NGO Monitoring and Management System

Inception Report

For

Digital Service Delivery Platform for NGOAB

November 2022



Infrastructure Investment Facilitation Company

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1. Introduction

1.1 Introduction

NGO Monitoring and Management System is a centralized and structured web, app based digitalized work, process, and task oriented virtual office system for NGOAB and NGO. With whom, NGOAB will be able to monitor, manage curtail internal and external operational and organizational function/activities (e.g.; NGO registration, renewal, project approval, fund release, audit, project monitor etc.) digitally. As a result, the rate of work efficiency of NGOAB officials will be maximized. Accountability, transparency and operational cost reduction will be standard practice by default at every level of NGOAB.

For NGO's, this system will be providing a seamless and organized work experience. They will be able to record activities and data with more accuracy. Project activity reports and financial reports preparation will be much easier on the software for NGO's.

Since, the system will be online for both NGOAB and NGOs; it will reduce operational cost, increase work efficiency, accountability, transparency.

1.2 Scope of this Document

This document will explain the web-application and mobile-application based software system, which will digitalized NGOAB and NGOs organizational work processes. The development methodology, development principal, system architecture design, feature design, process design, workflow design, roadmap of development will be described later on specific section on this document.

1.3 Overview

This software system specifically designed for replicate and replace NGOAB's organizational manual work processes to a digital ecosystem. This system will enable NGOAB officials and NGOs to become more dynamic, versatile and agile from a functional and operational perspective.

1.4 Business Context

This system will reduce operation cost for both NGOAB and NGOs. It will also reduce lead-time for tasks and process. Record keeping, project analytical reporting, statistical reporting, project summery reporting etc. curtail business and operational report making will be automated.

2. General Description

2.1 Product Functions

The system will be functioning with web application and mobile app. The database will be centralized and it will be connected through APIs with all ends. Since the system will be operating on the internet, data security is the most important factor. To ensuring data safety, the system will be using 128-bit encryption.128-bit encryption is a data/file encryption technique that uses a 128-bit key to encrypt and decrypt data or files. It is one of the most secure encryption methods used in most modern encryption algorithms and technologies. 128-bit encryption is considered to be logically unbreakable.

2.2 User Characteristics & Objectives

For this system, there will be three-core type of users:

- NGOAB Officials and Correlated Government Officials
- NGOs
- Audit Firms

NGOAB Officials and Correlated Government Officials:

- Approval / Rejection of NGOs application
- Issuing certificates and clearances
- Monitoring projects and funds
- Call for audit reports
- Analytical and Procedural reports inspection

NGOs:

- NGO registration and renewal
- Apply for projects and funds
- Apply for certificates and clearances
- Submit audit reports
- Project, funds and activity history and logs

Audit Firms:

- Submit independent NGOs audit report
- History and log of all submitted audit reports

2.3 General Constraints

- Easy to use user interface
- Visually directive and instructive user experience design
- Device independent software
- Online software
- End to end 128-bit data encryption

3. Functional Requirements

3.1 Solution Architecture

Solution architecture is expected to define and describe an architecture of the Digital Service Solution in the context of the mentioned prevailing service delivery process Digital Service Delivery Platform for NGO Affairs Bureau (NGOAB). The solution architecture should assist in the translation of the service to Digital Service transformation requirements into a solution vision, high-level operations and/or application specifications and portfolio of the implementation scope.

Following items and diagrammatic-

- Goals/Results
- Service Recipients
- Digital Service Operators/User (Service Providers)
- Digital Service Observers (Service Administration and Performance Monitor)
- Database application comp6nents
- Entity application component
- Utility component
- System federation (Systems to be integrated)
- Process application component
- Interaction application component
- Application
- Accessible Points
- Networks
- Types or Layers of Service Delivery Points
- Hosting

3.2 Digital Service Functions and Features

The ultimate objective of this Digital Service development and implementation of the system have the following Components with necessary Modules, features and functionalities. However, the selected vendor must perform a detailed requirement study and system analysis and prepare the necessary deliverable.

3.2.1 Module and Digital Feature List

The scope of work service includes:

> Information & Registration Management

- Registration Type
- Registration Requirement Configuration
- Workflow Configuration

- Certificate Template Configuration
- Notification Configuration
- Eligibility Check
- Manage Profile
- Apply Online
- Application Monitoring
- Registration Verify
- Registration Approval

Project Management & Fund Release Module

- Project Proposal Management (FD-6, FD-1, FC-1)
- Project Fund Management
- Fund Release Application Management(FD-2), (FD-3 absent of Audit Report)
- Foreigner List Management
- Development Partner (Donor) Management
- N-visa Management (FD-9)
- Work Permit Management (FD-9
- Work Permit Renew Management (FD-9)
- Currency Deposits Letter Management
- Bank Account Transfer Permission Management
- Assets sell Permission Management
- Unspent Money Management

Project Inspection Management

- Project Activity Monitoring Management
- Project Inspection Reporting Management
- Local Administration Certification (LAC) Management

Audit Management

- Plaining and Scheduling Draft Audit Report (FD-4)
- Document Attachment for an Audit Report
- Findings Documentation and Categorization for Audit Report
- Audit Finding Response Management
- NOC of Audit Report Management

> Complain Management

- Add New Complain
- Complain Monitoring
- Complain Investigation
- Complain Process
- Complain Disposal
- Appeal Management

- FAQ
- Chatbot

> Human Resource Management

- Information Management
- Recruitment Management
- Leave Management
- Application Form Management
- Workforce Management
- Event Management
- E-Billing Management

> Report Management

- Report Configuration Management
- Dynamic Report Preparation
- Approval Management
- Publish and Disbursement
- Archive Management
- Research on Report
- Project Completion and Project Management Report
- Monthly Report
- Quarterly report
- Yearly Report

3.3 Specifications & Feature Analysis

3.3.1 Registration Setup Management

SL	e-Feature	Actor/User	e-Feature Description	Media
1	Registration Type	System Admin	 Add New Registration Type Edit Registration Type Delete Registration Type Initial three type registration (Local NGO, Foreign NGO, Audit Firm) 	Web
2	Registration Requirement Configuration	System Admin	 Registration type requirement New Registration or Renew Check List FD-1 	Web

			 List of Executive Committee (For Foreign notary attestation by country, for Local signed by president & secretary) Photograph NID (Local) Password (Foreign) Plan of Operation LOI List of General Members Joint Stock Registration Social Welfare Department Department of women Affairs Payment Constitution (For Foreign notary attestation by country) Incorporate Certificate (Foreign notary attestation by country) Name Change Checklist Paper Circular (Bangla/English) List of Executive Committee (for foreign notary attestation by country) NID of Executive Member's Changed Name Certificate (Joint Stock Registration, Social Welfare Dir., Dir. Of Women Affairs) 	
3	Form Builder	System Admin	Registration Type Set up required field	Web
			3. Address change form	
			4. Executive Committee Approval form	
			5. New NGO Registration (Local)	
			6. New NGO Registration (Foreign)	
			7. Renew NGO for Local	
			8. Renew NGO for foreign	
			9. Name Change NGO	

4	Work Configuration	System Admin	 Define workflow steps Define workflow save so user & restart from that step Define tracking number prefix 	Web
5	Certificate Template Configuration	System Admin	 Certificate template generate & update Add More New Certificate template Define which template will remain activate 	Web
6	Notification Configuration	System Admin	Define Notification receiver for registration related activities Define which media will get notification (SMS, Email, App)	Web

3.3.2 Information & Registration Management (NGO/Audit Firm)

SL	e-Feature	Actor/User	e-Feature Description	Media
1	Eligibility Check	NGO/Audit Firm	 Service Recipient will visit the site Select Registration type Based on Registration type user can check detail documents list need to registration & will get proper guide line 	Web/App
2	User Registration	NGO/Audit Firm	 Registration type User can register using username/email & password Service Recipient will get verification email to verify After verify service recipient can login into the system Service recipient will get an confirmation sms/email that he/she registered successfully 	Web/App

3	Mange Profile	NGO/Audit Firm	1. Service recipient have to login to the system, if have no access user need to be create a login credential first. Follow "User Registration" feature 2. Service recipient can view his own profile & update profile 3. Service recipient can upload his photograph 4. Service recipient will get additional menu (New Application, Renew Application, Name change, Audit firm registration based on circular)	Web/App
4	Apply Online	NGO/Audit Firm	1. Registration/Renew/Name change/Audit firm 2. Service recipient will get a tracking number for further update 3. Let say registration process have 7 steps. After complete step 3 if internet connection drop or electricity gone, user can resume registration process from that point 4. Service recipient will get a notification (sms/email/app) after successfully registration. Service Provider will get a notification (sms/email/app) also.	Web
5	Application Monitoring	NGO/Audit Firm/SA-DG	 Service provider can check all application list & status Application can be search by different criteria Service Recipient (NGO) can add any query if required Service provider (SA-DG) can check query can check & query response 	Web/App
6	Registration Verify	SA-DG	 Registration document check Check Payment is completed or not Make approval (by DG) to verify by the related organization (Ministry of Home Affairs/Ministry of 	Web

			Finance/Financial Institutions Division) 4. Send to related organization (Ministry of Home Affairs/Ministry of Finance/Financial Institutions Division) to verify user is okay to move for registration 5. Update verify report to system	
7	Registration Approval	SA-DG/NGO	1. File initiate to registration approval process 2. Registration approve (DG) 3. Issue a contificate for approved.	Web
			3. Issue a certificate for approved registration	
			4. Approve certificate (DG)	
			5. Send notification to related concern about approved certificate	
			6. Print/Email certificate	
			7. Send Notification (SMS/Email/App) to NGO before registration date 90/180/210 days	
			8. NGO public portal, So every NGO will have individual public link (NGO information, project details)	

3.3.3 Project Management & Fund Release Module

SL	e-Feature	Actor/User	e-Feature Description	Media
1	Project Proposal Management (FD-6, FD-7, FC- 1)	DG, Director, DD, AO, DO, NGO, Bank	 Project proposal preparation and draft Project proposal submit and scrutinize Bank branch list add Query arise and response Ministry suggestion 	Web

			6. Project proposal approval and notification7. Revised project proposal (if needed)8.Report generation	
2	Project Fund Management	DG, Director, DD, AO, DO, NGO	 Project fund auto step after project submission Project fund search Project fund progress information Project expenditure document upload and filter output Project fund approval 	Web
3	Fund Release Application Management (FD-2), (FD-3 absent of Audit Report)	DG, Director, DD, AO, DO, NGO	 Application Review the application Process application Approval the fund release application 	Web
4	Foreigner List Management	NGO	 Add foreigner List foreigner Expired foreigner list 	Web/App
5	Development Partner (Donor) Management	NGO	 Add DP (Donor) List DP (Donor) Expired DP (Donor) list 	Web/App
6	N-Visa Management (FD-9)	DG, Director, DD, AO, DO, NGO	 Application submits for N-visa Application receiving and DG marking Filling checking Query to NGO Revised proposal for approval Proposal approved for N-visa attachment Report generation 	Web/App

			I	l l
7	Work Permit Management	DG, Director, AO, DA, NGO	Application submits for work permit	Web/App
	(FD-9)		2. Application receiving and DG marking	
			3. Filling checking and transfer to Ministry Home Affairs (Security and Services Division)	
			4. Marking Home Affairs (Security and Services Division) letter to DG-DA	
			5. Filling and put-up for work permit approval	
			6. Letter issued and notification to NGO	
			7. Report generation	
8	Work Permit Renew	enew AO, DA, NGO anagement	Application submits for work permit	Web/App
	Management (FD-9)		2. Application receiving and DG marking	
			3. Filling checking and transfer to Ministry Home Affairs (Security and Services Division)	
			4. Marking Home Affairs (Security and Services Division) letter to DG-DA	
			5. Filling and put-up for work permit approval	
			6. Letter issued and notification to NGO	
			7. Report generation	
9	9 Currency Deposits Letter Management	DG, Director, AO, DA,	Application submits for provisional permission	Web/App
		NGO, Bank	2. Application receiving and DG marking	
			3. Filling and put-up for provisional approval	
			4. If Query to NGO	

			5. Letter issued and notification to NGO6. Report generation7. Bank branch notification	
10	Bank Account Transfer Permission Management	DG, Director, AO, DA, NGO	 Application submits for provisional permission Application receiving and DG marking Filling and put-up for provisional approval If Query to NGO Letter issued and notification to NGO Report generation Bank branch notification 	Web
11	Assets sell Permission Management	DG, Director, AO, DA, NGO	 Application submit for assets sell permission Application receiving and DG marking Filling and put-up for provisional approval If Query to NGO Letter issued and notification to NGO Report generation 	Web/App
12	Unspent Fund Return Permission Management	DG, Director, AO, DA, NGO, Development Partner (Donor), Bank	1. Application submit for assets sell permission 2. Application receiving and DG marking 3. Filling and put-up for provisional approval 4. If Query to NGO 5. Letter issued and notification to NGO 6. Report generation 7. Bank branch notification	Web/App

3.3.4 Project Inspection Management

SL	e-Feature	Actor/User	e-Feature Description	Media
1	Project Activity	NGO,	1. Add follow up information	Web
	Monitoring Management	Development Partner	2. Add fund spent information	
	Widnagement	(Donor), Bank	3. Create activity for each action on different module	
			4. Report generation of activity	
2	Project Inspection	DG, Director, AO, DA,	1. NGO AB determines for an inspection as per process of APA	Web
	Reporting Management	NGO, Development Partner	2. Assigning concern officer for inspection (Director, DD, AO)	
		(Donor)	3. Note for inspection	
			4. Approval of the tour program/inspection through GO by DG	
			5. Sending notification to NGO by GO, email, SMS	
			6. Sending checklist and format of the documents required HQ and field visit	
			7. NGO prepares documents	
			8. Verification of the documents during inspection as per checklist	
			9. If the documents are not found, concerned inspection officer write a note to DG through an inspection sheet	
3	Local	DG, Director,	1. Application preparation	Web/App
		AO, DA, UNO, DC	2. Collect and attachment of corresponding document with application	
			3. Application submission	
			4. Check the application and receive it by corresponding desk officer	
			5. Assign officer or DC/UNO for inspection	

6. Physically inspection of venue
7. Prepare report
8. Report recheck
9. Report submission to DC/UNO
10. Report check and letter issue
11. Sending notification to NGO/NGOAB by email/letter

3.3.5 Audit Report Management

SL	e-Feature	Actor/User	e-Feature Description	Media
1	Planning and Scheduling Draft Audit Report (FD-4)	Audit Personnel, NGO, AO, DA	 Add or initiate draft audit report Add list of corresponding dynamic item summery as per project management Prepare and complete the form 	Web
2	Document Attachment for an Audit Report	Audit Personnel, NGO, AO, DA	 Add attachment List or upload attachment Management of attachment 	Web
3	Findings Document and Categorization for Audit Report	Audit Personnel, NGO, DG, Director, AO, DA	 Add query or findings Reply on query or findings Categorize the report (if need) Submit of audit report Scrutinize the report 	Web/App
4	Audit Finding Response Management	Audit Personnel, NGO, AO, DA	 Add query or findings Reply on query or findings Categorize the report (if need) Scrutinize the report 	Web/App
5	NOC of Audit Report Management	Audit Personnel, NGO, AO, DA	 Clearance of audit report Approved the audit report NOC or notification of audit report 	Web/App

3.3.6 Complain Management

SL	e-Feature	Actor/User	e-Feature Description	Media
1	Add New Complain	NGO 1. Add new complain required field 2. Service recipient can add new complain & tag his own NGO name. So, service provider can relate that NGO & registered user		Web/App
2	Complain Monitoring	NGO/SA-DG 1. Service recipient (NGO/All Registered user) can view all complain list 2. Service recipient (NGO/All Registered user) can check complain status 3. Service provider (SA-DG) can add any noted related complain 4. Service recipient will be notified when any noted added by service provider		Web/App
3	Complain Investigation	SA-DG/DC/UNO approval process 2. SA-DG/DC/UNO will investigation the complain 3. Report or note will be added after investigate		Web
4	Complain Process	SA-DG 1. Service provider can check the all complain list 2. Service provider can update the complaint status 3. Service provider can check the status 4. Service provider can add/view/update comments/query. Authority will add comments/query & complainer will check that comments/query		Web
5	Complain Disposal	SA-DG	Service provider will check all complain	Web

			2. Based on judgment process service provider can update status/note3. Finally service provider can dispose the complaint	
6	Appeal Management	NGO/SA- DG/PMO	 Service Recipient can appeal on disposed complain/declined registration Appeal will go to either DG or PMO Service provider can check appeal list by related service provider Service provider can update status & note on specific appeal Finally appeal can resolve by service provider 	Web
7	FAQ	NGO	Dynamic FAQ Service recipient will be able to view FAQ & get answer instantly through website & mobile app	Web/App
8	Chatbot	NGO	Chat feature Service recipient will be able to view chatbot & get answer instantly through website & mobile app	Web/App

3.3.7 Human Resource Management System

SL	e-Feature	Actor/User	e-Feature Description	Media
1	Information Management	Admin, AO, DD(G), DG	 Add follow up information Basic Records and Information Position Control Job Position Details Self-Service Portal Job History 	Web/App
			7. Disciplinary History	

le .				
2	Recruitment Management	Admin, AO, DD(G), DG	 Add follow up information Social Recruiting Background Check Onboarding 	Web/App
3	Leave Management	Admin, AO, DD(G), DG	 Acquired leave application Casual leave Peace recreation holiday Leave tracking 	Web/App
4	Application Form Management	Admin, AO, DD(G), DG	 Prime Minister's Office for officials to travel abroad application Advance buds from general future funds Matters relating to retirement of officer employees 	Web/App
5	Workforce Management	Admin, AO, DD(G), DG	 Workforce planning and scheduling Time sheet design Time data, capture and processing Monitoring and analysis 	Web/App
6	Event Management	Admin, AO, DD(G), DG	 Add Single/Multiple Event Event Tracking Time sheet design 	Web/App
7	E-Billing Management	Accountant, AO, DD(G), DG	Bill preparation and submit to DG for approval	Web/App

3.3.8 Report Management

SL	e-Feature	Actor/User e-Feature Description		Media
1	Report Configuration Management	Admin User	 Setup and master data entry Template setup Parameter form setup 	Web

2	Report Preparation	Section, AO, AD, DD, Assistant, Enquiry officer	Parameter selection Draft report preparation	Web
3	Approval Management	DD, DG	Draft report note preparation Draft report approval	Web
4	Publish and Disbursement	DG, Admin, It	 Report publish Report disburse acknowledgement Disbursement track record 	Web
5	Archive Management	IT, Admin	 Report categorization Report archiving and source record Report search engine 	Web
6	Research on Report	Researcher	 Research topic selection Research defence and research's presentation Fund allocation Research process and activity records Final defence and presentation Research output and publishing Research notes and document archive 	Web
7	Project Completion and Project Management	NGOs, CA Firm, Audit Superintendent	Audit report	Web
	NGO's, NGOAB NGOAB, Bangladesh Bank, Concern Bank		Annual report	Web
			Fund flow in the concern bank	Web
		NGOAB, NGOs, Local Administration	DC's/UNO report	Web

NGOAB, NGOs	NGO profile from inception	Web
INDUAD, INDUS		
NGOAB, Concern ministry, NGO's	Duplication allocation of fund	Web
NGOAB, Concern ministry, DC/UNO, NGO's	Overflow	Web
NGOAB, NGOs, Local Administration	NGO's progress report	Web
Development Partner (Donor), NGOs, NGOAB, DC/UNO	Load balance	Web
NGOAB, NGOs	Human resource in NGO national	Web
Development Partner (Donor), NGOs, NGOAB	Human resource in NGO international	Web
Development Partner (Donor), NGOs, NGOAB	Dist./Upazila/Union level allocation of fund	Web
NGOAB, NGOs, Ministry of Home Affair's	Foreigner visit and appointment related report	Web
NGOAB, NGOs, Local Administration, Development Partner (Donor)	NGO activates profile	Web
NGO's, NGOAB	Ranking and Award	Web

		NGO's, NGOAB	Completion Report	Web
8	Monthly Report / Quarterly Report	NGOAB, NGOs, Local Administration, Development Partner (Donor)	Project Approval an Fund Release	Web
		NGOAB, PMO, Economic Relation Division	Human Resource	Web
		NGOAB, PMO, Economic Relation Division	Project Related Report	Web
		NGOAB, Local Administration, NGO's	NGO Project Inspection Report	Web
9	Yearly Report NGOAB, PMO GIU Unit, NGO's, Economic Relation Division		Sustainable Development Goal (SDG)	Web
		NGOAB	Non-Tax Revenue	Web
		NGOAB, PMO	Annual Report HR	Web

3.4 Users and User Role

The following table gives a general idea/overview of user types and roles:

	Service	Name: N	GO Manag	gement, Project Mana	gement, HR Management
SL.	Types of Users	No. of Users	No. of Officers / Locatio n	User Title	User Major Role
1	Digital Service Operator	67	84	 DG Director Assignment Officer Dealing Assistance 	 Registration requirement Configuration Dynamic Form Builder Management Workflow Configuration Management License Template Configuration Management Registration Management Complain Management Appeal Management FAQ & Chatbot Configuration Management Dynamic Report Management Approval Management Achieve Management Research on Report Management Research on Report Management Project Proposal Management Project Fund Management Fund Release Application Management N-visa Management Work Permit Management Work Permit Management Work Permit renew Management

					Management Bank Account Transfer Permission Management Bank /Branch List Assets sell Permission Management Unspent Fund Return Permission Management Planning and Scheduling Draft Audit Report Document Attachment For an audit Report Findings Documentation & Categorization Audit Findings Response Management
2	Local Administr ator authority	600	 Deputy Commis er Upazilla Nirbahi Officer Desk Off 	•	Project Activity Monitoring Management Project Inspection Reporting Management Local Administration Certificate (LAC) Management
3	Digital service Recipient s	3000+			User Management Application Monitoring Management Complain Monitoring Management Foreigner List Management Development Partner (Donor) Management Bank /Branch List N-visa Management Work Permit Management Work Permit renew Management

	Currency Deposits Letter Management
	 Bank Account Transfer Permission Management Assets Sell Permission Management Unspent Fund Return Permission Management

3.5 Security and Privacy Requirements

We should submit an extensive and complete security and privacy plan for this Digital Service application considering the following issues:

- Project technical scope
- Functional and non-functional requirements and ultimate objectives
- Concerned service provider organization's operational environments and capacity
- User rotes Accessibility, Authorization and Accountability
- Importance of data management
- Technologies to be used for development & run
- Hosting
- Client and service side
- Overall standard application security requirements.

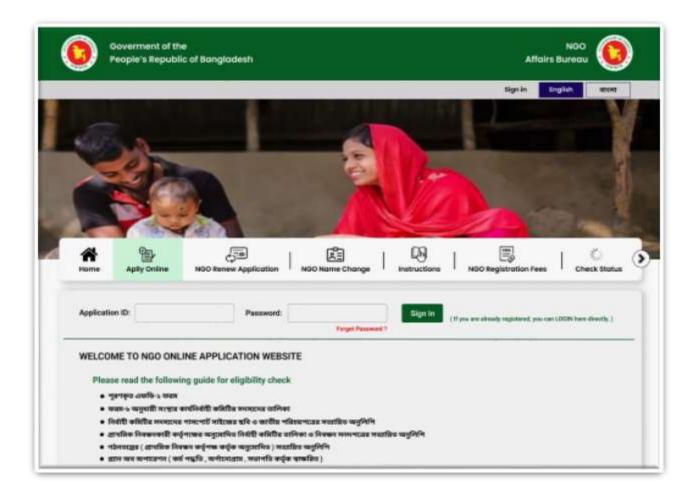
4. Interface Requirements

4.1 User Interfaces

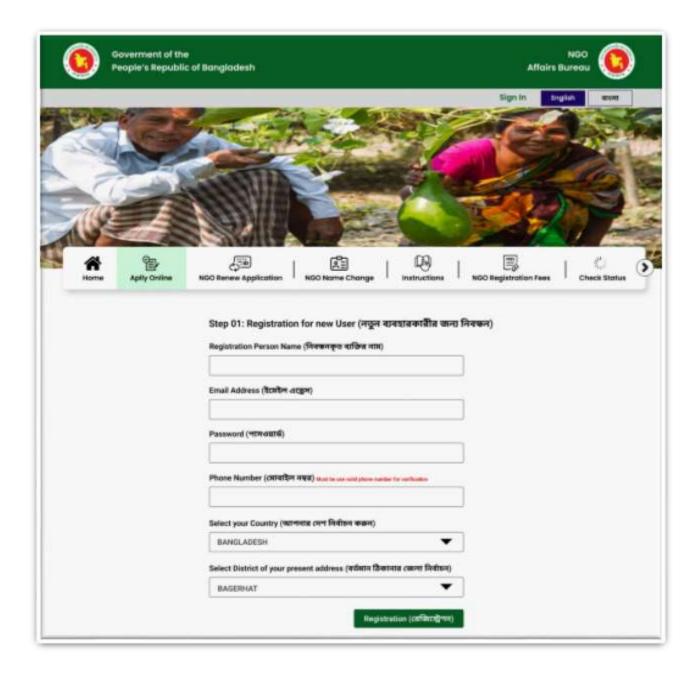
4.1.1 Home Page



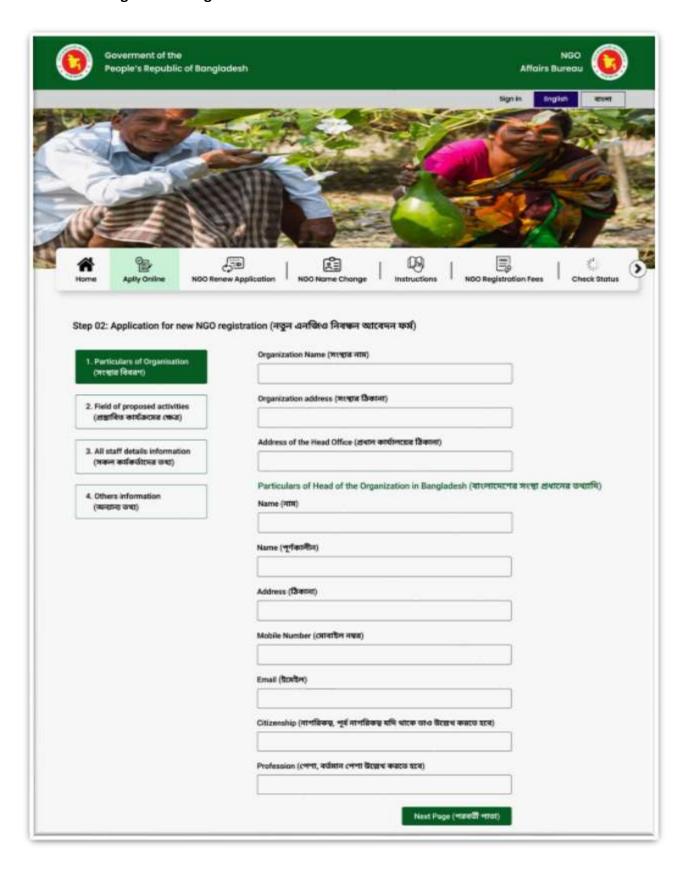
4.1.2 Eligibility Page



4.1.3 User Registration Page

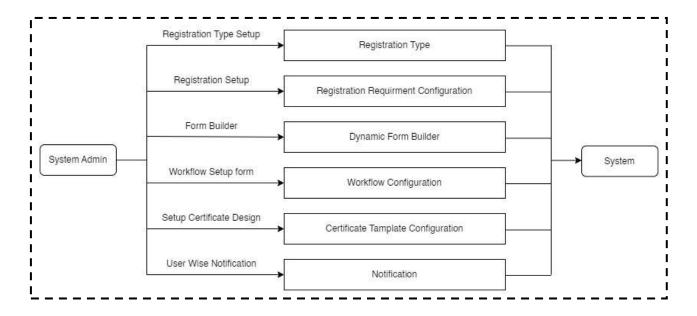


4.1.4 NGO Registration Page

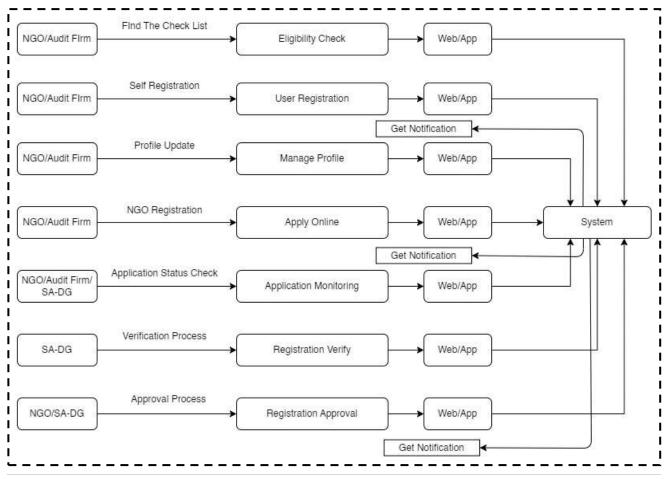


4.2 Digital Features Function Diagram

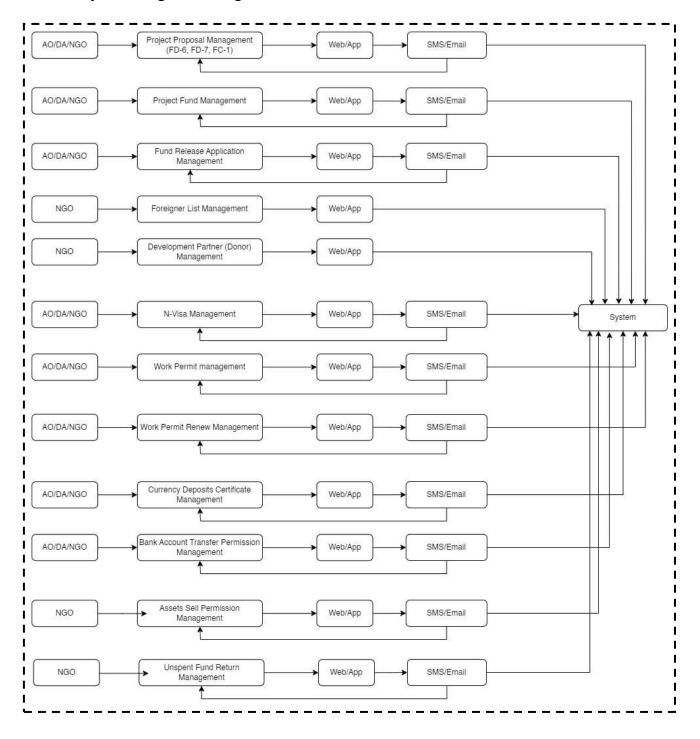
4.2.1 Registration Setup Management Diagram



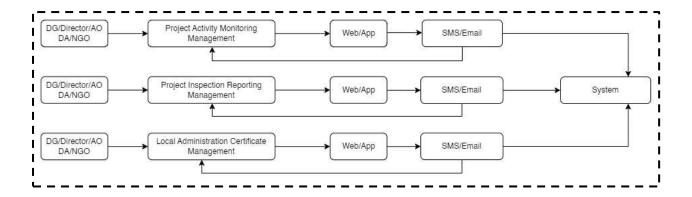
4.2.2 Information & Registration Management Diagram



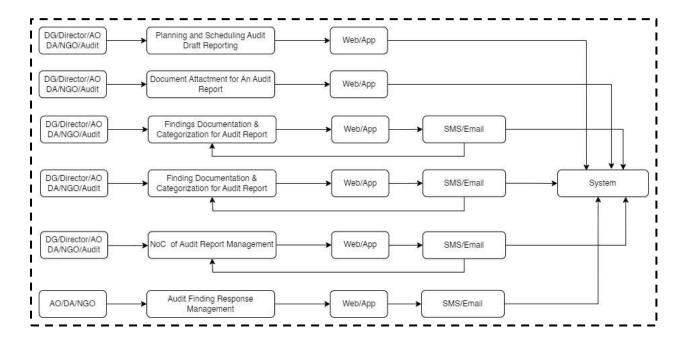
4.2.3 Project Management Diagram



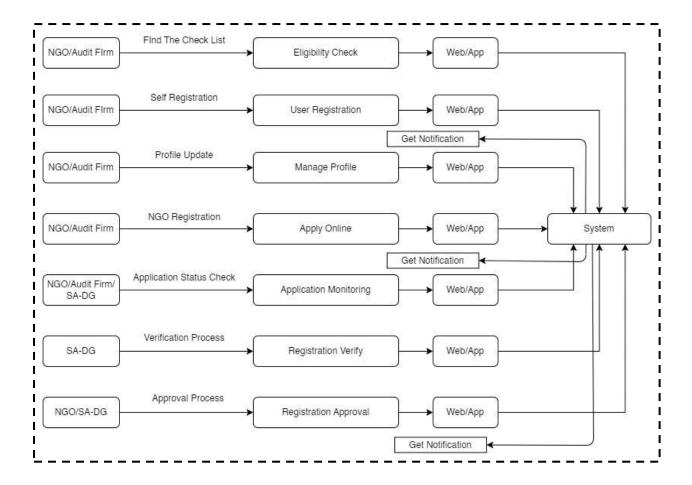
4.2.4 Project Inspection Diagram



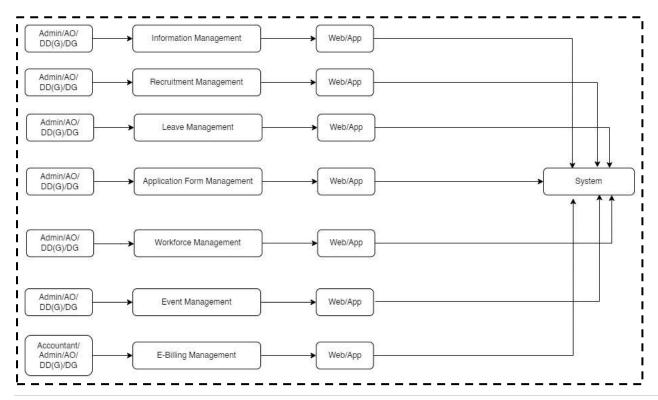
4.2.5 Audit Report Diagram



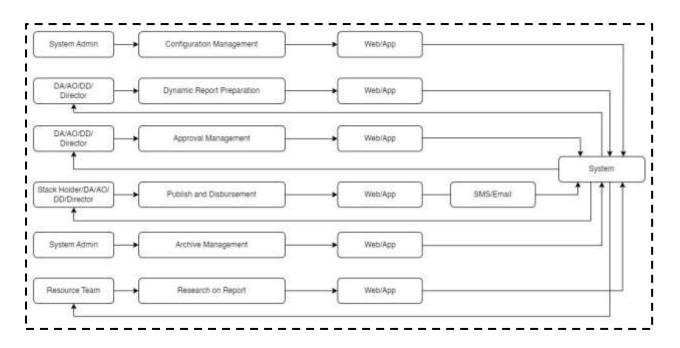
4.2.5 Complain Management Diagram



4.2.6 Human Resource Management Diagram



4.2.7 Report Management Diagram



5. Non-Functional Attributes

5.1 Application Compliance Requirements

5.1.1 Web Application

- The application, which is a web-based solution, has to be hosted in a enhanced web server.
- The application should be developed following Service Oriented Architecture (SOA).
- Application should support MVC framework.
- Considering the operating/client environment at different level of this application, it should be developed in such a way so that it requires low bandwidth to run.
- The web-based application should support cross browser platforms (popular web-browsers such Mozilla Firefox, Opera, Chrome, Internet Explorer, Safari etc.)
- Should have ability to seamless integration with future module/components/applications.
- Application should be lightweight and rich client-side scripting
- User Interface (UI) should be developed based on the analysis of User Experience (UX).
- Any web interface of this application should be fully responsive.

5.1.2 Mobile Application

- The mobile application version of the system should be developed for Android and iOS.
- The mobile app should have capability of displaying system notifications.
- Functionality for registration options for service recipients.
- App should enable compact view of services for service recipients.
- There should be an option to auto synchronization with the central database with apps local database on the availability of the Internet connectivity.

5.1.3 Performance and Scalability Requirements

- The system shall be capable of handling online functionalities for a database of at least 25,000 service recipients and in terms of service provide 1 and 50 System Users.
- The system processing shall be scalable to support the volume estimates for a period of 10 years at a 20% annual growth rate.
- The system shall be designed to handle estimated 40/500 simultaneous connection (online users) when it is ultimately rolled out.
- We must conduct an extensive load-testing task taking above factors into consideration and submit a load testing result.
- Considering the network infrastructure challenges in Bangladesh, the solution must support low bandwidth conditions for the services defined in the functional requirements.
- The Digital Service application should be provided with appropriate caching mechanism to handle very high-traffic scalability.

5.1.4 Interoperability and Data Exchange

The selected vendor must develop this Digital Service system following all the standards and protocols of interoperability, integration and data exchange with other systems. It is expected that the system will be based on open architecture and will be fully interoperable with the current and future systems. The following are the key expectations on interoperability requirements:

- The system should be designed for interoperability using industry standard protocols.
- System must expose data by Advanced Message Queuing Protocol and REST via TLS an Service Oriented Architecture (SOA);
- All imported data must undergo data validation to ensure full integrity;
- Data exchange within the system at different levels via the internet shall be encrypted

5.1.5 Coding Conventions

We must follow the standard coding styles to produce high-quality code for further uses of the code in terms of reusability, refactoring, task automation, language factors etc. We submit a standard coding convention (PHP, Laravel, MySQL database etc.) approach, which may include different conventions like commenting, indent style, naming etc. following the best coding practices.

5.1.6 Documentation

Detail and proper documentation of such ICT based project like Digital Service application development and implementation for Government is very vital and essential. Documentation is required for any such project as reference, knowledge transfer, analysis of development and implementation history, baseline information for any modification or change, guidance etc. In this issue, Vender should show highest-level of professionalism for delivering the standard documentation approach at each phase of Digital Service development and implementation project. Vendor should include an extensive documentation plan of this project in their technical proposal, which may cover the followings

- Documents titles phase or activity wise.
- Purpose of document.
- About the format of documents (if possible, only index or fields).
- Type of expert and skilled resource will be used for documentation.
- Document priority and dependency.

5.1.7 Quality Attributes and Assurance

- The Quality attributes and Assurance plan will describe the standards, processes and procedures in this Digital Service application development life cycle which will be used to support the consistent delivery of high-quality, professional standard Digital Service application and services provided in the support of an automated environment. The quality assurance process will be concerned with establishing the authority of the QA function, quality assurance standards, procedures, policies, and monitoring, and evaluation processes to determine quality in relation to established standards. Quality assurance activities will concentrate on the prevention of problems through the continuous improvement of processes.
- In order to provide high quality products and services, each support team will adhere to
 processes, procedures and standards. Quality Assurance (QA) is a process used to monitor
 and evaluate the adherence to processes, procedures, and standards to determine
 potential product and service quality. It will involve reviewing and auditing the products
 and activities to verify that they comply with the applicable procedures and standards,
 and will assure the appropriate visibility for the results of the reviews and audits.
- We provide an extensive Quality Assurance plan with measurable attributes for each phase of this Digital Service development life cycle in their technical proposal.

5.1.8 Copyright

NGO Affairs Bureau (NGOAB) shall be entitled to all proprietary rights including but not limited to patents, copyrights and trademarks etc.:

- All kinds of source code including code documentation and other approved documents (all versions trail, products, developed applications, documents and all kinds of deliverables which bear a direct relation to or is made in consequence of the services provided by the vendor under this scope of this TOR.
- At the request of the NGO Affairs Bureau (NGOAB), the vendor shall assist in securing such property rights and transferring them in compliance with the requirement of the applicable law. After the completion of the project such rights will be handed over to, the NGO Affairs Bureau (NGOAB) that will be produced at the time of entire system development and implementation life cycle under the scope of this TOR will be owned by NGO Affairs Bureau (NGOAB).
- The vendor should properly deliver all the entire approved source codes and other deliverables to the NGO Affairs Bureau (NGOAB). The vendor cannot claim any royalty or authority of any sort in case of replicating the source code or database or any other deliverables under this TOR for any future use that NGO Affairs Bureau (NGOAB) and the Government of Bangladesh may see fit. Any studies, documents, reports, graphics or other material prepared by the vendor for this project under this TOR shall belong to and remain the property of NGO Affairs Bureau (NGOAB).

6. Work Plan

Activity	Month																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Analysis & Design																								
Development																								
Development & User Acceptance Testing																								
Training & Implementation of System																								
Maintenance & Support																								

7. Conclusion

NGO Affairs Bureau (NGOAB) has the mission of ensuring the best Government Online Digital Service s to make the life of citizens comfortable. Planned digitalization implies the broad use of computers and embodies the modern philosophy of effective and useful use of Information & Communication Technology in terms of implementing the promises in education, health and poverty reduction under "Digital Bangladesh" initiative. This will include all classes of people does not discriminate people in terms of technology.

In view of the above, we has to design, develop, implement, maintain a Single Sign-on web & mobile Apps based solution for Digital Service for NGO Affairs Bureau (NGOAB). Obviously, the proposed technical proposal has to reflect the visualization, deep level understanding of the processes, system requirement, development platform, Quality Assurance (QA) plan including capability of adopting future technologies.