

**SECONDARY EDUCATION SECTOR INVESTMENT PROGRAM
DIRECTORATE OF SECONDARY AND HIGHER EDUCATION
MINISTRY OF EDUCATION**

INTEGRATED EMIS SYSTEM OF DSHE

TERMS OF REFERENCE

EMIS CELL, DSHE

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Acronym

SRS	Software Requirement Specifications
URS	User Requirement Specifications
MoE	Ministry of Education
EMIS	Education Management Information System
GIS	Geographical Information System
ICT	Information and Communication Technology
SESDP	Secondary Education Sector Development Project
SESIP	Secondary Education Sector Investment Program
LFCS	Learning Facilitator Competency Standard
ACR	Annual Confidential Report
DSHE	Directorate of Secondary and Higher Education
BANBEIS	Bangladesh Bureau of Educational Information and Statistics
MPO	Monthly Pay Order
SSQS	Secondary School Quality Standard
PBM	Performance Based Management
IMS	Institution Management System
DCF	Data Capture Format
DLI	Disbursement link Indicator
CPMIS	College Personnel Management Information System
SPMIS	School Personnel Management Information System
M & E	Monitoring & Evaluation
E-R	Entity- Relationship
SQAP	Software Quality Assurance Plan
STD	Software Test Documentation
SDD	Software Design Description
SNMP	Software Project Management Plan
FAQ	Frequent Asked Question
DEO	District Education Office
USEO	Upazilla Secondary Education office
SMS	Short Message system
KPI	Key performance Indicator
HRM	Human Resource Management
ADB	Asian Development Bank
WAN	Wide Area Network
LAN	Local Area Network
SQA	Software Quality Assurance
HQ	Head Quarter

RF	Radio Frequency
ID	Identification
PDF	Portable Document Format
SDK	Software Development Kit
RDIMM	Registered Dual In-line Memory Module
RAM	Random Access Memory
RAID	Redundant Array of Inexpensive Disks
ISS	Internet Information Service
CMS	Content management System
DSL	Digital Subscriber Line

1. Background

Bangladesh has achieved significant increases in secondary education enrollment in the past two decades. Growth has been met through the fast growth of non-government schools and madrasahs, which comprise over 95% of all schools.

Monitoring and evaluation to ensure the quality of the rapidly expanding numbers of schools and madrasahs have been challenging within the small-scale management system of the relevant education agencies. The quality of education and educational outcomes remain a major issue. Dropout and failure rates across the general secondary schools and madrasahs remain high. Problems of unsuitable curricula and examinations, poor textbooks, and ineffective teaching for the majority of students remain.

The lack of centralized and decentralized systems for educational management, monitoring, evaluation, and quality assurance for school support and development remain as a central concern.

Systematic targeting and support to identify underserved areas of secondary provision is now reducing problems of access. Continuing targeted support is required to preserve gains in enrollment.

To address these issues of management, quality, and access in the secondary education sub-sector, EMIS will be strengthened, institutionalized and harmonized with improved efficiency at DSHE, zonal, districts, upazila, and school levels. SESIP EMIS development strategies are based in the newly approved Education ICT Master Plan and are an extension of the EMIS establishment and strengthening undertaken in the SESDP project which ended 31 December, 2013. Further development and enrichment of an EMIS system will in part be based on SESDP EMIS development plan. SESIP will support a review of all ICT-related projects to ensure lessons learned are applied towards EMIS institutionalization. The intent is to enhance EMIS capacity at DSHE to handle the increased data, including institution, teacher, and student data, as well as data streams important for SESIP output data to support DLI achievement. This will involve procurement of additional hardware and other equipment to strengthen the data center in DSHE. Continuous capacity development for improved EMIS at the central and zonal level will be planned and implemented. Upgradation and enhancement will also include plan preparation for continuous review and upgrade of web-based EMIS modules. Under the approval of the MOE, the ICT Master Plan will guide identification and implementation of Information System Standards that apply to all databases within the sector (DSHE, BISE, BANBEIS, Madrasah Board, and NAEM) by the end of 2017. The standard will provide the framework for harmonized EMIS operations between sets of sector data.

A decentralized EMIS was developed for DSHE under SESDP to strengthen the management capacity of DSHE and to establish an effective monitoring and evaluation mechanism. The developed model consists of seventeen software modules. All the districts and zonal offices have been linked through a web mechanism with the central office. DSHE has aimed at further development, modification and effective implementation of the developed EMIS model under Secondary Education Sector Investment Program (SESIP). The names of seventeen modules are mentioned below:

- | | |
|----------------------|----------------------|
| a) | Message |
| Communication System | |
| b) | Project Management |
| c) | Project Monitoring & |
| Evaluation | |
| d) | Project Proposal |
| Management | |
| e) | Institute Management |
| System | |
| f) | Performance Based |
| Management (PBM) | |
| g) | Employee |
| Management | |
| h) | Employee Monitoring |
| & Evaluation | |
| i) | Training Management |
| j) | Payroll Management |
| k) | Budget Management |
| l) | Library Management |
| m) | Inventory Management |
| n) | Document Archiving |
| Management | |
| o) | Monthly Pay Order |
| (MPO) Management- | |
| p) | GIS Application |
| q) | File Management |
| System. | |

2. Objectives of the Project:

The objectives of the project are as follows:

- Upgrade of existing modules.
- All modules will be developed/customized on a common web-based platform;
- To build up a Data Management System with a harmonized approach for all sectors under MOE;
- Design, development and implementation of web based attendance system integrated with an access control machine for Head Quarter and Field Level Offices;
- Design creation, development and implementation of a dynamic reporting engine
- Prepare documentation, data definition, data dictionary for all existing modules.
- To build an improved Teacher Management System;
- To build an integrated intelligent information management system of DSHE.
- Design, develop and implement a digital Content Management System.
- Design, develop and implement an integrated academic supervision module;
- Design, develop and implement an integrated Monitoring & Evaluation framework module;
- School Based Teaching Learning Performance Module (academic monitoring of the learning process) related to class room observation;
- Learning Facilitator Competency Standard(LFCS) Module (pedagogical monitoring of teachers);
- Mobile Apps (Android version) for data transport for academic supervision;
- Recruitment processing System for registration online application;
- Annual Confidential Report (ACR) Management System

3. Present Status of EMIS modules:

There are seventeen modules which were developed under SESDP. These are (1) Message Communication System; (2) Project Management; (3) Project Monitoring and Evaluation (4) Project Proposal Management; (5) Institute Management System; (6) Performance Based Management (PBM); (7) Employee Management; (8) Employee Monitoring and Evaluation; (9) Training Management; (10) Payroll Management; (11) Budget Management; (12) Library Management; (13) Inventory Management; (14) Document Archiving Management; (15) MPO Management; (16) File Management System and (17) GIS Application. . Of them, Message communication System, Performance Based Management System, Institute Management System and MPO Management System are using. GIS Application System is being operated by BANBEIS. Besides, CPMIS (College Personnel Management Information System) and SPMIS (School Personnel Management Information System) are operating in EMIS cell.

4. Scope of Work

The winning bidder is required to submit a holistic plan of the assignment encompassing the user requirements analysis, logical design of the system, (ICT infrastructure at all levels - DSHE, zonal, districts, upazila, and school, application software architecture), software development, implementation, testing, commissioning, debugging and training, operating instructions for diverse users immediate after signing the contract with client. This assignment includes customization of some modules, redesign of some modules and new development of some modules and all to be based on the same platform and architecture. The existing database is also to be redesigned accordingly. The submitted plan is subject to future amendment on a mutual agreement by both the consulting firm and the client. The new modules that have to be designed, developed and implemented are indicated below, including the design, development, and implementation of:

- Web based Attendance System;
- Dynamic Reporting System;
- Digital Content Management System;
- Integrated Academic Supervision;
- Integrated M & E Framework;
- School Based Teaching Learning Performance;
- Learning Facilitator Competency Standard;
- Mobile Applications;
- Integration of SSQS (Secondary School Quality Standard) indicators with IMS (Institution Management System);
- Recruitment Management System;
- Annual Confidential Report Management System;

The consulting firm would customize and upgrade the existing modules as per the requirements of client. The present situation and what needs to be done are described in brief in Section 4.3. The consulting firm will develop a holistic plan based on the terms and reference of this assignment.

4.1 Requirement Analysis and Finalization

Detailed requirements analysis and fact finding tasks will be performed by the selected consultancy firm to understand and elicit requirements of various departments and users of existing software. After requirements analysis, the consulting firm will:

- Conduct needs assessment studies related to the whole system.
- Arrange meetings with key stakeholders to identify software requirements;
- Analyze the existing EMIS modules and finalize the requirements to upgrade these modules to meet current needs and needs in the near future;
- Arrange meetings with key stakeholders and finalize the requirements for the new web enabled modules;
- Analyze the existing security system and suggest improvements to create the strongest possible security for the EMIS system.
- Hold meetings/discussion sessions, as many as necessary, to understand and document the existing business process;
- Collect feedback from the meetings/sessions and incorporate that into the analysis document.
- The finalized requirements are to be tabulated and execute as follows:

Name of modules	Code of requirements	Description of requirements	Priority	First release		Second Release		Final Release		Client's comments
				Test case	Test response	Test case	Test response	Test case	Test response	

4.1.1 Prepare User Requirement Specifications report (URS) for each module, consisting of-

- Data flow diagrams of all business processes regarding all existing and proposed modules;
- An overall description of all software consisting of basic input output and description of the modules with functionalities in plain terms;
- User roles and privileges for all tiers of stakeholders;

- Arrange sessions with the client dedicated to vetting and verifying the URS.
- Share the URS with the client and collect approval to ensure ownership and zero gap in communication;

4.1.2 Prepare a report detailing Software Requirement Specifications (SRS) for each module, consisting of:-

- Class diagram of showing the classes in a system, attributes and operations of each class and the relationship between each class to be used;
- Component diagram showing the structural relationship of components through interfaces;
- Deployment diagram showing connectivity between the necessary hardware and the system they host;
- Use case diagram showing a graphic overview of the actors involved in a system, different functions needed by those actors and how these different functions are interacted.
- Sequence diagram showing the process and the sequence in which the objects interact with each other.
- E-R diagram describing the tables, keys, schemas and relationship of the database.
- Textual description for each of the above to properly capture and explain the system design;
- Arrange sessions dedicated to vetting and verifying the SRS;
- Collect feedback from the session and incorporate that into document;
- Share the SRS with the client and collect approval to ensure ownership and zero gap in communication;

4.2 Production of Required Documentations:

The documents listed here give an overview of the minimum requirements only. However, it is imperative that the produced documents by the firm should match or exceed the required and specified quality. The suggested standards and list of documentation is as follows:

- SQAP- Software Quality Assurance Plan (IEEE 730)
- STD – Software Test Documentation (IEEE 829)
- SRS – Software Requirement Specification (IEEE 830)
- SDD – Software Design Description (IEEE 1016)
- SPMP- Software Project Management Plan (IEEE 1058)
- Produce and submit inception report;
- Produce and submit monthly progress report;
- Produce and submit quarterly progress report;
- Produce and submit draft final report;

- Produce and submit final report;
- Produce and submit Data Dictionary;
- Produce and submit User Manual covering all modules that should include the following;
 - A preface, containing details of related documents and information on how to best use the guide;
 - A content page;
 - A guide on how to use at least the main functions of the system;
 - A trouble shooting section detailing possible errors or problems that may occur along with how to fix them;
 - A FAQ (Frequent Asked Questions)
 - Where to find further help and contact details i. e. help desk;
 - A glossary and an index;
- Produce and submit Training Manual covering all modules;

The training manual should contain the training contents for the target users during the training period followed by the software development process. Separate contents should be developed for data entry, generic user level and maintenance level training.
- Produce and submit technical module- the manual should at least contain the following:
 - A release note describing the version number, known issue summary, upgrade notes, disclaimers and support contact;
 - Required technical explanation of how each module and/or application can be configured/altered as per changed requirements;
 - Technical description of maintenance;

4.3. Up-gradation of Existing Modules:

The development/customization of the web-enabled software will follow a hybrid model where a prototype will be delivered at the earliest to collect feedback on alpha version. The client will provide feedback on the prototype and the vendor will incorporate the feedback at the earliest for making a second delivery (beta version). The client will again test the version during and after the demonstration to provide the final set of feedback to the vendor. The vendor will again incorporate the feedback for making the final delivery (version 1.0) to the client. While developing the system, the vendor is expected to make sure –

- 4.3.1. The software corresponds to the approved specification with highest accuracy;

- 4.3.2. There is no copyright infringement of any sorts in the complete codebase delivered. In other words, all the 3rd party tools, scripts, codes used while developing the system are free to use and open sourced. Except for the 3rd party codes, the rest of source code should belong to be client only;
- 4.3.4 There will be no security hole, malware or suspicious activities performed by installing the delivered software in the infrastructure that is provided by the client. Any such activity will incur demurrage to be paid by the vendor as set by the client.
- 4.3.5 That the designated personnel from the client are aware the status at each and every stage of the development cycle. The client holds the right to oversee, suggest and influence the whole development process at all times.
- 4.3.6 The firm would be required to modify the existing web-based decentralized data entry software at the earliest to match with the time schedule of on-going data gathering as part of the Institute Management System.
- 4.3.7 Make any modifications to server configurations required for on-line data entry.
- 4.3.8 Based on the findings the necessary development/modification to web-based software will need to be carried out.
- 4.3.9 Examine the existing data communication links among various locations (MOE, DSHE, BANBEIS, 9 Zones and 64 Districts, 488 USEOs) for easy exchange of information consistent with requirements of the management. Make recommendations if any modifications/additions are required.
- 4.3.10 Determine the overall software requirements to implement the system by ensuring compatibility with the existing system.
- 4.3.11 The firm will carry out a detailed analysis of hardware and an infrastructure needs analysis to support smooth operation of the system.
- 4.3.12 Software performance and fine tuning of existing software for high performance are major tasks of the consulting firm.
- 4.3.13 The database needs to be designed and developed as per the proposed Interoperability Framework prepared by the data harmonization committee of DSHE. The intention is to connect different databases between other government bodies of MOE such that they can share information and access information from all connected databases.
- 4.3.14 The reports generated from the integrated EMIS applications need to be compatible across all OS/browser platforms.
- 4.3.15 The web based application should have a user friendly interface so any field user can operate it easily.
- 4.3.16 The software application needs to have the ability to share, show and exchange data from and within the external/third party (other government agency) software.
- 4.3.17 All modules including existing and newly developed modules to be hosted within the web portal www.emis.gov.bd.
- 4.3.18 Design dynamic reports about SSQS indicators;
- 4.3.19 Besides these, the consulting firm shall design/develop/implement or carry out any other modules/requirements assigned by those in-charge of EMIS Cell in agreement between consulting firm and client;
- 4.3.20 Current situation of existing EMIS modules is stated in the table below:

SL	Name of Modules	Development Platform	Current situation	Intend adjustment
01	Message Communication System	ASP.Net/Oracle	Operating	To be customized; SMS and email notification systems to be incorporated;
02	Project management	ASP.Net/Oracle	Functional/Not using	These three modules were developed on the platform of program approach system. But now the approach has been changed that's why these modules to be customized considering program approach and to be integrated single module instead of three. Screen shots are available in the section – 4.18
03	Project Monitoring and Evaluation	ASP.Net/Oracle	Functional/Not using	
04	Project Proposal Management	ASP.Net/Oracle	Functional/Not using	
05	Institute Management System	ASP.Net/Oracle	Functional/Operating	
06	Performance Based Management	ASP.Net/Oracle	Functional/Using	Customization or new development; new generic and Individual reports and customization of data capture format; and Secondary School Quality Standard (SSQS) related fields to be incorporated; Details description of SSQS in the section 4.14;
07	Employee Management	ASP.Net/Oracle	Functional/Not using	New indicators and sub indicators to be integrated; new report to be developed; Result based monitoring (KPI) based data to be collected based on that module to be customized;
08	Employee Monitoring & Evaluation	ASP.Net/Oracle	Not Using	
09	Training Management	ASP.Net/Oracle	Functional/Using	These two modules to be integrated Human Resources Management System and to be customized/new development as per client's requirements; details description in 4.17
10	Payroll Management	ASP.Net/Oracle	Functional/Not using	This module to be customized and various reports to be developed;
				Design and develop and integrate with Human

SL	Name of Modules	Development Platform	Current situation	Intend adjustment
				Resources Management System. Details in the section -4.17
11	Budget Management	ASP.Net/Oracle	Not using	Design and Develop/ <i>ADB is now developing an accounting module; this module can be further customized based on the requirements of the client;</i>
12	Library Management	PHP/My SQL	Functional/Not Using	Fresh design and development; It is the depository of the records of books, journal, research paper etc. Details description is available in the section 4.22
13	Inventory Management	ASP.Net/Oracle	Functional/Not Using	Customization/new development. It is the institutional wise repository of equipments/items list. Details description in the section- 4.21
14	Document Archiving Management	ASP.Net/Oracle	Functional/Not Using	Fresh design and development; details description in the section 4.20.
15	MPO module	ASP.Net/Oracle	Functional/Operating	This module to be customized based on client's requirements.
16	File Management System	ASP.Net/Oracle	Functional/Not Using	Fresh design and develop; details description in the section 4.19.
17	College personnel Management Information System (CPMIS)	Developer 6i/Oracle	Functional/Operating	New development and integrate with HRM module; based on attached data capture format. These modules are to be incorporated with newly proposed Human Resources Management System
18	School Personnel Management Information System (SP	Developer 6i/Oracle	Functional/Operating	New development and integrate with HRM module; based on attached data capture format. These modules are to be

SL	Name of Modules	Development Platform	Current situation	Intend adjustment
	MIS)			incorporated with newly proposed Human Resources Management System
19	GIS Application		Not Using	BANBEIS is responsible for this module; this module would not be considered for this project;
20	Annual Confidential Report (ACR)	FoxPro 2.6	Functional/operating	New development/Customization based on the ACR form (Attached)

4.4 Delivery, Feedback, Incorporation and Commissioning

- 4.4.4 The software should be capable of handling centralized databases as well as distributed databases.
- 4.4.5 Design or adjustment of the databases, application architecture and source code, generating the descriptive documents including the **chronogram** of the development.
- 4.4.6 The software should have entire functionalities required for Education Management Information System.
- 4.4.7 The software should have easy access mechanism to integrate with third party applications.
- 4.4.8 The software should have strong security features and full parameterized system.
- 4.4.9 The software should be user friendly and bug free.
- 4.4.10 The software vendor should provide systematic technical and operational trainings to required users.
- 4.4.11 Preparation of the technical and user and source code manuals.
- 4.4.12 Installation of all requisite components of developed system along with relevant data on the hardware.
- 4.4.13 The software that must work on all well known Web Browsers;
- 4.4.14 Monthly Focus Group Discussion will be scheduled to determine the status of the assignment.
- 4.4.15 The software needs to be web/WAN based.
- 4.4.16 The source code develop under this ToR will be fully owned by Directorate of Secondary and Higher Education. The vendor should properly document all such codes and deliver it to the EMIS Cell and cannot claim any royalty or authority of any sorts in case of replicating the source code or any other deliverables under this ToR for any future use. Furthermore, the vendor shall not use any library or codes that have any other copyright claim associated with it which will prevent or restrict smooth of ownership in any ways.

- 4.4.17 Upon completion of Vendor's standard test procedure at the provided servers, Vendor shall certify that the final version of the applications have been delivered properly, meets the specifications, and is ready for use and for software acceptance testing. Vendor shall provide certification for the solution to the client after successful completion of delivery and installation at the earliest to start the acceptance testing process.
- 4.4.18 Before making each delivery the vendor must ensure it has-
- Included a release note clearly indicating the known bugs, the new additions and other points to be noted.
 - Passed the internal Software Quality Assurance (SQA).
 - Incorporated all feedback as suggested by the client.
 - Included a draft version of the User Manual and Technical Manual.

4.5 Design and Develop Web based Access (HQ) and Attendance System for field level offices:

The access and attendance system software would be built on web platform and can centrally capture all location data so that onsite installation can run independently as well as being able to provide central administration with a clear picture on a daily basis. Following are the key features the software should have:

1. The software will handle all scenarios of the Attendance system of DSHE.
2. The software will be integrated with any type of access control system such as RF devices, Biometric devices etc.
3. Real time attendance reporting with analytical dashboard feature must be in the developed software.
4. The software will be completely web based.
5. The software will have advanced features such as shift management, ability to block any existing users on a specific date, sensitive access control through biometric security or RF ID based card implementation.
6. The vendor will design the web based attendance system in such a way that covers user interface, data management and process according to the client's priorities.
7. The system shall be highly secure and customizable with at least the following features:
 - Ability to import employee files from excel, word and pdf. formats;
 - Employee search and query facility;
 - Organization calendar
 - Real-time attendance management across multiple offices;
 - Integration with other modules like Employee Management;
 - Flexible timing provisions;
 - Scope for modification resulting from a change of the rules;
8. Following reports to be developed:

- Day wise attendance;
- Day wise present/absent/late/movement;
- Daily attendance summary;
- Daily miss punch report;
- Monthly attendance/present/late/absent;
- Monthly attendance summary;
- Employee wise details report with summary;
- Employee information report;
- New employee information report;
- Resigned or resigning employee information report;
- Employee wise leave summary report;
- More reports to be developed based on the requirements of management;

9. Analytical dashboard:

Employees have a common dashboard where the necessary daily information is summarized for quick view. Following are the key activities of the analytical dashboard:

- Today's organization wise Attendance Summary graph for top management;
- Monthly individual attendance summary graph;
- Approver pending list for attendance, leave, onsite movement, etc;
- Individual pending status of attendance, leave, onsite movement;
- Quick link to frequently used features;
- Office calendar to highlight working days and upcoming holidays/days off
- Individual leave summary graph;
- Individual conveyance summary graph;
- Individual work log summary;

10. Personnel Management:

Employee records have been kept with proper workflow and track record of employment & payroll history. Following are the key activity of the module:

- Personnel information (Biographical) capture;
- Educational information capture;
- Medical information capture (disease, treatment & hospitalization claim)
- Employment information (Joining, posting, cost centre, location, etc) capture
- Bank account information capture;
- Employment history capture;
- Training history capture;
- Disciplinary action capture;
- Reward/achievement capture;
- Current payroll grade capture;
- Payroll history capture;

- Leave allocation information capture with ledger;
- Document attachment facility;

11. Office time and duty roster:

- Records for late entry and early exit should be recorded;
- Standard calendar setup along with govt. holiday and weekly holiday;
- Monthly duty roster for all calendar days for each employee;

12. Attendance:

Employees have to log in into the system through web Browser. Card/Biometric access control device (face detection/finger print) located in the respective offices will capture attendance and movement where a power full configuration security policy applied. Following are the key activity of the module:

- Unique people wise ID to identify employee;
- Office time verification when log in /log out;
- Movement capture (In/Out);
- Late notification;
- Short leave notification with leave hour configuration;
- Force leave deduction;
- Attendance adjustment & approvals;
- Today's attendance status;
- Attendance month end process (leave, absent, late, onsite adjustment)
- Personnel movement adjustment
- Relation building of movement and conveyance claim;
- Individual conveyance settlement;

13. Leave Management:

Leave management system is available to raise a leave application and close through an approval process. Following are the key activity of the modules;

- Leave settings with categorical administrative policy;
- Earn leave calendar for leave planning in advance;
- Leave application processing through workflow;
- Leave calendar and validation for leave balancing;
- Leave forwarding for next calendar year;
- Leave encashment of unusual leave;

14. Data Synchronization:

All operation data must synchronize with centralized database and this module to be integrated with Human Resources Management System.

15. Minimum Hardware Specifications::

- Biometric Attendance Device (Face Recognition Preferred/Finger print/Card) with SDK

- Server:
 - (Any Brand Server with following minimum specification)
 - Processor: Intel® Six Core Xeon® E5-2420 1.90GHz, 15M Cache, 7.2GT/s QPI, Turbo, 6C, 80W, Max Mem 1600MHz
 - RAM: 16GB (2x8GB) Memory 1600Mhz Dual Ranked RDIMM up to 192GB (6 DIMM slots).
 - RAID: Hardware RAID Controller Supporting RAID Level 0,1,10,5
 - Hard Disk Drive: 4 x 1TB 7.2K RPM NL SAS 3.5" Hot Plug Enterprise Hard Drive
- Internet Connectivity (through Modem or DSL)
- Internet Information Service (IIS) running on Windows 2008/2012 R2 Server

4.6 Design, Development and Implement of Dynamic Report Engine:

- The firm will design and develop a Dynamic report engine so that users of different levels can generate its expected output or report from the system in a user friendly system.
- There will be dashboard at different level of users so that they can view the real time scenarios of status of any scenarios.
- The system will have authentication and authorization system that will allow users to generate reports of specific data set based on permission granted.
- The system will have a powerful, flexible and user friendly report engine.
- This reporting system will have the possibility to use many data sources in a handy and flexible way.
- Reporting Tools should be capable of controlling size of report results;
- Must be capacity of changing the contents of the reports;
- Must have facilities to Export report results to Microsoft Excel, PDF and other popular format;
- The Reporting Tools should have Selecting various filter criteria as well also capacity of Inherited Report Designs;
- Must have capacity of Query Building, Processing output along with filtering and sorting;

4.7 Design, development and implementation of digital content management system:

Develop interactive application software for e-learning materials, student registration, support for teacher – planning lessons, web site development tools and individual laptops e.g. e-learning materials repository, multimedia processing)

4.7.1 Technical Requirements:

The new ICT content management web portal must operate on the below specified technology platform to maintain consistency with the current architecture and the support capabilities in-schools/offices. Backup and recovery must be simple to administer and this must include the ability to move the system to an alternative host thereby easily enabling the future possibility of external hosting.

4.7.2 Operational Requirements:

Operating System: Windows 2012 or Above
Database: Oracle 11g
Web Server: IIS 8.0 or above
Supported Browsers: Internet Explorer: 8+; Chrome: C 30 +; Firefox: FF 25+;
Safari: 5.1+; Opera: 12.1+; Android (default browser): 4.0+;
Programming Language: ASP.net

4.7.3 Role and Responsibility:

Role	Responsibility	No. Users
Public Users	Anonymous user with read-only permissions	Unlimited
Public Registered user (Teacher and Student)	Has the potential for a user (Teacher and Student) who has created a profile and may edit that profile and submit/edit publication, digital contents and newsletter subscription by choices	>10000
Web editor (only DSHE)	Member of the editorial team with the ability to create, edit, publish and un-publish content as well as start/stop workflows	20 to 30
Decentralized web editor (Zonal offices and DEO offices)	As for the web editor above but the role is for users not based on DSHE premises	75 to 100
Administrator	All ICT Content Management System privileges which includes the web editor permissions and the ability to create users and roles and workflows. Note that this is not the same as the System administrator which will cater for the smooth running of the product and take care of tuning, backup and recovery.	3

4.7.4 Requirements:

SL	Requirements
01	The ICT CONTENT MANAGEMENT SYSTEM cross-searchable by topic shall be capable of storing and categorizing documents, images, video and audio files. It must be possible to assign content types and metadata to

SL	Requirements
	repositories and be possible to assign metadata values to objects (documents, images, video and audio files)
02	The web interface shall have a drag and drop feature to enable easy management of content within the ICT CONTENT MANAGEMENT SYSTEM.
03	<p>The ICT CONTENT MANAGEMENT SYSTEM shall support the following minimum preview and publication functions:</p> <ul style="list-style-type: none"> - Preview only (not visible to users) - Save as unpublished (draft) - Preview then publish - Publish immediately - Send for approval - Approve - Publish after approval (i.e. after successful completion of the approval workflow) - Unpublished (save as unpublished, not visible to users) - Publication scheduling - Publication expiration date (automatic unpublished)
04	<p>The ICT CONTENT MANAGEMENT SYSTEM shall supply a configurable image rotator function to provide:</p> <ul style="list-style-type: none"> - image source - vertical or horizontal rotation - rotation speed - text manipulation - hyperlinks from images - hyperlink target (new window, existing window)
05	The ICT CONTENT MANAGEMENT SYSTEM shall be delivered with an image library that is capable of automatically creating thumbnails of images at predefined sizes.
06	The solution shall be delivered with an email distribution tool (built-in or 3rd party) to support content delivery such as newsletters and subscriptions.
07	The ICT CONTENT MANAGEMENT SYSTEM shall provide the configurable functionality (built-in or 3rd party) to create polls and surveys as well as the functionality to view, moderate and publish the results.
08	The ICT CONTENT MANAGEMENT SYSTEM shall provide the functionality to enable site visitors to easily print pages and download documents (including images and maps).
09	The ICT CONTENT MANAGEMENT SYSTEM shall include a social media integration module that allows configurable sharing of content (pages, interactive data visualizations, images, videos) to a variety of social media (Facebook, Twitter, Google+, LinkedIn and others to be specified). It must be possible to easily add other social media.
10	The ICT CONTENT MANAGEMENT SYSTEM shall support faceted searching enabling the application of multiple filters to search request results using drill-down (sequential) and parallel (concurrent) selection methods, through integration with the FAST search engine.
11	The ICT CONTENT MANAGEMENT SYSTEM shall support the creation of an alert in response to a specific event, examples being:

SL	Requirements
	- Content amendment - Content expiration date approaching.

4.8 Data Migration:

The consulting firm would redesign the existing database in consultation with EMIS in-charge and migrate all the existing data from the older database to the newly build database (data center) through the agreed plan with client. The data migration has to be error free, verified and tested. The database has to be redesigned and made to match with the newly established data center at DSHE. The consulting firm, upon agreement with the client, will do all relevant tasks the client thinks are needed for the configuration of database of data center.

4.9 Integrated Academic Supervision module (data capture format attached):

- School supervision system will be strengthened with an integrated policy framework;
- Tasks of the field level officials will be monitored with a stipulated work plan;
- School academic environment/climate will be strengthened as per the notion of an “Effective School.”
- The following information to be integrated into this module;
 - Institutional lesson learning environment;
 - Classroom related information;
 - Science lab, computer lab and library related information;
 - Student related information;
 - Teachers related information;
 - Class Room teaching learning observation;
 - Information of multimedia class room usage
 - Information of identifying less brilliant student and assessment.
- The following information is Classroom teaching learning observation;
 - Information of multimedia class room usage;
 - Information of identifying students with learning difficulties.
 - Continuous assessment related information;
 - Annual examination related information;
 - Recommendations of visiting officer about overall development of respective institution;
 - Cluster related information;
 - Information of officer transfer and cluster changes;
 - Information of infrastructure facility less institutions;
 - Information of PBM implementation;

- Meeting related information;
- Information of institution-wise result of JSC/JDC and SSC/Dakhil;
- Information of the implementation of creative system;
- Information of district-wise teachers' diary;
- Information of development of previous recommendations of PBM implementation;
- Information related to the five year development plan;
- Information of categorized institutions according to ISAS;
- The new module to be developed based on the Data Capture Format.

4.10 Integrated M & E framework module:

Objective:

- Program based data inputs of BANBEIS and EMIS will be shared and data will be generated on new areas based on program M & E approach;
- Analytical and Statistical reports will be generated based on integrated data;
- Data and information will be shared and disseminated;
- The module to be developed based on the Data Capture formats of IMS, ISAS, Academic Supervision, class room observations;
- Training monitoring;
- Monitoring program performance (Tracking program inputs, outputs, impacts and operational risks);

Requirements:

The following information to be incorporate into this module:

- Gross enrolment rate
- Net enrolment rate
- Dropout rate
- Co-efficient of efficiency
- Gender parity
- Class size
- Teacher student ratio
- Internal efficiency
- Integrate IMED format 3 & 5;
- All SDG educational indicators

4.11 School based teaching learning performance (classroom observation) module (Data Capture format attached):

- Based on baseline data, school-based teaching-learning performance will be assessed and baseline will be prepared;
- KPIs will be selected for result-based monitoring;
- Reports will be prepared on teaching – learning performance and disseminated;
- The module to be developed based on the Data Capture format.
- This module to be developed in Bangla;
- Reports to be developed based on the requirements of client;
- The following information to be include in the system:
 - Identity of institutions (Details description in DCF) Section - ;
 - Identity of classroom (Details description in DCF) Section- ;
 - Identity of Class teacher (Details description in DCF)Section- ;
 - Observation of class room learning and teaching (Details description in DCF) Section-

4.12 Learning Facilitator Competency Standard (LFCS) module:

This module will manage a responsive teacher professional development system for improving student learning outcomes through effective implementation of the new national curriculum.

Objectives of this module:

- a) Institutionalizing a regular data-driven curriculum review, revision, and implementation cycle;
- b) A standards-based, integrated, responsive, and data-driven teacher professional development system;
- c) Strengthen DSHE monitoring & evaluation of the institutions;
- d) School based monitoring and reporting system;

Requirements:

The following tabulated information to be integrated into this module;

Areas of competency	Indicators
Preparation and classroom management	<ul style="list-style-type: none"> ● Prepares the class for the lesson; ● Keeps eye contact to the whole class; ● Completes each activity on time; ● Maintains class discipline; and ● Rearranges seats as per demand of the lesson.
Questioning Skill	<ul style="list-style-type: none"> ● Asks questions to the class as a whole; ● Asks relevant questions; ● Gives open and closed questions; ● Asks probe questions; and

Areas of competency	Indicators
	<ul style="list-style-type: none"> • Asks questions covering all levels of cognitive domains.
Presentation Skill	<ul style="list-style-type: none"> • Speaks clearly and uses projected voice; • Writes legibly - readable by all. • Uses appropriate methods and techniques; • Ensures active participation of all; and • Gives group tasks when necessary.
Institutional materials	<ul style="list-style-type: none"> • Uses teaching aids when necessary; • Teaching aids are relevant to learning outcomes; • Teaching aids are clearly visible to all; • Uses teaching aids effectively; and • Uses electronic equipment/ICT materials effectively.
Assessment and Feedback	<ul style="list-style-type: none"> • Assesses students for the lesson; • Assesses students during the lesson; • Gives feedback; • Provides remedial assistance where necessary; and • Gives tasks and assignments for reinforcement of learning.
Professionalism	<ul style="list-style-type: none"> • Attends class on time and stays in the class for the whole period; • Provides opportunities for students to express views and ask question; • Creates positive rapport with students; • Uses rewarding language and shows positive body language; and • Fulfills students' demands with patience.
Inclusive Education and Gender Awareness	<ul style="list-style-type: none"> • Treats all students equally; • Addresses special needs of the students; • Gives special attention to the students having learning difficulties; • Is sensitive to cultural and gender differences; • Gives gender and cultured balanced examples and illustrations; and • Motivates learners to respects opposite sex.
Innovative Techniques	<ul style="list-style-type: none"> • Makes inclusive/mixed ability groups; • Gives creative problems to solve in the classroom; • Gives innovative assignments and projects; • Recognizes diversity and innovative tasks; and • Reflects on own classroom performance.

Areas of competency	Indicators
Planning Skills	<ul style="list-style-type: none"> • Uses written lesson plan; • States learning outcomes in behavioral terms; • States appropriate teaching-learning strategies; • Mentions assessment techniques; and • Mentions anticipated challenges and solutions;

4.13 Development of Mobile Application for e-monitoring system of school (Android, IOS version):

This module to be developed based on mobile operating system integrated with following features.

4.13.1 Academic Supervision (data capture format attached):

- School supervision system will be strengthen with an integrated policy framework;
- Be tasks of the field level officials will be monitored with a stipulated work plan;
- School academic environment/climate will be strengthened as per the notion of an “Effective School.”
 - to be integrated into this module;
 - Institutional lesson learning environment;
 - Classroom related information;
 - Science lab, computer lab and library related information;
 - Student related information;
 - Teacher related information;
 - Continuous assessment related information;
 - Annual examination related information;
 - Recommendations of visiting officer about overall development of respective institution;
 - Cluster related information;
 - Information of officer transfer and cluster changes;
 - Information of infrastructure facility less institutions;
 - Information of PBM implementation;
 - Meeting related information;
 - Information of institution-wise result of JSC/JDC and SSC/Dakhil;
 - Information of the implementation of creative system;
 - Information of district-wise teachers’ dairy;
 - Information of development of previous recommendations of PBM implementation;

- Information of five year development plan;
- Information of categorized institutions according to ISAS;

4.13.2 Class Room Observation (data capture format attached):

- Based on baseline data, school-based teaching-learning performance will be assessed and baseline will be prepared;
- KPIs will be selected for result-based monitoring;
- Reports will be prepared on teaching – learning performance and disseminated;
- The module to be developed based on the Data Capture format.
- This module to be developed in Bangla;
- Reports to be developed based on the requirements of client;
- The following information to be include in the system:
 - Identity of institutions (Details description in DCF) Section - ;
 - Identity of classroom (Details description in DCF) Section-;
 - Identity of Class teacher (Details description in DCF)Section- ;
 - Observation of class room learning and teaching (Details description in DCF) Section-

4.13.3 Global Positioning System:

- This module is to be facilitate with Global Positioning System (GPS)

4.14 Secondary School Quality Standard (SSQS):

The fields of SSQS indicators and sub-indicators are to be incorporated in the Institute Management System (IMS) Module. The indicators and sub-indicators are tabulated below:

Major Areas	Indicators/Sub-indicators
School Area	One acre (4,840 sq. yards)
Boundary Wall	Pacca wall with a gate
School Building	<ul style="list-style-type: none"> ● Pacca Building ● Well maintained
Class Room	<ul style="list-style-type: none"> ● Each classroom of 500sq.ft.; ● Pacca partition wall; and ● Separate room for each class/section
Library Room	Pacca library room of 500sq.ft
ICT Room	Separate ICT room of 500 sq.ft.
Laboratory Room	Separate laboratory rooms, one each for Physics, Chemistry, Biology and Maths, each of 500 sq.ft.
Common Room	<ul style="list-style-type: none"> ● For uni sex school one room of 500sq.ft.and ● For co-education school two rooms each of 500 sq.ft.
Playground	<ul style="list-style-type: none"> ● Length: 100 yards (90m) X Width: 50 yards (45m)

Major Areas	Indicators/Sub-indicators
	<ul style="list-style-type: none"> Plane surface: Useable with grass Garden @20%of school area.
Office Rooms	<ul style="list-style-type: none"> Head Master's Room 500sq.ft; Office Room 500 sq.ft.; and Teachers' Room 750sq.ft. Staff Room 250sq.ft. Store room 500 sq.ft.
Toilet	<ul style="list-style-type: none"> One Toilet for each 50 students; Separate Toilet for boys and girls;
Classroom Furniture per Class/section	<ul style="list-style-type: none"> 10 sets benches (each set of one high and one low), each set for 4 learners One chair and one table; and One usable writing board.
Office room Furniture	<ul style="list-style-type: none"> One table and 7 chairs for H/M room; Two tables and 4 chairs for office room; and One desk with a chair and a cabinet for each teacher; and 5 Almirahs and 5 Cabinets
Library Furniture	<ul style="list-style-type: none"> Table and bench for 50 students; One table and one chair for librarian; and Shelves for 3000 books.
Potable water	One tap for each 50 students; or One pump tube-well for each 75 students.
Electrical System	<ul style="list-style-type: none"> Electricity is available in school All rooms have electric lights All rooms have electric fans
Common teaching Aids	<ul style="list-style-type: none"> Maps, Charts, Models, Geometry Box.
Multimedia and Computers	<ul style="list-style-type: none"> 10 Computers/Laptops; Printer – 1; Modems/Wi-Fi; and Multimedia Projector – 2
Science equipment	<ul style="list-style-type: none"> All equipment for General Science; <i>Applicable for School having Science Group:</i> All equipment for teaching Physics, Chemistry, Biology and Advance Mathematics.
Physical Education Equipment	<ul style="list-style-type: none"> Football, Volleyball and Cricket set,
Arts and Crafts Materials	<ul style="list-style-type: none"> Art papers, Painting brass and Colour,
Musical Instruments	<ul style="list-style-type: none"> Harmonium, Tablas and Pipe,
Books and Journals in library	<ul style="list-style-type: none"> 2000 books covering supplementary reading materials, reference book, novel, fiction, biography, travel story.
Common Room	<ul style="list-style-type: none"> Table Tennis, Carom Board, Chess,

Major Areas	Indicators/Sub-indicators
Equipment	
Teacher Student ratio	<ul style="list-style-type: none"> • Teacher: Student 1:30 • Students per class 40
Headmaster	
Educational Qualifications	<ul style="list-style-type: none"> • Master degree in Education with Hons.in Education Or Bachelor degree with second class or equivalent
Professional qualification	<ul style="list-style-type: none"> • B.Ed.(for those who has no M.Ed)
Experience	<ul style="list-style-type: none"> • 8 years as teacher; • 2 years as Assistant Head Master • Management training of 15 days in total
Teachers	
Educational Qualifications	<ul style="list-style-type: none"> • Bachelor degree with second class or equivalent; and • Relevant subject(s) studied at Bachelor level;
Professional Qualifications	<ul style="list-style-type: none"> • Bachelor of Education (B.Ed.) with second class or equivalent.
Registration	<ul style="list-style-type: none"> • Registered under NTRCA
Continuous Professional Development	<ul style="list-style-type: none"> • Participated in 15 days training in total
SMC Composition and Procedures	<ul style="list-style-type: none"> • School has regular SMC; • SMC meetings are held regularly; • SMC members carry out their functions; and • SMC elections are held as per rule regularly.
School Financing	<ul style="list-style-type: none"> • School collects fees from the students regularly; • School gets recurrent income from its assets; • School pays part of the salary to MPO teachers and staff regularly; • School pays full salary to Non-MPO teachers and staff regularly; • Teachers and staff get MPO salary as per rule; and • Teachers and staff get MPO salary on time.
Assessment	<ul style="list-style-type: none"> • JSC pass rate of the school is equal to or higher than the Board's pass rate; • Number of GPA 4 to 5 receivers from the school is equal or higher than that the national average per school; • SSC pass rate of the school is equal to or higher than the Board's pass rate; and • Number of GPA 4 to 5 receivers of the school is equal to or higher than national average per school.

4.15 Web-based Recruitment management System:

This module will manage employee recruitment process of Directorate of Secondary and Higher education and Ministry of Education. This module would be developed based on the following information:

- Roll/Registration will be generated automatically;
- Basic information of the candidate;
- Contact number of candidate;
- Email address of candidate;
- Gender and tribal information of candidate;
- Marital status and special quota of candidate;
- Status of liberation war quota of candidate;
- National ID and Birth Registration number of candidate;
- Academic qualifications of candidate;
- Reference number of circulation;
- Name of the posts

4.16 Database redesign and configuration:

The current database platform is Oracle 10g. The new version will come up with the equipments of data center. All applications and the database are to be reconfigured and install into the new servers. Therefore, the consulting firm will design and configure the database as per mutual agreement with client.

4.17 Employee Management, Employee Monitoring & Evaluation Payroll Management, CPMIS and SPMIS:

Currently, the modules are operating separately. These modules are to be integrated into single module which name will be **Human Resources Management System**. A few screen shots are pasted below from <http://emis.gov.bd/hrm> :

(a) Employee management form:

Education Management Information System
EMIS, DSHE, Ministry of Education

Home | Admin | Job Data | Business Unit | Login Time: 25 Nov 2011 04:55:37 PM | Logout

Form | Report

- Home
 - Employee Management
 - Setup Info
 - Employee Information
 - Inventory
 - Employee Monitoring & Evaluation
 - Payroll Management
 - File Management
 - Systems & Settings

Employee Information (Admin User)

Procurement Information

Emp Code: 123 [Browse] [Upload] [Search]

Emp Index: []

Name: SABRINA RAHMAN

Single Name: sabrina

Father Name: Syed Rahman

Mother Name: Sajida Sultana

Spouse Name: []

Date Of Birth: [] (DD/MM/YYYY)

Gender: Female

Religion: Islam

Marital Status: Married

Present Address: []

(b) Employee monitoring and Evaluation form:

Education Management Information System
EMIS, DSHE, Ministry of Education

Home | Admin | Job Data | Business Unit | Login Time: 25 Nov 2011 04:55:37 PM | Logout

Form | Report

- Home
 - Employee Management
 - Setup Info
 - Employee Information
 - Inventory
 - Employee Monitoring & Evaluation
 - Leave Information
 - Job Information
 - Last Education
 - Posting Information
 - Punishment Information
 - Payroll Management
 - File Management
 - Systems & Settings

Leave Information (Admin User)

Search Information:

Emp Code: [] [Search]

Name: []

Leave Information:

Leave Type: CL

From Date: 01/01/2011 (DD/MM/YYYY)

To Date: 05/11/2011 (DD/MM/YYYY)

Remarks: Accepted

[Save] [Delete] [Cancel]

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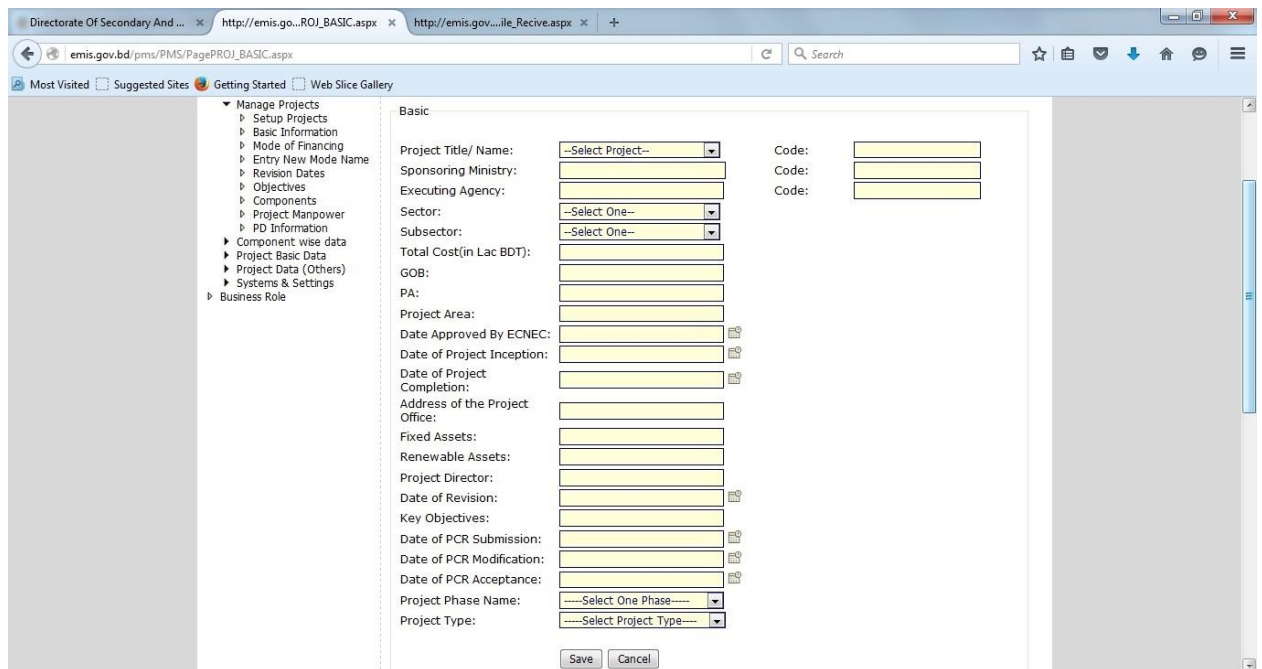
(c) Payroll Management form:

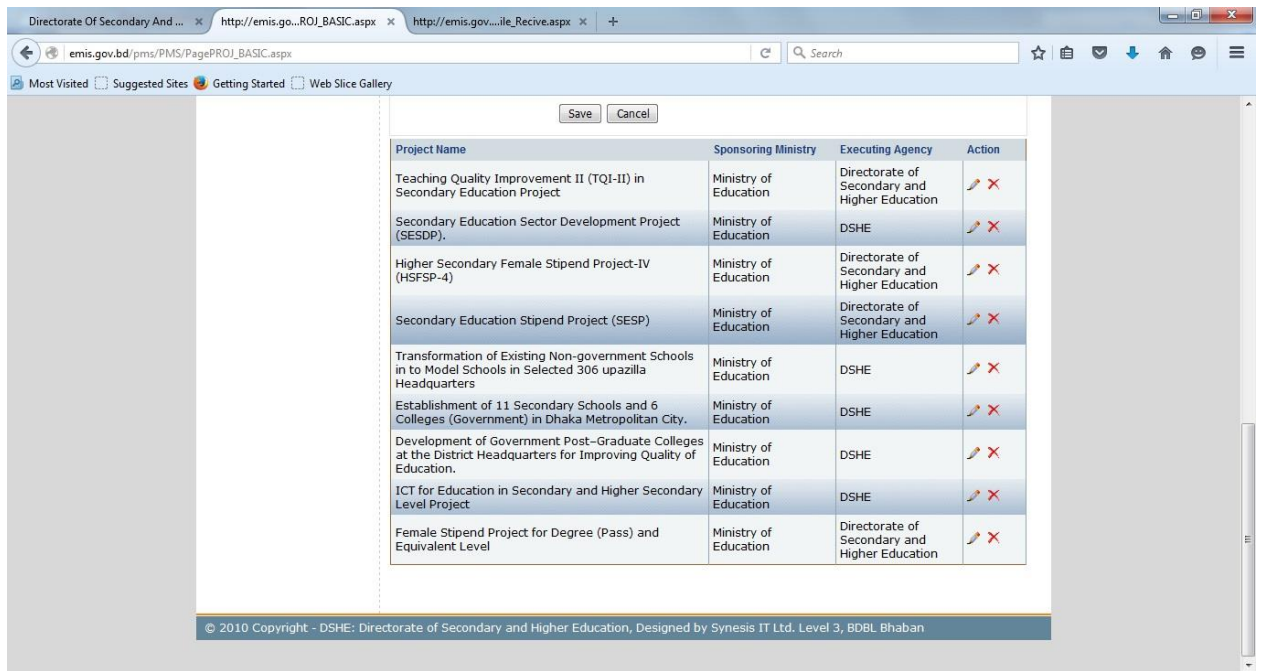


4.18 Project Management, Project Monitoring and Evaluation and Project Proposal Management:

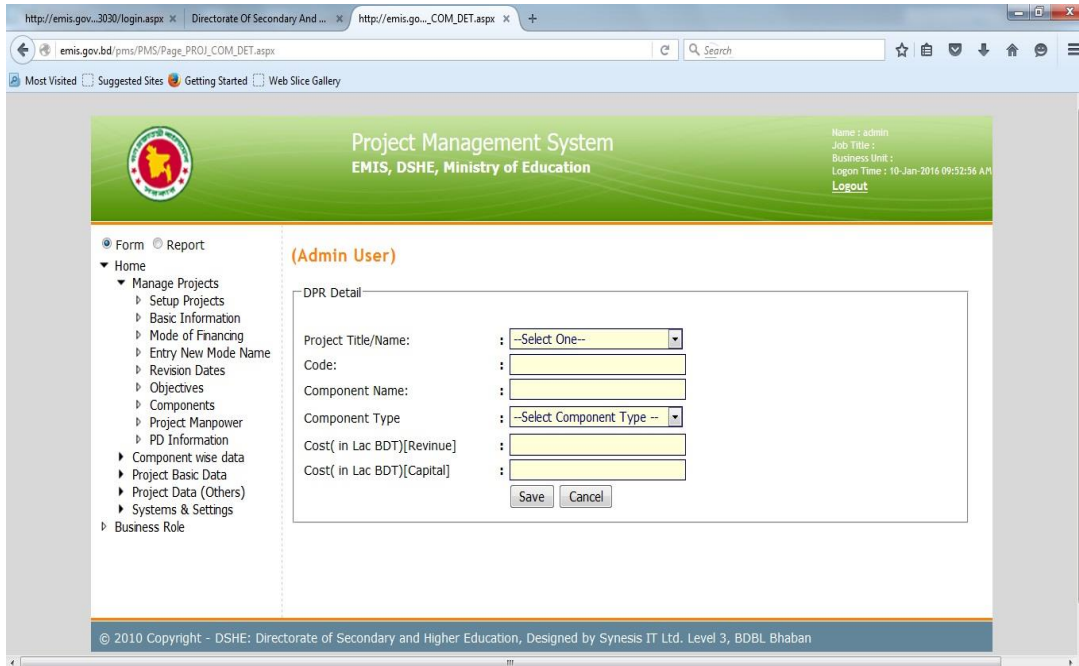
The above mentioned modules are currently operating separately. These modules are to be integrated into single module as **Program Management Information System**. The system to be developed based on the field of existing data capture formats of these modules and few more fields to be incorporated based on the requirements of client. A few screen shots are pasted below from <http://emis.gov.bd/pms/>.

4.18.1. Basic Information:

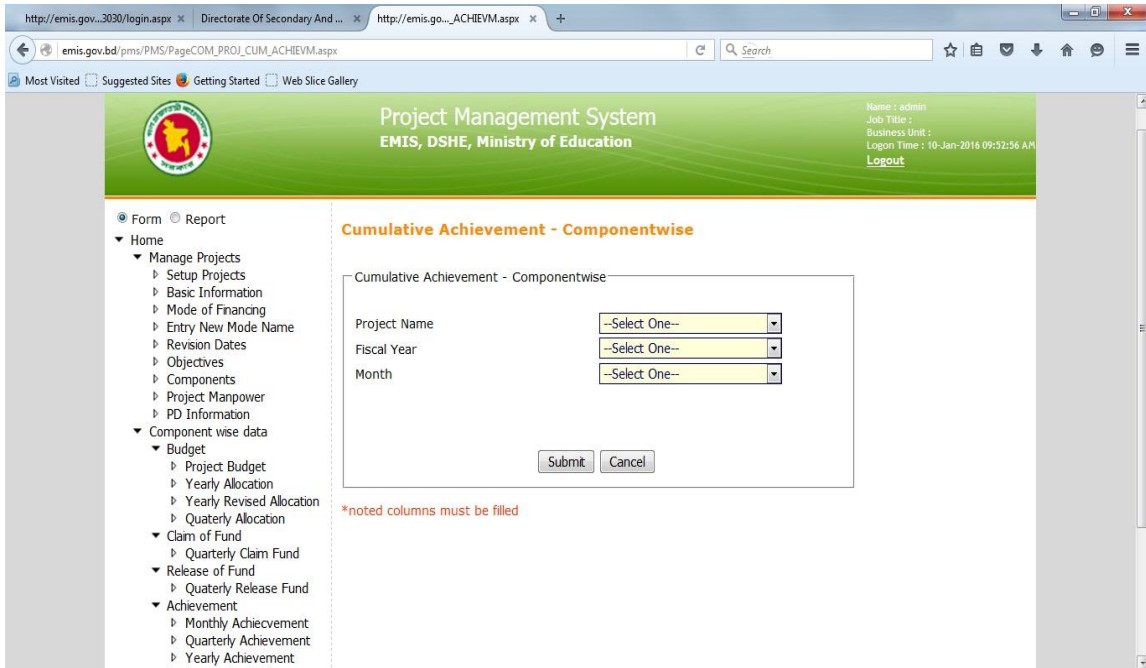




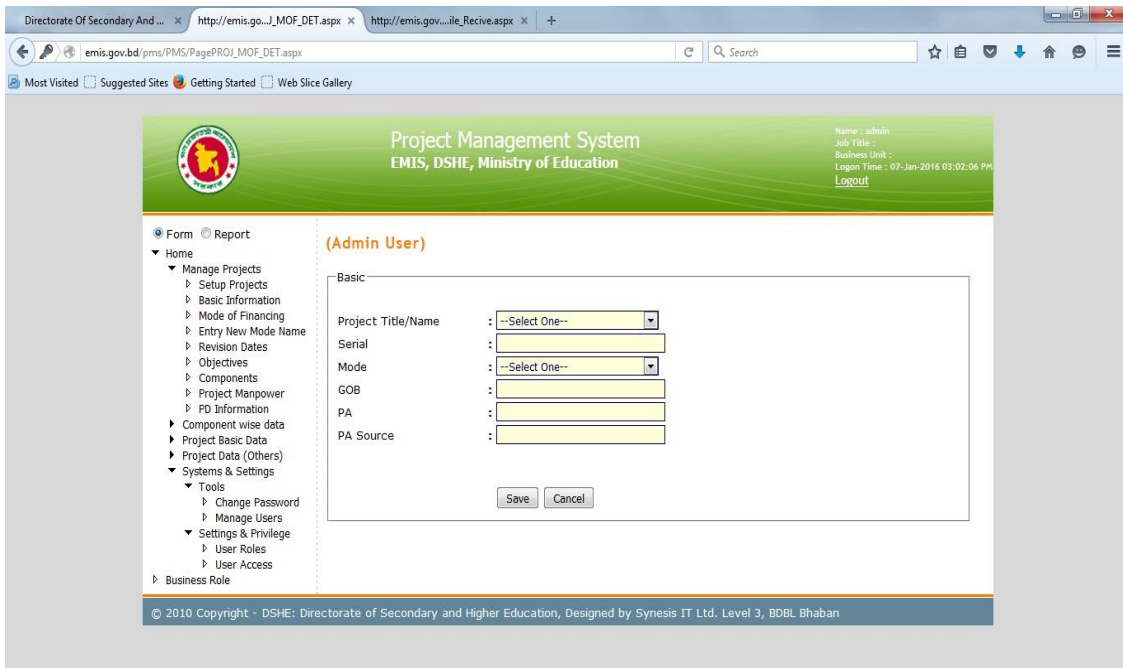
4.18.2. Components:



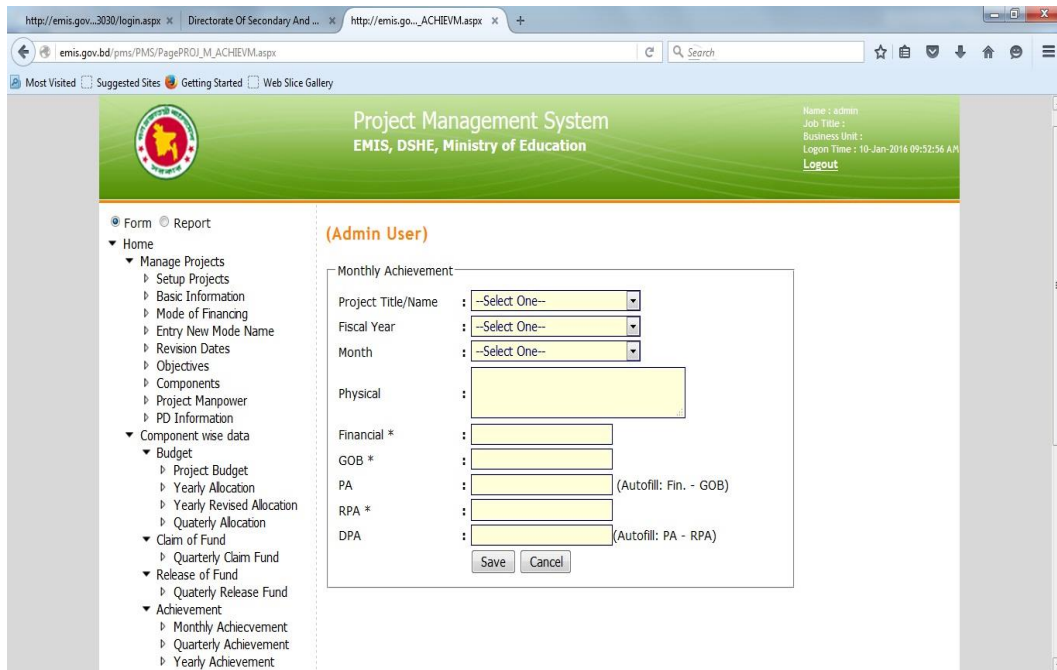
4.18.3 Cumulative achievement:



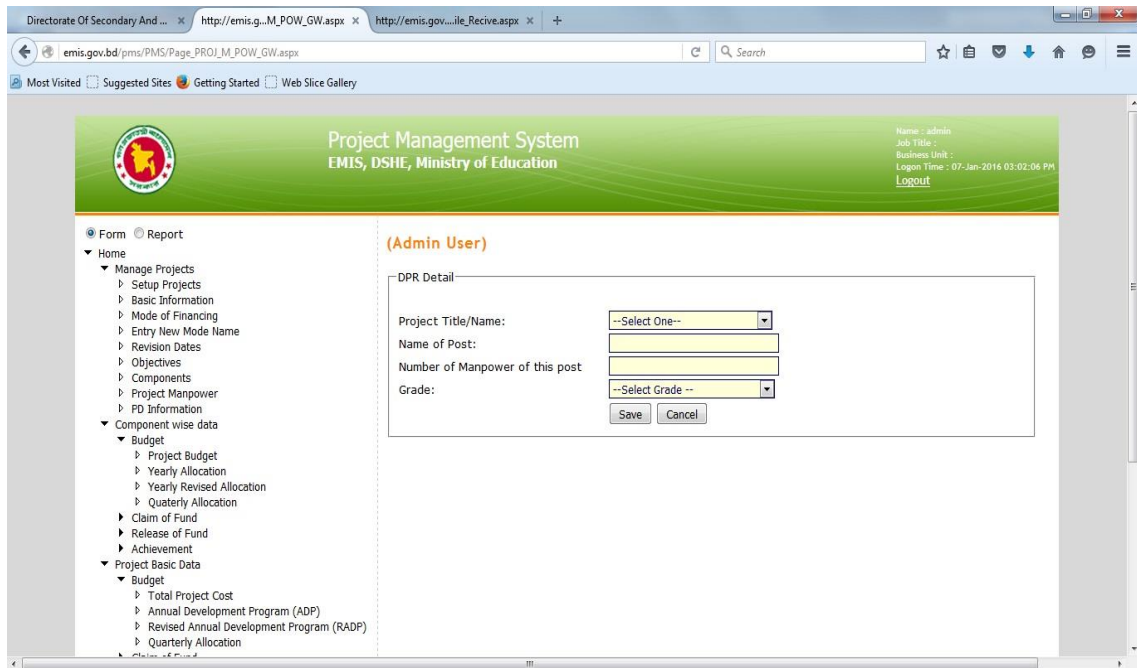
4.18.4. Mode of Financing:



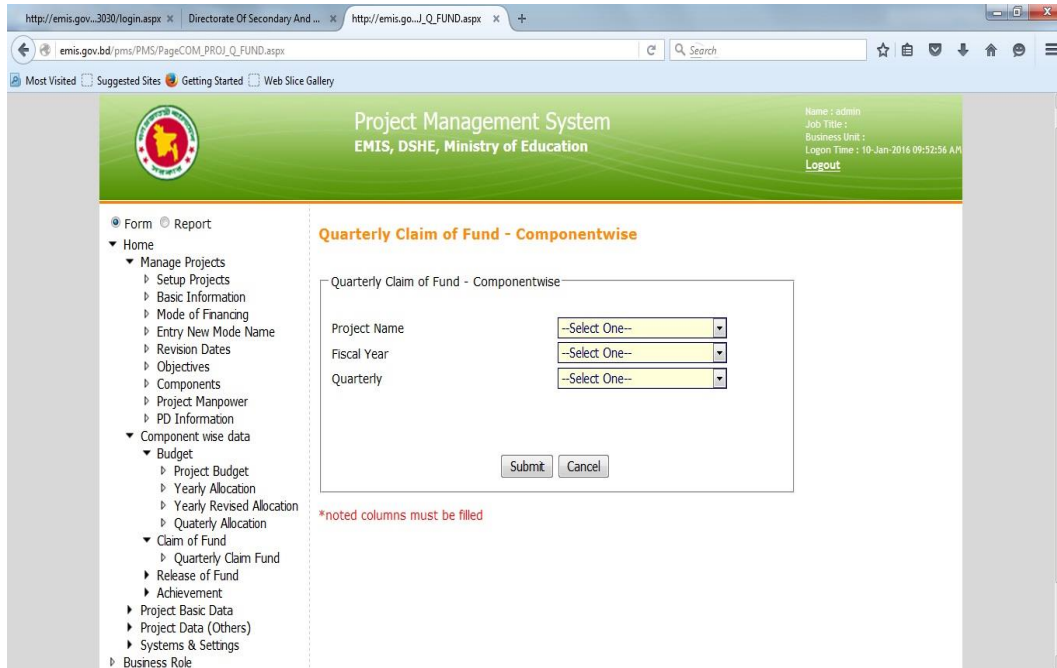
4.18.5. Monthly Achievement:



4.18.6. Project Manpower:



4.18.7. Quarterly Claim Fund:

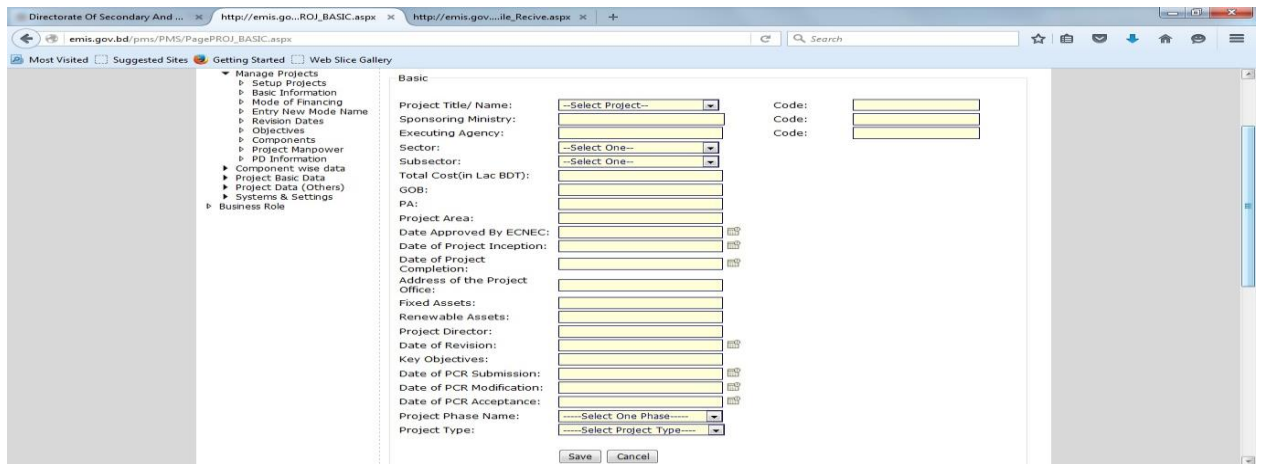


4.18.8. Reports to be developed based on the requirements of client;

4.19 File Management System:

This module is now currently covers the areas of basic information of a file opening, file type info, file user mapping, received application etc. The letter and file tracking systems are to be incorporated in this system. The Paperless filing system is to be incorporated also. A file template to be developed based on the business of file movement process. A few screen shots are pasted from http://emis.gov.bd/file_mgmt/.

4.19.1. Basic information:



4.19.2. File Opening:

Directorate Of Secondary And ... x http://emis.gov.../File_Info.aspx x +

emis.gov.bd/file_mgmt/FileManagement/File_Info.aspx

Most Visited Suggested Sites Getting Started Web Slice Gallery

File Management System
EMIS, DSHE, Ministry of Education

Name : admin
Job Title :
Business Unit :
Logon Time : 07-Jan-2016 02:06:43 PM
[Logout](#)

Form Report

- Home
 - Employee Management
 - Inventory Management
 - Payroll Management
 - File Management
 - File Opening
 - List of File
 - File Table Info
 - File Type Info
 - File User Mapping
 - Systems & Settings
 - eFiling

(Admin User)

File Table Information

File No :

Docket No/Date: : --Select Doc f Search

File Name : *

File Description :

Opening Date : *

File Type : --Select File Type -- *

Forward To : SECTION

Status : --Select Status -- *

Subject :

Receive Date :

Remarks :

4.19.3 File type information:

Directorate Of Secondary And ... x http://emis.gov.../Mapping.aspx x +

emis.gov.bd/file_mgmt/FileManagement/File_User_Mapping.aspx

Most Visited Suggested Sites Getting Started Web Slice Gallery

File Management System
EMIS, DSHE, Ministry of Education

Name : admin
Job Title :
Business Unit :
Logon Time : 07-Jan-2016 02:06:43 PM
[Logout](#)

Form Report

- Home
 - Employee Management
 - Inventory Management
 - Payroll Management
 - File Management
 - File Opening
 - List of File
 - File Table Info
 - File Type Info
 - File User Mapping
 - Systems & Settings
 - eFiling

(Admin User)

File Type Information

User Name : --Select User-- *

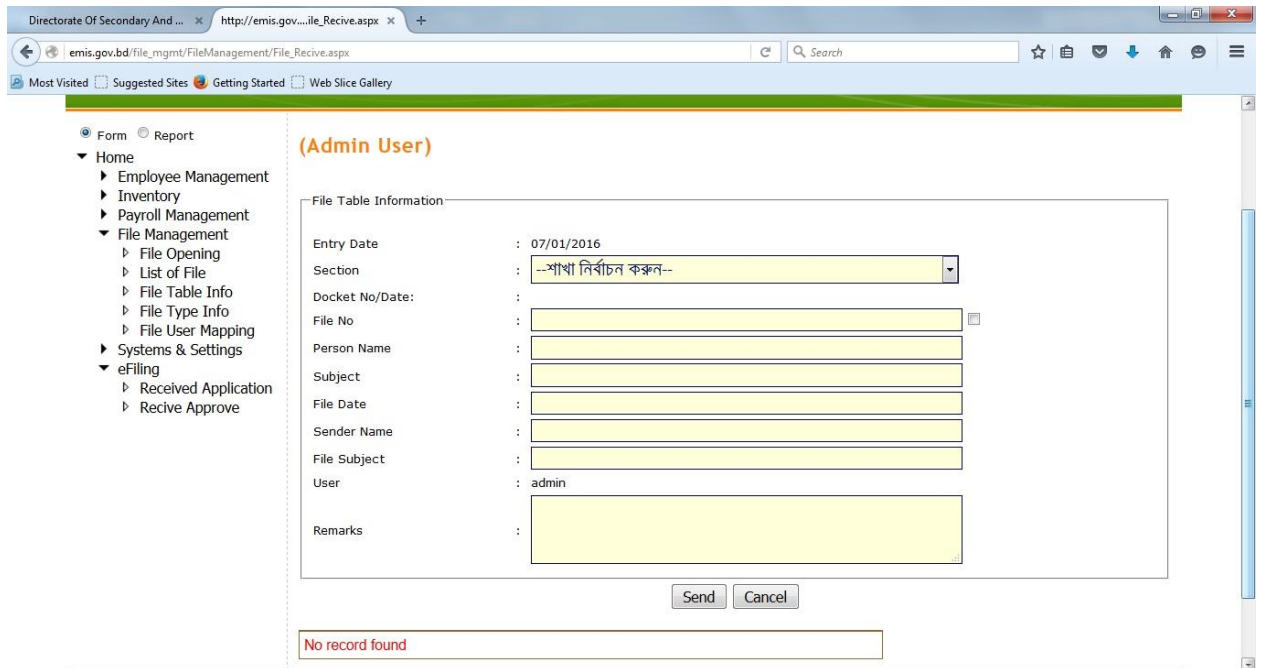
Designation / Desk : --Select Designation-- *

Save Cancel

User : --Select User-- Search

User Name	Designation/ Desk	
fm_section	SECTION	
fm_dg	DG	
fm_dd	DD	
fm_dir	DIR	
fm_test	MID	
fm_104	Reception	
fm_ad	AD	

4.19.4. Information of Received Application:



4.20 Documents Archiving Management System:

This module is a repository of all kinds of digital documents. The documents are to be categorically stored in the database. Project related documents, Reports, Educational journals, Thesis papers, e-books, scanned copy of important documents etc would be manage categorically by this module. These documents would be available online to educational stakeholders. A screen shot has been pasted below from www.emis.gov.bd.

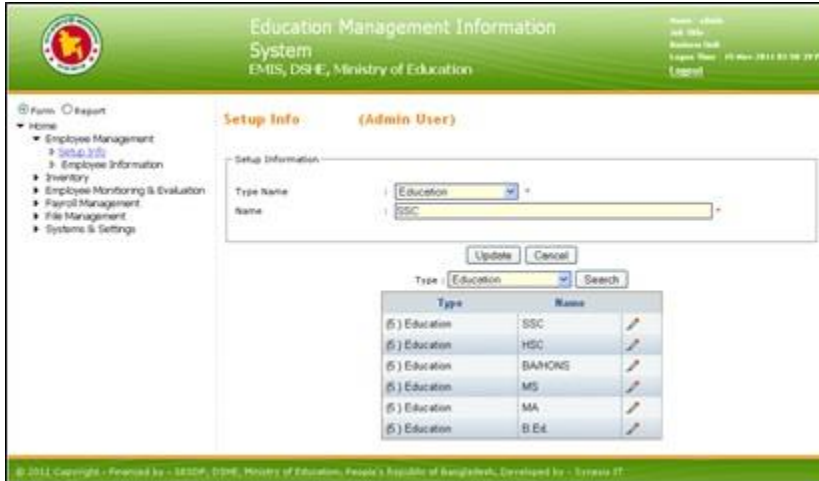
4.20. Document Archiving Management Form:



4.21 Inventory Management System:

This module is the repository of the institution-wide list of equipment/items such as computers, laptops, tablet, printers, photocopier, table, chair, transport, scientific equipment, lab equipment, etc. This module would be customized based on the client's requirements. A few screen shots about this module are pasted below:

4.21.1 Inventory Management Form:



Education Management Information System
EMIS, DSHE, Ministry of Education

Home | Profile | Add File | Business Mail | Logout | 15-Nov-2011 03:38:29 PM | Logout

Form | Report

- Home
- Employee Management
 - SSC & JSC
 - Employee Information
- Inventory
- Employee Monitoring & Evaluation
- Payroll Management
- File Management
- Systems & Settings

Setup Info (Admin User)

Setup Information

Type Name: Education

Name: SSC

Update Cancel

Type: Education Search

Type	Name	
(S) Education	SSC	
(S) Education	HSC	
(S) Education	BAHONS	
(S) Education	MS	
(S) Education	MA	
(S) Education	B Ed	

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4.21.2 Inventory Management Report:



Education Management Information System
EMIS, DSHE, Ministry of Education

Home | Profile | Add File | Business Mail | Logout | 15-Nov-2011 03:38:29 PM | Logout

Form | Report

- Home
- Inventory
 - Item Status
 - Inventory State
- File Management
 - File Information
 - File History Info

Item Status (Admin User)

Item: Bench Search

Item ID	Item Name	Qty
2	Bench	40

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4.22 Library Management System:

It is the depository of the records of books, journal, research paper etc. It is also institutional wise library Management system. Every institution will have individual user name and passwords to access this system. Generic and individual reports are to be developed for teacher and other educational stakeholders. A few screen shots are pasted below from <http://emis.gov.bd:8011/home/index.php>.

4.22.1 Cataloging:

http://emis.gov...3030/login.aspx x DSHE Library

emis.gov.bd:8011/catalog/index.php

EMIS [DSHE Library] today's date: 01.10.2016
library hours: 9am-5pm
library phone: 9515664

Home Member **Cataloging** Admin Reports

Logout

» Search
New Bibliography
Upload Marc Data
Help

Cataloging

Search Bibliography by Barcode Number:
Barcode Number: Search

Search Bibliography by Search Phrase:
Title Search
Title
Author
Subject

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4.22.2 Checkout Preview:

http://emis.gov...3030/login.aspx x DSHE Library

emis.gov.bd:8011/admin/checkout_privs_list.php

EMIS [DSHE Library] today's date: 01.10.2016
library hours: 9am-5pm
library phone: 9515664

Home Member Cataloging Admin **Reports**

Logout

Admin Summary
Staff Admin
Library Settings
Member Types
Member Fields
Material Types
Collections
» Checkout Privs
Themes
Help

Checkout Privileges

function	Material Type	Member Classification	Checkout Limit	Renewal Limit
edit	audio tapes	DSHE Related	10	0
edit	audio tapes	Govment Related	5	0
edit	book	DSHE Related	20	0
edit	book	Govment Related	10	0
edit	cd audio	DSHE Related	10	0
edit	cd audio	Govment Related	5	0
edit	cd computer	DSHE Related	5	0
edit	cd computer	Govment Related	3	0
edit	equipment	DSHE Related	3	0
edit	equipment	Govment Related	0	0
edit	magazines	DSHE Related	10	0
edit	magazines	Govment Related	5	0
edit	maps	DSHE Related	5	0
edit	maps	Govment Related	3	0
edit	video/dvd	DSHE Related	5	0
edit	video/dvd	Govment Related	3	0

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4.22.3 Copy Search:

http://emis.gov...3030/login.aspx x DSHE Library

emis.gov.bd:8011/reports/run_report.php?type=copies&rpt_barcode=&rpt_newer=&rpt_order_by=barcode_nmbr&rpt_format=paged Search

Most Visited Suggested Sites Getting Started Web Slice Gallery

EMIS [DSHE Library] today's date: 01.10.2016
library hours: 9am-5pm
library phone: 9515664

Home Member **Cataloging** Admin Reports

Logout

Report Criteria
Report List
» **Report Results**
o Labels
o Print list
Help

20 results found.

Report Results:

Barcode	Call Num.	Author	Title	collection
000032	120 Robi	Rabindranath	Amar Chelebela	Reference
000033	120 Robi	Rabindranath	Amar Chelebela	Reference
000091	123	DSHE Survey 2011	Survey Report by DSHE	Cassettes
101	126 Robi	Rabindranath	Gitanjali	Reference
102	122 Robi	Rabindranath	Shesher Kobita	Reference
103	120 Robi	Rabindranath	Amar Chelebela	Reference
104	005.4 Lar	Shikha Bhaban	PBM survey 2011	DSHE Nonfiction
105	125 Robi	Rabindranath	Sonar Tori	Easy Readers
106	121 Robi	Rabindranath	Ghore Bire	Reference
201	124 Robi	Rabindranath	Nowka Dubi	Reference
202	124 Robi	Rabindranath	Nowka Dubi	Reference
203	124 Robi	Rabindranath	Nowka Dubi	Reference
210	127 Robi	Rabindranath	Chokher Bali	Easy Readers
211	127 Robi	Rabindranath	Chokher Bali	Easy Readers
212	127 Robi	Rabindranath	Chokher Bali	Easy Readers
213	127 Robi	Rabindranath	Chokher Bali	Easy Readers
1234	101 10 3	Somresh Majumder	Shat Kahon	New Books

4.22.4. Library Settings:

http://emis.gov...3030/login.aspx x DSHE Library

emis.gov.bd:8011/admin/settings_edit_form.php?reset=Y Search

Most Visited Suggested Sites Getting Started Web Slice Gallery

EMIS [DSHE Library] today's date: 01.10.2016
library hours: 9am-5pm
library phone: 9515664

Home Member Cataloging Admin **Reports**

Logout

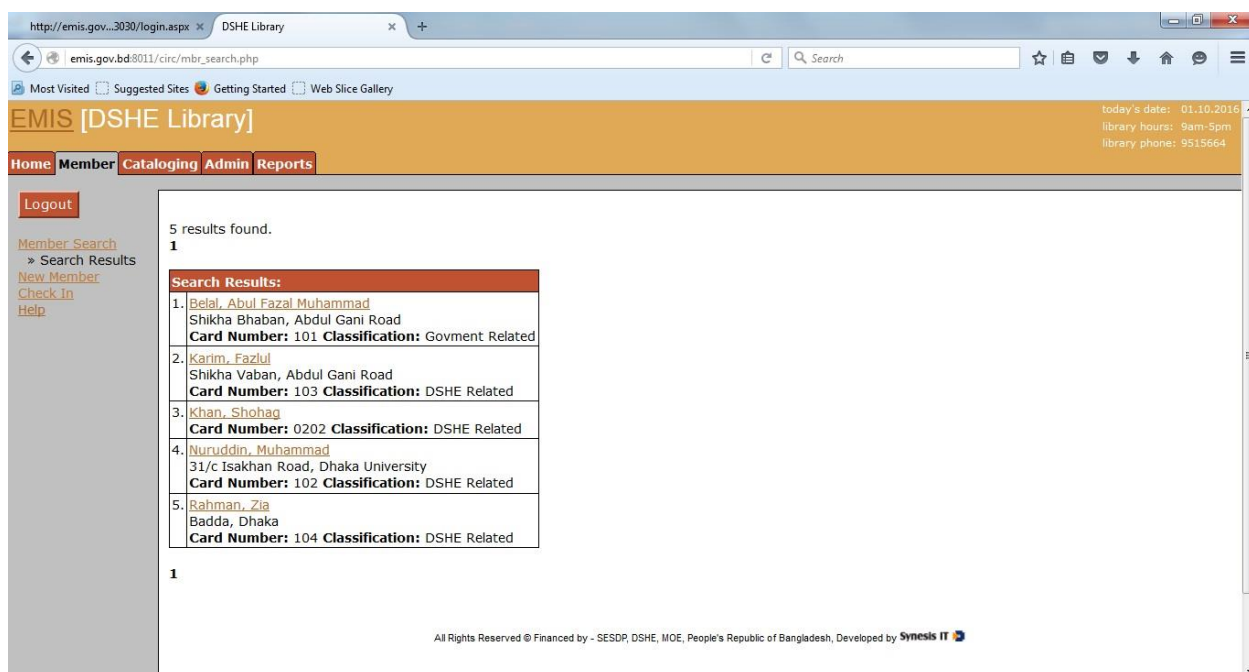
Admin Summary
Staff Admin
» **Library Settings**
Member Types
Member Fields
Material Types
Collections
Checkout Privs
Themes
Help

Edit Library Settings:

Library Name:	DSHE Library
Library Image URL:	
Only Show Image in Header:	<input type="checkbox"/>
Library Hours:	9am-5pm
Library Phone:	9515664
Library URL:	
OPAC URL:	
Session Timeout:	40 minutes
Search Results:	30 items per page
Purge Bibliography History After:	6 months
Block Checkouts When Fines Due:	<input checked="" type="checkbox"/>
Max. hold length:	14 days
Locale:	English
HTML Charset:	iso-8859-1
HTML Tag Lang Attribute:	

Update

4.22.5. Member List:



4.23 Annual Confidential Report (ACR) Management System (data capture format Attached):

This module will be developed based on the attached data capture format. This module will be linked with Human Resource Management System. Respective personnel will get ready report in prescribed traditional format. The reporting system will have the facility of modification by to management.

4.24 Languages:

The software application needs to support Unicode Bangla and English both in the interface, labels, forms and all other user interface items including searching options.

5 Transfer of knowledge:

The Consulting firm will have to conduct various types of training at various stages to make the implementation of the modifications successful. The findings from the analysis phase should be used to guide the training. Dissemination meeting/workshop may be held as and when required. Prior approval of the concerned Technical Committee will be required for conducting the training courses. The courses will be based on the upgraded software and newly developed software. Number of Trainees will be as follows:

- 5.1 Training on Security for top Management (Director General, Directors, Project Directors, Deputy Directors, In-charge EMIS, Top official from ministry—Number of Trainee to be 30);
- 5.2 Training on System Administration and programming for technical people (Programmers, Assistant Programmers, Maintenance Engineers, Assistant Maintenance Engineers, Senior Data Entry Operator—number of trainees to be 50);
- 5.3 Training on EMIS modules for Management (Directors, Deputy Directors, and Assistant Directors – number of trainees to be.)
- 5.4 User level training (Assistant Director and District Education officers – number of trainees to be 100);
- 5.5 System Administration and Maintenance for IT officials of DSHE--- number of trainees to be 30. Technical training will contain programming tools and .net architecture, database structure and Oracle database server, web hosting tools and system maintenance;
- 5.6 Training on upgraded software and newly developed software – number of trainees to be 10.

6 Warranty and maintenance:

- Corrective maintenance when it is required. The process should be oriented toward repairing defects that may arise with the software: such as:
 - (i) Whenever the program fails or aborts;
 - (ii) The program renders an outcome that is not in agreement with requirements;
 - (iii) Design and requirements do not agree with supporting software;
 - (iv) User documentation leads to erroneous conclusion – both concerning users and activities – that render incorrect results or system failure.

- Adaptive maintenance when it is needed to improve software, hardware and documentation operability. This mode will be applied upon the user's request to be implemented during the execution of the program and will involve;
 - (i) Definition of requirements;
 - (ii) System design;
 - (iii) Program design;

- (iv) Module design and
- (v) Software development

- The consulting firm will provide any sorts of support to client for one year from the end date of the agreement.
- The consulting firm will provide backup support for one year after completion of the project. The consulting firm will ensure availability of two programmers at the client's premises each working day during this period to provide instant support. The firm will also ensure the provision of support to resolve any problems related to the network, security, database, web servers or any other problems linked to the project work.
- Network and web server administrators will report to EMIS in-charge at least within four hours during this period after being informed by client over cell phone, email or letter.
- Consulting firm will show highest professional ethics to implement this assignment according to this document.

7 Reports:

The Consulting firm is required to submit the following reports as outlined and at the times indicated below:

7.1 Inception Report not later than one month after the formal commencement date to include:

- An appreciation of the terms of reference and the duties to be undertaken to demonstrate the understanding the requirements for decentralized EMIS development.
- A detailed description of planned approach and methodology.
- A detailed work-plan showing the proposed tasks and personnel inputs required.
- Make a presentation the inception report to stakeholders.

7.2 Monthly Progress report:

Vendors will be providing weekly progress updates by way of face to face meetings and the result will be integrated into monthly report. The weekly progress update shall be submitted to in-charge EMIS.

7.3 Quarterly Progress Report will be submitted not later than one week after the end of the quarter and a demonstration will be made. The report will include the following:

- Detailed status of activities against the details of the work-plan and accompanying actual personnel inputs.
- Identify issues or problems that need to be addressed. Recommended solutions for identified issues are to be included.

- Elaboration and justification of variations in the planned approach and methodology and associated work-plans and schedules.
- Submit detailed status of design/implementation of activities during the quarter.
- Identify issues of risks and limitations that need to be addressed. Recommended implications for identified issues are to be included.
- List of persons met.

7.4 Draft Final Report within one month of completion of full implementation. Report to include the following:

- Detailed status of activities against the details of finalized full implementation plan and accompanying actual personnel inputs.
- Details of issues or problems encountered how these were addressed.
- Details of issues or problems encountered that need to be addressed. Recommended solutions for identified issues are to be included.
- The Consulting firm will make a presentation on Full Implementation to discuss the draft final report and incorporate the views of the users and stakeholders.
- Conclusions and recommendations are to be included.
- Elaboration and justification of variations in the planned approach and methodology and associated work-plans and schedules.
- Full system technical manual (hardcopy and softcopy) for all software modules must be submitted as part of the draft final report.
- Programming codes of the system must be handed over to the client for future modifications.

7.5 Final Report:

The final report must be submitted within two weeks of receiving written comments and feedback from stakeholders on Draft Final Report and Full implementation. The final report will be modified to include stakeholder comments and feedback on the status of full implementation plan. The technical manual part will be modified updated based on comments and feedback of the client. Soft copy of final report including technical manual must be submitted along with hard copy.

8 Implementation Plan

Full Implementation Plan must be submitted within two months after receiving the Notification of Award and demonstration made for stakeholder consultation.

- Detailed status of activities against the details of the work-plan and accompanying actual personnel inputs.
- Identify issues or problems that need to be addressed. Recommended solutions for identified issues are to be included.

- Details of activities, inputs and support required from authority to effectively implement the plan.
- Details assignment plan with milestones, activities and tasks including progress and payment milestones.
- Required training that will be given must be included in the plan
- The Consulting firm will make presentation to discuss the draft implementation plan and incorporate the views of the users and stakeholders.
- Executive summary both English and Bangla is to be included.

The finalized Full Implementation Plan will have to be submitted within **one week** of stakeholder consultation and presentation.

9 Duration of Assignment:

The duration of the assignment will be up to December 2017 (15 months). The detail schedule of the deliverables and the main activities of the assignment are presented in the tables below. The consultant may change or rearrange the duration of the activity but total duration of the project not more than 15 months.

SL	Activity	Tentative Duration
01	Inception report submission	15 days
02	Detail plan submission	15 days
03	Submission SRS	1 months
04	Collection and incorporation of feedback	15 days
05	Submission of SDD (system design document)	1 month
06	Software development and customization	7 months
07	Data Migration	1 month
08	Testing and debugging	1 month
09	Draft final report	1 month
10	Final report	15 days
11	Training	1 month

10 Consultant's Qualifications:

The educational and professional qualifications of the consultant's are stated in the table below:

<i>S L</i>	<i>Designation</i>	<i>Qty</i>	<i>Minimum Educational Qualifications</i>	<i>Professional Qualifications</i>	<i>Involvement period (Person-month)</i>
01	Team Leader	01	<p>Job Description: The Project Manager is responsible for the day-to-day operational management of the project, including developing and overseeing work and preparation of project progress reports. S/he is responsible for regular reporting to the client. The chosen candidate is responsible for overseeing all technical aspects of the project implementation including analyse the user requirements, develop software design, choose the right technical solution as well as oversee the right implementation to ensure sustainability.</p> <p>Qualifications: B. Sc. In Computer Science/Engineering/Electrical Engineering/ M. Sc. In Applied Physics and Electronics or equivalent.</p>	<ul style="list-style-type: none"> ▪ 2 (twelve) years of demonstrated experience working in previous projects of similar size and nature. ▪ t least 7 (seven) of these years should consist of working as the project manager/team leader. ▪ emonstrated knowledge and experience in the area of social services such as pensions, cash transfer programs, human resources, livelihoods, health, education or similar public programs. 	12

<i>S L</i>	<i>Designation</i>	<i>Qty</i>	<i>Minimum Educational Qualifications</i>	<i>Professional Qualifications</i>	<i>Involvement period (Person- month)</i>
0 2	Secondary Education Domain Expert	01	<p>Job Description: Plans and designs curricula for secondary educational programs. Researches and defines educational goals, objectives, and methodologies to meet secondary educational program goals. Determines formats and approaches to achieve secondary educational program and budget objectives. Researches trends at the secondary educational level. Coordinates activities of support staff, consultants, faculty, and/or volunteers engaged in implementation and administration of secondary educational program objectives. Manages and facilitates program activities, trainings, conferences, seminars, and/or other special projects at the secondary educational level. Coordinates secondary education curriculum, provides student counseling. Monitors and administers secondary education program/project revenues and expenses. Writes, edits, and coordinates development of course catalogs, promotional materials, educational materials etc. at the secondary education level. Coordinates student registration for secondary educational programs;</p> <p>Qualification: Master's</p>	Minimum professional experience 12 years.	3

<i>S L</i>	<i>Designation</i>	<i>Qty</i>	<i>Minimum Educational Qualifications</i>	<i>Professional Qualifications</i>	<i>Involvement period (Person-month)</i>
			degree in any subject. Experience in secondary education will be preferable;		
03	Higher Education Domain Expert	01	<p>Job Description: Plans and designs curricula for higher educational programs. Researches and defines educational goals, objectives, and methodologies to meet higher educational program goals. Determines formats and approaches to achieve higher educational program and budget objectives; research trends at the higher educational level;</p> <p>Coordinates activities of support staff, consultants, faculty, and/or volunteers engaged in implementation and administration of higher educational program objectives. Manages and facilitates program activities, trainings, conferences, seminars, and/or other Special projects at the higher educational level. Coordinates higher education curriculum, provides student counseling. Monitors and administers higher education program/project revenues and expenses. Writes, edits, and coordinates development of course catalogs, promotional materials, educational materials etc. at the higher education level. Coordinates student registration for higher educational programs;</p>	Minimum professional experience 12 years	3

<i>S L</i>	<i>Designation</i>	<i>Qty</i>	<i>Minimum Educational Qualifications</i>	<i>Professional Qualifications</i>	<i>Involvement period (Person- month)</i>
			Qualification: Master's degree in any subject. Experience in higher secondary education will be preferable.		
0 4	Security Expert	01	<p>Job Description: Responsible for designing and implementation of security solutions. Evaluates security products and/or processes to enhance productivity and effectiveness for various initiatives. Performs incident response activities for security events. Reviews vulnerability assessment and follows-up on remediation of vulnerabilities identified in information systems. Assists in the mitigation of identified vulnerabilities. Maintains hardware and software tools used to support information security functions. Reviews and investigate security violation reports and security exceptions. Assists in the development and implementation of security policies and procedures. Creates and maintains procedure documents detailing security controls and associated processes. Monitors and follows-up on information security policy compliance using various security tools</p> <p>B. Sc. In Computer Science/Engineering/Electrical Engineering/ M. Sc. In</p>	Minimum professional experience 10 years. CISA certification is a must.	2

<i>S L</i>	<i>Designation</i>	<i>Qty</i>	<i>Minimum Educational Qualifications</i>	<i>Professional Qualifications</i>	<i>Involvement period (Person- month)</i>
			Applied Physics and Electronics or equivalent. CISA certification is a must.		
05	Infrastructure/ Data Center Expert	01	<p>Job Description: Responsible for development and installation of data center according to present and future requirements.</p> <p>Monitor all software and hardware products and ensure compliance to Data Center standards and systems. Administer installation and maintenance of organization data center.</p> <p>Monitor all activities related to analysis and implement all data center plans.</p> <p>Supervise designing and evaluation of all server systems according to measurement of process.</p> <p>Perform troubleshoot on data center, identify issues and assist in timely resolution of same. Manage and perform research to design new advanced data center.</p> <p>Coordinate with various departments and perform integration of critical systems into infrastructure. Coordinate with IT, enhancement and business teams and develop strategies to ensure achievement of data center capacity.</p> <p>Ensure client satisfaction and provide optimal level of customer services for various departments.</p> <p>Develop strong understanding</p>	Minimum professional experience 10 years. Vendor certification is a must.	2

<i>S L</i>	<i>Designation</i>	<i>Qty</i>	<i>Minimum Educational Qualifications</i>	<i>Professional Qualifications</i>	<i>Involvement period (Person- month)</i>
			<p>of the technical capabilities of cloud solution. Evangelize technical cloud capabilities internally and with client base Work with customers to design an environment leveraging networking and security best practices.</p> <p>B. Sc. In Computer Science/Engineering/Electrical Engineering/ M. Sc. In Applied Physics and Electronics or equivalent. Vendor certification is a must</p>		
06	Network Expert	01	<p>Job Description: Responsible for installing and supporting LANs, WANs, network segments, Internet, and intranet systems. Install and maintain network hardware and software. Analyze and isolate issues. Monitor networks to ensure security and availability to specific users. Evaluate and modify system's performance. Identify user needs. Determine network and system requirements. Maintain integrity of the network, server deployment, and security. Ensure network connectivity throughout a company's LAN/WAN infrastructure is on par with technical considerations. Design and deploy networks. Perform network address assignment. Responsible for assigning routing protocols</p>	Minimum professional experience 10 years. Vendor certification is a must	2

<i>S L</i>	<i>Designation</i>	<i>Qty</i>	<i>Minimum Educational Qualifications</i>	<i>Professional Qualifications</i>	<i>Involvement period (Person-month)</i>
			<p>and routing table configuration. Assign configuration of authentication and authorization of directory services. Maintain network facilities in individual machines, such as drivers and settings of personal computers as well as printers. Maintain network servers such as file servers, VPN gateways, and intrusion detection systems. Administer servers, desktop computers, printers, routers, switches, firewalls, phones, personal digital assistants, smartphones, software deployment, security updates and patches.</p> <p>B. Sc. In Computer Science/Engineering/Electrical Engineering/ M. Sc. In Applied Physics and Electronics or equivalent. Vendor certification is must.</p>		
07	System Analyst	01	<p>Job Description:</p> <p>The Senior Software Engineer will provide support to development team to develop and design different modules for technology solutions for the target population. The systems will be designed after taking necessary input from the target population. He will be responsible for designing and developing system for successful deployment. Additionally he will monitor the programmers for executing</p>	<ul style="list-style-type: none"> ▪ minimum 8 (ten) years of demonstrated experience working in previous projects of similar size and nature. ▪ excellent knowledge and experience of 	9

<i>S L</i>	<i>Designation</i>	<i>Qty</i>	<i>Minimum Educational Qualifications</i>	<i>Professional Qualifications</i>	<i>Involvement period (Person- month)</i>
			<p>different development tasks to implement different modules of the system. The position is also expected to provide necessary technological solution to the Software Engineers to the team if required. Additionally the position will –</p> <ul style="list-style-type: none"> • Conduct requirement analysis for a particular ICT for development solution • Develop the necessary business and system specifications • Provide assistance to develop system design for any technical solutions • Develop URS, SRS for any outsourcing of project work • Carry out the technical evaluation for vendor selection • Monitor execution of the outsourced project work. <p>Qualifications: B. Sc. In Computer Science/Engineering/Electrical Engineering/ M. Sc. In Applied Physics and Electronics or equivalent</p>	<p>analyzing requirements and process mapping</p> <ul style="list-style-type: none"> ▪ trong experience of working with government organizations and structures 	
08	Database Specialist	01	<p>Job Description: Responsible for Keeping databases up to date. Helping with database design and development. Managing database access.</p>	<p>Minimum professional experience 8 years. DBA certification is a must</p>	6

<i>S L</i>	<i>Designation</i>	<i>Qty</i>	<i>Minimum Educational Qualifications</i>	<i>Professional Qualifications</i>	<i>Involvement period (Person-month)</i>
			<p>Designing maintenance procedures and putting them into operation. Ensuring that databases meet user requirements. Liaising with programmers, applications/operational staff, IT project managers and other technical staff. Managing database security/integrity and backup procedures. Testing and modifying databases to ensure that they operate reliably. Providing user training, support and feedback. Writing disaster recovery plans archiving data. Identifying database requirements by interviewing customers; analyzing department applications, programming, and operations; evaluating existing systems and designing proposed systems. Recommending solutions by defining database physical structure and functional capabilities, database security, data back-up, and recovery specifications. Maintaining database performance by calculating optimum values for database parameters. Completing maintenance requirements. Evaluating computer operating systems and hardware products. Supporting database functions by designing and coding utilities.</p> <p>Qualifications: B. Sc. In</p>		

<i>S L</i>	<i>Designation</i>	<i>Qty</i>	<i>Minimum Educational Qualifications</i>	<i>Professional Qualifications</i>	<i>Involvement period (Person-month)</i>
			Computer Science/Engineering/Electrical Engineering/ M. Sc. In Applied Physics and Electronics or equivalent. DBA certification is must.		
09	Quality Assurance Specialist (Intermittent)	01	<p>Job Description: Responsible for defining test methods and create test plans for new or updated software projects to determine if the software will perform accurately and reliably according to documented requirements as well as established standards under both normal and abnormal conditions.</p> <p>Manage assigned projects from IT Quality Testing through final User Acceptance Testing. Participate in design reviews to help guide and implement best automation approaches Forecast / Estimate the Project future requirements. Ensure adherence to process, tools and metrics standards within the project team. Contribute to the entire software development life cycle from initial business requirements to deployment & production support. Participate in design specification reviews and technical documentation review. Ensure quality of service levels of software products through performance test benchmarking. Recommend design improvements or corrections</p>	Minimum professional experience 5 years.	2

<i>S L</i>	<i>Designation</i>	<i>Qty</i>	<i>Minimum Educational Qualifications</i>	<i>Professional Qualifications</i>	<i>Involvement period (Person- month)</i>
			<p>to engineers throughout the development process. Maintain effective communication with the project software engineers on project limitation, capability, performance requirement and hardware interface changes. Execute test plans and create test reports to describe program evaluation, testing, and correction. Monitor program performance after implementation to prevent reoccurrence of program operating problems and ensure efficiency of operation. Conduct compatibility tests with vendor-provided programs. Formulate and design software systems, using scientific analysis and mathematical models to predict and measure outcome and consequences of design. Create test tools that facilitate data gathering and test method execution. Participate in risk management meetings.</p> <p>Qualifications: B. Sc. In Computer Science/Engineering/Electrical Engineering/ M. Sc. In Applied Physics and Electronics or equivalent. Vendor certification is must.</p>		
10	Quality Assurance Engineer	01	<p>Job Description: Manage multiple tasks in a high paced high stress environment throughout the year. Build and maintain relationships</p>	Minimum professional experience 5 years. Vendor certification is must.	3

<i>S L</i>	<i>Designation</i>	<i>Qty</i>	<i>Minimum Educational Qualifications</i>	<i>Professional Qualifications</i>	<i>Involvement period (Person- month)</i>
			<p>with other IT groups, business areas, and vendor partners. Communicate clearly and timely with business and IT leaders on updates surrounding current work. Review functional and design specifications to ensure full understanding of individual deliverables. Test backend database in Microsoft SQL environment and Oracle. Identify test requirements from specifications, map test case requirements and design test coverage plan. Develop, document and maintain functional test cases and other test artifacts like the test data, data validation, and automated scripts. Execute and evaluate manual or automated test cases and report test results. Hold and facilitate test plan/case reviews with cross-functional team members. Identify any potential quality issues per defined process and escalate potential quality issues immediately to management. Ensure that validated deliverables meet functional and design specifications and requirements. Isolate, replicate, and report defects and verify defect fixes.</p> <p>Qualifications: B. Sc. In Computer Science/Engineering/Electrical Engineering/ M. Sc. In</p>		

<i>S L</i>	<i>Designation</i>	<i>Qty</i>	<i>Minimum Educational Qualifications</i>	<i>Professional Qualifications</i>	<i>Involvement period (Person-month)</i>
			Applied Physics and Electronics or equivalent. Vendor certification is must.		
1 1	Technical Documentation Expert	01	<p>Job Description: Revise and re-write all documents prepared by self and staff relating to procedures and reporting of programs. Maintain specific styles and versions of program documents in collaboration with quality manager. Coordinate with staff, vendors and technical specialists to decide upon material and graphics for documents. Assist writers in resourcing data, drafting, proofing and reviewing documents, and in inculcating latest concepts. Identify suitable suppliers and products through online research. Supervise, assess and guide QA documentation. Train, supervise and support staff in upgrading of methodologies for improving documentation. Maintain quality records of documents.</p> <p>Qualifications: B. Sc. In Computer Science/Engineering/Electrical Engineering/ M. Sc. In Applied Physics and Electronics or equivalent.</p>	Minimum professional experience 5 years.	2
1 2	Senior Programmer (Full Time)	01	<p>Job Description: The Software Engineers are expected to drive the majority of the software programming</p>	Minimum professional experience 5 years.	12

<i>S L</i>	<i>Designation</i>	<i>Qty</i>	<i>Minimum Educational Qualifications</i>	<i>Professional Qualifications</i>	<i>Involvement period (Person- month)</i>
			<p>initiative in the project. This includes designing, developing, and modifying the modules by arranging the needed functionalities accordingly. The database backend is also expected to be developed by this team, including adding and modifying the structure, the stored procedures (if any), SQL queries, triggers and enable necessary security with backup features.</p> <p>Qualifications: B. Sc. In computer Science or equivalent</p>		
1 3	Programmer (Full Time)	050 3	<p>Job Description: The Software Engineers are expected to drive the majority of the software programming initiative in the project. This includes designing, developing, and modifying the modules by arranging the needed functionalities accordingly. The database backend is also expected to be developed by this team, including adding and modifying the structure, the stored procedures (if any), SQL queries, triggers and enable necessary security with backup features.</p> <p>Qualifications: B. Sc. In computer Science or equivalent</p>	Minimum professional experience 5 years.	45
1	UI Designer	01	Job Description: Responsible	Minimum professional	3

<i>S L</i>	<i>Designation</i>	<i>Qty</i>	<i>Minimum Educational Qualifications</i>	<i>Professional Qualifications</i>	<i>Involvement period (Person-month)</i>
4	(intermittent)		<p>for Interpreting the client's business needs and developing a concept to suit their purpose. Developing design briefs by gathering information and data through research. Thinking creatively to produce new ideas and concepts. Using innovation to redefine a design brief within the constraints of cost and time. Presenting finalized ideas and concepts to clients or account managers. Working with a wide range of media, including photography and computer-aided design (CAD). Demonstrating illustrative skills with rough sketches. Working on layouts and art working pages ready for print. design programs such as InDesign, QuarkXPress, FreeHand, Illustrator, Photoshop, 3ds Max, Acrobat, Director, Dreamweaver and Flash. Developing interactive design. Commissioning illustrators and photographers. Working as part of a team with printers, copywriters, photographers, stylists, illustrators, other designers, account executives, web developers and marketing specialists.</p> <p>Qualifications: B. Sc. In computer Science or equivalent</p>	experience 5 years.	

<i>S L</i>	<i>Designation</i>	<i>Qty</i>	<i>Minimum Educational Qualifications</i>	<i>Professional Qualifications</i>	<i>Involvement period (Person- month)</i>
1 5	Software Tester	01	<p>Job Description: He/She will join with team at the initial implementation stages to assess potential risks for one month and will again join on to a project midway when testing becomes a key requirement. He/She will be responsible for following activities:</p> <ul style="list-style-type: none"> • Design and executive test plans on computer applications. • Record and document results and compare to expected results. • Detect software failures so that defects may be discovered and corrected. • Generate historical analysis of test results. • Document anomalies and issues. • Maintain database of software defects. • Examine code and execution of code in various environments. • Verify specific action or function of code. • Operate and maintain test networks. • Provide application instructions for users. • Develop and document application test plans based on software requirements and technical specifications. 	Minimum professional experience 5 years.	4

<i>S L</i>	<i>Designation</i>	<i>Qty</i>	<i>Minimum Educational Qualifications</i>	<i>Professional Qualifications</i>	<i>Involvement period (Person-month)</i>
			<ul style="list-style-type: none"> • Ensure compliance with general programming best practices, accepted web standards and those standards set forth by upstream sources. • Perform application security audits. • Implement application designs; create queries, scripts, web pages and other deliverables. • Participate in application planning meetings. • Ensure data integrity standards. • Meeting with system users to understand the scope of projects; • identifying business requirements; • Monitoring applications and software systems; • Stress testing; • performance testing; • Functional testing; • Scalability testing; • Writing and executing test scripts; • Running manual and automated tests; • Testing in different environments including web and mobile; • Writing bug reports; • Resource planning; 		

<i>S L</i>	<i>Designation</i>	<i>Qty</i>	<i>Minimum Educational Qualifications</i>	<i>Professional Qualifications</i>	<i>Involvement period (Person-month)</i>
			<ul style="list-style-type: none"> • Ensure quality assurance; • Providing objective feedback to software development project teams; • Designing tests to mitigate risk; • Presenting findings to software development and business user teams; • Working on multiple modules at one time; • Document analysis; • Communicating findings to technical and non-technical stakeholders • Review of software requirements • Preparation of test cases • Execution of tests • Reporting of defects • Preparation of test reports <p>Qualifications: B. Sc. In computer Science or equivalent</p>		
1 6	IT Auditor	01	<p>Job Description: Conducting risk assessment through collecting information from respective management, reviewing various documents in line with risk estimation, identifying the risk factor and preparing a risk assessment statement. Preparing effective audit plan based on risk</p>	Minimum professional experience 5 years. CISA Certification is a must	3

<i>S L</i>	<i>Designation</i>	<i>Qty</i>	<i>Minimum Educational Qualifications</i>	<i>Professional Qualifications</i>	<i>Involvement period (Person-month)</i>
			<p>statement where all high risk auditable spots are included in the plan. Initiating the preparation of a model audit program based on international auditing standard and organization's policy, procedure and good practices. Initiating audit program modification on a regular basis as required to ensure maximum efficiency and effectiveness; coordinating with Internal Audit Manager for obtaining approval. Reviewing and analyzing effectiveness of audit program for updating. Sharing views and experiences with other organizations to improve understanding on best practice and current thinking. Ensuring continual updating of knowledge and understanding on international audit standards and best practices in NGO/ other internal auditing. Drafting consistent and comprehensive audit report with utmost care in order to ensure a clear understanding and avoid confusion to the auditee and in accordance with international audit standard. Sharing with the auditees the result of the audit and agreeing appropriate corrective actions to remedy any non-conformances and the date by which the actions should be carried out. Reviewing and receiving</p>		

<i>S L</i>	<i>Designation</i>	<i>Qty</i>	<i>Minimum Educational Qualifications</i>	<i>Professional Qualifications</i>	<i>Involvement period (Person- month)</i>
			<p>feedback from Internal Audit Manager and incorporating in the report Accordingly. Circulating the draft audit report to the auditee on a timely basis for obtaining management comments. Organizing effective wrap up meeting with respective management, Concern staff and auditee to share and agree findings Ensuring timely delivery of the final audit report to the Internal Audit Manager for further action.</p> <p>Qualifications: B. Sc. In Computer Science/Engineering/Electrical Engineering/ M. Sc. In Applied Physics and Electronics or equivalent</p>		
17	Trainer on Security	01	<p>Job Description: The Training Specialist will lead the training programs as specified in the ToR. He is expected to devise the training curriculum, program length, effective methods for maximizing the learning experience and sustaining the knowledge base among the targeted beneficiaries to ensure complete transfer of knowledge.</p> <p>Qualifications: B. Sc. In Computer Science/Engineering/Electrical Engineering/ M. Sc. In Applied Physics and</p>	Minimum professional experience 10 years.	2

<i>S L</i>	<i>Designation</i>	<i>Qty</i>	<i>Minimum Educational Qualifications</i>	<i>Professional Qualifications</i>	<i>Involvement period (Person- month)</i>
			Electronics or equivalent;		
1 8	Trainer on Database	01	<p>Job Description: The Training Specialist will lead the training programs as specified in the ToR. He is expected to devise the training curriculum, program length, effective methods for maximizing the learning experience and sustaining the knowledge base among the targeted beneficiaries to ensure complete transfer of knowledge.</p> <p>Qualifications: B. Sc. In Computer Science/Engineering/Electrical Engineering/ M. Sc. In Applied Physics and Electronics or equivalent; Vendor Certification on DBA will be Preferable;</p>	Minimum professional experience 10 years. Vendor Certification on DBA is a must.	3
1 9	Trainer on programming	03	<p>Job Description: The Training Specialist will lead the training programs as specified in the ToR. He is expected to devise the training curriculum, program length, effective methods for maximizing the learning experience and sustaining the knowledge base among the targeted beneficiaries to ensure complete transfer of knowledge.</p> <p>Qualifications: B. Sc. In Computer Science/Engineering/Electrical Engineering/ M. Sc. In Applied Physics and</p>	Minimum professional experience 10 years.	4

<i>S L</i>	<i>Designation</i>	<i>Qty</i>	<i>Minimum Educational Qualifications</i>	<i>Professional Qualifications</i>	<i>Involvement period (Person-month)</i>
			Electronics or equivalent		
Total # of Man		21	Total Person Months		122

11 Responsibility of Client:

The software company will use its own computer and computer peripherals. The office space and furniture (table, chairs etc) as well as the power connections will be provided by the client. The computers/laptops of the consultancy firm are to be connected with the EMIS server and those will be administered by the system administrator of DSHE EMIS. The technical development team of the vendor company will be deployed in the premises in the DSHE EMIS under the in-charge of EMIS cell. Simultaneously, the client will provide the following services and facilities:

- Arrange meetings with any external or internal parties for collection and/or verification of information related to business processes to be captured in the software application.
- Any format, sample or any other documents required for the need of understanding or verification of existing business processes followed.
- Arrangement of User Acceptance Test session for all/any deliverables including required documentation, software scope and functionality verification or any other SDLC-related activities during any phase of the assignment.
- Supply all needed data/information to design, develop, commission and support the stated software applications in the Terms of Reference.

12 Development platform and customization tools:

In-depth and proven extensive knowledge of web-enabled software development in dynamic web based system over the following latest version software, network and security technologies:

- .NET Technologies
- ASP.NET
- Oracle 11g/12c
- Windows/Linus based Operation System

13 Deliverable:

The firm will provide following documents:

- 13.1. Prepare object diagram, activity diagram, sequence diagram, component diagram, use-case diagram, system architecture, design method & standards, programming standards etc.
- 13.2. Data definition diagram, Data relationship diagram, ERD etc.
- 13.3. Software deployment tools, deployment diagram etc.
- 13.4. All source code, documents, deliverables are to be transfer to Director General DSHE upon completion and full ownership rights assigned to DG DSHE.
- 13.5. The software vendor should provide technical and user manual.
- 13.6. Corrective and adaptive regular maintenance report.