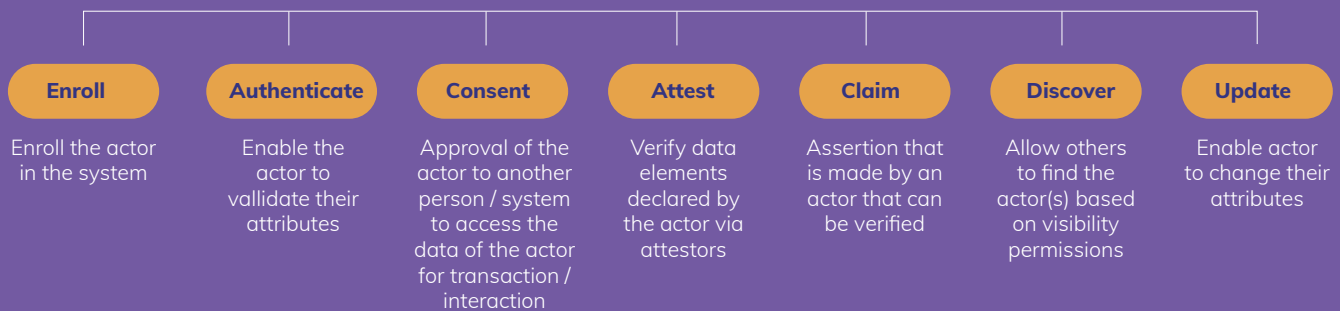
Consent Management: Sunbird RC facilitates actor-approved access to their data for transactional and interactional purposes, ensuring compliance with privacy regulations.

Technological Stack:

Sunbird RC leverages a robust technology stack for seamless functionality. The front end is built on Angular and TypeScript, providing a responsive and user-friendly interface. On the backend, a combination of Java, JavaScript, and Go ensures efficient data processing and logic execution. The infrastructure is supported by Docker and Kubernetes, allowing for scalable deployment and management. Services including PostgreSQL, Redis, Kafka, Elasticsearch, and ClickHouse are integrated for secure and high-performance data handling. Additional tools such as Redash, Keycloak, and MinIO complement the ecosystem, enhancing functionalities and security measures.

4th generation electronic registries solve the three core issues with the portal based approach by having open APIs through which digitally signed data is made available for read, search, and subsequent usage. Open APIs allow automated access by external systems, making data use scalable and cost efficient. Digitally signed data available via these APIs brings in tamper-resistance, electronic verifiability, and portability of data.

REGISTRY



Sunbird RC has global significance -

- **DIVOC Core Engine:** Integral to DIVOC, a DPGA listed public good that enables countries to digitally orchestrate large scale vaccination and public health programs using open source digital infrastructure.

DIVOC benefits over a fifth of the world's population; it has been deployed in India, Srilanka, Philippines, Indonesia and Jamaica.

- **DIKSHA Platform:** A pivotal component of India's DIKSHA school education platform, a Ministry of Education initiative, adopted at a massive scale.
- **Educate Girls:** Creating a registry of students & volunteers to help drive a grassroots education program statewide - <https://www.educategirls.ngo/>
- **ULP(Universal Learning Passbook):** ULP is an application being built for India that will help institutions issue credentials to students and allow students to share these credentials with external users over globally accepted VC specs.
- **Skill India Digital:** Skill India Digital is specially designed and developed to skill, reskill and upskill Indian individuals through an online training platform, API-based trusted skill credentials, payment and discovery layers for jobs and entrepreneurial opportunities. The improved version of the platform has Udyam, e-Shram, NCS and ASEEM portals interlinked for G2C, B2C and B2B services. It will act as a bridge between the employees and employers and allow educational institutes to create/modify curricula as per industry demands- <https://www.skillindiadigital.gov.in/>

Leveraging Sunbird RC, Infosys has built a robust upskilling platform onboarding over 500,000 learners with 10,000+ courses. Focusing on vocational and soft skill development, it empowers individuals for emerging job opportunities, offering certifications to enhance career prospects.

- **The NHA Donor Registry**, powered by Sunbird RC, provides reliable information on organ donors with accurate and updated data backed by robust verification. The system issues verifiable digital pledge certificates and integrates seamlessly with India's National Health ID service, ensuring unique stakeholder identification for organ transplantation, catering to a diverse population.
- **ProofOfAchievement Credentials:** Sahaj uses SunbirdRC to issue ProofOfAchievement Credentials to participants who have participated in various events that Sahaj conducts.

Sunbird RC is not just a framework, it's a tech revolution, propelling organizations into a future of secure, efficient and user-centric data management

