
REQUEST FOR PROPOSAL (NATIONAL) FOR SELECTION OF CONSULTING FIRM FOR SOFTWARE & IT ENABLED SERVICES

“Hiring a firm for development of Central Complaint Management System (CCMS)”

**Invitation for Proposal No: 56.83.0000.006.07.105.22.1307
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“Hiring a firm for development of Central Complaint Management System (CCMS)”



Section 6. Terms of Reference (TOR)

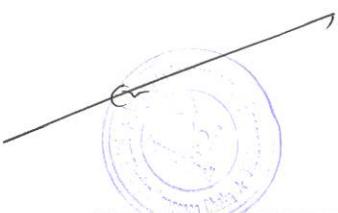
Of

**Hiring a firm for development of Central Complaint Management System
(CCMS)**



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1. Background

On a very optimistic estimate, the size of Bangladesh's e-commerce sector is projected to be around \$3 billion by 2023. Bangladesh is also set to graduate from a least developed country to one of middle income around the same time. There has also been solid historical evidence of consumers spending more money on fashion, food, and consumables when they have higher expendable income. So, there is potential for growth in this sector. The development of mobile financial services and more robust internet coverage in suburban regions have been credited to the development of e-commerce in the past years.

Due to the COVID pandemic, e-commerce saw a natural global boost as nationwide or regional lockdowns have been in place. Companies have been innovative and acquired extra market shares by giving consumers what they wanted.

In contrast, consumers have been able to order consumables, conventional and non-conventional goods and services from the safety and comfort of their homes. According to the e-Commerce Association of Bangladesh (e-CAB), official reports, and industry insiders, online sales rose about 70% in 2020 from the previous year. The industry's market size stood at nearly \$2 billion as of August that year.

The e-commerce sector has gone through turbulent times since the beginning of 2021. Although scams took the most attention this year, a few platforms have been doing it right by building trust and understanding what is most important for a consumer — good customer service, a long-term plan, and learning from mistakes. A report published by the Directorate of National Consumer Rights Protection (DNCRP) shows that several platforms could successfully resolve customer complaints.

Regaining customers' trust will be the major challenge for Bangladesh's e-commerce sector in 2022. Most of the outgoing year was marred with scams and controversies, leaving thousands uncertain about the recovery of thousands of crores of taka. It stalled the substantial growth achieved by the sector, which even went well over 50 per cent amidst the pandemic over the last couple of years. Stakeholders said widespread mistrust made it difficult for online platforms to acquire new customers.

In July 2021, the Digital Commerce Operation Guidelines went into effect. The guideline provided proper instructions for deliveries, pricing, and showcasing of products, which led to several platforms shutting down as they could no longer take advantage of the advance-first model — a model eliminated by introducing the escrow system. To build up customers' confidence, work has been progressing on enacting a system where the authorities will hear customers' plight and enforce proper actions.

Aspire to Innovate (a2i) is looking to recruit a firm responsible for developing a central complaint management system. The project is funded by the Government of Bangladesh, UNDP, and other development partners and is implemented by ICT Division and Cabinet Division.

2. Review of the Existing System

2.1 About the organization

Aspire to Innovate (a2i), a whole-of-government programme of the ICT Division, supported by the Cabinet Division and UNDP, catalyses citizen-friendly public service innovations, simplifying government and bringing it closer to the people. It supports the government to be at the forefront of integrating new, whole-of-society approaches to achieve the digital society. The project's

objective is to increase transparency, improve governance, and reduce the time, difficulty, and costs of obtaining government services for under-served communities of Bangladesh.

In order to transform Digital Bangladesh into reality and implement the vision of the government of Bangladesh, a2i constantly has been the pioneer forerunner. a2i has not only changed the scenario of public service delivery in Bangladesh, but also enabled the citizens of all walk to avail public services at their fingertips.

2.2 Existing Service, resources, infrastructure, connectivity and data status

Currently there is no integrated system but if an individual wants to submit complaints against any e-commerce platform, they have to submit an online form using the GRS (<http://www.grs.gov.bd/>) platform or file a written form against the company and services. This process needs to be followed for all kinds of complaints. After the submission, the governing authority take time to review and investigate the complaints and then take it up to court to get it passed or nulled.

2.3 Problems and Challenges

As the e-commerce market grows rapidly, problems are rising in equal measure. The market size stood at nearly \$2 billion, and from 2017 to July this year, more than 27 thousand complaints have been submitted to the department of Directorate of Consumer Protection. Although within this time period less than 50% complaints have been resolved. There is no category or special body to make the process faster in order to resolve the complaints, while it keeps piling up. Limited resources and lagging procedures are delaying the operations needed to resolve the issues. Most of the times the complaints are financial in nature – big transactions – so the wait to solve the problems creates dissatisfaction among the consumers.

2.4 Data, environment, and facilities to be provided by Client

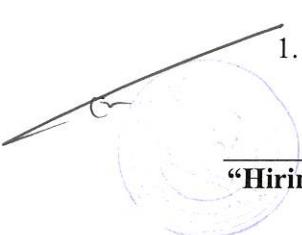
Since the proposed system is first of its kind, no previous data is available on similar manner. Considering this no data will be provided to the firm.

3. Proposed System/ services

3.1 Objective

The overall objective of the assignment is to develop a centralised platform where a consumer can raise their valid complaints against an eCommerce company, and the CCMS platform can interact as a primary redressal tool for consumers and e-commerce companies moderated by appropriate administrative authorities. The complaints in the CCMS platform should automatically escalate to the national GRS/Nothi system if certain criteria are met. To resolve the complaint, there should be an online hearing mechanism in-built into the CCMS system by which any resolution meeting can be scheduled and the hearing in an online environment. The CCMS SYSTEM should also have a mechanism to record/store the verdict and evidence in the system. The CCMS system should have a charging mechanism based on valid complaints, verdicts/outcome, penalties and various rates/packages with a timeline/validity for the eCommerce companies.

The platform should also have Artificial intelligence (AI) and Machine Learning (ML) to address, prioritise, resolve, notify, analyse and provide recommendations of the actions to all parties that should be taken.

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1. To interact as a primary redressal tool for consumers, e-commerce companies, and appropriate administrative authorities.

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2. Verify consumer profile using porichoy (NID) platform to prevent harassment.
 3. To create a mechanism to enforce a standard process for grievance redressal.
 4. Create a bridge among consumers, e-Commerce, logistics companies, relevant stakeholders to ensure their services.
 5. Provide a platform that facilitates public-private collaboration.
 6. Integrate with all the e-commerce platforms, myGov, Nothi and Porichoy platforms.
 7. Verify customer identity, OTP-based login over chat window, collect complaint tickets from various channels such as websites, in-built chatbots, WhatsApp, Viber, IMO, Messenger etc. and segregate them in one place.
 8. An online hearing mechanism to conduct hearings virtually. Also, preserve all records and evidence inside it.
 9. An accounting wallet module

3.2 Scope

The overall scope of the complaint management system should address the above objective and also cover the below points:

- Develop, maintain, host and manage the complaint management system.
- Custom developed dashboard to visualize the information of the database through visualizations, charts and different kinds of reporting. This includes all the parameter. This includes all the parameters used for capturing data such as date, order details, basic personal information location and others.
- Provide features that automate most of the tasks, such as sending notification to the authorities, complainants, and respondents at certain stages of the complaint handling process via email or SMS.
- Provide an end-to-end solution with an integrated multi-platform solution, easy to implement and integrate with other application and system.
- All the stakeholders and authorities should be able to manage their profile and admin should be able to control and manage, update all the information in the platform
- Run integration process of the relevant APIs.
- Maintain a sandbox environment for this solution.
- Work closely with the stakeholders to onboard the companies on the platform and provide necessary support for the stakeholders
- Developing standard user manual for the relevant modules for the stakeholders and users

3.3 Functional Requirements and Features

a. Centralised Complaint Management System:

- i. The platform should have multiple types of users. Based on user types, user roles should be defined. There should be consumer users, e-commerce admins, e-commerce agents, and various monitoring authorities on the platform.
- ii. Every eCommerce platform should be integrated with this platform by which consumers can easily submit their complaints into this platform. The CCMS system should be able to identify the referral of the forwarding eCommerce company from where the consumer is placing complaints. There should be multiple types of complaint interface for the

consumer to place a complaint. Such as in eCommerce website/app, WhatsApp, Viber, IMO, Messenger, in-built chatbot etc.

- iii. When a consumer submits a complaint, it needs to be routed and notified to the appropriate entity, department or concerned person. The application should be able to schedule an online hearing for a complaint resolution. There should be a mechanism to set business logic of complaints, submitting criteria's, notification and status checking proceedings, problem resolution status changes and consumer consent collection in a variety of ways.
- iv. The system should also be able to have intelligence of when a complaint be considered as solved and when as conflict and generate notification and alerts appropriately. Unresolved issues should be sent to the Nothi GRS system via API automatically if certain conditions are met. While registering a consumer their profile must be verified using their NID (Porichoy API). For minors, they should be able to register using parents NID. The selected firm should automate the process.
- v. The firm should provide features that allow different forms and templates to feed the database most efficiently. Various templates and forms are used to collect data at different stages of the complaint handling process.
- vi. The system should allow the registration of details of the complaint in several formats if needed: text, video, audio and images. The data must be available in various forms, such as pdf, CSV, png, jpg, video and any other acceptable format. It should be possible to update or add information at every critical stage of the complaint handling.
- vii. The eCommerce consumers should be able to fill the form up quickly and should be able to select relevant companies and other options.
- viii. The system should be able to record/store all evidence & outcomes from the hearing/online hearing within the system for the future. The data should be structured and should reflect in search as well as in various analytics

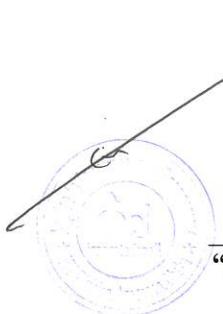
b. Accounting/wallet module

The application should have an accounting module to set/create various business logic for parties. Based on legit complaints and its resolution, the system should be able to classify the charges and impose them to the parties. There should be a wallet mechanism for holding pre/post transaction balance for legitimate complaints.

c. WhatsApp/Messenger/IMO/Viber/Chatbot integration

Consumers should be able to place their complaints to the CCMS through various channels such as WhatsApp, viber, imo, messenger, chatbot, USSD, SMS etc. Those channels will be advertised and exposed to the consumer on social media, ecommerce sites/apps or the CCMS website. There should be smart intelligence to identify the need and interact with the consumer, most simply considering all types of consumers around the country.

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- d. **Onboarding e-commerce companies:** Authorities/Super admin should be able to onboard companies (eCommerce) in the platforms along with relevant stakeholders such as eCab, DNCRP, and the Law-enforcement dept. etc., and provide separate credentials for all. When a customer fills up a complaint against any platform, the relevant company should get an instant notification. eCommerce platforms should receive relevant information from the system.
 - e. **Company profile:** All companies should be able to manage their profile by themselves. They should be able to add their employees to the platform as moderators to set and control the access to the platform. Complaint status updates download different types of analytics, and different filters should be added to the platform.
 - f. **Complaint tracking monitoring module for all the stakeholders:** All the stakeholders should be able to monitor the complaint status by a unique number. All should get notification when the state of the complaint is changed or updated by any party. Should get an automatic notification (email and SMS, Dashboard) on a preset business logic (set by the super admin).
 - g. **NID or Birth Registration verification for curtailing fake complaints:** When a customer submits a form, the platform should check the data, especially should be able to check the NID number or Birth Registration number with the national database of the citizens.
 - h. **Direct connectivity with DNCRP (Or can act as DNCRP system):** The selected firm should also connect the platform with the Directorate of National Consumer Rights Protection. If any complaint is not resolved by the eCommerce platform on time, the relevant authority should also notify them about the issues.
 - i. **Online hearing mechanism between multi parties for the resolution:** The application should be able to schedule an online hearing for a complaint resolution.
 - j. **Preserve evidence & verdict from the hearing**
Evidence and outcome of a hearing should be preserved in the system for future reference. The content type could be image, data, text, pdf, video, online hearing recording etc.
 - k. **Direct connectivity with the eNothi/GRS system of the government:** The platform should be integrated with Nothi and GRS platform so that if any problem does not solve within the timeline The platform should automatically generate Nothi.
 - l. **Ecommerce integration and widgets:** The platform should have a standard and universal ecommerce platform integration module which can be done very easily. A widget/plugin should be made available for this objective.
 - m. **Mobile responsive UI:** This system's UI should be mobile responsive and maintain the industry standard. The web application design should be mobile responsive i.e, which can be accessed from devices with different screen sizes It



should be both in Bangla and English. The system must comply with the accessibility features guideline in mobile responsive UI.

- n. **Dashboard reporting and analytics:** Different types of reporting, analytics, company wise data, problem type wise data with graphs should be available in the platform based on the data the platform is collecting or generating. There should be a mechanism to set business logic of complaints, submitting criteria's, notification and status checking proceedings, problem resolution status changes and consumer consent collection in a variety of ways. Multiple filters should be available in the platform for example (date wise, problem type, location, company, complaint status and other relevant data). Multi-layered dashboard should be included in the platform. Central dashboard is for the authority, dashboard for the e-commerce and customers.

3.4 User and User Roles

Sl No	Stakeholder/ Players	Details	Roles
1	End Users/ Customer / Beneficiaries	<ul style="list-style-type: none"> ● Create accounts ● Verify using NID ● Submit complaints in the platform ● Reply any complaints ● Update complain status ● Track complaint status ● Participate any scheduled hearing 	Citizens will use this site to submit their complaints against the e-commerce platforms to the authority
2	eCommerce companies	<ul style="list-style-type: none"> ● Create and manage their profile ● Manage agent accounts and set roles to manage the complaints ● See/Reply a complaints ● Submit attachment as proof ● Request for status update as resolved ● Participate any scheduled hearing ● See analytics ● See accounting/wallet/charges/penalties etc. ● See verdict/result of a hearing 	eCommerce companies will create their profile in the platform. They will get notification from the platform if any customer submits complain against the company. They will be able to reply/communicate attach proof against the complaints through the platform in order to resolve the issues.
3	Monitoring Authorities (eCab, Law enforcement,	<ul style="list-style-type: none"> ● See/reply any complaints ● See any proof document to verify ● See consumer/ecommerce company list and their profiles 	Authorities will be able to see all the complaints including proof from the platform. Based on the complaints Authorities will be able to create hearing

	DNCRP, Others)	<ul style="list-style-type: none"> ● Schedule any hearing for a complaints ● Update status of a complain ● Send a complaint to the Nothi system ● See and export various analytics from the dashboard 	and send Nothi to the nothi system using this platform.
4	Super Admin	<ul style="list-style-type: none"> ● Administrate any account ● See overall system analytics ● Oversee system performance ● Administrate system performance and miscellaneous settings ● Backup data 	Super admin will be monitoring all the accounts and their activity in the platform including monitoring the system performance and data backup.

3.5 Security and Privacy Policy

3.5.1 System Security

#	Particulars
1	The security of the system is built-in by a combination of login identification and passwords. The security is provided at the operating system / SDK level (level 1), application login level (level 2), and at the menu/program execution level (level 3) and are user definable.
2	User login, OTP, Social login, Chatbot based OTP, password, NID based authentication should be implemented based on the requirements.
3	<p>Implementation of a secure socket layer (SSL) is a must for a web-based system. The firm is expected to procure SSL certificates on behalf of the purchaser and implement them in the system.</p> <p>The system must be deployed in a highly available server and all-time expandable storage should be attached</p> <p>The system should be connected with CDN and network level firewall.</p>
4	The system exclusively provides access control based on the user role types and their privilege level to access specific system functions and system data. Concepts of triple-a: authentication, authorisation, and access control should be implemented to comply with the latest security techniques.
5	The system exclusively supports defining many user types (to be discussed and finalised in LLD) with differing access privilege levels.
6	<p>The system provides definable password enforcement rules, including:</p> <ul style="list-style-type: none"> • password length • required alpha & numeric character • not same as the previously used password

7	The system should have the capability to provide two-factor authentications (linked to SMS)
8	The strength of the passwords provided by the users can be measured and suggested as weak, medium, and strong.
9	The system provides a facility for the administrator to force terminate selected user connections without adversely impacting the system.
10	The system provides a log of changes to user access rights.

3.6 Integration and External Dependencies

SL	External connectivity	Stakeholder name	Comments on readiness
1	Integration with NID server	Porichoy	Market ready
2	Integration with myGov	myGov	Ready
3	Integration with eCommerce companies	eCommerce partners	CCMS will provide js/script for easy integration
4	Payment Gateway	ekPay	Ready
5	AI/ML integration	3rd Party provider	
6	Chatbot based interface integration	3rd Party provider	
7	Nothi GRS integration	Nothi	Ready
8	SMS gateway integration	SMS service provider	Ready

3.7 Hosting Requirement and plan

The application should be hosted in a secure and high availability zone. The firm should submit hosting architecture along with redundancy and disaster recovery plan. The provider should also comply with the following hosting standards

3.7.1 Database & Application Node Specification

Data backup	Daily
Data security	Firewall protected
DB engine	MySQL/MariaDB
Application	Laravel framework based on PHP
Failsafe standby node	Yes
Scaling	Flexible
Uptime	99.9%
CDN	Yes
Firewall	Network level firewall with high bandwidth DDoS protection

3.7.2 Server Capacity Estimation

With the mentioned allocated server resources. We estimate the below capacity can be served.

Visitors	50,000 visitors per day
Bandwidth	40 Gbps
Firewall	Network Level firewall and DDoS protection
CDN	Local & Global
Traffic capacity	Min 50 TPS

3.8 Non-Functional Requirements

- **Sizing, Performance and Scalability Requirements**

The application should be highly scalable and should be deployed in a high availability zone cluster so that it remains interrupted even if the traffic increases. As there will be a significant storage requirement, it is a must to attach/connect CDN and S3 type object storage which is expandable anytime and super reliable.

- **Coding convention**

- Code MUST follow a "coding style guide" PSR [PSR-1].
- Code MUST use 4 spaces for indenting, not tabs.
- There MUST NOT be a hard limit online length; the soft limit MUST be 120 characters; lines SHOULD be 80 characters or less.
- There MUST be one blank line after the namespace declaration, and there MUST be one blank line after the block of use declarations.
- Opening braces for classes MUST go on the next line and closing braces MUST go on the next line after the body.
- Opening braces for methods MUST go on the next line and closing braces MUST go on the next line after the body.
- Visibility MUST be declared on all properties and methods; abstract and final MUST be declared before the visibility; static MUST be declared after the visibility.
- Control structure keywords MUST have one space after them; method and function calls MUST NOT.
- Opening braces for control structures MUST go on the same line and closing braces MUST go on the next line after the body.
- Opening parentheses for control structures MUST NOT have a space after them and closing parentheses for control structures MUST NOT have a space before.

- **Business Continuity Plan**

The firm should submit a business continuity plan for the platform. It should cover functions of the business, identify which systems and processes must be sustained, and details how to maintain them. It should consider any possible business disruption, cyberattacks, pandemics, natural disasters and human error.

- **Accessibility**

The firm must develop the platform ensuring access for the citizens with disabilities in different standardized accessible formats. The platform should be developed in “universal design” and “assistive technologies”. All the features in the web application should be usable with the help of screen reading software by the service recipients with disability. The platform should follow the National Web and Digital Service Accessibility Guideline while developing the platform. Before using the guidelines, the firm should run it by the client.

Along with the guidelines, the firm should also cover:

- Anything that is not text on a web page usually includes, but is not limited to, an image, graphic, audio clip, applets (small application running within a web browser, i.e., text chat window, etc.), tickers, or other feature that conveys meaning through a picture or sound. Examples include buttons, check boxes, pictures and embedded or streaming audio or video.
- Providing a text equivalent means that words are being used to describe what an item (that does not physically consist of text) actually is, why it is there, and any information being communicated by the use of that item or the item itself.
- Check that all images have accurate and meaningful text equivalents. Images mostly use an “alt-tag” or “long desc” attribute as part of the object. To check, mouse users can roll their cursor over an image. If a text label or window pops up, then it has a text equivalent. Screen reader users can listen to see if an image is identified and described. It is also acceptable to simply include a text description above or below the image.
- Ascertain that images of text, graphical text (pictures of text), or text that is part of an image have a text equivalent. Be sure that the text equivalent correctly describes the image or communicates any information as part of the image. For example, if the image itself contains words, be sure the exact wording from the image is used within the text equivalent
- Ensure any audio has a text equivalent, such as a text transcript.
- Determine that all audios have been captioned for the deaf and hard of hearing, and all videos have audio descriptions for blind and visually impaired.
- Ascertain that captions and audio descriptions are synchronized correctly with the audio and video.
- Ensure that keyboard can be used to access all the form fields

- **Documentation Plan**

The firm needs to submit a proper documentation plan when handing over the platform. Both technical and user manuals must be added in the plan in detail.

- **Standard tools and Technologies to be used**

All the standard technology automation tools such as IDE, version control, project management, DevOps, and CICD tools should be used in the project development. Recommended tools are PHPStorm, VScode, Git, Jira, Trello, Jenkins, Docker, SFTP, SSH etc.

- **Quality Assurance and IT audit requirement**

The application should pass the standard Software Quality Testing and IT audit from “*Software Quality Testing & Certification Center, Bangladesh*”

3.9 Development & Approach Methodology

Development should be done following any of the standard methodologies. Such as Waterfall, Agile etc.

1. Development & Implementation Methodology

The solution should be developed and implemented in a CICD (Continuous Integration & Continues Development) environment for easy and anytime upscale capability. Technologies like docker, Jenkins, Kubernetes etc., should be used in the rollout strategy.

2. System Design & Development Plan

The SDP should be developed in the contractor's preferred format and should document all processes applicable to the system to be acquired at a level of detail sufficient to allow the use of the SDP as the full guidance for the developers. It should reference specific standards, methods, tools, actions, reuse strategy, and responsibility associated with the development and qualification of all requirements, including safety and security.

3. Testing Plan

The firm should prepare and propose an extensive testing plan and also finalize the plan from client so that any functional failure can be detected and corrected timely and adequately. This testing plan should cover all the standard testing approaches applicable for this solution, including phase-wise testing activities like test scripting, test cases, testing tools, testing process, test log, result, and report

4. User Acceptance Test (UAT)

The firm must submit a proper UAT plan for the major component development. UAT should be done after finishing the development. Based on this, the firm must propose a timeline.

5. Risk Management Plan

Platform development is an activity that uses a variety of technological advancements and requires high levels of knowledge because every software development project contains elements of uncertainty. This is known as project risk. The success of a software development project depends quite heavily on the amount of risk that corresponds to each project activity. To achieve a successful outcome, they must identify, assess, prioritise, and manage significant risks. A standard risk management process includes the following steps:

- Identify risks and their triggers.
- Classify and prioritise all risks
- Craft a plan that links each wager to mitigation
- Monitor for chance triggered during the project
- Implement the mitigating action if any risk materialises
- Communicate risk status throughout the project

The firm should submit a "Risk Management Plan" addressing all types of risks, including the steps mentioned above following standard risk management principles and their mitigation plan

6. Deployment and Implementation Plan

The firm should submit a deployment and implementation plan for the development of this system with all major components following industry-standard methods.

7. Training and Knowledge Transfer Plan

- Facilitating monthly session with client team for knowledge transfer
- Provide technical consultancy to the client for operational management during implementation.
- On-demand facilitation of system update information to client as mini-training session (monthly and/or in case of major changes executed)
- Provide continuous authentic access to client experts to source code and documents.
- After the development of the platform the trainings will be conducted by the firm in order to develop the capacity of a2i, ekShop team to take over the system gradually. The firm should submit a timeline along with training evaluation plan.
- Training will be part of project hand over process

8. Support & Maintenance Plan

Maintenance and support should be provided for 9 months after successful deployment. During this period, the client must ensure that all issues encountered, such as bugs/errors and functionality change requests, must be resolved timely and ensure the smooth operation of the system. The support period should cover all minor feature enhancements, customizations, and the addition of reports in the system as demanded by the users of both the systems as long as it is within the scope of A2i programs. In case any new modifications or enhancements are required that can be completed within 7 working man-days of work should be considered part of the project scope. Any requests requiring more than 7 man-days of effort would be considered outside the scope of this project and will be dealt with separately. During this period, the Respondent must deploy a support team (as outlined in the resource requirements section) full-time on-site to act as a focal staff on behalf of the Respondent for the duration of the support period. This team will provide/assist first-hand technical support to the a2i staff to facilitate the outcome of the system and maintenance support services period. The outcome of this activity will be to support a2i in ensuring the smooth operation of the system and timely resolution of any bugs/errors encountered during the period, including some minor incorporation of feature enhancements, the addition of reports etc.

- Bug/error fixing/installation of patches, upgrades etc.
- Addition or incorporation of more/new functionalities as long as it fits within the scope and nature of the program.
- Conduct regular user training in the Bengali and English language as required.
- Updating training manual adjusting the changes in the system.
- Overall system management, supervision and monitoring to ensure its smooth operation and implementation.
- Deploying dedicated Support Engineers 9AM to 5PM each day to address maintenance and support issues
- Establish proper data backup and support mechanisms to assist users in effectively operating the system without any technical problems.
- Build a2i internal technical capacity to gradually take over the system before the contract ends.
- Perform the duties and tasks related to the program scope as requested by the client

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- The team will provide platform demonstrations to internal and external stakeholders when necessary.

4. Team Composition

For proper execution of the project, i.e., system development, the firm shall include at least the following HR positions as minimum project team requirements:

Sl .	Person	Qty	Qualification & Experience	Responsibilities
1	Project Manager	1	<ul style="list-style-type: none"> ● Minimum graduate in Computer Science/CSE/Software Engineering or any other relevant Science disciplines. ● Minimum 05 years of experience in managing enterprise systems with a total of 3 years of experience in ICT industry ● Must have minimum 2 IT /ICT enabled software projects management (Design, Development and Implementation) experience with any corporate/international /government client 	<ul style="list-style-type: none"> ● Managing projects from project inception to successful completion ● Coordinating with internal and external resources ● Optimizing and improving processes and the overall approach where necessary ● Providing strategic guidance to develop new approaches and applications from users, govt. officer, processes and technology perspective.
2	System Analyst	1	<ul style="list-style-type: none"> ● Minimum graduate in Computer Science and Engineering/ICT or any other relevant Science disciplines from any University ● Should have minimum of 3 years of experience in the field of System analysis and design for ICT based applications or Software Development projects. 	<ul style="list-style-type: none"> ● Controlling solution by establishing specifications in collaboration with key personals i.e., project manager, software architect, business analyst etc. ● Producing specifications for new or modified systems ● Implementing computer system requirements by defining and analyzing system problems; designing and testing standards and solutions.

			<ul style="list-style-type: none"> Must have minimum of experience 2 ICT enabled software project experience in the field of system analysis and design. 	<ul style="list-style-type: none"> Defines application problem by conferring with stake holders; evaluating procedures and processes.
3	Software Architect	1	<ul style="list-style-type: none"> Minimum graduate in Computer Science and Engineering/ICT or any other relevant Science disciplines from any University. Should have minimum of 03 years of experience in the field of Software architecture design and analysis for ICT based applications and Software projects. Must have a minimum of 2 ICT enabled Applications or software project experiences in the field of Software architecture design. 	<ul style="list-style-type: none"> Understand the big picture and the various use cases involved while crafting the solution and document them in Unified Modeling Language (UML). Identify the appropriate software architecture for both server-side and client-side solution to achieve the proposed requirement. Assist Software Designer/Implementers with the creation of detailed software design specifications. Maintain product roadmap, release schedules and architectural standards that ensure alignment with business objectives.
4	Database Administrator (DBA)	1	<ul style="list-style-type: none"> Minimum graduate in Computer Science and Engineering/ICT or any other relevant Science disciplines from any University. Should have minimum of 03 years of experience in database design, data normalisation, data analysis, database management and administration for ICT based applications or Software projects. Must have a minimum of 2 ICT enabled application or software or applications projects experience in the field of Database related skills. 	<ul style="list-style-type: none"> Designing and developing database in accordance to end user's information needs and views Defining users and enable data distribution to the right user, in appropriate format and in a timely manner Monitoring database performance, implement changes and apply new patches and versions as and when required Minimizing database downtime and manage parameters to provide fast query responses

5	Senior Developer/Programmer	3	<ul style="list-style-type: none"> ● Minimum graduate in Computer Science and Engineering/ICT or any other relevant Science disciplines from any University. ● Should have minimum of 03 years of experience in web-based software programming/coding/scripting for ICT based applications or Software development. ● Must have a minimum of 4 ICT enabled application or software project experiences in the field of web-based software programming/coding/scripting as a core development team member. 	<ul style="list-style-type: none"> ● Guiding the development team to ensure the development as per the defined architecture. ● Prioritize software development projects, set timelines and assign tasks to team members ● Ensuring the development related delivery, documentations and other outcomes in timely manner. ● Gathering and refining specifications and requirements in compliance with the architectural standards and guidelines.
6	Developer/Programmer	4	<ul style="list-style-type: none"> ● Minimum graduate in Computer Science and Engineering/ICT or any other relevant Science disciplines from any University. ● Should have a minimum of 02 years of experience in software programming/coding/scripting for web-based applications or Software development. ● Must have a minimum of 2 ICT enabled application or software project experiences in the field of web-based software programming/coding/scripting as a core development team member. 	<ul style="list-style-type: none"> ● Identify user and system requirements for new websites and applications ● Develop API and reusable module ● Run functionality testing and debug code ● Liaise with designers to decide on UI/UX elements (like graphics and navigation buttons)



7	Quality Assurance Expert	1	<ul style="list-style-type: none"> ● Minimum graduate in Computer Science and Engineering/ICT or any other relevant Science disciplines from any University. ● Should have a minimum of 2 years of experience in software Quality assurance in web-based application or Software development. ● Must have a minimum of 2 ICT enabled applications or software project experience in software Quality assurance. 	<ul style="list-style-type: none"> ● Outline quality assurance policies and procedures ● Interpret and comply with quality assurance standards ● Make sure that quality assurance standards are adequate ● Oversee the implementation and ensure efficiency of inspection and quality systems
8	System Administrator	1	<ul style="list-style-type: none"> ● Minimum graduate in Computer Science and Engineering/ICT or any other relevant Science disciplines from any University ● Should have minimum of 3 years of experience in system administration, especially on operating system installation, configuration and deployment, should have experience on large scale data backup and user management systems. ● Must have a minimum of 2 ICT enabled application or software project experiences in the field of system administration. 	<ul style="list-style-type: none"> ● Manage network servers and technology tools ● Set up accounts and workstations ● Monitor performance and maintain systems according to requirements ● Troubleshoot issues and outages and ensure security through access controls, backups and firewalls
9.	Technical Document Expert	1	<ul style="list-style-type: none"> ● Minimum graduate in any Computer Science/business administration related discipline. ● Should have a minimum of 02 years of experience in the field of technical documentation. They 	<ul style="list-style-type: none"> ● Record Technical description of features, API, 3rd party integration and prepare relevant documents ● Prepare user manual by describing the current flow of application ● Create release notes with proper explanation for user

			<p>should have fluency in writing standard and professional English, especially technical specifications, proposals, and documents.</p> <ul style="list-style-type: none"> ● Must have technical documentation experience for a minimum of 2 ICT enabled applications or software projects as core team members. 	
1 0	User Interface/ User Experience Designer	1	<ul style="list-style-type: none"> ● Minimum graduation in Computer Science or relevant field ● Minimum 3 years' Experience in developing UI for web and APP 	<ul style="list-style-type: none"> ● Collect and examine the needs of the user. ● Creating user flows, wireframes, prototypes and mockups Translating requirements into style guides, design systems, design patterns and attractive user interfaces ● Design UI elements such as input controls, navigational components and informational components ● Identify and troubleshoot UX problems (e.g. responsiveness) and incorporating customer feedback, usage metrics, and usability findings into design in order to enhance user experience
1 1	Support Engineer	2	<ul style="list-style-type: none"> ● Minimum graduate in Information Technology, Computer Science or relevant field. ● Proven two years' work experience as support engineer or software project experience 	<ul style="list-style-type: none"> ● Responding to technical support calls from end users ● Setting up user accounts and profiles and admin ● Managing backups of servers, in case of data loss ● Keeping a record of issues and faults along with solutions, for future reference and provide solutions
1 2	Call Center Executive	2	<ul style="list-style-type: none"> ● Minimum graduate in any subject ● Minimum 2 year(s) experience in customer service and engagement 	<ul style="list-style-type: none"> ● Manage large amounts of inbound and outbound calls in a timely manner ● Identify customers' needs, clarify information, research every issue and provide solutions and/or alternatives ● Communicate with the multiple stakeholders and keep record of the problem for further reference

The firm should submit and provide present client list with contact information and staff work schedule with hour.

4.1 Joint Venture

Multiple Companies having technical and legal competency for providing such services can apply jointly but they must have legal agreement among them where one company needs to be lead. The joint venture company jointly needs to fulfil all conditions mentioned in this ToR. Joint-venture agreement needs to have clear identification about each responsibility matrix along with IPR.

5. Duration of the assignment

- Total Duration of the assignment is 12 months.
- Technical Development time will be 3 months and maintenance will be for 9 months

5.1 Expected Deliverables and Payment Schedule

Deliverables and Schedule:

The following outputs will have to be delivered within a maximum period of 12 months after signing the contract requiring the following deliverables:

S L	Deliverables	M1	M2	M 3	M 4	M 5	M 6	M 7	M 8	M 9	M1 0	M1 1	M12
1	Inception Report												
2	Software Requirement Specification												
3	Architecture Development												
	UI/UX development and comply with SRS												
	Module development												
4	Integration with Porichoy, Nothi, DNCRP, GRS, Payment Gateway, Ministry of Commerce and relevant platforms												
5	Final report on the platform development including testing reports												

6	Platform hosting and infrastructure management												
7	Support and Maintenance												

Payment Schedule:

SL	Deliverables	Month	Payment Disbursement
1	Inception report	Within 10 days of contract signing	5% (Upon acceptance by the client)
2	Submission of Software Requirement Specification (SRS)	End of 1 st month	10% (Upon the acceptance by the client)
3	Architecture Development	End of 2 nd month	10% (Upon acceptance by the client)
	UI/UX development		
	Module development		
4	Integration	End of 2 nd month	10% (Upon acceptance by the client)
5	Testing, UAT, Final Development and Acceptance	End of 3 rd month	15% (Upon acceptance by the client)
6	Platform hosting and infrastructure management	End of 6 th month	10% (Upon the acceptance by the client)
	Platform hosting and infrastructure management	End of 8 th month	15% (Upon the acceptance by the client)
7	Maintenance as per maintenance and support mentioned in the support and maintenance plan	End of 10 th Month	15 % (Upon the acceptance by the client)
8	Submission of final report highlighting the activities/tasks performed under the contract	End of 12 th Month	10% (Upon the acceptance by the client)



The firm should provide proper plan and timeline for below requirements:

- The firm should handover the source code with proper documentation
- Integration documentation with specification
- Relevant documents regarding privacy and security
- Monthly bug fixing report
- User manual in Bangla and English for all the user types and update and share the documents if any changes are made in the platform
- The firm must submit UAT report after UAT sessions
- System audit report
- Data backup related report and document
- Testing report
- User role related document
- Hosting documents
- All the documents related to system

FORMAT

LOGO

[Insert Full Contact Details of the Client]

Commencement of Services

Office Memo No:

Date:

To:

[Name of the Consultant]
[Address]

Contract Reference:

Pursuant to GCC Sub Clause 17.1 of the above-mentioned Contract Agreement, this is to notify you that the following precedent conditions have been duly fulfilled:

- (i) The Performance Security has been submitted and accepted by the Client (*delete if not appropriate*);
- (ii) the Contract Agreement has been signed; and
- (iii) the advance payment has been made (*delete if not appropriate*).

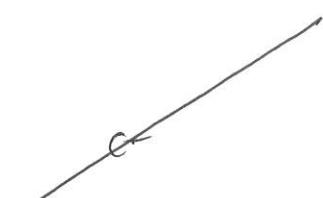
You are therefore requested to:

1. Commence carrying out the Services, in accordance with GCC Sub Clause 19.1, within (*specify date*);
2. take out the insurance against the risks, and for the coverage as specified in the Contract, in accordance with GCC Sub Clause 33.2, within (*specify date*) and maintain.
(*delete if not appropriate*)

Signed

Duly authorized to sign for and on behalf of
[name of Client]

Date:



FORMAT

CONTRACT AMENDMENT

Contract No.	
Amendment No.	
Approval Reference No.	

Contract No. [insert number/year] by and between the [insert Client's name] and [insert Consultant's legal title] for the contract named [insert name of the Consulting Service] is amended as follows:

1. GCC Clause [insert clause no], is hereby revised as _____

_____.

2. GCC Clause [insert clause no], is hereby revised as _____

and so on.

The effective date of this Amendment is [insert effective date] or upon execution whichever is later.

ALL OTHER TERMS AND CONDITIONS OF THE ORIGINAL CONTRACT SHALL REMAIN IN FULL FORCE AND EFFECT

THIS AMENDMENT, consisting of [insert number] page(s) and [insert number] attachment(s), is executed by the persons signing below who warrant that they have the authority to execute this Amendment under the original Contract.

IN WITNESS WHEREOF, the Client and the Consultant have signed this Amendment.

[Consultant's Authorized Signatory]

[Client's Authorized Signatory]

Signature

Signature

Title
Date

Title
Date



FORMAT

[Insert Full Contact Details of Issuing Authority]

Office Memo no: _____

Date: _____

COMPLETION CERTIFICATE

01	Client Details	
	(a) Division	:
	(b) Circle/Directorate	:
	(c) Zone/Region	:
	(d) Others (<i>specify</i>)	:
02	Name of Assignment	:
03	Contract No	:
04	Consultant's Legal Title	:
05	Consultant's Contact Details	:
06	Consultant's Registration Details	:
07	Reference to LOI to sign Contract with Date	:
08	Original Contract Price	:
09	Final Contract Price as Performed	:
10	Original Contract Period	
	(a) Date of Commencement	:
	(b) Date of Completion	:
11	Actual Implementation Period	
	(a) Date of Actual Commencement	:
	(b) Date of Actual Completion	:
12	Days/Months Contract Period Extended	:
13	Special Note as attachment (<i>if any</i>)	:

Certified that the Services under the Contract has been performed and completed in all respects in strict compliance with the "**Description of Services**" including all modifications thereof as per satisfaction of the Client.

Name and Signature of the Issuing Authority with Designation
please turn over

Note: The Client will prepare a handover documentation on software handover (if any), data incurred, data hosting particulars (if any), access control of system (if any), documents as mentioned in deliverables, transaction log, budget provisioning of operation cost, responsibilities of Client resources for operation & maintenance.

The Client shall issue the completion certificate within [insert number] days of expiry of contract successfully completed as per terms and conditions of the contract.. The certificate to be issued between 0 and 30 working days)

Details of Services Performed

Consultant: [insert legal title]		
No	Major Components of Assignment	Total Value (in Contract Currency)

Joint Venture

[delete, if not appropriate]

Leading Partner: [insert legal title]		
No	Components/Activities [reference drawn to JV Agreement]	Value (in Contract Currency)

Co-partner: [insert legal title]

No	Components/Activities [reference drawn to JV Agreement]	Value (in Contract Currency)

Co-partner: [insert legal title]

No	Components/Activities [reference drawn to JV Agreement]	Value (in Contract Currency)

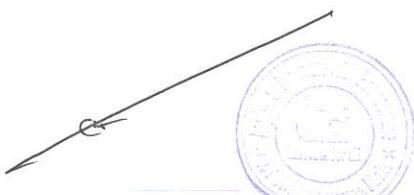
Note: Figures shown must correspond to Total Value

Sub-Consultant

[delete, if not appropriate]

Sub-Consultant: [insert legal title] [delete, if not appropriate]		
No	Components/Activities [reference drawn to Sub-Consultant Information]	Value (in Contract Currency)

Name and Signature of the Issuing Authority with Designation



"Hiring a firm for development of Central Complaint Management System (CCMS)"