



UNJSPF

United Nations Joint
Staff Pension Fund

Dino Cataldo DELLACCIO
Chief Information Officer

UNJSPF Digital Identity in Action

Transforming UN Pension Fund global operations with Blockchain, Biometrics, AI, and Geolocalization

January 15, 2025

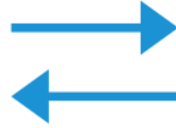
UNJSPF



UNJSPF
United Nations Joint
Staff Pension Fund



24
MEMBER
ORGANIZATIONS



24
TRANSFER
AGREEMENTS

A growing Fund

86,013



PERIODIC BENEFITS
with an annual value of
US\$3.52 billion

149,848



PARTICIPANTS
Total annual contributions
from employees and em-
ployers:
US\$3.40 billion

As at 31 December 2023.

Efficient pension delivery

92.7%*
of benchmarked benefits
processed within
15 business days



100%*
of periodic benefit
payments issued on
time

*In 2023.

A strongly funded Fund

MARKET VALUE OF ASSETS

US\$93.9 billion**



**As at 31 July 2024. This number is not yet audited.

FUNDED RATIO

111%***

The funded ratio is obtained by dividing the actuarial value of assets by the actuarial value of the accrued benefits. A ratio exceeding 100% means that the Fund is in a strongly funded position.

***As at 31 December 2023.

A diverse Fund

STAFF FROM
71
COUNTRIES



53%
FEMALE STAFF



Member Organizations



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As at 31 December 2023, the member organizations of the Fund were the following:

Member Organizations		Number of Participants	Year of Admission
United Nations	UN	91,803	1949
Food and Agriculture Organization	FAO	16,813*	1950
International Organization for Migration	IOM	12,594	2007
World Health Organization	WHO	12,100	1949
International Labour Organization	ILO	4,337	1953
International Atomic Energy Agency	IAEA	2,697	1958
United Nations Educational, Scientific and Cultural Organization	UNESCO	2,591	1951
World Intellectual Property Organization	WIPO	1,203	1977
International Criminal Court	ICC	1,133	2004
International Telecommunication Union	ITU	755	1960
International Fund for Agricultural Development	IFAD	713	1977
International Civil Aviation Organization	ICAO	703	1951
United Nations Industrial Development Organization	UNIDO	697	1986
World Meteorological Organization	WMO	415	1952
International Maritime Organization	IMO	347	1959
Comprehensive Nuclear-Test-Ban Treaty Organization	CTBTO	340	2019
International Centre for Genetic Engineering and Biotechnology	ICGEB	176	1996
Special Tribunal for Lebanon	STL	115	2009
United Nations World Tourism Organization	UNWTO	92	1996
International Seabed Authority	ISA	57	1998
International Centre for the Study of the Preservation and Restoration of Cultural Property	ICCROM	46	1981
Inter-Parliamentary Union	IPU	46	2005
International Tribunal for the Law of the Sea	ITLOS	39	1997
European and Mediterranean Plant Protection Organization	EPPO	22	1983
Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies	WA	14	2021

PROBLEM

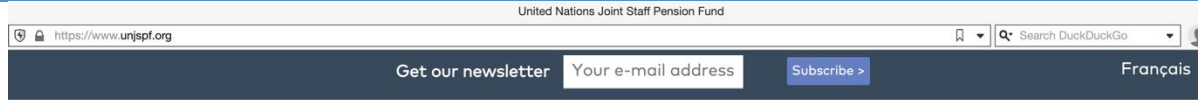


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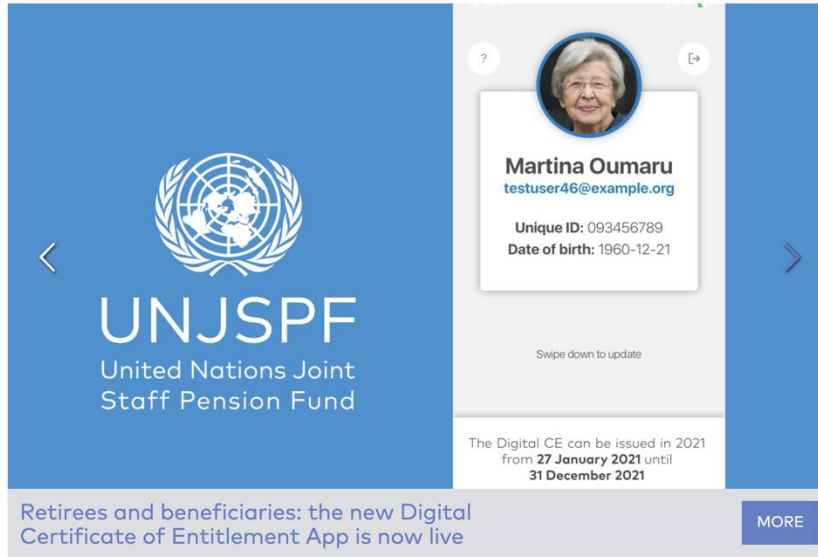
- Transform a **>70-Year-Old Manual Process**
- Involving **~86 Thousand UN Retirees & Beneficiaries**
- Residing in **>190 Countries**
- Using **Paper-Based Forms**
- Transmitted through **>190 postal services**
- Prone to **Delays + Errors + Questioning (Negative Proof)**
- Causing – in some cases – **Suspension of Payments**



SOLUTION



- HOME
- ABOUT THE FUND
- INVESTMENTS
- INFORMATION
- REFERENCE MATERIAL
- FORMS
- PUBLICATIONS
- CONTACT US
- URGENT ASSISTANCE
- LOGIN



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Martina Oumarou
testuser46@example.org

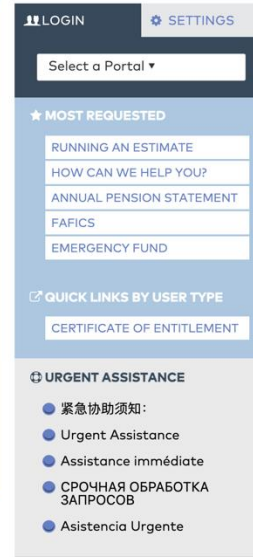
Unique ID: 093456789
Date of birth: 1960-12-21

Swipe down to update

The Digital CE can be issued in 2021
from **27 January 2021** until
31 December 2021

Retirees and beneficiaries: the new Digital
Certificate of Entitlement App is now live

MORE



LOGIN SETTINGS

Select a Portal

MOST REQUESTED

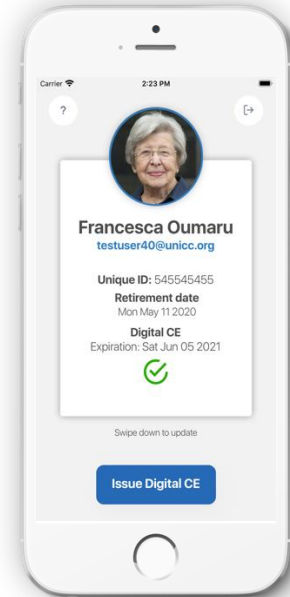
- RUNNING AN ESTIMATE
- HOW CAN WE HELP YOU?
- ANNUAL PENSION STATEMENT
- FAFICS
- EMERGENCY FUND

QUICK LINKS BY USER TYPE

- CERTIFICATE OF ENTITLEMENT

URGENT ASSISTANCE

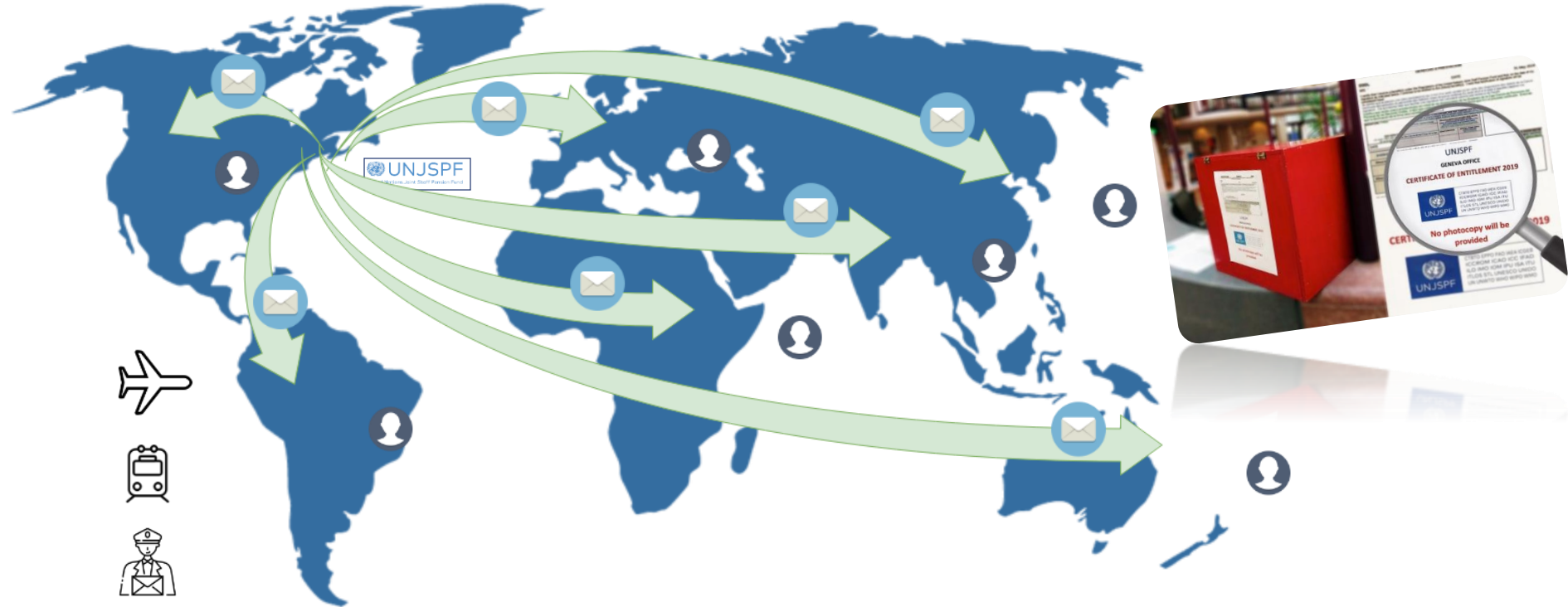
- 紧急协助须知:
- Urgent Assistance
- Assistance immédiate
- СРОЧНАЯ ОБРАБОТКА ЗАПРОСОВ
- Asistencia Urgente



OLD PROCESS



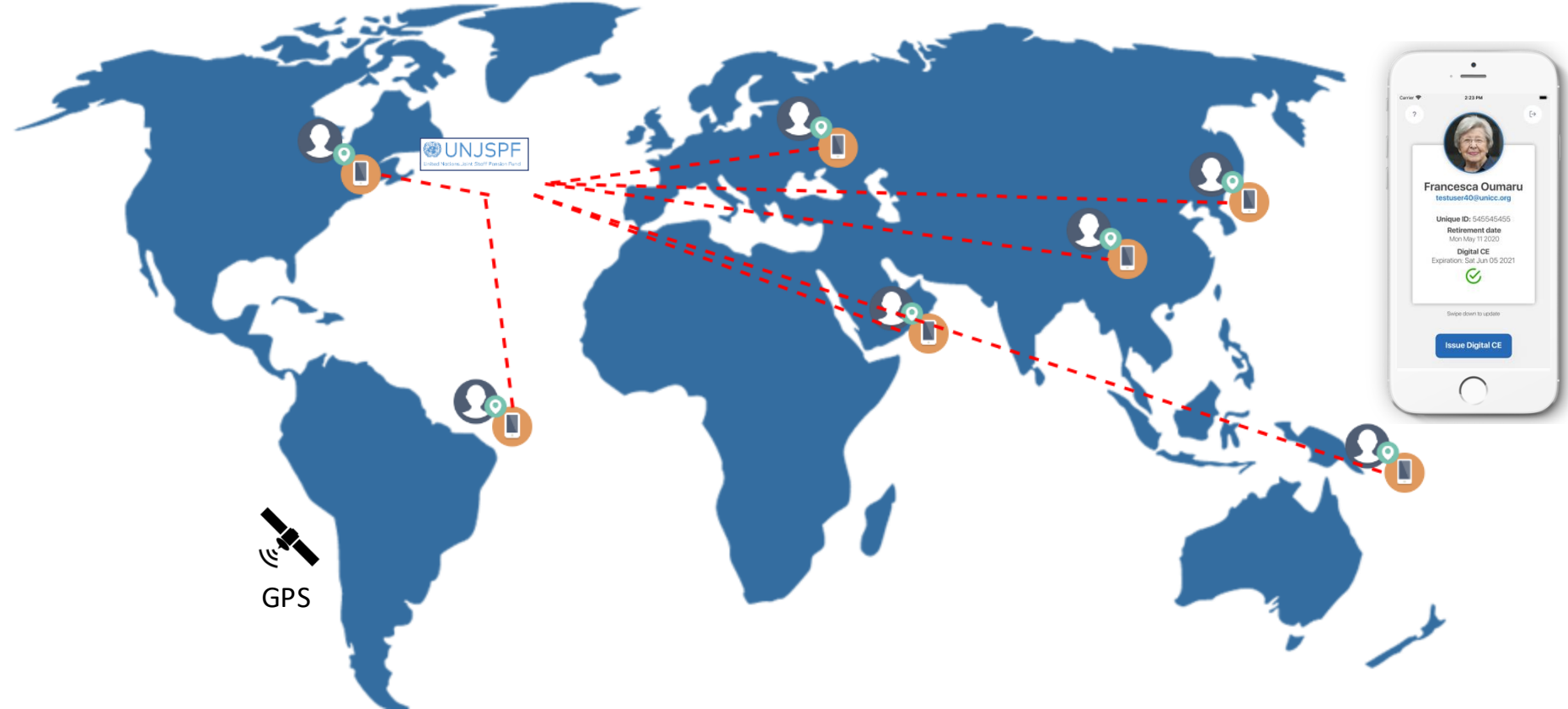
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NEW PROCESS



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CHALLENGES:



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ADDRESSING & PROVIDING 4 PROOFS

1. Proof of Identity/Authentication



2. Proof of Existence



3. Proof of Transaction



4. Proof of Location

REQUIREMENTS



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1. SECURITY: Protect Data from Unauthorized Access, Modification, or Deletion by using Encryption, Authentication, and Consensus Mechanisms




2. RELIABILITY: Provide Redundancy & Fault Tolerance



3. TRANSPARENCY: Support Data Immutability (Tamper-proof), Auditability, and Traceability



4. ACCOUNTABILITY: Record data in a chronological and irreversible way and provide a complete history of the transactions



5. ATTRIBUTION: Link data to the identities of the participants and provide proof of their actions

ALIGNMENT



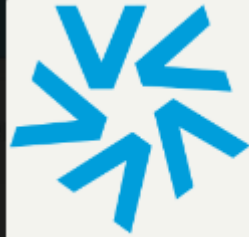
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— UN SECRETARY-GENERAL'S —
**STRATEGY ON NEW
TECHNOLOGIES**



SEPTEMBER 2018



UN 2.0
Quintet
of Change



**Common
Agenda**



AI for Good

SDG target 16.9 on legal identity



WHY



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WHAT & HOW



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Blockchain



Biometrics



Artificial Intelligence



Geo-Location

BLOCKCHAIN: Support Proof of Identity & Transactions



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Immutable

Independently Auditable

Traceable

Triple-Entry
Distributed
Ledger

WHY BLOCKCHAIN?

TO ANSWER THE QUESTION: How Can You Prove There is "No Fraud"?



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1. Prevent/Detect Collusion: **NO CENTRAL CONTROL** (i.e., DB Admin.)

2. Control over **WHO CAN PARTICIPATE**

3. Support **PRIVACY** with Zero-Knowledge Proof & Tamper Proof Ledger

4. Create/Maintain/Audit an **IMMUTABLE** Ledger

BIOMETRICS: Provide Proof of Authentication & Life



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Facial Recognition

Stored only on the User's Device

To Authenticate Users

Events Recorded
on the
Blockchain

GPS: Provide Proof of Location



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Global Positioning System

Of the User's Device

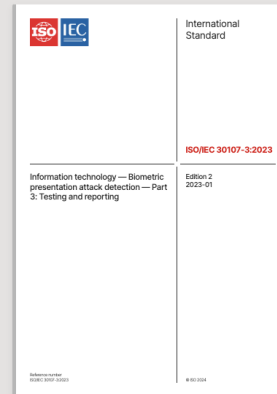
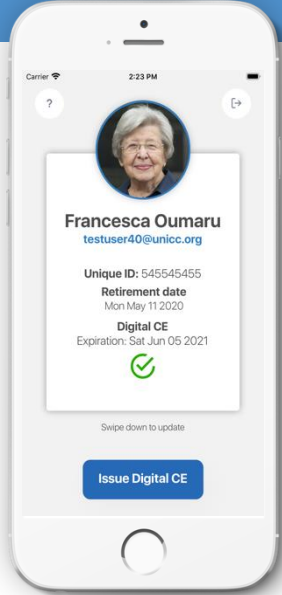
Use to Determine & Record Location

Required only for specific cases
(two-track system)

ARTIFICIAL INTELLIGENCE: Detect/Prevent “Deep Fakes” (ISO 30701-3 “Presentation Attack Detection”)



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ISO/IEC 30107- 3:2023

Information technology — Biometric
presentation attack detection

Part 3: Testing and reporting



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THE APPLICATION



Store

Mac

iPad

iPhone

Watch

Vision

AirPods

TV & Home

Entertainment



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App Store Preview

This app is available only on the App Store for iPhone and iPad.



UNJSPF Digital CE 4+

Digital CE App

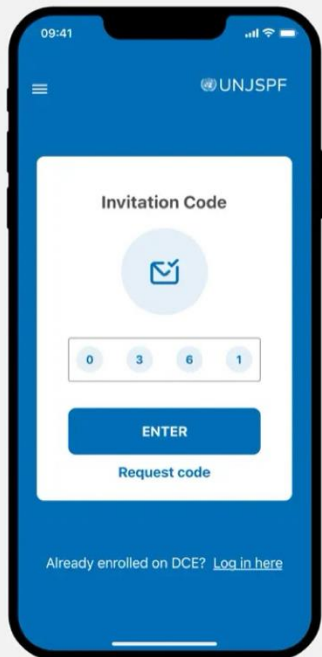
International Computing Centre

★★★★★ 4.7 • 3.1K Ratings

Free



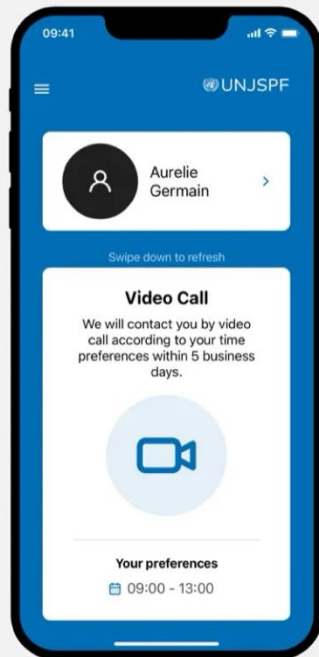
Activate your account with
an invitation code



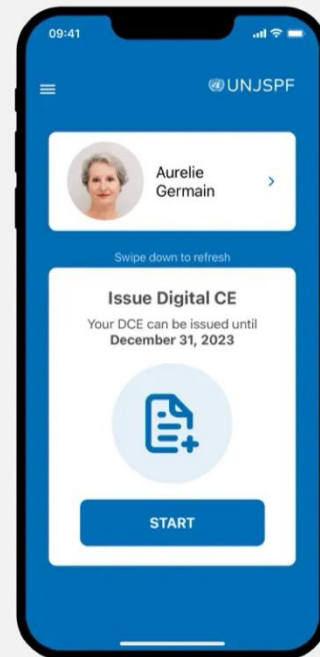
Easy to complete
enrolment process



Verify your identity by
joining a video call



Issue your Digital CE once
verified



Ratings & Reviews



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App Store Preview

Ratings and Reviews

[See All](#)

4.7 out of 5

3.1K Ratings



robhoorobrob, 01/03/2024

In Digital Certificate of Entitlement

Last year my initial experience with the DCE was frustrating as I had what felt like endless problems aligning my face correctly with the on-screen guidelines so that the camera [more](#)



thisisoutrageous, 01/04/2023

DEC

I had a hard time with the system. Thanks to Tun who helped me through the process. It could be frustrating sometimes to look at yourself for 15 minutes and then the syst [more](#)



138jg, 02/20/2023

The photo app

I welcome this initiative. However, the photo app needs improvement. It took me nearly 15 minutes of jostling the App to take a photo. Thankfully, I am an experienced photogra [more](#)



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ARCHITECTURE

-

DESIGN PATTERN

-

DECISION MODEL

SELF-SOVEREIGN-IDENTITY

Design Pattern & Decision Model

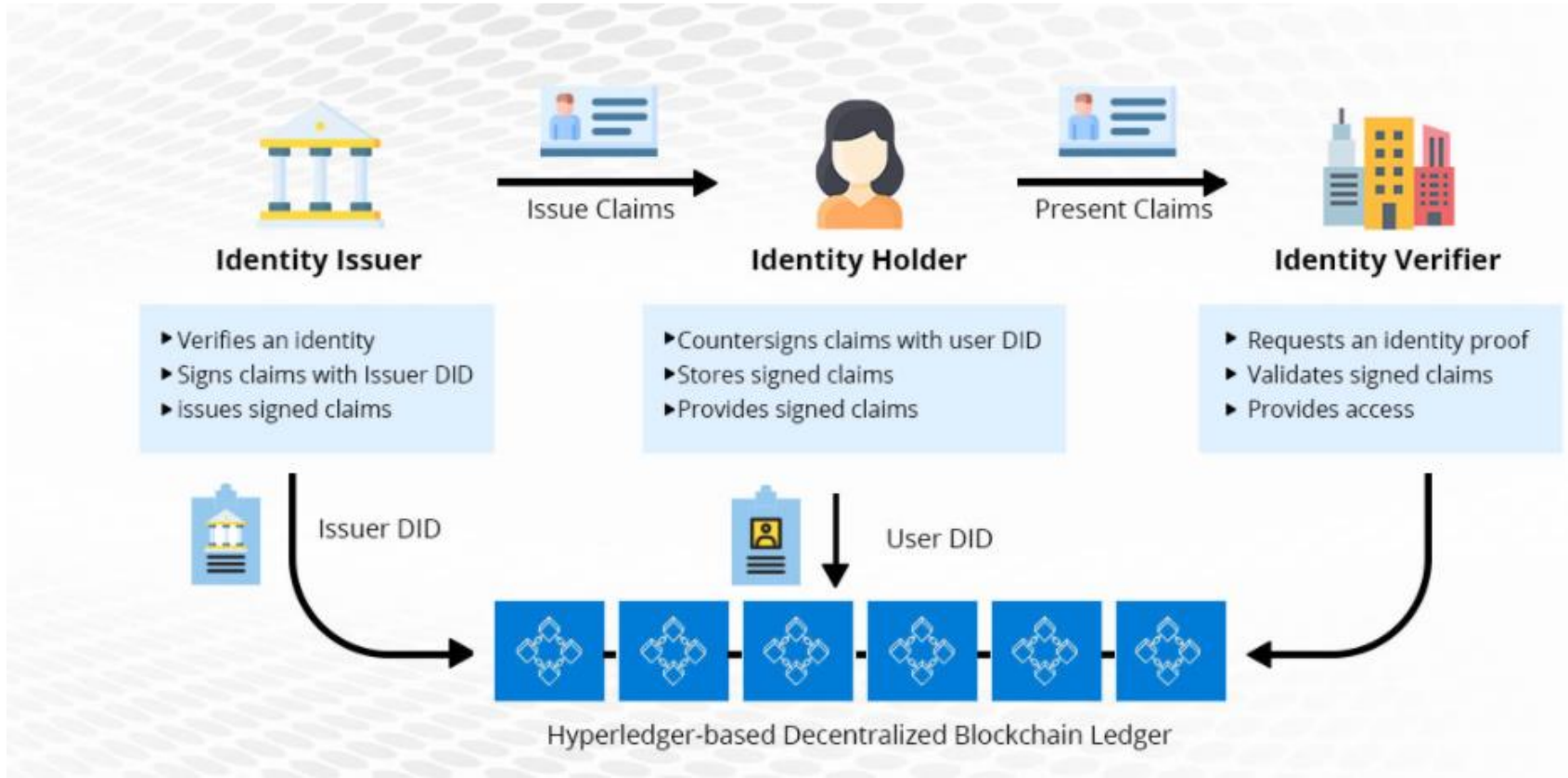
Design Pattern Category = **Decentralized Identifiers Documents (DID)**

Decision Model = **Security Decision Model**

Predicated on the following Concepts & Components:

Design Pattern	Decision Model
<ul style="list-style-type: none">- Identifier Registry- Multiple Registration- Blockchain & Account Pairing- Dual Resolution	<ul style="list-style-type: none">- Authentication- Authorization

From LF Decentralized Trust Self-Sovereign-Identity

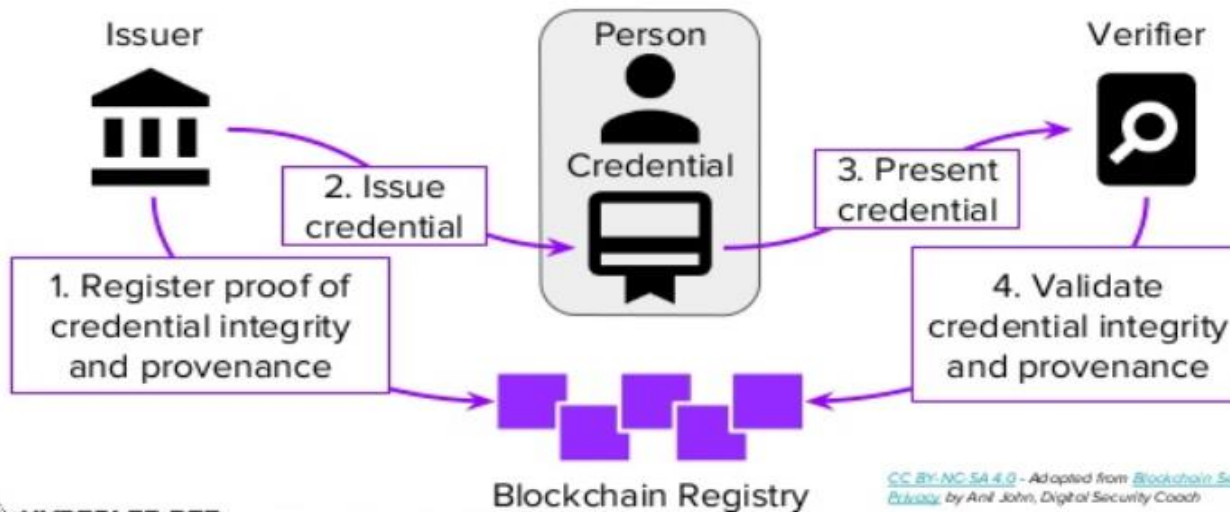


From LF Decentralized Trust Self-Sovereign-Identity & Verifiable Credentials



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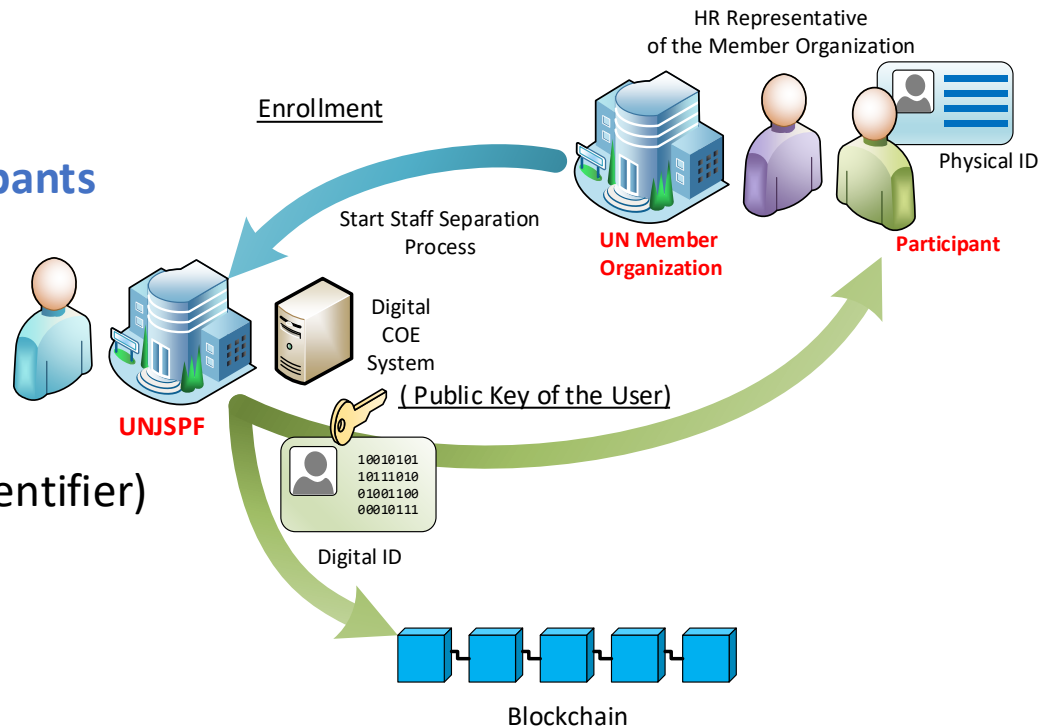
Verifiable Credential Workflow



Conceptual View Enrollment process

UNJSPF for Retirees/Beneficiaries and Member Organizations for Active Participants

- Identity Verification/Recording
- Biometric Data Capturing
- Data Acquisition
- Digital ID Creation (Decentralized Identifier)



DID Creation

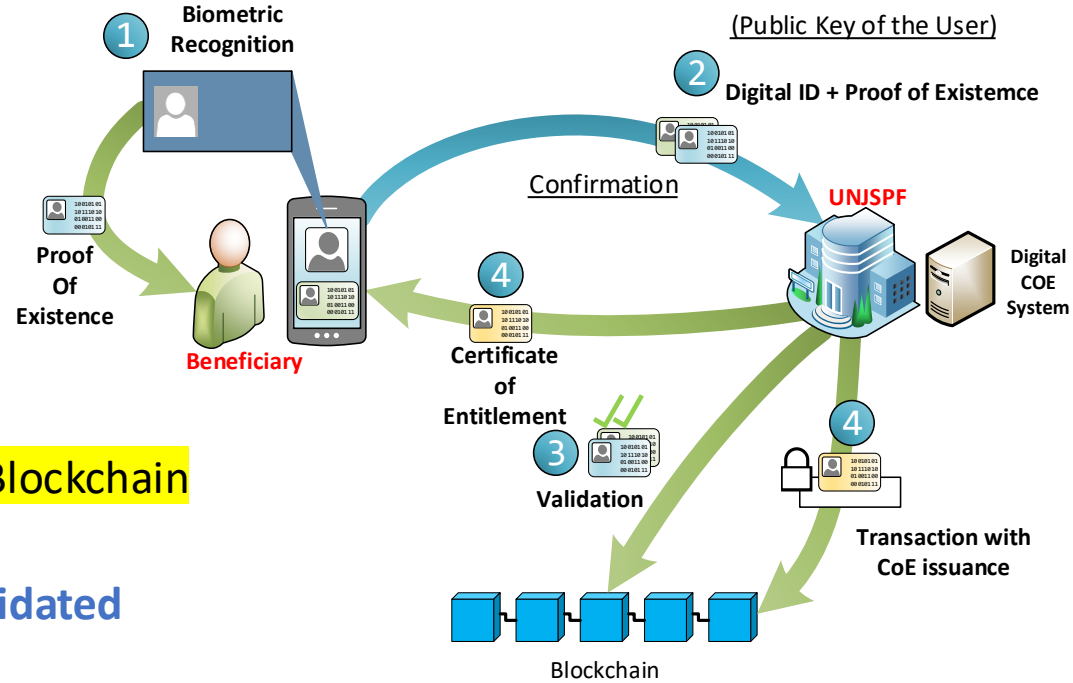
Conceptual View Proof-of-Life

Biometric Identity

- Face recognition
- Proof of Existence

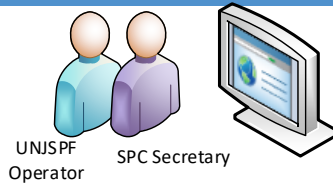
Proof-of-Life

- Transactions/events stored on the Blockchain
 - Immutable and Tamper Proof
 - Can be Traced, Audited and Validated

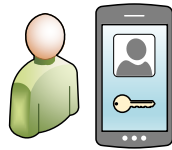


CE Issuance

Conceptual View Components

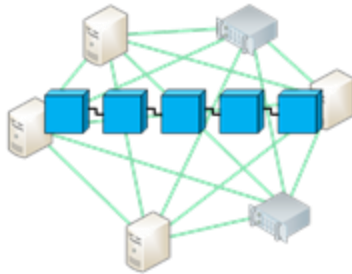


Web Based Admin Site: **Administration from any location**



Participant / Beneficiary

Mobile Application: **Biometric authentication** and user interaction



Blockchain: **Safe recording of Identity Creation & Transactions with Traceability and Auditability,** on a Distributed Ledger within UN premises (UNICC Nodes on a Permissioned Blockchain) protected by the UN Privileges & Immunities



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THE UNDERLYING TECHNOLOGY

LF Decentralized Trust



HYPERLEDGER

Distributed Ledgers



HYPERLEDGER
BESU

Java-based
Ethereum client



HYPERLEDGER
BURROW

Permissionable smart
contract machine (EVM)



HYPERLEDGER
FABRIC

Enterprise-grade DLT
with privacy support



HYPERLEDGER
INDY

Decentralized identity



HYPERLEDGER
IROHA

Mobile application focus



HYPERLEDGER
SAWTOOTH

Permissioned & permissionless
support; EVM transaction family

Libraries



HYPERLEDGER
ARIES



HYPERLEDGER
QUILT



HYPERLEDGER
TRANSACT



HYPERLEDGER
URSA

Tools



HYPERLEDGER
AVALON



HYPERLEDGER
CACTUS



HYPERLEDGER
CALIPER



HYPERLEDGER
CELLO



HYPERLEDGER
EXPLORER

Domain-Specific



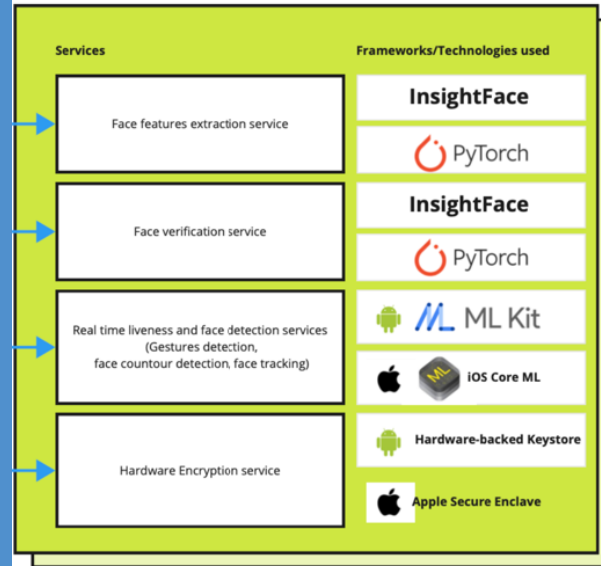
HYPERLEDGER
GRID



HYPERLEDGER
LABS

Tech Stack

Custom application modules (platform dependant)





Android platform



Apple iOS platform



 User-driven workflows
 Custom application modules

Component	Technology/Tool
Mobile Frontend	iOS/Android App
Backend	Django, Celery Workers
Storage	RDS PostgreSQL, AWS S3
Blockchain	Hyperledger Aries
Monitoring/Analytics	Celery Flower, Metabase
Secrets Management	Vault
Orchestration	Kubernetes
Cloud Provider	AWS and Azure

Data on the Blockchain

The Blockchain Captures Only the Following Data:

(i) Transaction validation data “roothash”

(ii) Transaction Type (Attribute Transaction) = 100

(iii) Transaction timestamp (epoch)

(iv) Sender Public Signature: Public key



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BENEFITS & SUSTAINABILITY

No Paper



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Eliminated Paper-based Processes

Simplified Onboarding

Digital ID eliminated the need for paper forms, streamlining onboarding and reducing administrative burden.

Enhanced Accessibility

Users can conduct their "Proof-of-Life" Verification anytime, anywhere, eliminating the need for physical paperwork.

No Physical Print – Mail - Store



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Eliminated Form Printing - Mailing - Archiving

Reduced Costs

Eliminating paper forms reduced printing, mailing, and storage costs.

Increased Efficiency

Digital verifications are processed instantly, reducing turnaround times and enhancing operational efficiency.



No Manual Verifications



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Enhanced Signature Verification

- 1 Biometric authentication provided a secure and unique identifier.
- 2 Tamper-proof Digital Signatures ensured authenticity and integrity.
- 3 Automated Verification eliminated the need for manual checks and reduced potential for fraud.

RETIREMENT NUMBER		
NAME	DATE DATE	
<p>I certify that I receive a benefit(s) under the Regulations of the United Nations Joint Staff Pension Fund and that, on the date of my signature as indicated below, I continue to be entitled to this (these) benefit(s). I note that falsification of signature will be considered fraud.</p> <p>Je certifie que je perçois une (des) prestation(s) qui m'est (me sont) versée(s) en vertu des dispositions des statuts de la Caisse commune des pensions du personnel des Nations Unies et que je continue d'y avoir droit à la date à laquelle j'appose ma signature. J'ai pris bonne note que falsifier une signature est considéré comme une tentative de fraude.</p> <p>Certifico que recibo una(s) prestación(es) en virtud de las disposiciones de los Estatutos de la Caja Común de Pensiones del Personal de las Naciones Unidas, a la(s) que continúo teniendo derecho en la fecha que firmo el presente certificado. Entiendo que la falsificación de la firma será considerado como fraude.</p>		
SIGNATURE / FIRMA	TYPE OF BENEFIT AND COUNTRY FOR RESIDENCE FOR TWO-TRACK	
<p>(See below if you are unable to sign) (Si vous n'êtes pas en mesure de signer, voir ci-dessous) (Si no le es posible firmar, vea a continuación)</p>		
DATE	DATE HERE	
IF YOU ARE UNABLE TO SIGN YOUR NAME, AFFIX YOUR THUMBPRINT HERE SI VOUS N'ETIEZ PAS EN MESURE DE SIGNER CI-DESSUS, VEUILLEZ APOSER VOTRE EMPREINTE DIGITALE ICI SI NO LE FUE POSIBLE FIRMAR, PONGA SU HUELLA DIGITAL AQUI		
Witness Name / Nom du témoin / Apellido del testigo	Witnessed or attested to by a UN system official, attending physician or local government authority. Validé par un fonctionnaire du système des Nations Unies, par le médecin traitant ou par les autorités locales. Validada por un funcionario del sistema de las Naciones Unidas, por el médico a cargo o por las autoridades locales.	Retiree's Thumbprint Here
Name of witness		
Witness Title / Titre du témoin / Cargo del testigo	SIGNATURE / FIRMA OFFICIAL STAMP (SEAL) SOCIAL OFFICER SELLO OFICIAL	
Title of witness	Signature and Official Seal of Witness	

No Single Point of Failures



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Optimized Blockchain for Efficiency & Redundancy

86K

Users

System scaled for 86,000 user identities.

190

Countries

Users span over 190 countries.

0

Proof-of-Work Mining

Eliminated, avoiding energy consumption.

2

Cloud Systems

Ensuring redundancy



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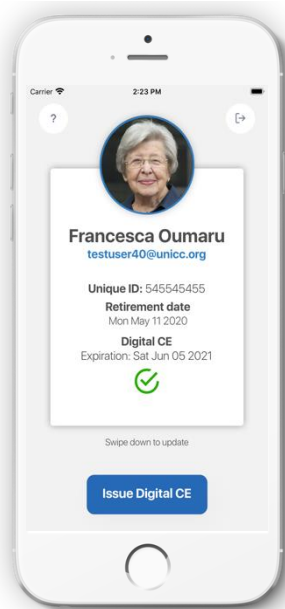
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The Evolution

Kiosk Mode to Address “DIGITAL DIVIDE”



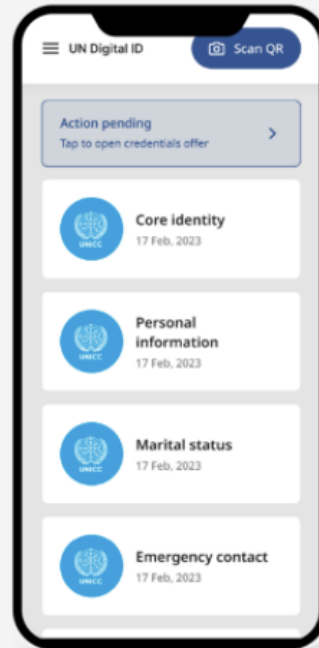
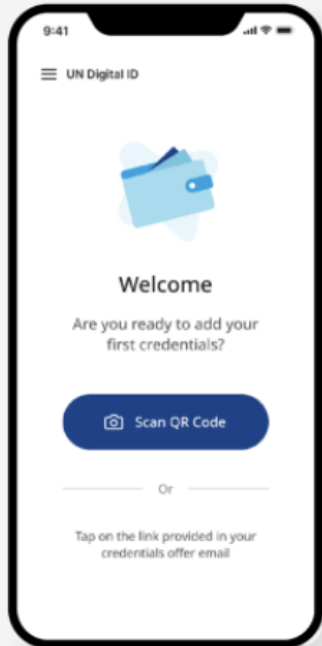
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UN Digital ID



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United Nations System

27 September 2021

CEB/2021/HLCM/10/Add.2



CEB
Chief Executives Board
for Coordination

High-level Committee on Management (HLCM)

42nd Session, 11-12 October 2021

Virtual Session

UN Digital ID – Project ToR

What is UN Digital ID?

The UN Digital ID is a transformative UN solution to provide its workforce with a universal, system wide identity. It leverages technologies to provide a service to organisations as well as to staff members alike. It has huge potential for time efficiency savings for the processes from on-boarding through to retirement with the Joint Staff Pension Fund and is currently being tested by the UN Digital Solutions Centre. This will give ownership of personal data back to employees and enable reliable, scalable and dependable HR data interaction that would be interoperable between organizations. In addition, Digital ID will provide real-time, verified data for efficient decision-making at much lower costs. It has the ability to scale to as many use cases as feasible (vaccines, relocation, security etc.) all powered by the same underlying technology investment and “engine.”

As a data exchange platform, the UN Digital ID will allow staff and consultants from participating organizations to share any of their HR and other personal information they are comfortable sharing



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ISO CERTIFICATION & ASSURANCE



BUREAU
VERITAS

Bureau Veritas Certification

United Nations Joint Staff Pension Fund (UNJSPF)

1 Dag Hammarskjöld, Plaza (DHP)), Corner of 48th Street and 2nd Avenue New York, NY 10017 USA

This is a multi-site certificate, additional site(s) are listed on the next page(s)

Bureau Veritas Certification Holding SAS – UK Branch certifies that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standards detailed below

ISO/IEC 27001:2013

Scope of certification

The management of an Information Security System for Securing the UNJSPF's Integrated Pension Administration System (IPAS) and Digital Certificate of Entitlement (DCE) that encompasses the United Nations Joint Staff Pension Fund's offices in New York, Geneva, and the UNICC Data Centers in Geneva, Switzerland and Piscataway, NJ, covering the operation, maintenance and management of IPAS as well as the **Digital Certificate of Entitlement (DCE) Application** managed by the UNJSPF NY Office and UNICC Geneva Office. The user support for beneficiaries is provided by UNJSPF / UNICC helpdesk.

Statement of Applicability Version number and release date : v3.0/ 03.11.2021

Original cycle start date:	09-March-2022
Expiry date of previous cycle:	NA
Certification / Recertification Audit date:	25-December-2021
Certification/Recertification Cycle Start Date:	09-March-2022
Subject to the continued satisfactory operation of the organization's Management System, this certificate expires on:	08-March-2025

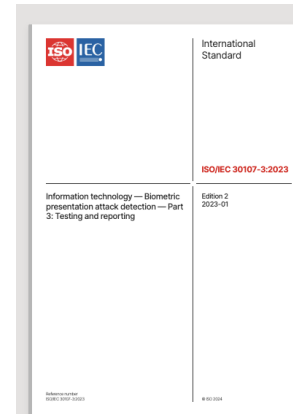
INTERNATIONAL
STANDARD

ISO/IEC
42001

First edition
2023-12

**Information technology — Artificial
intelligence — Management system**

*Technologies de l'information — Intelligence artificielle — Système
de management*



**ISO/IEC 30107-
3:2023**

Information technology — Biometric
presentation attack detection

Part 3: Testing and reporting

ALGORITHM ASSESSMENT



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FACE RECOGNITION TECHNOLOGY EVALUATION

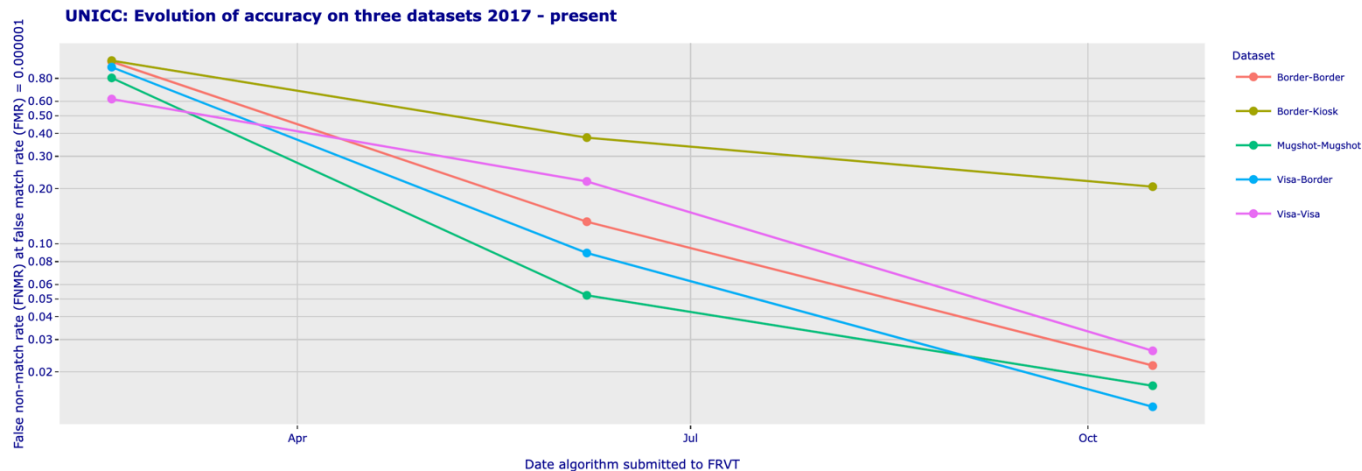
NIST National Institute of Standards and Technology • U.S. Department of Commerce

Developer Name: UNICC-Solution Architecture Section | Algorithm Name: unicc_003 | Algorithm Type: 1:1 Verification

Date of Algorithm Submission: 2023_10_16 | Date of Report Card Generation: 2024-08-09

[Full FRVT Results Tables](#)

DEVELOPER GAINS



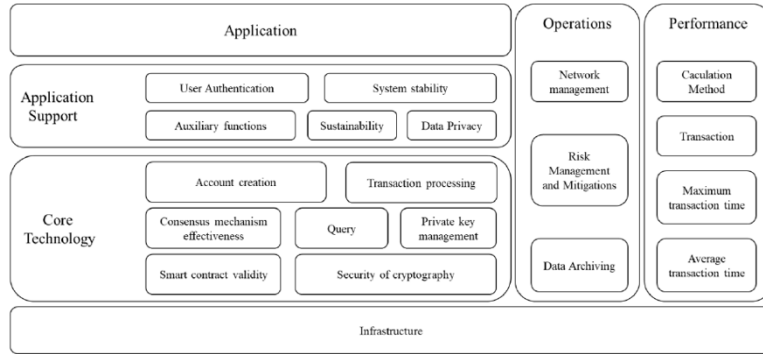
The report shows accuracy improvements over time for this developer. The traces correspond to the datasets named in the legend. The FMR is fixed independently for each dataset to the value given in the y-axis label.

CYBERSECURITY ASSESSMENT

Control Domains



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ITU-T Technical Specification

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

(1 AUG 2019)

1. High Level Solution

2. Front-End Solution Components

3. Back-End Solution Components

4. Network Security

5. External System Integration

6. Business Network Integration

7. Non-Technical Threats

8. Pace of Change

9. Web 3.0 vs Traditional Development

10. Smart Contracts (N/A)

11. Futureproofing

What if I lose my phone?
And how do I mitigate such disasters before they happen?

Daniel Hardiman
Chief Architect, Sovrin
Secretary, Sovrin Foundation Technical Governance Board
March 2019

IDENTITY PRIVACY ASSURANCE



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Control Domains

I. Policy: Formulation, Supporting Principles and Documentation

1. Use Case: i.e., Identity Management

2. Rationale: Requirements & Resources

3. Biometric Modality: i.e., Facial Recognition

4. Legal Norms & Ethical Principles

5. Human Rights Due Diligence

6. Data Provenance, Protection & Privacy Rights

7. Data Stewardship, Minimisation & Purpose Limitation: i.e., Self Sovereign Identity

8. Stakeholder Consultation

9. Security Verification & Business Cont.

11. Risk Assessment

12. Financial Planning; System Procurement, Testing and Standards

13. Network Connectivity

II. Data Collection: Enrolment & Integrity Biometric Data

14. How biometric data is collected

15. Legality of Data Collection & Consent

16. Data Management & Quality

17. Presentation Attack Detection

18. Exception Handling

III. Data Processing & Output Management

19. Operating Parameters

20. System Security

21. Performance Mgmt & Testing Protocols

IV. Organisational Issues

22. Managing & Deploying

23. Operating in extreme conditions

24. Oversight

25. Innovation and emerging tech

26. Service Delivery



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LESSONS LEARNED

CHALLENGES FACED DURING IMPLEMENTATION



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Digital Certificate of Entitlement (DCE)



- **COVID-19 Pandemic:** Always have a “Plan B!”
- **Don’t Assume...Anything**
- **Written Instructions:** Not Enough



Digital Certificate of Entitlement (DCE)



- **Scalability/Performance:** Be Ready for Surprises
- **Biometric Data Storage** Requires Special Consideration
- **Digital Divide**

ASSURANCE



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Digital Certificate of Entitlement (DCE)



- **Emerging Tech** = Emerging Standards
- **AI Dual Role** = Detect or Generate Synthetic Media
- **Certification** Not a One Time Process

STRATEGIES FOR USER ADOPTION



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Digital Certificate of Entitlement (DCE)



The Digital
Certificate of
Entitlement
(DCE) App is
safe and
convenient.

- **Invest Early** in User Awareness/Education
- **Continuous** Feedback
- **Implement** Progress Disclosure
- **Gradual** Introduction of Features

IMPORTANCE OF COMMUNICATION



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UNJSPF Educational Videos



 UNJSPF

ENSURING PENSION SECURITY
FOR CIVIL SERVANTS SINCE 1949

- **Prioritize User-Centric Design**
 - Incorporate intuitive interfaces with minimal written instructions
 - Conduct usability testing with user groups to identify pain points
- **Simplify Complex Concepts**
 - Breakdown technical terms into easily understandable language
 - Use analogies and real-world examples
 - Avoid jargon and acronyms
- **Diversify Communication Channels**
 - Utilize multiple platforms to reach global users
 - Implement phone support and follow-up assistance
 - Create video tutorials and interactive guides
- **Address Misconceptions Proactively**
 - Develop targeted campaigns to clarify “distinctions”
 - Provide clear information about data security and privacy
 - Offer FAQ section and “myth-busting” content



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ACKNOWLEDGMENT & RECOGNITIONS

UN SECRETARY-GENERAL AWARD INNOVATION & SUSTAINABILITY



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GOVERNMENT BLOCKCHAIN ASSOCIATION (GBA)

SOCIAL IMPACT AWARD



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GARTNER - “CASE STUDY”

01/29/2021

Gartner.

Case Study: Digital Transformation of a Legacy Paper-Based Process (U.N. Joint Staff Pension Fund)

Published 28 January 2021 - ID G00739406 - 9 min read

Dean Lacheca

Initiatives: [Government Digital Transformation and Innovation](#); [Government Technology Optimization and Modernization](#)

Governments worldwide are turning to emerging technologies to help modernize traditional processes. Government CIOs can gain insight from how the United Nations Joint Staff Pension Fund has utilized blockchain, biometrics and geolocation to reinvent a legacy process with a global audience.



Organization Name: United Nations Joint Staff Pension Fund (UNJSPF)

Industry: Pension Fund Management, Government

Main Location: New York, U.S.

Revenue: Not Applicable

Employees: ~200 (2020)

Overview

The Digital Certificate of Entitlement (Digital CE) project at United Nations Joint Staff Pension Fund (UNJSPF) was selected as a finalist in Gartner’s Eye on Innovation Awards for Government 2020. It was selected as it demonstrated how emerging technology can be combined to allow the service to be delivered in a completely different way, improving integrity and efficiency (see Table 1).

INVESTMENT & PENSION EUROPE

PENSIONS TECH



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Pensions tech: Digitising the world's most global pension fund | Special Report | IPE

https://www.ipe.com/reports/pensions-tech-digitising-the-worlds-most-global-pension-fund/10044471_article

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REPORTS

Pensions tech: Digitising the world's most global pension fund

BY DEWI JOHN | APRIL 2020 (MAGAZINE)

The UN is using technology to transform bureaucratic processes in its pension scheme



Innovate Discuss Share

Blockchain and Biometric-based Digital Identity Solution

29 May 2024
at 10:00 AM



Dino Dell'Accio
UNJSPF



Msgr. Lucio Adrian Ruiz
Holy See



Sandra Ro
GBBC



Scott Stornetta
Yugen Partners



Dimitra Ralli
UNICC



COLLABORATION



UNJSPF
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GBA



INATBA

International Association
for Trusted Blockchain Applications



 LF DECENTRALIZED TRUST

“GET INVOLVED”

IN BUILDING TRUST WITH BLOCKCHAIN & EMERGING TECH



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**IGF Blockchain Assurance +
Standardization**
Dynamic Coalition

**Internet
Governance Forum**



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Final Thoughts

Published on Digital Development

850 million people globally don't have ID—why this matters and what we can do about it

JULIA CLARK, ANNA METZ & CLAIRE CASHER | FEBRUARY 06, 2023

This page in: [English](#) | [Français](#) | [Español](#) | [العربية](#)





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Thank you



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Appendix

DECISION MODELS FOR BLOCKCHAINS



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1. Karl Wüst and Arthur Gervais Model -> IACR Cryptology, 2017

“Do you need a Blockchain?” <https://eprint.iacr.org/2017/375>

2. Birch-Brown-Parulava Model

Towards ambient accountability in financial services: Shared ledgers, translucent transactions and the technological legacy of the great financial crisis, Journal of Payments Strategy and Systems, 2016

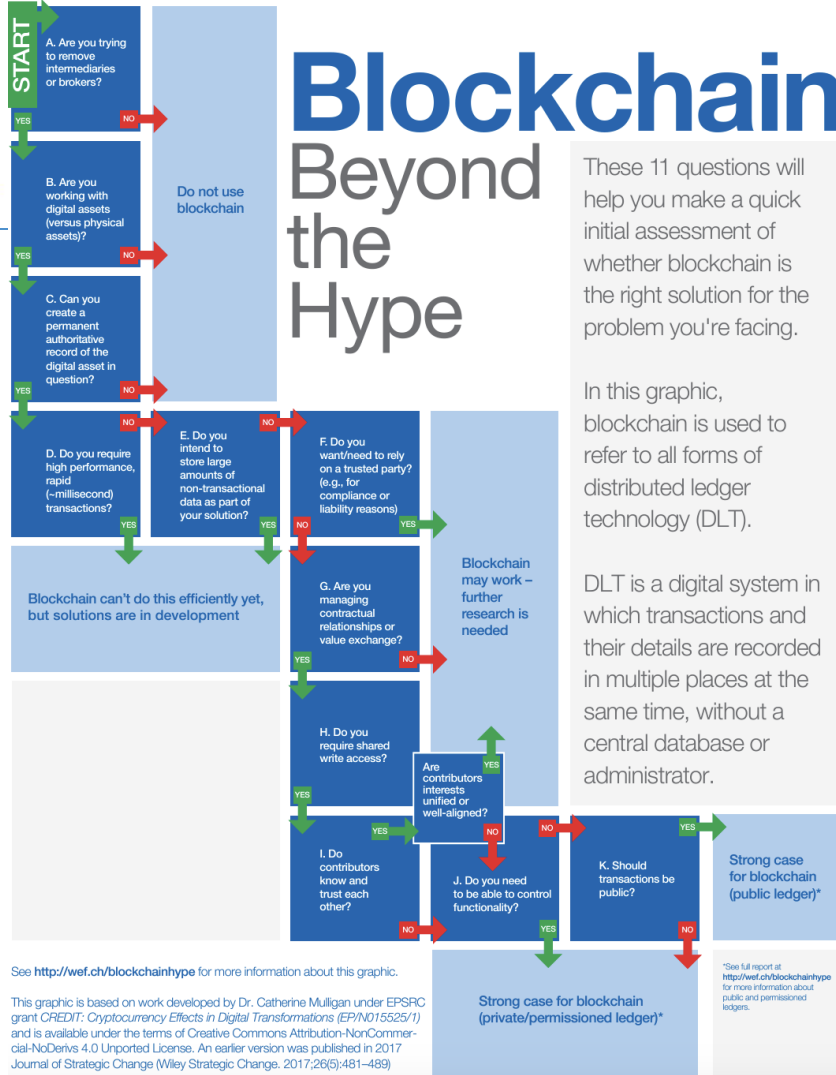
3. Kuang Lo, Xiwei Xu, Yin Kia Chiam, and Qinghua Lu,

“Evaluating Suitability of Applying Blockchain”, IEEE 2017

4. Generalized decision models:

- *World Economic Forum*
- *NIST*
- *CompTIA*

Blockchain Beyond the Hype



These 11 questions will help you make a quick initial assessment of whether blockchain is the right solution for the problem you're facing.

In this graphic, blockchain is used to refer to all forms of distributed ledger technology (DLT).

DLT is a digital system in which transactions and their details are recorded in multiple places at the same time, without a central database or administrator.

- Create a permanent authoritative record
- Require shared write access
- No reliance on a trusted party

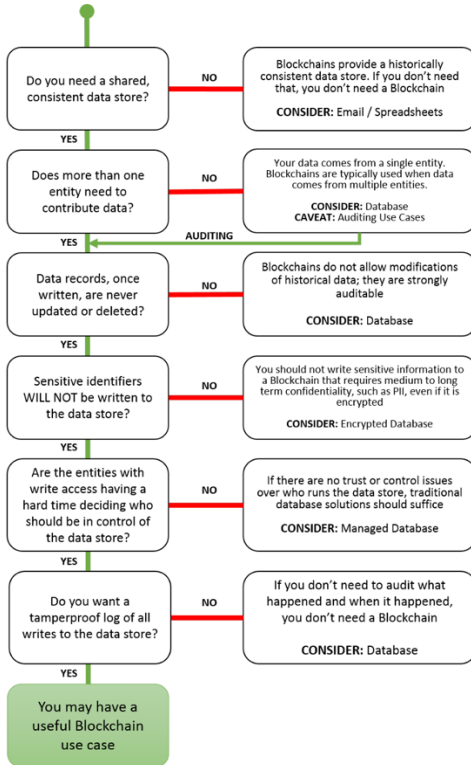
See <http://wef.ch/blockchainhype> for more information about this graphic.

This graphic is based on work developed by Dr. Catherine Mulligan under EPSRC grant CREDIT: Cryptocurrency Effects in Digital Transformations (EP/N015525/1) and is available under the terms of Creative Commons Attribution-NonCommercial-NoDerivs 4.0 Unported License. An earlier version was published in 2017 Journal of Strategic Change (Wiley Strategic Change, 2017;26(5):481-489)

*See full report at <http://wef.ch/blockchainhype> for more information about public and permissioned ledgers.



Dylan Yaga
Peter Mell
Nik Roby
Karen Scarfone



Do you need a shared, consistent data store?

YES

Data records, once written, are never updated or deleted?

YES

Do you want a tamperproof log of all writes to the data store?

YES

Figure 6 - DHS Science & Technology Directorate Flowchart