

Government of the Punjab has received financing from the World Bank towards the cost of the Punjab Human Capital Investment Project (PHCIP) [P164785] and intends to apply part of the proceeds for individual consulting services. The Project aim to increase the access to quality health services, and economic and social inclusion programs, among poor and vulnerable households in selected districts of Punjab. For the said purpose, the project intends to hire the services of following individual consultants till the completion of project i.e., 30-06-2025. The detail is given below:

Sr. #	Assignment Title	Qualification, Experience & Skill
1	Software Engineer (2 positions)	<p><b>Qualification:</b></p> <ul style="list-style-type: none"> <li>At least, Master's degree or equivalent (16 years of education), in Software Engineering, Computer Science, from a foreign or local university, duly recognized by the Higher Education Commission (HEC) of Pakistan.</li> </ul> <p><b>Experience:</b></p> <ul style="list-style-type: none"> <li>At least, six years of documentary verifiable experience, after acquiring stipulated qualification, in software development including minimum three years of working experience with SQL Server database design, stored procedures, triggers, reports, backups and migrations along with understanding of Business Intelligence tool and Agile methodologies</li> </ul> <p><b>Skills:</b></p> <ul style="list-style-type: none"> <li>ASP.Net, C#, MVC, Android based mobile application, Web API, SQL database, Entity Framework, .Net Platform.</li> <li>Good expertise in Angular or React JS for front-end development along with HTML 5/CSS3</li> <li>Good understanding of design/architectural patterns</li> <li>Good understanding of code versioning tools</li> <li>Excellent troubleshooting and communication skills</li> </ul>
2	Data Analyst	<p><b>Qualification</b></p> <ul style="list-style-type: none"> <li>Master's degree or equivalent (16 years of education) in statistics, computer sciences, economics, or related field.</li> <li>An advanced certification in data analytics will be preferred.</li> </ul> <p><b>Experience</b></p> <ul style="list-style-type: none"> <li>At least three years of documentary verifiable experience in <ul style="list-style-type: none"> <li>Cleansing and preparing data</li> <li>Analyzing and visualizing data including survey data analysis</li> <li>Reports and dashboards</li> <li>Communication and writing</li> <li>Good writing and analytical skills, prior academic research or reporting experience would be an asset</li> <li>Self-motivation and ability to work on multiple tasks.</li> <li>Strong team spirit with effective interpersonal and communication skills.</li> </ul> </li> </ul> <p><b>Skills</b></p> <ul style="list-style-type: none"> <li>Strong analytical skills</li> <li>Skills in data collection, management and/or analysis.</li> <li>Proficiency in software such as Oracle, SQL, Tableau, Power BI, R, and STATA.</li> </ul>

The detailed TORs can be downloaded from <https://pspa.punjab.gov.pk/>. Interested candidates should submit the Expression of Interest (EOI) with updated CV, copies of CNIC, all educational degrees, certificates and experience certificates at the below mentioned address or through email at [procurement.wing@phcip.com.pk](mailto:procurement.wing@phcip.com.pk). The applicants should clearly mention relevant years of experience and qualification at the top of the CV. If a face-to-face meeting is required, same shall be done virtually/physically. Market based remuneration commensurate with experience and qualification will be offered for above mentioned assignments. Last date for submission of EOIs is **March 25, 2024**.

The selection will be made in accordance with the process of Selection of Individual Consultants in accordance with "World Bank Procurement Regulations for Investment Project Financing Goods, Works, Non-Consulting and Consulting Services" (July 2016) revised November 2017 and August 2018. The attention of interested Consultants is drawn to Section III, paragraphs, 3.14, 3.16, and 3.17 of the World Bank's "Procurement Regulations", setting forth the World Bank's policy on conflict of interest.

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## **TERMS OF REFERENCE**

### **Software Engineer**

## **PUNJAB HUMAN CAPITAL INVESTMENT PROJECT PSPA**

### **Background**

The Government of Punjab (GoPb) is implementing the **Punjab Human Capital Investment Project** (PHCIP) with the assistance of the World Bank to increase the utilization of quality health services, and economic and social inclusion programmes, among poor and vulnerable households in select districts in Punjab.

The project has the following three components:

**Component 1:** Health services quality and utilization (approximately US\$115 million equivalent): This component aims to improve the availability and utilization of high impact, cost efficient health services by pregnant and lactating women (PLWs), as well as children living in poverty, through improvements in healthcare service delivery and a nutrition-sensitive CCT program.

**Component 2:** Economic and social inclusion (approximately US\$65 million equivalent):

- a. **Economic Inclusion:** This sub-component aims to support income-generating activities of young parents (ages 18 to 29) from poor and vulnerable households who have children under the age of 5, through: (i) a labour market (LM) readiness package providing training on basic literacy, numeracy, financial literacy and business skills, (ii) livelihood support through asset transfer (cash or in-kind), and (iii) intensive coaching.
- b. **Social Inclusion for Education:** This sub-component aims to strengthen select education initiatives in Punjab to support the inclusion of poor and vulnerable households and help ensure their children build a strong foundation.

**Component 3:** Efficiency and sustainability through social protection services delivery systems and project management (approximately US\$20 million equivalent). This component will involve modernizing and improving coordination and interoperability of Punjab's SP systems and programmes by strengthening the administrative, operational, policy and planning functions and capabilities of the Punjab Social Protection Authority (PSPA), including establishing a SP service delivery platform.

### **Objectives of the Assignment**

In order to achieve the objectives of the program, PSPA, being the lead implementing agency for PHCIP, is in the process of putting in place the required technical staff under the Project Directorate based in PSPA's Headquarters at Lahore. To that end, PSPA requires services of a "Software Engineer" to perform the below mentioned roles and responsibilities:

1. Provide technical support for development and maintenance of Software Systems including web portal services, application at frontend & backend and desktop applications for each program.
2. Plan, analyse, design and develop, maintain, test & evaluate, software & systems.
3. Integrate the system with Payment Service Provider (PSP), NADRA, and IP/s including the Call Center to automate sharing of the data/information in line with the requirements of the user wings of PHCIP/PSPA
4. Gather & document requirements from all stake holders.
5. Prototyping & Wireframing.
6. Solution Development.

7. Quality Assurance.
8. Prepare technical reports, manuals and documentation
9. Pictorial-based users manuals of the Dashboard and the Android app following a brief description of the different functions/features of both the tools
10. Training of the PHCIP/MIS staff post-completion of the development and Testing/debugging of the system
11. Upgradation of dashboard including performance indicators and 360-degree profiling availability of the beneficiaries to reflect true picture of so far progress to assist in making business decisions
12. Automation of data queries such as Beneficiaries' enrolments and visits reports based on geographical boundaries as well as Beneficiary payment details including the pending wallets of the beneficiaries etc for reporting or analytics to gain insights and perform data analysis
13. Data Analysis pertaining to NADRA System verification stats along with reasons of failures
14. Development and deployment of the APIs for internal or external systems including PHCIP stakeholders
15. Preparation of documentation of the Software Systems developments
16. Any other task related to Development of PHCIP Software System/MIS including H&NCCT, Economic Inclusion, Grievance Redressal Management, Monitoring & Evaluation and Field Operations systems.

**Qualification:**

- At least, Master's degree or equivalent (16 years of education), in Software Engineering, Computer Science, from a foreign or local university, duly recognized by the Higher Education Commission (HEC) of Pakistan.

**Experience:**

- At least, six years of documentary verifiable experience, after acquiring stipulated qualification, in software development including minimum three years of working experience with SQL Server database design, stored procedures, triggers, reports, backups and migrations along with understanding of Business Intelligence tool and Agile methodologies

**Skills:**

- ASP.Net, C#, MVC, Android based mobile application, Web API, SQL database, Entity Framework, .Net Platform.
- Good expertise in Angular or React JS for front-end development along with HTML 5/CSS3
- Good understanding of design/architectural patterns
- Good understanding of code versioning tools
- Excellent troubleshooting and communication skills

## **TERMS OF REFERENCE**

### **Data Analyst**

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1. Assist in the design, development, management, roll out and troubleshooting of the digitized content developed and associated database
2. Gather, organize and interpret data in a logical and functional manner. Perform analysis of CCT and EI data with trends and highlight any deviations from normal course.
3. Perform analysis of CCT and EI data, monthly monitoring and other project data using advanced analysis tools to prepare summary reports as required
4. Coordinate the collection of data from the implementing partners IRM/NRSP in case of EI.
5. Assist in the review, merging, cleaning, verification, validation and comparison of

different datasets as required

6. Assist in the Project Impact Evaluation study, midline and end-line surveys
7. Assist in the maintenance and in the development of IT infrastructure
8. Coordinate with other implementing agencies for related matters
9. Keep updated of project-related databases and assist in information security audit
10. Develop software/programming where required
11. Any other relevant task assigned by the Competent Authority

**Qualification:**

- Master's degree or equivalent (16 years of education) in statistics, computer sciences, economics, or related field.
- An advanced certification in data analytics will be preferred.

**Experience:**

- At least three years of documentary verifiable experience in
  - Cleansing and preparing data
  - Analyzing and visualizing data including survey data analysis
  - Reports and dashboards
  - Communication and writing
  - Good writing and analytical skills, prior academic research or reporting experience would be an asset
  - Self-motivation and ability to work on multiple tasks.
  - Strong team spirit with effective interpersonal and communication skills.

**Skills:**

- Strong analytical skills
- Skills in data collection, management and/or analysis.
- Proficiency in software such as Oracle, SQL, Tableau, Power BI, R, and STATA.