



**PROJECT MANAGEMENT UNIT (PMU)  
PUNJAB URBAN LAND SYSTEMS  
ENHANCEMENT (PULSE) PROJECT  
Board of Revenue (BOR)  
Government of the Punjab  
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**TERMS OF REFERENCE**

**PUNJAB URBAN LAND SYSTEMS ENHANCEMENT (PULSE)  
PROJECT**

**ISLAMIC REPUBLIC OF PAKISTAN  
PUNJAB PROVINCE**

**HIRING OF AN INDIVIDUAL CONSULTANT AS  
SOFTWARE ENGINEER**

**SEPTEMBER 2023**

## **TERMS OF REFERENCE (TORs) - SOFTWARE ENGINEER**

### **1. BACKGROUND INFORMATION: -**

Board of Revenue (BOR), Punjab with the technical & financial support of the World Bank is implementing Punjab Urban Land System Enhancement (PULSE) project for the establishment of a unified central database of all types of urban properties (societies / authorities / development agencies), rights and charges. The proposed system will not merely a GIS & Parcel based one but has all possible functionalities to serve as a robust platform for creation of 'Spatial Data Infrastructure' (SDI), an inevitable need of the future. The project will provide a complete and transparent record of title in land and immovable property. Digitization of remaining parts of rural land, digitization of Katchi Abadis (KAs) record, automation of sub-registrar record rooms is also part of the project.

#### **1.1. Beneficiary Country and Province:**

Islamic Republic of Pakistan and Punjab Province.

#### **1.2. Contracting Authority:**

Under the Punjab Urban Land Systems Enhancement (PULSE) Project and in agreement with the World Bank, the Project Management Unit (PMU), Borad of Revenue (BOR), Government of Punjab is the contracting authority.

### **2. OBEJECTIVE: -**

One of the core objectives of the PMU is to provide the analytical services and value-added information and solutions to Borad of Revenue (BOR)in Punjab and other users such as the World Bank, donor organizations etc. in a manner that broadens and strengthens the digitization of land records on Borad of Revenue (BOR) and maximizes the effectiveness of the Punjab Urban Land Systems Enhancement (PULSE) Project.

The Software Engineer will provide support to the PMU team for one of the major IT interventions pertaining to establish a modern Land Information System. The support

of the consultants is critical in strengthening existing ICT equipment and software in Data Center.

### **3. SCOPE OF WORK: -**

- Analyse and understand business requirements and translate them into technical solutions.
- Design, develop, and maintain high-quality software solutions.
- Participate in the full software development life cycle, from requirements gathering to deployment.
- Collaborate with cross-functional teams, including product management, design, and testing, to deliver high-quality software.
- Stay updated with the latest technologies and industry trends, and recommend solutions to improve the software development process.

### **4. DELIVERABLES: -**

The consultant is expected to deliver the following:

- High-quality, well-documented, and maintainable code.
- Detailed documentation of software design, architecture, and implementation.
- Regular monthly progress updates and status reports.

### **5. QUALIFICATION & EXPERIENCE: -**

- Minimum 16 years of education in Computer Science / Information Technology or equivalent education from HEC recognized University / Institute.
- At least four (04) years of post-qualification experience in software design and development.

#### **5.1 Technical Skills:**

- Proficiency in one or more modern programming languages, such as .Net Core, MVC, Angular, React / Node, C#, Web API, Web Services, MS SQL Server, JavaScript, Bootstrap, jQuery etc.
- Experience with SMS / Payment Gateways applications.
- Familiarity with project management tools such as JIRA, ASANA, Trello etc.

- Familiarity with Agile software development methodologies.
- Familiarity with DevOps practices.
- Strong understanding of software development best practices, such as unit testing, code review, and continuous integration/continuous delivery.

## **5.2 Performance Evaluation:**

The consultant's performance will be evaluated based on the following criteria:

- Quality and functionality of the software delivered with accordance of the requirements.
- Adherence to project tasks, timelines, and budget.
- Communication and collaboration with cross-functional teams.

## **6. TYPE OF CONTRACT**

Time-Based Contract.

## **7. DURATION OF CONTRACT**

The duration of the contract is for a period of one (01) year (extendable).

## **8. SELECTION PROCEDURE**

The selection will be made in accordance with Section VII, paragraph 7.36 on Open Competitive Selection of Individual Consultants of the World Bank Procurement Regulations for IPF Borrowers”, dated November 2020. 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 for IPF Borrowers” dated November 2020 (“Procurement Regulations”), setting forth the World Bank’s policy on conflict of interest.

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