Terms of Reference for Senior Software Engineer/Web Developer PHP

1. **BACKGROUND INFORMATION**

1.1. Beneficiary Country and Province

Islamic Republic of Pakistan, Punjab Province

1.2. Contracting Authority

Under the TALEEM Programme and in agreement with Global Partnership for Education (GPE), the Programme Monitoring and Implementation Unit (PMIU), School Education Department (SED), Government of the Punjab is the contracting authority.

1.3 Objective

One of the core objective of the PMIU is to provide leading research and analytical services and value-added information, studies, and solutions to the School Education Department (SED) in Punjab and other users such as donor/grant organizations, NGOs etc. in a manner that broadens and strengthens the knowledge base on school education in Punjab and maximizes the effectiveness of the Punjab Education Sector Reform Programme (PESRP).

The position is created as part of the Software Migration and Data Centre creation that is to be developed by PMIU/SED. The Senior Software Engineer/Web Developer will provide support in existing PHP/MySQL based web applications and APIs for mobile applications. Also involved in development of new web applications using PHP frameworks like Laravel or any other equivalent. Assist in existing systems/applications and data migration from PITB.

1.4 Scope of work:

The key tasks and responsibilities to be accomplished by the Senior Software Engineer are as follows:

i. Strong knowledge of custom PHP/MySQL web application development.
ii. Strong knowledge of PHP web frameworks such as Laravel or equivalent
iii. Strong expertise in development of scalable SOAP (XML) or RESTful API services for mobile application integration.
iv. Understanding the fully synchronous behavior of PHP
v. Understanding of MVC design patterns
vi. Basic understanding of front-end technologies, such as JavaScript, HTML5, and CSS3
vii. Knowledge of object-oriented PHP programming
viii. Understanding accessibility and security compliance
ix. Strong knowledge of the common PHP or web server exploits and their solutions
x. Understanding fundamental design principles behind a scalable application
xi. User authentication and authorization between multiple systems, servers, and environments
xii. Integration of multiple data sources and databases into one system
xiii. Familiarity with limitations of PHP as a platform and its workarounds
xiv. Creating database schemas that represent and support business processes
xv. Familiarity with MySQL/SQL/NoSQL databases and their declarative query languages
xvi. Proficient understanding of code versioning tools, such as Git and deployment automation, such as Jenkins.
xvii. At least worked on 3 large scale web applications having large user/consumer/customer base and available online for a demonstration.
xviii. Familiarity with multi-tier architecture and distributed applications.
xix. The Senior Software Engineer will be responsible to perform any other tasks assigned and entrusted by the PD-PMIU (PESRP)

Key Deliverables:

1) Integration of user-facing elements developed by front-end developers
2) Build efficient, testable, and reusable PHP modules using custom PHP or PHP frameworks.
3) Liaison with mobile application team for development and implementation of associate API requests.
4) Solve complex performance problems and architectural challenges
5) Integration of data storage solutions may include databases, key-value stores, blob stores, etc.

6) Perform unit testing and conduct peer code review before QA testing.
7) Perform deployments using standard deployment procedures.
8) Create an understanding with existing applications and perform code revamp to achieve performance benchmarks.
9) Coordination with team members and project manager on new modules development and enhancements.
10) Providing technical support for web, desktop or mobile applications
11) Create unit testcase and execute them on development completion of any module/requirement.
12) Use code repositories and branches for code backup and versioning.
13) Keep the project management tool updated so that a clear picture on work progress is always available for managerial review.
14) Keep the development related communication streamlines on project management tool for future reference and record.

Any other deliverable based on the task assigned to the Senior Software Engineer by the Competent Authority.

Terms of Reference for Network Administrator

1. BACKGROUND INFORMATION

1.3. Beneficiary Country and Province

Islamic Republic of Pakistan, Punjab Province

1.4. Contracting Authority

Under the TALEEM Programme and in agreement with Global Partnership for Education (GPE), the Programme Monitoring and Implementation Unit (PMIU), School Education Department (SED), Government of the Punjab is the contracting authority.

1.3 Objective

One of the core objective of the PMIU is to provide leading research and analytical services and value-added information, studies, and solutions to the School Education Department (SED) in Punjab and other users such as donor/grant organizations, NGOs etc. in a manner that broadens and strengthens the knowledge base on school education in Punjab and maximizes the effectiveness of the Punjab Education Sector Reform Programme (PESRP).

The position is created as part of the Software Migration and Data Centre creation that is to be developed by PMIU/SED. The Network administrators are responsible for maintaining computer networks and solving any problems that may occur with them. This resource will also assist in existing data and software migration from PITB Data Center including creation of inhouse Data Center.

1.4 Scope of work:

The key tasks and responsibilities to be accomplished by the Network Administrator are as follows:

i. Fundamental knowledge of networking concepts

ii. Proven network engineering, network operations, and network performance analysis skills

iii. Hands-on technical troubleshooting capabilities

iv. Ability to work independently under minimal supervision

v. Experience with firewalls, Internet VPN's remote implementation, troubleshooting, and problem resolution is desired

vi. Knowledge of computing infrastructures

vii. Familiarity with server management and monitoring tools

viii. Familiarity with backup and recovery software and methodologies

ix. Exceptional critical thinking and problem-solving ability

x. Proficiency with scripting languages

xi. Strong interpersonal skills to assist non-technical individuals with complex technical issues

xii. The Network Administrator will be responsible to perform any other tasks assigned and entrusted by the PD-PMIU (PESRP)

1.5 Key Deliverables:

1) Installing and configuring computer networks and systems
2) Identifying and solving any problems that arise with computer networks and systems
3) consulting with clients to specify system requirements and design solutions
4) Assembling new systems
5) Performing account setup
6) Maintaining existing software and hardware and upgrading any that have become obsolete
7) Monitoring computer networks and systems to identify how performance can be improved
8) Providing network administration and support with variety of operating systems.
9) Monitoring and maintaining network servers such as file servers, VPN gateways and intrusion detection systems
10) Assist in network design and implementation.
11) Maintain network connectivity of all computer workstations.
12) Maintain servers and associated hardware, applications, services, and settings.
13) Develop and monitor policies for the use of network resources.
14) Implement and manage disaster recovery and back-up.
15) Evaluate and recommend security improvements and system upgrades.

16) Monitor network to ensure optimal performance.
17) Create and maintain network users/permissions.
18) Creating a backup and safeguarding the data
19) Test release of products to minimize user impact and ensure compatibility.
20) Create technical support documentation for systems and applications.
21) Support in conducting the Audits (internal/external)

Terms of Reference for Head of IT-Operations

1. BACKGROUND INFORMATION

1.5. Beneficiary Country and Province

Islamic Republic of Pakistan, Punjab Province

1.6. Contracting Authority

Under the TALEEM Programme and in agreement with Global Partnership for Education (GPE), the Programme Monitoring and Implementation Unit (PMIU), School Education Department (SED), Government of the Punjab is the contracting authority.

Key Responsibilities:

- Manage IT vendors, contracts, and service level agreements and perform vendor risk assessments
- Manage information technology projects
- Coordinate internal and external resources, timetables, budgets, and reporting to project stakeholders
- Maintaining an inventory of computer hardware and software needed for operations and ordering new equipment when necessary
- Coordinating with vendors to resolve technical issues with computer hardware or software
- Installing new software or updates to existing systems in response to requests from business units
- Ensuring that all employees have access to IT resources including computers, phones, and printers
- Providing technical support to users regarding computer problems or device usage issues
- Providing guidance to other IT staff regarding technical issues in their area of expertise
- Developed processes to meet said goals.

- Utilized management tools to ensure goals are being met.

- Managed complete IT Operations (Data Center, Telecomm, Video Conf., Infrastructure, general IT operations, and Facilities).

- Point of contact for all Technology, Facilities, and Customer Service resources.

- Developed systems and processes to meet changing business needs.

- Managed relationships with corporate department heads in order to secure resources for business needs and projects.

Key Performance Indicators:
•Demonstrate decisiveness in resolving system-related problems, and identifying priorities
• Demonstrate a drive for results and accountability of business needs
 • Research best practices within and outside the organization to establish benchmark data and use continuous process improvement disciplines to achieve results
• Devise policies and SOPs for the project activities.
• Correspondence and timely communication with government departments and teams.