Request for Proposal
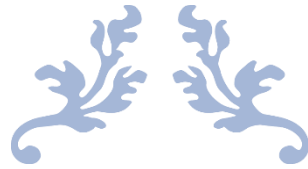
Selection of Software Solution Provider

For development and Implementation of

Mobile Based Class Monitoring System in Government Polytechnic & ITIs in Odisha

under SCTE&VT, Odisha

RFP No.: OCAC-TH-10/2023/ENQ/24026

Vol-II	Terms of Reference

ODISHA COMPUTER APPLICATION CENTRE

[TECHNICAL DIRECTORATE OF E&IT DEPARTMENT, GOVERNMENT OF ODISHA]

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Abbreviation

DNS	*Domain Name System*
DR	*Disaster Recovery*
FRS	*Functional Requirement Specification*
GIA	*Grant-in-aid*
HLD	*High Level Design*
LLD	*Low Level Design*
OCAC	*Odisha Computer Application Centre*
OEM	*Original Equipment Manufacturer*
OSDC	*Odisha State Data Centre*
SI	*System Integrator*
SRS	*System Requirement Specification*
SLA	*Service Level Agreement*
SSL	*Secure Sockets Layer*
UAT	*User Acceptance Testing*
CMS	*Content Management System*
OTP	*One-time Password*

1 Background

The State Council for Technical Education and Vocational Training (SCTE&VT) plays a crucial role in advancing our Mission Skilled-In-Odisha. Its primary duty is to uphold academic excellence by developing curricula, conducting examinations, and certifying ITI and Diploma institution trainees and students.

Further, SCTE&VT, Odisha has announced its plan to introduce a Mobile-Based Class Monitoring System in Government Polytechnics & ITIs across Odisha through a qualified agency. This centralized system will enable the faculties of Government Polytechnics & ITIs to register, while the respective institute heads will have the capability to oversee and ensure the smooth operation of classes according to the schedule. Additionally, the system will empower authorities to maintain real-time oversight of the entire system.

The proposed system shall accommodate four key components:

- a) Faculty Enrolment/ Registration /Attendance
- b) Class Scheduling
- c) Class Management
- d) Reporting

SCTE&VT, Odisha is committed to establishing an efficient method for managing both theory and practical classes in the State's Government Polytechnics & ITIs. The aim is to depart from traditional class management and instead implement a robust centralized system for more effective and punctual class monitoring. The primary objectives of this envisioned system include:

a) Monitoring of timely conduct of classes in all the institutes by all the faculties.

b) Effective management of timetable at a faculty level as well as institute level.

c) Consolidation and reporting in a comprehensive way at the institute level as well as centrally at SCTE&VT.

2 Scope of Work

2.1 Project Objective

The objective involves the deployment of an efficient system across all Government Polytechnics & ITIs, utilizing an AI-based mobile application. This application will enable faculties and trainers in Government Polytechnics & ITIs to input the status of their classes on a per-class basis. Simultaneously, the principals of these institutes and central-level authorities can closely oversee the daily class management activities with effectiveness.

2.2 Scope Overview

a) Study, development, and implementation of the software solution as per the functional requirement of modules/sub-modules mentioned in this document.

b) Application Maintenance Support after it's go-live.

c) API based integration such as third-party application/utility.

2.3 Requirement Study

2.3.1 Prerequisites

The SI to follow and ensure following prerequisites before the requirement study.

a) Consultation meeting with OCAC / SCTE&VT officials

b) Identify and engage subject matter expert(s) as per the need.

c) Readiness with the industry standard template for FRS and SRS documents

d) Readiness with the project traceability matrix template

2.3.2 Assessment and Understanding

The SI shall perform a detailed functional and system requirement study based on the modules/functions proposed under functional requirement section in this document. Then the SI shall prepare the Functional Requirement Specification (FRS) and the System Requirement Specification (SRS) document and submit to OCAC/SCTE&VT for necessary action for its approval.

a) Consult with both OCAC/SCTE&VT officials to
   – Understand the value chain and core processes.
   – Identify current/ planned business initiatives (strategic & tactical)
   – Key issues/ pain areas as assessed by officials.

b) Conduct field visits (as per requirement)

c) Maintain traceability matrix from SRS stage for the entire implementation.

d) Assess the existing IT assets and inventories related to this project.

2.4 Design

Prepare and submit updated detailed design & development plan as per the requirement. Design the solution architecture and specifications for meeting the requirements mentioned as part of this document including sizing of the required hardware.

2.5 Development

Identify, design, and develop components / functionalities that are required to address proposed application requirements as mentioned in this document. Following documents shall be taken into consideration along with the developed components:

— Business Process Guides

— Data Model Descriptions

— Sample Reports

— Frequently Asked Questions (FAQ) Guides

— Any other documentation required for usage of implemented solution.

The SI shall implement a system for monitoring the SLAs and ensure that the system addresses all the SLA measurement requirements and calculation of applicable penalties as indicated in the document.

2.6 Integration

The system should support both push and pull of data to and from systems proposed to be integrated. It is required that a standard mechanism of data exchange should be built and implemented using an industry specified data exchange protocol through a secure channel. The SI will have to co-ordinate with the designated nodal agencies for integration and OCAC/SCTE&VT will facilitate this process. In addition, the solution should be designed in such a way that any future integration does not require any changes to the system.

2.7 Testing

a) Provide the testing strategy including Traceability Matrix, Test Cases and Conduct Testing of various components of the software developed / customized as per industry standards for Software Testing Life Cycle.

b) Details of the testing strategy and approach should be provided in the response.

c) Identify, inform regarding testing requirements along with its impacts and work in a manner to satisfy all the testing requirements by adhering to the testing strategy outlined.

d) Ensure deployment of necessary resources and tools during the testing phases and perform solution testing based on the approved test plan, document the results, and fix the bugs found during the testing.

e) Make sure that the product delivered meets all the requirements specified in the document.

f) Take remedial action based on outcome of the tests.

g) Provide complete support to the departmental officials or their representatives at the time of User Acceptance Testing (UAT).

h) Ensure that all issues raised during UAT are closed and signed-off from respective authority.

2.8 Cyber Security Audit

a) The SI shall ensure that the solution is following the CERT-In Security Policy and Guidelines.

b) The SI shall appoint CERT-In empanelled auditor who shall be responsible for performing the security audit of the solution.

c) The cost of audit & rectification of non-compliances shall be borne by the SI

d) Carryout security audit before go-live of application and obtain the safe-to-host certification.

e) Conduct periodic audit & certification as and when it is required as per the OSDC / Cloud policy.

f) The audit shall be performed at least on the below mentioned aspects.
   – Accessibility Testing
   – Application Security Audit
   – Vulnerability Testing

g) The illustrative deliverables for this activity are mentioned below.

Activity	Responsibility
First Round Audit Report	Auditor
Rectified solution and submission of next round of audit	SI
Next Round Audit Report	Auditor
If required, rectified solution & submission of next round of audit	SI
Compliance Confirmation	Auditor

2.9 SSL Certification

a) Secure connection between client and server through Secure protocol HTTPS

b) Encryption of Data during transmission from server to browser and vice versa

c) Encryption key assigned to it by Certification Authority (CA) in form of a Certificate.

d) SSL Security in the application server.

2.10 Training

a) Undertake training on a train to trainer mode.

b) Training would be done at State Headquarter in Bhubaneswar.

c) Prepare training calendar and material for imparting training in consultation with OCAC/SCTE&VT officials.

d) Submit a hardcopy of the training material to OCAC/SCTE&VT before every training session.

e) In case of modifications, either in the training plans or substitutions of the regular trainers, proper communication with OCAC/SCTE&VT need to be made.

f) SCTE&VT will provide required classroom and IT infra for the classroom training.

g) Training to the other users through virtual mode would be on need basis and the SI will Provide as per requirement.

2.11 Online Help / Reference

a) It is proposed that the training contents / user manuals be made available to users in downloadable (PDF) format so that the users may refer / download it for their own personal reference as and when needed.

b) The downloadable training content should have proper indexing and internal references, mapped with key words, to allow any user to search and reach the desired content with the help of those key words.

c) It is envisaged that any user will be able to search and read the directions / information for the right content. On entering the key words for search criteria, the system should pull out and display the links to the content as mapped.

d) The system should support dynamic search facility i.e. as soon as the key words are changed; a new set of content links with page shall be displayed to the user.

e) Prepare Video & Audio based professional training material so that the users may refer it for their own personal reference as and when needed.

f) Availability of video & audio manual in the landing page of application in the form of YouTube link so that the end users can view it time & again.

2.12 Deployment & Configuration

a) Deploy the application over the hardware infrastructure provided by the OSDC.

b) Perform detailed assessment of envisaged solution requirements and assess the infrastructure requirements including Servers, Storage and Security, etc. for operationalization of the solution.

c) Responsible for end-to-end management of hosting and deployment of the application.

d) Responsible for configuration, installation, and hosting of the application in High Availability mode at OSDC.

2.13 UAT & Go-Live

a) Preparation and submission of test strategy, test cases and test results.

b) Demonstration of module-wise functionalities / features in staging environment.

c) Support designated authority for conducting the testing and provide access of the systems as required by them.

d) Rectification in the new application for any issues/ bugs/ and improvements/ Enhancements / up-gradations suggested Departments (if any) during the UAT without any additional cost.

e) After incorporation of the suggestion received during UAT the application will be declared as Go-Live.

2.14 Infrastructure Support

a) Post award of contract, it is expected the SI to provide detail hardware sizing for both production and staging instance. Based on sizing of the hardware, the additional hardware (if required) will be arranged/procured separately by OCAC/SCTE&VT.

b) Carry out the installation, maintenance & support of all the supplied software(s) on the newly procured / existing hardware for development, quality, and production environment.

2.14.1 Business Continuity Planning

The system should be developed to support Disaster Recovery (DR) or Business Continuity Plan (BCP) to address any disruption in implementation of the system. However, in future, if it is decided to go for DR / BCP, then the SI will suggest and support for an appropriate methodology in a cost-effective manner for this purpose. The SI shall share the DC, DR sizing and OCAC shall arrange necessary infrastructure in accordance with the sizing received.

2.14.2 Documentation

a) Undertake preparation of documents including that of infrastructure solution design and architecture, configuration files of the infrastructures, user manuals,

Standard Operating Procedures, Information Security Management procedures as per acceptable standards.

b) Take sign-off on the deliverables (documents), including design documents, Standard Operating Procedures, Security Policy and Procedures from OCAC / OSDC Team and shall make necessary changes before submitting the final version of the documents.

2.15 Application Maintenance Support

2.15.1 Application Support

a) Ensure smooth running of the application.

b) Testing of new modules on staging servers before deployment.

c) Fraud Transaction Detection and taking necessary actions accordingly.

d) Execution of periodic Security Audit of application by OSDC.

e) Optimization of the already developed reports.

f) Tuning of transaction

g) User and access management

2.15.2 Software Maintenance

a) All patches and upgrades from OEMs (if any) shall be implemented by the SI. SI shall ensure that the customization done in the solution should be as per the project requirement.

b) The SI shall provide support through Telephone / Email / Installation Visit as required as per the service window defined in this project.

c) The SI shall address all the errors / bugs / gaps in the functionality in the solution implemented (vis-à-vis the FRS and SRS signed off) at no additional cost during the support phase.

d) Tuning of products / applications, databases, third party software's and any other components provided as part of the solution software including reconfiguration of the system in the event of any hardware/ network failures/ if any hardware/ network components must be replaced, shall be the responsibility of the SI.

e) Issue log for the errors and bugs identified in the solution and any change done in the solution shall be maintained by the SI and periodically submitted to OCAC/SCTE&VT

2.16 System/Infra Support

2.16.1 Database Administration

a) Regular monitoring & management of all the applications installed / re-installed and databases hosted as and when it required for the project.

b) Database administration, optimization and trouble Shooting.

c) Database & file back-up as per the policy of OSDC

d) Application Load balancing and Database Clustering

e) Perform Database, event & system log analysis.

f) Key Infrastructure Management for Encryption/Decryption and Signing.

g) Coordination with OSDC team for network, connection, database and performance related issue and troubleshooting.

2.16.2 Security Administration

a) Regular analysis of events and logs generated.

b) User ID and group management services

2.16.3 Backup & Restore Management

a) Preparation of backup plan

b) Backup of operating system, database, and application as per OSDC/Cloud policy

c) Monitoring and enhancement of the performance of scheduled backups

2.16.4 System/Network Administration

a) Network configuration

b) Patch update

c) System Administration and Trouble Shooting

d) Application & System Software Administration (including performance tuning)

e) Application and database level performance tuning

f) Co-ordination with OSDC/Cloud Network Administration Team

2.16.5 Integration

The integrated solution design should include framework for integration of both internal and external applications and services using suitable architecture.

2.16.6 Data

a) Data will be owned, shared, controlled, and protected as a corporate asset of the OCAC/SCTE&VT.

b) Data should only be accessed through application / interfaces to create, update, and delete. There should not be any direct access to the data layer for users.

2.17 Data Security

a) Provide strategy to maintain data security at the application level, database level, messaging, and middleware level.

b) Provide security strategies when the applications are accessed by the resources from outside the network.

c) Provide strategies of encryption and security for external transaction with partner network and systems

2.18 Technical Support

The Implementing agency will provide a dedicated technical resource to provide technical and functional support to the users of the system. The support associate will be deployed at SCTE&VT for Technical Support initially for a period of 1 year and can be extended further upon requirements of SCTEVT.

Sl.#	Designation	Qualification and Experience
a)	Support Associate	BE/ B.Tech/ MCA with minimum 2 years of experience in project coordination and support.

Following are the activities to be carried out by the experts:

a) Attending user queries on application non functionalities issues

b) Co-ordinate with software team for all types of issue management / redressal in relation to the application software & reports, etc.

c) Provide administrative support for creating and maintaining user profiles, granting user access and authorization, providing ongoing user password support.

d) Furnish periodic report on number of issues received vis-a-vis resolved related to software.

e) Manage the framework and provide application rights.

f) Escalation of issues to backend software team

2.19 Adherence to Standards

The system shall comply with relevant defined industry standards (their latest versions as on date) wherever applicable. This shall apply to all the aspects of solution including its design, development, security, installation, and testing. The suggested architecture must be scalable and flexible for modular expansion. It should ensure ease of integration with software / applications developed using common industry standards, since the solution may be linked and connected to other sources (websites, contents, portals, mobile app systems of other user departments etc.) as well as there may be loose/tight integration with backend system of other departments depending on individual service processes. The solution architecture should thus have provision to cater to the evolving requirements of the Department.

A reference list of the minimum industry standards which the system components should adhere to is mentioned below:

Component	Standards
Information Access / Transfer Protocols	SOAP, HTTP/HTTPS
Interoperability	Web Services, Open Standards
Portal Development	W3C Specifications
Document encryption	PKCS specification
Information Security	ISO 27001 certified System
Operation	ISO 9001 Certified
Service Management	ISO 20000 specifications or latest
Project Documentation	IEEE/ISO Specifications for documentation
Data Standards	All-important data entities should be in Line with standards published by DeiTY.

2.20 Security, Integrity & Confidentiality

a) **Web Services Security:** System shall comply with all the Web services including routing, management, publication, and discovery should be carried out in a secure manner. Those who are using the Web services should be able to utilize security services such as authentication, authorization, encryption, and auditing. Encryption of data shall take place at client level itself. Application server shall provide SSL security.

b) **Data Integrity and Confidentiality**: Data integrity techniques need to be deployed to ensure that information has not been altered or modified during transmission without detection. Similarly, Data confidentiality features are also to be applied to ensure that the data is only accessible by the intended parties.

c) **Transactions and Communications:** With respect to the Data Transactions and Communications, system needs to ensure that the business process is done properly, and the flow of operations are executed in correct manner.

d) **_Non-Repudiation Security_:** The application shall have the non-repudiation security services to protect a party to a transaction against false denial of the occurrence of that transaction by another party. End-to-End Integrity and Confidentiality of Messages, integrity and confidentiality of messages must be ensured even in the presence of intermediaries.

e) **_Database Controls_:** The database controls for online transaction processing systems like access to database directly, access to database through application, access to log files, access by the remote terminals, DBA controls, backup policy and backup procedures.

2.21 Change Request Management

Looking into the length of the project implementation period it is very usual to find changes in business logic frameworks. In such scenarios, there may be a need of modification of the software modules beyond FRS/SRS/Scope document. It may also be required to develop new software modules beyond the coverage of FRS/ SRS/ Scope document.

a) The activities that will be treated as enhancement services is mentioned below:

– Functional changes in the application
– Development of new module/sub-module/Form/Report in the developed system
– Changes in the workflow or core application framework
– Integration with any new system
– Additional onsite resources in the project

b) The procedure for executing the change request is as follows:

– Analysis: Analyses the changes suggested and submit an effort estimation including timeline to OCAC
– Approval**:** OCAC shall do the due diligence and provide approval on the effort and timeline suggested.

- Incorporation: After receiving the approval from OCAC, team will incorporate the changes in the application.
- On approval, deliver the services and raise the claim as per actual according to the Commercial Bid.

2.22 Exit Plan

a) Provide systematic exit plan and conduct proper knowledge transfer process to handover operations to OCAC technical team at least three months before project closure.

b) OCAC will work closely with the SI during knowledge transfer of testing, staging and production environment.

c) All knowledge transfer should be documented and possibly recorded.

d) Ensure capacity building of the IT resource persons of OCAC on maintenance of software and infrastructure.

2.23 Project Documentation

Below list of documents needs to be submitted to OCAC during the project contract period, as per the requirement of OCAC.

a) Latest version of Source Code

b) System Requirement Study Documents

c) System Design Document

d) Test Plans and Reports

e) Issue Logs

f) User Manual

g) Application Installation & Configuration Manual

h) Report of Security Audit & Safe-to-Host Certificate

i) Any other documents defined under Timeline & Tentative Deliverables

j) All the above documentation should be done as per IEEE/ISO/CMM Standard

2.24 Expected Deployment of Personnel

a) The bidders shall furnish resumes of key personnel to be engaged during software study, design, development, testing, UAT, implementation, operation & maintenance phase.

b) The bidder shall submit a detailed work plan showcasing involvement of key resources in their technical proposal.

c) The bidder shall engage the same personnel for the period of at least six months from the date of commencement of the project.

d) The resources will work from the bidder's premises. However, the resources should be available at the client's office for any meeting or discussions required by the client as per its convenience.

e) The minimum criteria for key resources are as follows.

Competency Area	Minimum Educational Qualification and Experience
Program Manager	− B.E/B.Tech/MCA & MBA − Minimum 10 years' experience of handling similar large projects in IT Sector.
Project Manager	− BE/B.Tech/MCA − Minimum 8 years' experience of handling similar large projects in IT Sector.
Tech Lead	− BE/B.TECH/MCA − Minimum 5 years' experience in the field of software development and implementation.
Solution Architect	− B.E/B. Tech/MCA − Minimum 5 years of experience in the field of software design & development
Software Test Lead	− BE/ B.TECH/ MCA − Minimum 5 years' experience in software testing.
Database Administrator	− B.TECH / MCA − Minimum 5 years' experience in large scale software projects as DBA.

2.25 Expected Project Timeline

Sl.	Activity	Responsibility	Timeline
1	Date of Signing of Contract	SI, SCTE & VT	T
2	SRS Submission	SI	T+ 2 weeks
3	SRS Approval	SCTE & VT	T+ 3 weeks
4	Design & Development of the Application	SI	T+7 weeks
5	User Acceptance Testing	SCTE & VT	T+ 8 weeks
6	Security Audit	SI	T+10 weeks
7	Go-Live	SI, SCTE & VT	T + 12 weeks = T1
8	Onsite Resource deployment	SI	T1 + 12 Months
8	Operational Support & Technical Support (Warranty Period)	SI	T1 + 12 Months=T2
9	AMC	SI	T2+ 12 Months

2.26 Bill of Material & Quantity:

Sl#	Category	Items	Qty
a)	Study, Design, Development of the project with 1-year Operational Support after Go-Live	As per requirement mentioned under the relevant clause(s) of this document.	Lump-Sum
b)	Application Maintenance Support of the project (AMC)	Application Support, Software Maintenance, System Support, etc. mentioned under the relevant clause(s) of this document.	1-year
c)	Cyber Security Audit of the complete application by CERT-IN empaneled Agency/Auditor	As per the scope mentioned under the relevant clause(s) of this document.	2 times
d)	Onsite Resources for Project Management Support	As per scope mentioned under the relevant clause(s) of this document with flowing quantity. One onsite Support Associate for 1 year	1-Year
e)	SSL certificate	As per the scope mentioned under the relevant clause(s) of this document.	2-Years

3 Functional Requirement

The portal should have following features:

a) Access to the mobile application will be granted through a login system based on facial recognition.

b) To log in to the mobile app, the system will request the faculty to confirm their identity by using the mobile phone's camera to capture their photo.

c) After successfully logging in, the system will record the GIS coordinates along with the faculty's information.

d) Upon logging in, the faculty will gain access to the schedule for the day.

e) The system will encourage the faculty to begin the class in accordance with the scheduled timing.

f) When the class is initiated, the system will automatically send notifications to the respective principal, indicating that the class has commenced under the supervision of the designated faculty.

g) The application should have features to capture the strength of the class, i.e., the number of students attending the class.

h) The system should be able to record the time period of the class and notify the faculty to end the class once the class is physically over.

i) All the details captured during initiating, conducting, and ending the class shall be centrally recorded and displayed in the form of a dashboard both at Institute & SCTE&VT level.

j) A feedback management system shall be implemented in the web portal where anyone can share various feedback regarding classes, faculties, and infrastructure. The feedback management system will not require any log in. No filed shall be considered Mandatory.

Minimum Mobile Device Specification

➢ Platform- Android & iOS

➢ RAM - 6GB/8GB

➢ Processor - Above (Snapdragon 690) and (Mediatek G85)

➢ Android Version - 11 or Above

3.1 Features and Functionality:

The proposed web-based application also to be developed in Android & IOS platform. The envisaged System shall have following functionalities:

3.1.1 Faculty Log in

a) The mobile application shall be accessed through a facial recognition-based login system.

b) To login to the mobile app, the system will prompt the faculty to validate his/her identity by accessing the mobile phone camera and capturing the photo through the mobile phone camera of the faculty.

c) Once logged in, the GIS coordinates as well as the faculty details shall be recorded in the system.

3.1.2 Class Scheduling

a) The faculty, once logged in, will have access to that day's timetable.

b) The system shall prompt the faculty to initiate the class as per the class timing.

c) Once the class is initiated, the system sends notifications to the concerned principal that the class has been initiated by the concerned faculty.

3.1.3 Class Management

a) The application should have features to capture the strength of the class, i.e., the number of students attending the particular class.

b) The system should be able to record the time period of the class and notify the faculty to end the class once the class is physically over.

c) All the details captured during initiating, conducting, and ending the class shall be centrally recorded and displayed in the form of a dashboard both at Institute & SCTE&VT level.

3.1.4 Analytical Dashboard & Reports:

a) The proposed solution should be able to generate dashboards based on the class monitoring captured every day for each faculty and each institute & in a consolidated manner for the central management.

b) The proposed solution should be able to provide a KPI dashboard for analysis with Key indicators like class load of each faculty, faculty-wise average class strength, subject-wise classes conducted, deviation in class timings, deviation

in faculty's attendance, discrepancies in smooth conduct of the class and others in excel formats or any other prescribed format.

c) The proposed solution should be able to leverage all standard & customizable reports pertaining to class monitoring.

d) The proposed solution should be able to generate customized reports as per SCTE&VT needs. Following are various reports shall be generated:

- Total faculties registered.
- Institute-wise registrations.
- Institute-wise class schedule report.
- Class load report for each faculty member
- Time schedule deviations by each faculty member
- Class strength report by each faculty member
- Subject-wise classes conducted by each faculty member.
- Absenteeism Report for faculty for each institute
- Attendance reports for the faculties with clear demarcation of deviation & absenteeism

e) Reports should be scheduled to automatically send the daily/ weekly/ monthly class monitoring data to the central site from local sites.

3.1.5 Admin Console

This module shall have the following sub modules.

User Management
a) Creation of User and type
b) Tagging user types with User
c) Creating and managing the login credentials
d) Profile Updation of users by Admin user or by individual users

Role Management

a) Provide access rights to the users
b) Provide access and action rights
c) Tagging of users with respect to the designation and role
d) User access management

Master Configuration

Creating Master Fields as follows:

a) College or Institution Master
b) Central Level Institution Master
c) Faculty Master
d) Registration master
e) Demography Master
f) FAQ Management

Registration Module

a) Registration of Faculty the faculty through Mobile Application.
b) The registration page shall ask for the details like:
 – Faculty Name
 – Faculty Photo
 – Faculty Institution ID card
 – Institution Name
 – Institution Address
 – District/City
 – Street/Village
 – Pin
 – Mobile No
 – E mail ID

4 Payment Terms

4.1 Schedule

Sl#	Milestone	Deliverables	Payment Terms
a)	Completion of system requirement study (SRS)	SRS documents approve by OCAC/SCTEVT	20% cost of Development and implementation cost
b)	Completion of User Acceptance Test (UAT)	UAT Certificate by OCAC/SCTEVT	30% cost of Development and implementation cost
c)	Go-live of the project	Go-live certificate by OCAC/SCTEVT	20% cost of Development and implementation cost
d)	Successful Implementation with 1-year Operational Support after Go-Live	Performance Certificate on Operational Support	30% cost of Development and implementation cost equally divided by 4 quarters (Quarterly)
e)	Application Maintenance Support of the project (AMC) after completion of Operation & Maintenance	Activity report	– 100% of Application Maintenance Support cost (AMC) of the project equally divided by duration (Half-Yearly)
f)	Onsite Resources for handholding support	Absentee statement with performance report	100% cost equally divided by the total duration (quarterly)
g)	Cyber Security Audit of the complete application	Submission of the certificate by the CERT-IN empaneled agency/auditor	100% of the Cyber Security Audit cost
h)	Configuration of SSL certificate and it's renewal year on year	Submission of relevant documents	100% of the SSL cost per year

4.1.1 General Conditions

a) The request for payment shall be made to the purchaser in writing, accompanied by invoices describing, as appropriate, the goods delivered and related services performed, and by the required documents submitted pursuant to general conditions of the contract and upon fulfilment of all the obligations stipulated in the Contract.

b) Due payments shall be made promptly by the purchaser, generally within thirty (30) days after submission of an invoice or request for payment by the supplier/ selected SI/authorized partner, and the purchaser has accepted it.

c) The currency or currencies in which payments shall be made to the supplier/ selected SI under this contract shall be Indian Rupees (INR) only.

d) All remittance charges will be borne by the supplier.

e) In case of disputed items, the disputed amount shall be withheld and will be paid only after settlement of the dispute.

f) Payment in case of those goods which need testing shall be made only when such tests have been carried out, test results received conforming to the prescribed specification.

g) Any penalties/ liquidated damages, as applicable, for delay and non-performance, as mentioned in this bidding document, will be deducted from the payments for the respective milestones.

h) Taxes, as applicable, will be deducted/ paid, as per the prevalent rules and regulations at the time of billing. Legitimate payment shall be made within 30 working days of the receipt of invoice along with supporting documents subject to penalties, if any.

5   Performance Requirement (SLAs)

If the selected bidder fails to achieve the below milestones/targets of scope of work within the corresponding Delivery Period and any extension thereof, unless such failure is due to force majeure situation or due to OCAC's default, penalty shall be imposed by OCAC on the selected bidder.

If at any time during the Contract, the selected bidder should encounter conditions impending timely performance of service, the selected bidder shall promptly notify to OCAC in writing of the fact of the delay and its likely duration along its cause(s). As soon as practicable after receipt of the selected bidder's notice, OCAC shall evaluate the situation and may at its discretion waive the penalty on the request of the selected bidder.

Sl#	Major Area	Parameter	Requirements	Penalty
a)	Development & Implementation	Major milestone during development and implementation as per project timeline.	As per project timeline	Rs. 500/- per day delay
b)	Response time for bug fixing	Time taken (after the request has been informed) to acknowledge problem	Within 24 hours from the time the bug is reported.	Rs. 100/- per hour delay
c)	Resolution Time (Only for Bug fixing)	Time taken by the service provider to fix the problem	Problems with severity within 48 hours from the time of reporting.	Rs. 500/- per hour delay
d)	Resource Deployment	Start of service	As per project timeline	Rs. 200/- per day delay

In case, the delay is more than 24 weeks, and the cause of delay is attributable to Service Provider, authority reserves right to increase the penalty value and/ or take appropriate action against the bidder such as cancellation of contract etc.

e) Application Availability: The Application covering all the features shall remain operational during the scheduled operation time. Application availability and performance will be measured on daily basis and reporting period will be monthly.

Target	Penalty
>= 98%	--Nil--
> 95% but <98%	0.5% of Quarterly billed value of Application Maintenance Support
> 90% but =<95%	1.0% of Quarterly billed value of Application Maintenance Support
=<90%	2.0 % of Quarterly billed value of Application Maintenance Support

f) Performance of system refers to the proper and timely functioning of the system's functionalities. The application should be available and performing as per functionalities.

g) The non-availability for application service is measured on monthly basis and excluding the scheduled maintenance shutdown and incidents.

h) Application availability and performance will be monitored, and reports will be generated as per the monitoring system deployed at OSDC.