

Terms of Reference for Head of Technology

1. BACKGROUND INFORMATION

1.1. Beneficiary Country and Province

Islamic Republic of Pakistan, Punjab Province

1.2. Contracting Authority

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

1.3 Objective

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

1.4 Scope

The duties and responsibilities of the Head of Technology will include but are not limited to the following:

1. Devise innovative strategies to implement TALEEM Programme activities, obtain data, and to integrate research findings and recommendations in the TALEEM Programme implementation, monitoring, and evaluation.

2. Design and develop strategies to innovate and revamp different processes and programs including Integration of Data sets from SED, it's attached organizations, LNFBED and SpED
3. Develop strategies to link different cross-functional activities to the Variable component of TALEEM programme i.e. the APS(Afternoon School Programme) in order to achieve desired outcomes as per the result matrix of the TALEEM Document
4. Identify the data needs and requirements through consultations with the stakeholder organizations of SED i.e. QAED,PEC & PCTB and main stakeholders like LNFBED and SpED, respective key officials of all three government departments(SED, SpED & LNFBED), school administrators and their potential data users to ensure that the data requirements and needs of the policy and decision makers and other key users are taken care of.
5. Support Data Center of PMIU in creating an enabling environment for timely and evidence-based decision making by assisting & supporting in data planning, data collection, data processing , data analysis and data analytics.
6. Liaise with all the three government departments and other cells within PMIU to innovate the process of data collection, analysis and analytics to ensure the accuracy and comprehensiveness of research data. .
7. Design, develop and maintain school education research and analysis databases and infrastructure along with data bases of LNFBED and SpED pertaining to components of the TALEEM programme.
8. Undertake continuous evaluation and review of performance indicators for developing, proposing, and implementing advanced approaches, benchmarks and best practices in education planning, management, and development aligned with the activities of the TALEEM programme.
9. Ensure quality assurance of data collection and management for the TALEEM component's activities currently implemented and overseen by PMIU. Develop quality assurance indicators for consistent monitoring of the data.
10. Document methodologies and procedures used in the compilation and analysis of data.
11. Conduct data quality assessments & data audits to ensure that the collected data is accurate and maintain the integrity of the TALEEM Programme.

12. Liaise with all the other cells in PMIU, SED, LNFBED & SPED to fulfill their research and analysis needs and to provide them with well researched solutions and recommendations for process, performance, and quality improvements.
13. Assist the Programme Director in ensuring that appropriate, systematic assessments (internal and external) of the research and database management activities are carried out on a regular basis and findings are fed back to improve the effectiveness and efficiency of the TALEEM activities.
14. Conduct field work (e.g., interviews, focus groups, site visits, surveys, data collection) and review documents as required in support of evaluations.
15. Identify and maintain strong liaison with the data handlers in SED, LNFBED and SpED. Develop a calendar for fortnightly meetings – or on need basis with stakeholders of TALEEM programme to point out bottle necks and provide solutions in a timely manner.
16. Any other work as assigned by the competent authority.

Terms of Reference for Senior Business Analyst

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 Senior Business Analyst will provide support in defining business use cases and convert them to business processes and functional documents. Convert the requirement specifications to user stories and provide a clear and well-defined picture to development team. Assist quality assurance team in developing QA plan. Perform end to end process testing and conduct UAT after development and QA verification. Assist in mapping and documentation of existing systems/applications and data migration from PITB.

1.4 Scope of work:

The key tasks and responsibilities to be accomplished by the Senior Business Analyst are as follows:

- i. Demonstrate up-to-date expertise in Information Systems and apply this to the development, execution and improvement of action plans by providing advice and guidance to others in the application of information and best practices
- ii. Exceptional analytical and conceptual thinking skills.
- iii. The ability to influence stakeholders and work closely with them to determine acceptable solutions.
- iv. Advanced technical skills.
- v. Excellent documentation skills.
- vi. Fundamental analytical and conceptual thinking skills.
- vii. Experience creating detailed reports and giving presentations.
- viii. Competency in Microsoft applications including Word, Excel, and Outlook.
- ix. A track record of following through on commitments.
- x. The Senior Business Analyst will be responsible to perform any other tasks assigned and entrusted by the PD-PMIU (PESRP)

Key Deliverables:

- 1) Manage customer relationships and expectations by developing a communication process to keep others up-to-date on project results
- 2) Stay current with customer needs and strategies; utilizing formal and informal written communication methods to communicate updates and findings; and facilitating project meetings and presentations to all types of diverse audiences (for example, senior management, Customers, technical staff)
- 3) Serve as a liaison between Operations and IT to assist or gather business requirements needed for system modifications, enhancement and implementations
- 4) Perform thorough analysis for a requirement and prepare RS documentation
- 5) Create dry run for any new requirement and take a signoff from stakeholders before the functional documentation.
- 6) Create Functional specification document from the RS. Use the wireframe approach to depict a clear picture for the developer before the start of a development cycle.
- 7) Chalk out key user stories for sprint planning.
- 8) Liaison with QA team in preparing testcases for a change request/new requirement or refactor requirement.
- 9) Prepare functional documentation for all existing application and modules
- 10) Draw flow charts and diagrams for a better business flow understanding for implementation in coordinate with solution architect.
- 11) Create operational documents like operations manual, user manual, user guides and training documents.
- 12) Any other deliverable based on the task assigned to the Senior Business Analyst by the Competent Authority.

Terms of Reference for Network Administrator

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.

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 Senior Software Engineer/Web Developer (.NET)

1. BACKGROUND INFORMATION

1.7. Beneficiary Country and Province

Islamic Republic of Pakistan, Punjab Province

1.8. 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/.Net Developer will provide support in existing web based and desktop applications. Also involved in development of new .Net applications using C# and VB.net MVC. 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:

- xi. Proven experience as a .NET Developer or Application Developer

- xii. Familiarity with the ASP.NET framework, SQL Server and design/architectural patterns (e.g. Model-View-Controller (MVC))
- xiii. Knowledge of at least one of the .NET languages (e.g. C#, Visual Basic .NET) and HTML5/CSS3
- xiv. Strong expertise in development of scalable SOAP (XML) or RESTful API services for mobile application integration.
- xv. Strong understanding of object-oriented programming
- xvi. Skill for writing reusable libraries
- xvii. Familiar with various design and architectural patterns
- xviii. Knowledge of concurrency patterns
- xix. Understanding of fundamental design principles for building a scalable application
- xx. Experience creating database schemas that represent and support business processes
- xxi. Basic understanding of Common Language Runtime (CLR), its limitations, weaknesses, and workarounds
- xxii. Experience implementing automated testing platforms and unit tests
- xxiii. Proficient understanding of code versioning tools Git, DevOps etc.
- xxiv. Experience with multi-tier architecture and distributed applications.
- xxv. At least worked on 3 large scale applications having large data source and user base, also available for a demonstration.
- xxvi. The Senior Software Engineer will be responsible to perform any other tasks assigned and entrusted by the PD-PMIU (PESRP)

Key Deliverables:

- 1) Write clean, scalable code using .NET programming languages
- 2) Translate application storyboards and use cases into functional applications
- 3) Remain up to date with the terminology, concepts and best practices for coding responsive web applications
- 4) Develop technical interfaces, specifications, and architecture
- 5) Use and adapt existing web applications for application landscape improvement and upgradation.
- 6) Liaison with mobile application team for development and implementation of associate API requests.
- 7) Solve complex performance problems and architectural challenges
- 8) Integration of data storage solutions may include databases, key-value stores, blob stores, etc.
- 9) Create unit testcase and execute them on development completion of any module/requirement. Perform deployments using standard deployment procedures.
- 10) Create an understanding with existing applications and perform code revamp to achieve performance benchmarks.

- 11) Coordination with team members and project manager on new modules development and enhancements.
- 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.
- 15) Perform deployments using standard deployment procedures.
- 16) Any other deliverable based on the task assigned to the Senior Software Engineer by the Competent Authority.

TERMS OF REFERENCE

Support Consultant Implementation & Coordination

under TALEEM Programme at PMIU-PESRP

Objective & Background

The Punjab Education Sector Programme Implementation Grant (ESPIG), supported by the Global Partnership for Education (GPE), empowers the TALEEM Programme to revolutionize access, learning outcomes, equity, and education management. PMIU-PESRP serves as the secretariat and implementing agency for the TALEEM Programme, responsible for managing, monitoring, and ensuring the successful execution of this significant educational initiative in Punjab.

TALEEM Cell has been established and equipped with necessary human resource of Managers, Programme Officers, and Associates for successful implementation of the various components of TALEEM Programme. To further strengthen the HR capacity for smooth implementation of the Program, PMIU PESRP intends to engage the services of Support Consultant Implementation & Coordination.

Responsibilities:

The support Consultant Implementation & Coordination will work under the direct supervision of Manager I&C TALEEM and shall be responsible for;

- Assisting in coordination with Program Implementation Agencies, Field Offices and other stakeholders.
- Assisting in organization of meetings, taking minutes, managing invites and other related tasks
- Assisting in official communications & correspondence with the stakeholders, maintain and organize project files, records, and documentation, ensuring that all necessary materials are readily accessible.
- Prepare and generate reports on project or event status, milestones, and key performance indicators for management review.
- Any other task assigned by the management.

Terms of Reference for Support Technician

1. BACKGROUND INFORMATION

1.9. Beneficiary Country and Province

Islamic Republic of Pakistan, Punjab Province

1.10. Contracting Authority

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The position is created as part of the Software Migration and Data Centre creation that is to be developed by PMIU/SED. The Support Technician is 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 Support Technician are as follows:

- i. Ability to conduct network engineering and network operations with network performance analysis skills
- ii. Hands-on technical troubleshooting capabilities

- iii. Knowledge of computing infrastructures
- iv. Logging and record keeping experience for employee queries
- v. Ability to work independently under minimal supervision
- vi. Should carry the ability to Test and fix faulty equipment
- vii. Familiarity with server management and monitoring tools
- viii. Proficiency with scripting languages
- ix. Strong interpersonal skills to assist non-technical individuals with complex technical issues
- x. The Support Technician 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) Talk with staff or end users through a series of actions, either face-to-face or over the phone, to help set up systems or resolve issues pertinent to PMIU / PESRP data and systems
- 4) consulting with user to specify system requirements and design solutions
- 5) Assembling new systems
- 6) Support the roll-out of new applications
- 7) Maintaining existing software and hardware and upgrading any that have become obsolete without tempering the warranty
- 8) Monitoring computer networks and systems to identify how performance can be improved
- 9) Providing network administration and support with variety of operating systems.
- 10) Maintain network connectivity of all computer workstations.
- 11) Maintain servers and associated hardware, applications, services, and settings.
- 12) Follow diagrams and written instructions to repair a fault or set up a system.
- 13) Monitor computer systems and network to ensure optimal performance.
- 14) Test release of products to minimize user impact and ensure compatibility and also setup new users' account and profiles and deal with the password issues
- 15) Any other deliverable based on the task assigned to the Support Technician by the Competent Authority.
- 16) Prioritize and manage more than one open cases at one time
- 17) respond within agreed time limits to call-outs
- 18) conduct electrical safety checks on computer equipment
- 19) work continuously on a task until completion