ABSTRACT

Information Technology Department – Implementation of Zero Knowledge Proof Identity Based Predictive Services Delivery Project – Administrative Sanction for the project and financial sanction and release of a sum of Rs.6,00,00,000/- (Rupees six crore only) for Systematic Study and Proof of Concept under Phase-I – Sanctioned - Orders – Issued.

Information Technology (e.Gov.I) Department

G.O.(Ms).No. 18

Dated: 20.12.2019
விகாரி, மார்கழி – 4
திருவள்ளுவர் ஆண்டு–2050

Read:

From the Commissioner of e-Governance & Chief Executive Officer, Tamil Nadu e-Governance Agency, Chennai-2 Letter No.2043/CeG/2019, dated 16.09.2019 and 26.09.2019.

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ORDER:

The Hon'ble Chief Minister has made the following announcement under Rule 110 of the Tamil Nadu Legislative Assembly during the Budget Session 2019-20 on 12.07.2019:

"அரசுத் துறையில் பல்வேறு சேவைகளைப் பெற பொதுமக்கள் அத்துறை சார்ந்த அலுவலகங்களுக்குச் சென்று விண்ணப்பித்து பெறுவது மட்டுமல்லாமல், அரசு இ-சேவை மையங்கள், இணையதளம் மற்றும் கைபேசி செயலி வாயிலாகவும் விண்ணப்பித்து பெற்று வருகின்றனர். தமிழ்நாடு மின்னாளுமை முகமையால் (TNeGA) "மக்கள் எண்" உருவாக்கப்பட்டுள்ளது. இதன் வாயிலாக, ஒவ்வொரு நபருக்கும் பிறப்பு முதல் இறப்பு வரையிலான சட்டப்படியான ஆவணங்கள் மற்றும் சான்றிதழ்கள் குடிமக்கள் பெட்டகத்திலிருந்து (Citizen Vault) விண்ணப்பிக்காமலேயே குறிப்பறிந்து, தானாகவே வழங்கப்படும். இதனைப் பெற்றிட, தனிநபர் தன்னுடைய கைபேசி எண்ணை பயனர் குறியீடாகவும், ஒரு முறை கடவுச் சொல்லைப் (OTP) பயன்படுத்தியும் பெற்றுக் கொள்ளலாம். "மக்களைத் தேடி அரசு" என்ற இந்தத் திட்டம் 90 கோடி ரூபாய் செலவில் செயல்படுத்தப்படும் என்பதை பெருமிதத்துடன் தெரிவித்துக் கொண்டு அமைகிறேன்."

2. Accordingly, the Commissioner of e-Governance & Chief Executive Officer, Tamil Nadu e-Governance Agency (CeG & CEO, TNeGA), in the letters read above have sent the proposal for the implementation of '**Zero Knowledge Proof Identity Based Predictive Services Delivery'** project.

3. The salient features of the proposal of the Zero Knowledge Proof Identity Based Predictive Services Delivery project are as follows:

Information and Communication Technologies (ICTs) are increasingly being used by the Government at all levels, to deliver effective and efficient services to its citizens. The emerging technologies like Big Data, Block-chain, Internet of Things (IoT), Artificial Intelligence (AI), Data Science and the like have the potential to amplify the positive impact of Government Services and in the process transform the lives of its citizens. The Government of Tamil Nadu has embarked on a service transformation journey using ICT in synchrony with the emerging technologies. The Hon'ble Chief Minister has announced the "Predictive Services Delivery" paradigm, which aims at pro-active identification and delivery of Government Services. This approach will **"take Government to the Citizens"**, thus eliminating the need for the citizens to request G2C services.

Predictive Services Delivery (PSD)

Challenges in Delivery of Government Services:

Service Delivery in the Government Sector faces unique challenges due to its very nature. The services provided by the Government, unlike the private sector, are not confined to any one aspect of a citizen's life. Citizens require Government services throughout their life – from birth till death. This includes services from Departments such as health, food, housing, education and the like. In the Government sector, the maximization of citizen well-being, service delivery efficiency, effectiveness with simultaneous cost, delivery time minimization are very challenging problem. This presents the Government with unique constraints that include but are not limited to the following:

- The Government has to provide equitable service to all sections of the society.
- Government has to serve citizens in domains such as finance, transportation, food, agriculture, industry development, health, education and the like. Ensuring high quality of service delivery to citizens and being responsive is an important goal for the Governments.
- Citizens utilize Government Services throughout their lives. Thus, from a citizen life cycle perspective, Government services should meet different needs. For example, education needs differ with the age of the citizen. Hence, the Government has to play an active role in delivering education

for all life stages including kindergarten, primary, secondary, collegiate, vocational, and so on.

- Government has to ensure that its services are fair and equitable, and reach all sections of the society.

The above constraints have made delivery of Government services a very challenging task. With the development of ICT and emerging technologies, it is possible to deliver Government services due to citizens, at their convenience, at their doorstep, without having them to approach multiple Government offices.

Predictive Services Delivery (PSD): A "prediction" or a "forecast" is a statement about a future event. Based on data and using tools and techniques from Data Science, a citizen's service needs can be proactively identified and delivered through citizen centric processes incorporating a proactive, automated and integrated approach.

High-level Architecture: The Predictive Services initiative envisions to develop technology architecture and platform that would enable proactive and seamless delivery of Government services to targeted beneficiaries and availing citizens. Predictive Services architecture shall consist of the following major software components:

- Data Exchange Framework (using APIs and Web services)
- Event Driven Services Engine (for uniquely targeting beneficiary to deliver service & prompting citizen on their eligible service and receive consent)
- Service Management Platform
- Service Design (to create a master database of authenticated and de-duplicated list of eligible beneficiaries for any targeted service)
- Identity Management (employing **Zero Knowledge Proof (ZKPF) techniques**)
- Consent Management (using Blockchain infrastructure for secure storing of consent)
- Citizen Portal
- Dashboard & Analytics (using big data analytics and data visualization techniques)

The above components will be built on top of and leverage significantly the software interfaces and databases developed as part of State Family Database (SFDB) and Blockchain initiatives. SFDB is a basic database of residents and "Nambikkai Inaiyam" is the statewide backbone for providing digital services to citizens using Distributed Ledger/Blockchain technologies.

Scope of Work: Considering the vast scope of Predictive Services initiative and the services permeating across various departments of Tamil Nadu operating in varied levels of digitalization, the entire project shall be developed in phases.

The first phase will focus on -

- Systematic Study of citizen services to identify potential services that can be offered as a Predictive Service and concerned department's digital readiness to offer the service in a Predictive model, the software & process automation requirements.

- Proof-of-Concept Development of the key components of Predictive Services architecture described in Predictive Service Delivery and High-level Architecture.

- Pilot project with one selected service offered as Predictive Service.

- The duration of the first phase will be 12 months.

The second phase will focus on -

- Detailed design and development of Predictive Services architecture described in Predictive Service Delivery and High-level Architecture.

- Digital transformation and Automation of select department services & associated processes identified in first phase as candidates for Predictive Services.

- Launch and operate Predictive Services for the State of Tamil Nadu for the targeted services.

- The duration of the second phase is estimated to be 24 months.

Interdependencies: This project implementation is contingent upon a functional SFDB and "Nambikai Inayam" - the Statewide Block-chain Backbone.

Cost Estimates: The following table summarizes the estimated cost of project for each phase. The costs include cost of software development and hardware requirements.

Phase	Description	Cost (Rupees in Lakhs)
I	Systematic Study of citizen services and department digital readiness	50
	Proof-of-Concept Development of the key components of Predictive Services architecture	550
	Pilot project with one selected service offered as Predictive Service	1000
Phase I - Total Cost		**1600**
II	Detailed design and development of Predictive Services architecture components	2500

	Digital transformation and Automation of select department services & associated processes	2500
	Launch and operate Predictive Services for the State of Tamil Nadu for the targeted services	2400
	Phase II - Total Cost	**7400**
	Grand Total	**9000**

4. The Commissioner of e-Governance & Chief Executive Officer, has therefore, requested the Government for the following:

i. Administrative sanction for the "Zero Knowledge Proof Identity Based Predictive Services Delivery Project" at a cost of Rs.90 crore.

ii. Financial sanction of Rs.16 crore for the implementation of Phase-I of the project.

5. The Government, after careful examination have decided to accept the proposal of the Commissioner of e-Governance & Chief Executive Officer, Tamil Nadu e-Governance Agency (TNeGA) and accord administrative sanction for the implementation of Zero Knowledge Proof Identity Based Predictive Services Delivery Project and sanction and release of a sum of Rs.6,00,00,000/- (Rupees six crore only) for the Systematic Study and preparing Proof of Concept under Phase-I, to Tamil Nadu e-Governance Agency.

6. The expenditure sanctioned on para-5 above shall be debited to the following head of account:

"2852 Industries – 07 Telecommunication and Electronics Industries –
101 Tele Communications State's Expenditure – AE – Zero Knowledge
Proof Identity based Predictive Government Service Delivery – 309
Grants-in-aid – 03 Grants for specific schemes"
IFHRMS (DPC 2852 07 101 AE 309 03)
Old (DPC 2852 07 101 AE 0936)

7. The Commissioner of e-Governance/ Chief Executive Officer is the Estimating, Reconciling and Controlling Authority for the above new Head of Account.

8. The Pay and Accounts Officer/Treasury Officer is directed to open a new head of account.

9. The Chief Executive Officer, Tamil Nadu e-Governance Agency is directed to send the physical and financial progress of the scheme every month to the Government along with the details of expenditure incurred and Utilization Certificate. Unspent balance, if any, should be remitted into Government account.

10. An amount of Rs.5,00,00,000/- has already been provided in the first Supplementary Estimates for the year 2019-2020. Necessary additional funds of

Rs.1,00,00,000/- will be provided in the RE/FMA 2019-2020 to meet the expenditure sanctioned in para-5 above. Pending provision of such funds, the Commissioner of e-Governance is authorized to draw and disburse the amount sanctioned in para-5 above. The Commissioner of e-Governance is directed to include this item of expenditure while sending the budget proposal for RE/FMA 2019-2020 to Government in Finance (Industries) Department at the appropriate time without fail.

11. This order issues with the concurrence of Finance (Industries) Department vide its U.O. No. 63690/Fin(Ind)/2019, dated 19.12.2019 and ASL No.2546 (Two thousand five hundred and forty six).

(By Order of the Governor)

KUMAR JAYANT,
Principal Secretary to Government (FAC).

To
The Commissioner of e-Governance & Chief Executive Officer,
   Tamil Nadu e-Governance Agency,
   2nd & 5th Floor, P.T.Lee Chengalvaraya Naicker Building,
   Anna Salai, Chennai – 600 002.
The Accountant General, Chennai-600 009.
The Accountant General (Audit), Chennai-600 018.
The Principal Accountant General (Accounts & Entitlements), Chennai – 600 018.
The Pay and Accounts Officer, Secretariat, Chennai-600 009. (2 copies)
The Resident Audit Officer, Secretariat, Chennai-600 009.

Copy to
Hon'ble Chief Minister's Office, Secretariat, Chennai – 600 009.
Hon'ble Deputy Chief Minister's Office, Secretariat, Chennai – 600 009.
The Special Personal Assistant to the Hon'ble Minister for Revenue & Disaster
   Management and information Technology, Secretariat, Chennai – 600 009.
The Finance (Industries) Department, Secretariat, Chennai-600 009.
The Information Technology (Bills) Department, Secretariat, Chennai-600 009.
The Principal Private Secretary to Principal Secretary to Government,
   Information Technology Department, Secretariat, Chennai – 600 009.
The Content Creator/Moderator/Nodal Officer (CMS)
   Information Technology Department, Secretariat, Chennai – 600 009.
Sf/Sc

// Forwarded / By Order //

Section Officer