Engagement: Software Developers for developing of PMIS for MSSDS

No. of Developers – 3 (Three)

Duration – 10 months

Salary / month – INR.50000 / developer / month

Total Financial Implication – INR.15.0 Lakhs

Qualification and Experience

Academic Qualification- BE/BTech Computer Science/**MCA**
Proficiency in - Java, Spring MVC, javascript, Jquery, PostgreSQL
Experience- **3 years experience** as Programmer with Software Development Company/Government Agency.
Ability Requirement- To Design and Develop Web Application through Java Environment and RDBMS applications
Ability to develop the MIS for multiple users.
Ability to perform System Testing Method , and Data Migration
Having Analytical and problem solving skills
Responsible in online Web hosting and Web Application Implementation

TERM OF REFERENCE

## A.	PURPOSE:

The purpose is to develop a Project Management Information System (PMIS) to support the Skill Development initiatives, activities and processes allowing for a coordinated, transparent and structured real-time monitoring and reporting. The overall objective of the assignment is to design and program a new inclusive System for MSSDS MIS and develop the needed functionalities and applications. Three Software Developers shall be engaged to work as a Team to develop the whole System. They will be required to create (design, develop, integrate, transfer, test, and implement) a web application.

## B.	OBJECTIVES:

The project will require the development, working alongside MSSDS of a relational database management system with an interface allowing for the different rights of the various identified groups (stakeholders). The database and interface to be developed will therefore need to address the various information management needs of the MSSDS. Under the direct supervision of MSSDS, the Team will be responsible for developing a Project Management Information System with a dynamic web application as per the following:

1. Web based portal PMIS

2. Professional services; installation, implementation and configuration
3. Training for the client on how platform will be used by all the stakeholders involved in the project execution.
4. The platform shall be scalable with the extent of data to be managed and users that have access.
5. User Manual/Handbook for operation and management if all modules, policies, procedures, assist registers, configuration documents and other documents shall be kept update and provided to MSSDS.

C.   SCOPE OF WORK:
C1.   The broad scope of work for interactive website are listed but not limited to:
1. Provide effective development and design for the functionality of the system.
2. Provide technical and creative expertise to create, manage, and update.
3. Testing the system and the website and their functionalities for all users
4. Testing the loads and accessibility of the system and the website
5. Ensure the Compatibility of the system and the website with different environments
6. Ensure the Compatibility with Mobile phones both iOS and Android
7. Refinement of architecture and design following inputs from staff and identified users
8. The intended users of the system include, but are not limited to, the following:
   - User 1: Admin (MSSDS)
   - User 2: Skill Development Officers across all Districts of the State
   - User 3: Mobilisers / Partners
   - User 4: Skill Training Providers
   - User 5: Potential Candidates / Trainees
   - User 6: Common viewers

C1.1   Development of Static Utilities:

(a) Home Page Design
(b) Introduction of Organization
(c) Activities of Organization
(d) Contact Us
(e) Web Links
(f) Other Links
(g) Information of latest skilling programmes offered with photographs and category.
(h) Mobile / Tab/ Smartphone responsive website.

C1.2   Development of Dynamic Utilities:

(a) Registration of persons interested to undergo skill development courses
(b) Registration of training providers

(c) Registration of Employers / Industry-Partners

(d) Verification of applicants – Trainees / TPs / Employers

(e) Enrolment of trainees into training programmes

(f) Monitoring of Training activities – attendance, progress, completion, certification, etc

(g) Tracking of trainees post training – placement / self-employment

(h) Maintaining a consolidated database of beneficiaries across Departments / agencies undertaking skill development initiatives in the State.

(i) Maintaining primary data for future references (eg. Village Profile and Gram Panchayat details, Statistics of unemployed youth, students and Educational Institution etc)

(j) Provide the interface platform for the STPs for entering the data daily/weekly/quarterly

(k) Provide Real-time dashboards for showing progress on key indicators

(l) To serve as an Integrated MIS platform for Skill Development schemes / projects to be implemented by the MSSDS in future.

(m) To migrate all the existing data maintained by MSSDS of various schemes / projects undertaken.

(n) To limit and authorise data retrieval to authorised user or MSSDS officials.

(o) Provide seamless data exchange between the web application and Skill India Portal.

C2. The Main Project Management modulus and functionalities to support are listed but not limited to:

SN	Major Modules	Functionality
1.	**User management**	▪ Admin, STPs, Mobilisers, SDOs, Guest, Trainees, etc
2.	**Schemes management**	▪ Multi Schemes / Programmes
3.	**Community Data Management**	▪ Details of the Gram Panchayat and Block, Village Profile in Meghalaya ▪ Statistics of unemployed youth, student ▪ Educational Institution in Meghalaya etc)
4.	**Mobilisation & Registration**	▪ Details of the Applicant registered during the Community mobilisation and post mobilisation drive. ▪ Candidates registration during mobilisation ▪ Capturing of data during Mobilisation and generating of mobilisation report of the mobilisers in a monthly basis. ▪ Self-registration by trainees
5.	**STP Management**	▪ Details of the Skills Training providers ▪ Skills Training Centres management

		▪ Trades offered management ▪ Batch formation management ▪ Training Plan and Infrastructure ▪ Course Curriculum ▪ Certifying Agency ▪ Employer Agency Registration for placement.
9.	**Enrolment**	▪ Shortlisting of candidates ▪ Verification of candidates ▪ Allotment of candidates to training batch – Trade & STP wise
10.	**Training Management**	▪ Details of trainees; ongoing training, dropped, trained, assessed, certified.
11.	**Monitoring**	▪ 360^0 Monitoring of Ongoing Projects
12.	**Post Training Tracking of Trainees**	▪ Details of Placement of the trained candidates, Post placement tracking, Post Placement support/online counselling ▪ Details of self-employed trained candidates, Post Training tracking including Financial and Market Linkage.
13.	**Dynamic Data Dashboard**	▪ Presentation of data in a form of Dynamic Dashboard for number of trades, training centres, batch, registered, enrolled, trained, assessed, certified, placed, self-employed etc.
14.	**E-mail Integration**	For Alerts and Notification
15.	**Mobile App**	For Candidate Registration Only

B2.1   The Team shall:
(a) Design and Develop Project Management Information System with a dynamic web application within one year from the award of contract.
(b) Equip MSSDS and Stakeholders with the requisite skills to enable them to access web application. This will be done with technical support from the Agency.
(c) The scope would also include such other activities that are incidental to the scope of work spelt out in the Purpose & Objectives above.
(d) It would also include any other activity(s) that may arise as per the need.
(e) Be responsible for executing the work as per the terms of reference contract between the parties.
(f) Obtain STQC certification for the platform and/or for compliance with any statuary requirement.
(g) Provide 3 years maintenance and support including Software Enhancement at no additional costs.

B2.2   General Scope: The scope of work shall consist of but not limited to:

(a) Provide the web base interface platform for the STPs for entering and manage the data periodically (regularly/quarterly)

(b) Provide an interface for MSSDS user and other Guest user to access the data for the purposes of information and Monitoring & Evaluation

(c) Presenting the daily status of activities or daily training status carried out by the STPs.

(d) Presentation of data and reports in the Dynamic Data Dashboard

(e) Provide an Integrated MIS and added extra domain(schemes) as and when require in future

(f) With few customisations in the system, it will serve the purpose in management the data of other Skills Development Projects of the MSSDS in future.

The Software Developers (SDs) shall perform all such work and/or provision all such items, services not specifically mentioned in the scope of work but that can be reasonably inferred as being required for successfully completing requirements of the PMIS as if such work and/or items were expressly mentioned in the Scope of work.

(a)   Project Charter

A Project Blueprint and a detailed Project Plan, indicating all activities with resources required and time schedule will be required to be prepared at the start of the project and submitted to MSSDS for approval.

(b)   Requirement Analysis & Customization

SDs shall carry out Requirement Analysis with respect to processes and requirements of MSSDS. They shall design and configure the web application suitably for demonstrating MSSDS's Technical and Functional requirements and shall make the application ready for Proof of Concept maximum within three weeks from the date by MSSDS.

Additionally, the Team shall carry out Requirement Analysis & Customization to meet Technical and Functional requirements. Delivery of Proof of Concept in such cases shall be on Back-Back basis.

(c)   Design, Configuration and Provisioning of Platform

SDs will have to design specification of User Interface design and Integration design as per project plan. They will have to design and develop an application through Java, Spring MVC, Angular JS and PostgreSQL. They shall also be responsible for Installation of the PMIS web application and Configuration management of the system.

The Team shall have provision which covers the following:
- Functional, Technical and Security Requirements

- Any special tools, software for implementation, Data Migration, testing etc. shall be part of the web application developed.

(d)　Integration/Interface Requirements

The implementation of the web application shall be required to provide seamless data exchange between the web application and Skill India Portal.

(e)　Standardisation, Testing and Quality Certification (STQC & Security Audit Certification)

The Team shall obtain STQC certification for the proposed platform (including Hosting Environment, Network and Applications etc.) for compliance with any statuary requirement.

The complete application should be STQC certified and compatible with the hosting environment. Hosting Environment shall be the State Data centre. All cost relating to obtaining such STQC & other necessary certifications shall be borne by the Team.

(f)　Process Validation Test

Once the web application is configured and provisioned as per MSSDS requirements, the Team shall conduct comprehensive testing of the application including System, Functional, Load, and security test etc. The Team shall follow test management system and submit the test cases along with report of testing conducted on the platform for UAT. Testing report will be reviewed and a sample case will be tested for the entire process of subsequent customization/upgrade for UAT.

(g)　Go Live

The Platform shall be rolled out for operation & shall Go-Live after successful Process Validation Test as per timelines given by MSSDS on Back-To-Back basis. UAT shall be done by nominated officials of MSSDS.

(h)　Training Scope

The Team shall train MSSDS officers on the web application. The training shall be provided in class room supported by e-learning tutorials. MSSDS shall identify those who are to be trained. Training of MSSDS officers shall be conducted in MSSDS premises. All training related arrangements shall be made by the Team including training manuals.

The training is given mainly to accustom the users on the application and also for troubleshooting by the Technical Support Team.

(i)　Create a Disaster Recovery (DR) Site

In case of any event of disaster, either natural or man-made such as earth quake, Fire, Flood, Hardware, Network problem etc., the system can be recovered in best minimal period of time. In case if something happens wrong to the primary site the DR site become functioning to avoid interrupted access and till the time the issue of the primary site is not solved.

(j)   Scalability

Application is scalable i.e. by adding necessary hardware and software infrastructure, system would be able to handle increased usage at a given point of time.

(k)   Handover of PMIS

The Team shall handover the rights of the PMIS along with software licenses required to run the system to MSSDS on completion. The hand-over shall include the up and running web application, latest source code and complete data collected by the system compatible with the servers available at the State Data Centre / NIC. On transfer, MSSDS shall have rights to use, modify or change source code of the application. MSSDS will have full right to use, change, modify, customize the e-commerce platform developed / customized for MSSDS. The Team will provide the source code of system customized to MSSDS and also train identified personnel from MSSDS around know how of the system.

The Team will provide product information for reference purposes and facilitating self-learning of MSSDS personnel and end customer if required. Key aspects that are required to be covered are:

(a) Product & helpdesk Documentation: Product Documentation in hard copy to be supplied along with licenses and shall include User manuals, System administrator manuals.

Feature	Requirement
User Manual	Develop user manuals that provide a functional description of all the facilities which must also be available online.
Technical Manual	Develop technical manuals that provide the procedures for system configuration, parameter configuration, system fine turning, security configuration any other configuration and system installation and management information.
Helpdesk Manual	Develop helpdesk manual including Frequently asked questions (FAQ). FAQs shall be available on platform suitably as well.

C.   RIGHTS & DOMAIN

All Rights for the web application developed under this engagement shall be reserved with MSSDS. The Team will have to deploy the web application in domain chosen by MSSDS.

D.   CONFIDENTIALITY

All discussions and documents relating to this engagement will be treated as confidential by the parties. Any document, tools, templates, etc. developed through this assignment is the property of the MSSDS who will have sole ownership on it.