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| --- |
| **TECHNICAL PROPOSAL** |
| **Software and Mobile Development Outsourcing** |
|  |
| **Workplains Private Limited.** |
|  |
| **January 21, 2013** |
|  |
|  |

WP/CMPAK/\_\_\_\_\_\_\_\_

Dated: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**To,**

**Noman Aslam**

**CMPak (ZONG)**

**Zong H.Q, Plot#47, National Park Road,**

**CMPak Complex, Chak Shahzad, Islamabad,**

**Pakistan**

**Subject: Software and mobile development outsourcing to cater the requirements from the stakeholders and to consolidate existing set of applications.**

Dear Sir/Madam,

This is in reference to your RFP dated issued on 8th January 2014 regarding software and mobile development outsourcing to cater the requirements from the stakeholders and to consolidate existing set of applications.

Workplains Pvt. Limited is pleased to offer its Technical Services for the subjected services. Technical and Financial proposal of the subject are enclosed with this letter in separate envelops. The offered package includes the requirement gathering, development, deployment, training, and support.

Workplains Pvt. Limited has been in the IT Business since 2000. We are one of the few IT companies in Pakistan which are capable of providing total e-solutions to medium and large organizations in public, private and Govt. sectors as well as in the humanitarian sector.

Workplains has the experience working with the Social Welfare and Humanitarian organizations predominantly for the data handling through databases, management information systems, online assessments and dynamic live online reports. We understand your project needs and shall make our best effort to fulfill your requirements. Workplains Pvt. Limited will dedicate qualified IT consultants who have domain knowledge and experience to perform this task.

We look forward to work with you closely to make this project a success.

Yours Sincerely,

**Ahsan Rashid**

CEO

Workplains (PVT.) Limited

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1. Introduction to Technical Proposal

# Tender for CMPak (Zong)

RFP was issued on 8th January 2014 to seek the services for CMPak regarding software and mobile development outsourcing. In the response of this RFP, Workplains Pvt Ltd has prepared a technical proposal addressing the requirements.

# Structure of the technical proposal

The proposal is divided into chapters; **chapter 1** gives an introduction of the proposal, **chapter 2** gives detail about Workplains, **chapter 3** provides detail of Workplainsprojects and its clients**, chapter 4** gives case studies of Workplains projects running in Humanitarian Sector**, chapter 5** provides an insight into the technical approach of the project and methodology, **chapter 6 to chapter 14** outlines the components of the CSP-MIS, **chapter 15** describes the compliance and capabilities of the CSP-MIS, **chapter 16** contains details on recommended hardware and licensed software, **chapter 17** highlights the capabilities and experience of the proposed team for the project **chapter 18** provides timeframe of the project, **chapter 19** provides the methodology for post implementation support, **chapter 20** mentions the requirement of Hardware and Licensed Software for the proposed systems and lastly **chapter 21** provides general terms and condition of the proposal.

# Workplains (Pvt) Ltd credentials for this project

(REMOVE) As a leading IT service provider for the Humanitarian Sector and specializing in Business Process Management, Workplains (Pvt) Ltd is able to meet the skill requirements of the RFP in full from its own in-house professional resources and capabilities.

As an experienced IT service provider for the Telecom Sector and specializing in Business Process Management, Workplains (Pvt) Ltd is able to meet the skill requirements of the RFP in full from its own in-house professional resources and capabilities.

Workplains Pvt. Limited has been in the IT Business since 2000. We are one of the few IT companies in Pakistan which are capable of providing total e-solutions to medium and large size organizations in public as well as in the private sectors.

Workplains has the experience working with the Telecom Sector predominantly for the (REVIEW) ================ (REMOVE) Social Welfare / Humanitarian organizations predominantly for the data handling through databases, workflows/processes, online assessments and dynamic live online reports. We understand your project needs and make our best effort to fulfill your requirements. Our resources are trained to handle (REVIEW) surveys, data entry forms, databases and have made enormous headways in bringing latest IT practices to the Social Welfare platform.

2. About Workplains

Established since 2000, Workplains has become one of the most successful and fastest growing BPM (Business Process Management) Company in Pakistan. Workplains’ success is based on its ability to meet the customers’ requirements.

Workplains Private Limited specialize in Business Process Management & Project Consultancy, Workplains is able to meet the skill requirements in full from its own in-house professional resources, which includes experts highly qualified by their background.

Workplains has proven track record of large scale Business Process Management assignments both for the public as well as in the private sector. We succeed where others struggle to survive.

Workplains has experience working in all sectors from private, public, defense and social sector. We understand your project needs and make our best effort to fulfill your requirements.

# 2.1. Core Business

## 2.1.1. Business Process & Information Management Consulting

Business Process, Information Management, and Project Management consultants at Workplains are highly exposed to industry “Best Practices” prevalent globally, as well as locally.

## 2.1.2. Business Application Solutions

Our expertise in the core business application space provides customer unmatched value from a single source. Our solutions for Enterprise Resource Planning, Procurement Management, Human Resource and Information Life Cycle Management provides customer benefits in the shape of increased revenue, reduced cost and improved efficiencies.

We have also completed number of projects focusing humanitarian assessments and its analysis in collaboration with the government and United Nations.

## 2.1.3. System Integration

Workplains is an information technology services company that enables software technologies for its clients to gain the highest strategic, financial, operational, and organizational benefits. It's our goal to enable companies to be more responsive, productive, and resilient through cross application and multi-vendor Infrastructure Integration.

## 2.1.4. Enterprise System Management

The dependency of Business on IT Systems is ever increasing. The consultants at Workplains help their customers to manage the Enterprise System Management.

# 2.2. Company Details

Workplains (Pvt.) Limited.

Suite # 7, Second Floor, Ahmed Centre, I-8 Markaz, Islamabad,

Tel: +92 51 4101288

Fax: +92 51 4101388

## 2.2.1. Company Profile

Operating in Pakistan since 2000

Annual Turnover: PKR 95 Million

Global Presence:

**United Kingdom**

**Pakistan**

**UAE**

Local Presence:

**Islamabad**

As of January 2014, Workplains Limited has over 120 employees working at its registered offices.

Workplains offers Business Process Management Software Suite along with high-level consultancy services offering state of the art solutions & support services for the same. Product and solutions which are offered are either from our international pool of alliances or are developed in-house depending upon the nature of the project and customer requirements.

3. Clients in Pakistan

List of major projects in value, size and nature are mentioned below:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sr. No. | Clients | Projects | Sectors | Value of Project in PKR (Million) |
| 1 | International Rescue Committee (IRC)  Partners: UNICEF, UN OCHA, WFP | IDP’s Vulnerability Assessment and Profiling Project  [www.ivap.org.pk](http://www.ivap.org.pk) | UN/INGO | 12.7 |
| 2 | International Rescue Committee (IRC)  Partners: UNICEF, UN OCHA, WFP | IDP’s Vulnerability Assessment and Profiling Project (Phase-II)  [www.ivap.org.pk](http://www.ivap.org.pk) | UN/INGO | 3.5 |
| 3 | UNHCR  Partners: PDMA (Sindh), | CCCM  [www.cccm.com.pk](http://www.cccm.com.pk) | Humanitarian | 14.0 |
| 4 | IOM | Humanitarian Communication - Information Management System (HComms IMS) | Humanitarian | 4.7 |
| 5 | IOM  Partners: IRC, NADRA, UNHCR | Watan II Information Management System | Humanitarian | 4.7 |
| 6 | DGDP – Ministry of Defense Production | DGDP e-office and IT Consultancy | Government | 2.7 |
| 7 | Ministry of Defense Production | e-office and IT Consultancy | Government | 6.4 |
| 8 | DEPO | BPM Consultancy | Government | 12.1 |
| 9 | Air Head Quarters | BPMS based e-procurement solution | Government | 9.7 |
| 10 | NesPak | BPM/Project Management | Government | 8.5 |
| 11 | Earthquake Rehabilitation and Reconstruction Authority (ERRA) | IT Consultancy | Government | 2.5 |
| 12 | IASCI | BPM/Project Management | Government | 1.8 |
| 13 | China Mobile (Zong) | BPM System (more than 50 processes) | Private | 15.5 |
| 14 | Paktel | BPMS System | Private | 4.2 |
| 15 | Instaphone | BPM System | Private | 3.2 |
| 16 | OMV | BPM System (more than 50 processes) | Private | 7.0 |
| 17 | Al Bahar Associates | Debt Collection | Private | 2.3 |
| 18 | Air Head Quarters | Technical Consultancy | Government | 3.0 |
| 19 | Internews | Assessment Survey Pakistan Floods 2010 recovery phase | Humanitarian | 4.0 |

4. Relevant Experience

Background

Software Development

Business Process Management

Mobile Application Development

Portal Development

Telecom Experience

Software outsourced services

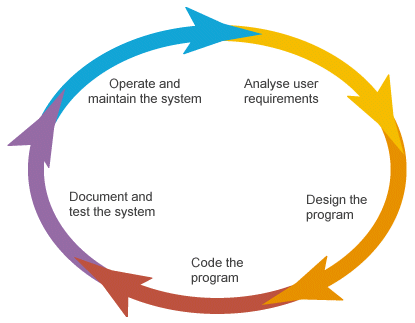
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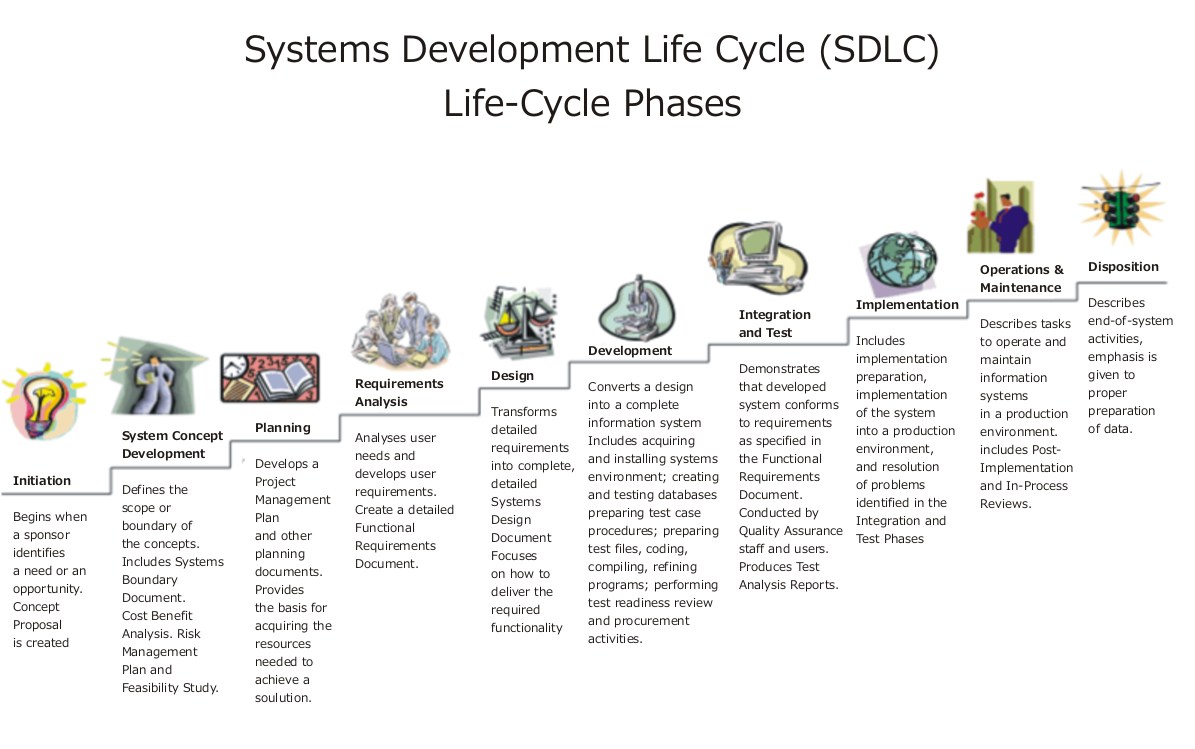
Consolidation of Existing Portals

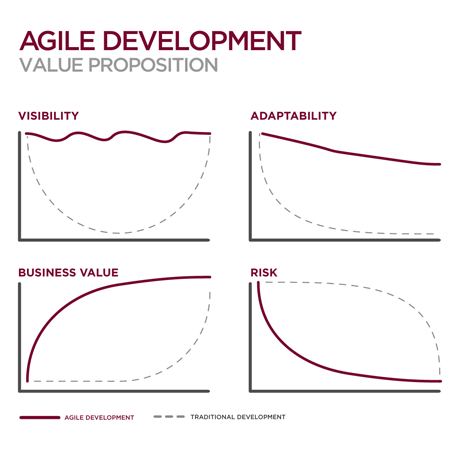
New requirements from Internal Department

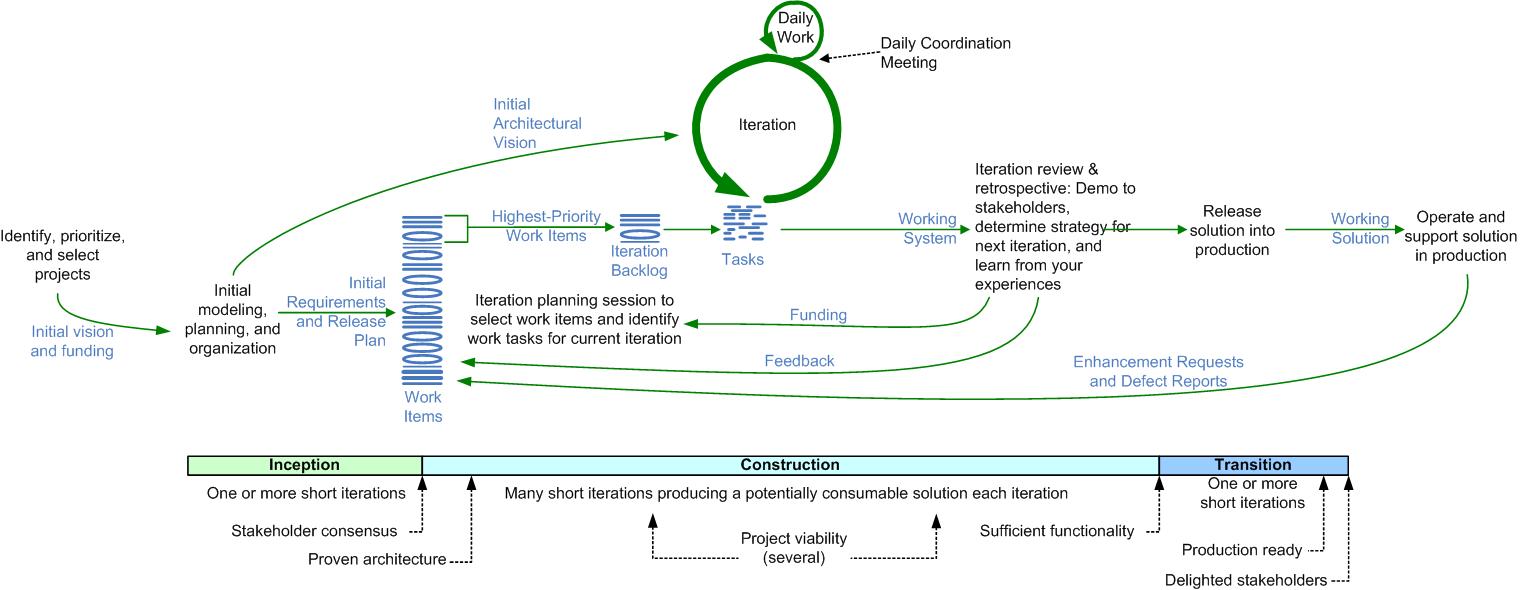
3G Applications

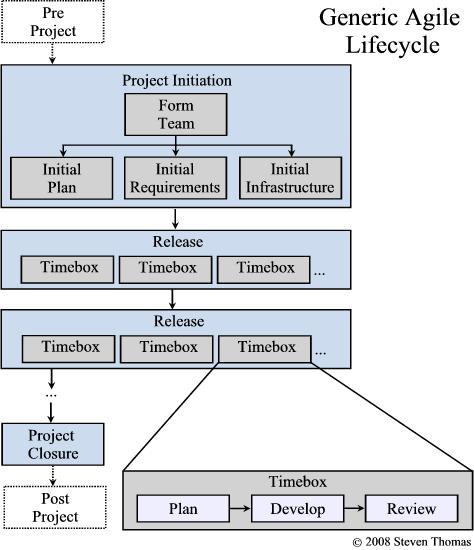
Project phases and life cycle











# Agile & Waterfall Methodologies – A Side-By-Side Comparison

There’s a saying that goes “there’s more than one way to skin a cat.” Fortunately for cats everywhere, we’re not going to skin one. We’re simply applying this logic to software development.

There are several ways to develop software, two of the most prominent methods being *Waterfall and Agile*. And as anytime there are two ways to go about something, a debate rages about which is best. Does it matter really? Doesn’t either way give you a product (or, well, a skinned cat)?

## ****What is the waterfall methodology?****

Much like construction and manufacturing workflows, waterfall methodology is a sequential design process. This means that as each of the eight stages (conception, initiation, analysis, design, construction, testing, implementation, and maintenance) are completed, the developers move on to the next step.

As this process is sequential, once a step has been completed, *developers can’t go back to a previous step* – not without scratching the whole project and starting from the beginning. There’s no room for change or error, so a project outcome and an extensive plan must be set in the beginning and then followed carefully.

## ****Advantages of the Waterfall Methodology****

1. The waterfall methodology stresses meticulous record keeping. Having such records allows for the ability to improve upon the existing program in the future.

2. With the waterfall methodology, the client knows what to expect. They’ll have an idea of the size, cost, and timeline for the project. They’ll have a definite idea of what their program will do in the end.

3. In the case of employee turnover, waterfall’s strong documentation allows for minimal project impact.

## ****Disadvantages of the Waterfall Methodology****

1. Once a step has been completed, developers can’t go back to a previous stage and make changes.

2. Waterfall methodology relies heavily on initial requirements. However, if these requirements are faulty in any manner, the project is doomed.

3. If a requirement error is found, or a change needs to be made, the project has to start from the beginning with all new code.

4. The whole product is only tested at the end. If bugs are written early, but discovered late, their existence may have affected how other code was written.

Additionally, the temptation to delay thorough testing is often very high, as these delays allow short-term wins of staying on-schedule.

5. The plan doesn’t take into account a client’s evolving needs. If the client realizes that they need more than they initially thought, and demand change, the project will come in late and impact budget.

## ****When should you use waterfall methodology?****

1. When there is a clear picture of what the final product should be.

2. When clients won’t have the ability to change the scope of the project once it has begun.

3. When definition, not speed, is key to success.

## ****What is Agile?****

Agile came about as a “solution” to the disadvantages of the waterfall methodology. Instead of a sequential design process, the Agile methodology follows an incremental approach.

Developers start off with a simplistic project design, and then begin to work on small modules. The work on these modules is done in weekly or monthly sprints, and at the end of each sprint, project priorities are evaluated and tests are run. These sprints allow for bugs to be discovered, and customer feedback to be incorporated into the design before the next sprint is run.

The process, with its lack of initial design and steps, is often criticized for its collaborative nature that focuses on principles rather than process.

## ****Advantages of the Agile Methodology****

1. The Agile methodology allows for changes to be made after the initial planning. Re-writes to the program, as the client decides to make changes, are expected.

2. Because the Agile methodology allows you to make changes, it’s easier to add features that will keep you up to date with the latest developments in your industry.

3. At the end of each sprint, project priorities are evaluated. This allows clients to add their feedback so that they ultimately get the product they desire.

4. The testing at the end of each sprint ensures that the bugs are caught and taken care of in the development cycle. They won’t be found at the end.

5. Because the products are tested so thoroughly with Agile, the product could be launched at the end of any cycle. As a result, it’s more likely to reach its launch date.

## ****Disadvantages of Agile Methodology****

1. With a less successful project manager, the project can become a series of code sprints. If this happens, the project is likely to come in late and over budget.

2. As the initial project doesn’t have a definitive plan, the final product can be grossly different than what was initially intended.

## ****When should you use Agile methodology?****

1. When rapid production is more important than the quality of the product.

2. When clients will be able to chance the scope of the project.

3. When there isn’t a clear picture of what the final product should look like.

4. When you have skilled developers who are adaptable and able to think independently.

5. When the product is intended for an industry with rapidly changing standards.

(REMOVE) Both the Agile and waterfall methodologies have their strengths and weaknesses. The key to deciding which is right for you comes down to the context of the project. Is it going to be changing rapidly? If so, choose Agile. Do you know exactly what you need? Good. Then may be waterfall is the better option. Or better yet? Consider taking aspects of both methodologies and combining them in order to make the best possible software development process for your project.

(REVIEW) Both the Agile and waterfall methodologies have their strengths and weaknesses. The key to deciding which is right for us comes down to the context of the project. As per RFP (Software Release Model), Workplains will follow “Agile Development Cycle” but before commencing work we will decide mutually the model according to the nature of project.

15. Capabilities

# Project Management

# Software Release Model

# Application Design

# Platform up gradation

# Concurrent User Environment

# Quality of the System

# Security

# Software Documentation and deliverable

# Training

# Transfer of Technology to CMPak

# Service Management

Competencies

Web / Desktop Development

Mobile Application Development

# 15.1. Project Planning and Initiation

Before starting the project, Workplains will perform the following activities and prepare a report on Project Planning and Initiation:

* Prepare project charter
* Assemble project team
* Identify project steering committee
* Project kick-off

The project Planning and Initiation report may include the detail on followings:

* Project Overview
  + Purpose, Scope, and Objectives
  + Assumptions and Constraints
  + Project Deliverables
  + Evolution of the Plan
  + References
  + Definitions and Acronyms
* Project Organization
  + External Interfaces
  + Internal Structure
  + Roles and Responsibilities
  + Stakeholder Analysis
  + Steering Committee
* Managerial Process Plans
  + Start-up Plan
    - Estimates
    - Staffing
    - Resource Acquisition
    - Project Staff Training
  + Work Plan
    - Work Breakdown Structure
    - Resource Allocation
  + Project Tracking Plan
    - Requirements Management
    - Schedule Control
    - Quality Control
    - Reporting
  + Risk Management Plan
  + Project Closeout Plan

# 15.2. System Requirement Study/Gap Analysts, Need Assessment and Risk Analysis

Workplains will conduct a detailed gap analysis between proposed system and that currently in practice. This study may include

* General Description
* Product Perspective
* Product Functions
* User Characteristics
* General Constraints
* Assumptions And Dependencies
* Specific Requirements
  + External Interface Requirements
  + User Interfaces
  + Hardware Interfaces
  + Software Interfaces
  + Communications Interfaces
* Functional Requirements
* Gap Analysis With Existing System
* Quantitative and Qualitative Analysis of Existing data
  + Migration Plan
* Make Risk Analysis and Mitigation Strategy
* Use Cases
* Non-Functional Requirements
  + Performance
  + Reliability
  + Availability
  + Security
  + Maintainability
  + Portability
* Design Constraints
* Logical Database Requirements
* Other Requirements
* Analysis Models
  + Sequence Diagrams
  + Data Flow Diagrams (DFD)
  + State-Transition Diagrams (STD)
* Change Management Process
* Finalizing Software Requirement Specification (SRS)

All the new changes and requests after the approval SRS will require a change control process and if impact of new change is high then decision from project steering committee may be needed. Template for change control request is attached Annexure-K.

# 15.3. System Design

After finalization of SRS document, System Design document will be prepared which may include the following:

* Entity Relationship Diagram (ERD) based on the SRS & Gap document
* Data flows Diagrams (DFDs) & data dictionary
* Object Model diagram
* Prepare and finalize System Design document (SOD) for approval
* Propose Deployment Strategy

# 15.4. Information Security:

(REVIEW) Standards ISO 27001 and BS 7799-3: 2006 will be followed for the development of CSP Management Information System and other automation modules. All dimensions of the security will be addressed during the Software Development Lifecycle. Workplains would recommend the following vulnerabilities checklist to ensure the Information Security during SDLC:

### 15.4.1. Controls over data handling

* Are inventories kept up-to-date?
* Is there an inventory for physical media, especially those that may contain sensitive corporate data?
* Can an authorized user simply put a diskette in his or her pocket and walk out of the building? How is paper eliminated from the office space?
* Are shredders used to make removal of sensitive documents from trash cans more difficult?

### 15.4.2. Weak or missing physical controls

* Are key elements of a network located in a shared location?
* Does the organization require employee identification badges to be worn?
* More importantly, if employees notice someone walking around the building without a badge, are they trained to question the person or bring his or her presence to someone's attention?

### 15.4.3. Inadequate procedural controls

Clear, concise, written procedures can help to eliminate confusion over specific processes and to ensure that management security objectives are implemented. They can also help to fill voids when trained personnel leave the company or move to other positions. The problem is that many people do not like to write down procedures, and many descriptions are written without the procedures being fully implemented.

### 15.4.4. Programming practices

For years the practice of writing backdoors into software programs to enable programmers to enter and fix problems later has been followed. This practice creates two major problems. First, programmers sometimes forget to remove these backdoors prior to code being shipped. Second, backdoors are an avenue that many would-be attackers search for and like to use to gain unauthorized access to systems. Software programs need to be written with security as part of the foundation, which includes the use of sound programming practices.

### 15.4.5. Operating system weaknesses

The biggest security challenge for most system administrators is keeping up with the latest patches for operating systems. This is a real challenge for software vendors as well, because resource-sharing functions typically contradict the security requirements. Therefore, a tradeoff is typically made to try and balance the two. Operating systems need to be hardened before being placed on production systems. Once they become operational, system administrators need to remain vigilant, watching for new vulnerabilities and patches as they may be discovered. Teamwork between system administrators, the security community, and vendors is the best way to guard against operating system weaknesses.

# 15.5. Search Capability

A Comprehensive search utility will be provided throughout the system which will ensure role and user-access based search of content

# 15.6. Integration

Architecture of the solution and corresponding technologies will ensure integration with legacy systems as and when the need arises. System will be capable of integration with any open architecture system.

# 15.7. Automatic Notifications and Triggers

System will generate notifications and triggers to be sent to users based on process flow and user roles.

# 15.8. Audit Trail

System will be able to keep track of any kind of even crop up in the system, i.e., insertion, deletion, updating, approvals etc. System will also be able to track the user and machines from where the event transpires. No data will be deleted physically from the database.

# 15.9. Portability of Solution

Server will base on .NET Windows technologies. Therefore server must reside on Windows Server series. All the end user application will be developed as web/browser based therefore the client end will be compatible with all prevalent platforms including Linux, Apple MAC, UNIX, Sun Solaris etc. with all the popular web browsers.

# 15.10. Integration, Expansion & Scalability

CSP-MIS will be designed to be scalable for any expansions in the software that might be necessary in the future as the system expands. Due to the Workplains workflow/BPM suites modularized approach, the solution will be able to integrate the new modules with relative ease.

# 15.11. Documentations

Following documents will be provided for the developed application in each phase:

* Users Manuals
* System Administration
* DBA Guide
* Application and database setup user guide

# 15.12. Performance requirements

CSP-MIS performance will be able to produce availability, speed, accuracy, reliability in proposed working hours for about 500 users at a time with extensive data sharing and live data update and information retrieval. Web based system will provide ultimate response time for operations to be supported.

# 15.13. Safety requirements

CSP-MIS will be designed to identify the hazard, assess the risk associated with the hazard, control the risk, review the process which are possible loss, damage, or harm to data, information and structure. Proper user and group policies will be implemented at software level.

# 5.14. Security requirements

CSP-MIS software will be integrated with security barrier and firewalls so that any accidental or malicious access, use, modification, destruction, or disclosure may not be possible by any intruder as all data is highly classified and restricted in nature .The integrity or privacy of system as well as data must be adhered through logical checks . Issues that affect the use of the product and protection of the data used or created by the product. Utilize certain crypto graphical techniques (SSL) will be recommended.

# 15.15. Technical Training of all the Concerned Tools and Technologies

This includes (development level & automated testing level) training of technical staff in all the tools and technologies relevant to the project. The provision of training material and technical documentation (hard copies) is the responsibility of PBM.

We will undertake different training sessions in all phases to make the end users, solution administrators and system administrators understand not only the day to day work they will be involved in. The different processes involved will be

* Technical Training to End Users l Technical People.
* Operational training for End Users.
* Training to Higher Management
* Training manuals
* Computer Based Training (CBT) for end user.

# 15.16. End User Training Sessions and Tutorials

PBM will also arrange the classroom training for the end users at its own premises. This type of training will be conducted after the Implementation of the project so user should be familiar with the application. The courses are listed below

* The layout of the application.
* The application workflow.
* Module descriptions and functionality.
* How to achieve a desired objective in the application.
* Problem resolution.

# 15.17. Software after Complete Testing and Bug-Fixing

We will deliver the fully functional software along with complete & executable Source Code of the solutions after removing bugs/defects, successful testing and up-gradation.

# 15.18. Disaster Recovery Strategy

We will provide disaster recovery strategy to overcome the disasters and to continue the operation without inconsistency.

# 15.19. Project Management and Reporting

A Project Manager will be designated from Workplains for this project who will report to the PBM designated officer(s). This person will be the primary contact for the Project and will be responsible for ensuring timely completion of deliverables, oversee project implementation, manage the technical support during configuration and implementation, manage and coordinate the implementation of system changes, conduct fortnightly meetings and address any other concerns or issues the Project may have.

During the status meetings, the Project Manager will share the progress of the project on the following lines:

* Status of deliverables.
* Problem faced or delays occurred along with the causes and solutions.
* Status of requested changes.
* Provision of updated statistics on the key performance indicators as agreed.

Template for project status report is attached at Annexure-J.

# 15.20. Tools and Technologies

Following tools and technologies will be used for the development of CMPak components:

* (REVIEW) Microsoft Visual Studio 2010
  + C#
  + ASP.NET
  + AJAX / JQuery
* .NET Framework 3.5/4.0
* Microsoft SQL Server 2005/2008
* Telerik Reporting (if needed)
* Google Maps
* Microsoft Office 2007

These will be described in detail in SRS document.

16. Production Environment

The detail requirement of Hardware and Software will be assessed in the first phase, during the requirement analysis, of the project.

Following items should be required for the execution of proposed IT system:

* (REVIEW) Server Machines (For both database and application)
* Server Operating System
* Online Hosting platform / Server Room
* Licensed Database Software
* Anti-Virus / Security Tool
* Workstation Computers
* Internet Services

# 16.1. Hardware Requirements:

## 16.1.1. Server Machines

Minimum 4 server machines would be required:

1. (REVIEW) Database Server
2. Application Server
3. Domain Server
4. Mail Server

## 16.1.2. Recommended Specification of Server Machines

(REVIEW) PROCESSOR: **INTEL PROCESSOR XEON 3.2GHZx2**

CHIPSET: **INTEL CHIPSET E7520**

FORM FACTOR **2U RACK HIEGHT**

MEMORY: **4GB ECC DDR2 RAM**

HARD DRIVE: **1 TB x 2 and Backup Drive**

VIDEO: **ATI RADEON 7000M**

NETWORK INTERFACE: **DUAL EMBEDDED INTEL GIGABIT NICs**

OPTICAL DRIVE: **DVD-ROM**

POWER SUPPLY: **700 WATTS**

## 16.1.3. Server Room Components

1. (REVIEW) Server Rack
2. KVM Switch
3. Cisco ASA 5500 Series Firewall
4. Cisco 2600 Router

## 16.1.4. Workstation Machines

Workstation machines would be required for each user. Following are the minimum hardware specification for the workstation machines:

(REVIEW) PROCESSOR: **INTEL Dual Core 2.0 MHz (or above)**

CHIPSET: **INTEL MOTHERBOARD CHIPSET**

MEMORY: **512 MB RAM (or above)**

HARD DRIVE: **80 GB**

SUPPORTED: **IDE/SATA/SCSI**

OPTICAL DRIVE: **OPTIONAL**

## 16.1.5. Printers and Scanners

(REVIEW) 1 scanner and 1 printer are recommended for each office.

* Network printers would be required for the printing of reports and documents.
* Heavy Duty scanners would be required for the scanning of important documents.

# 16.2. Software Requirements (OS, Databases, Licensed Software):

(REVIEW) Workflow/ BPM Suite and PMS have been tested for the following software applications:

## 16.2.1. Databases:

(REVIEW) Workplains Workflow/ BPM Suite supports following databases.

* + SQL Server 2005/2008

## 16.2.2. Server Operating System (For Database and Applications)

(REVIEW) Microsoft Windows 2003/2008 Enterprise Server

|  |  |
| --- | --- |
|  | **Recommended** |
| **Operating System** | (REVIEW) Windows 2008 Enterprise Server |
| **Service Pack** | Latest |
| **Internet Information Server** | IIS 6.0 |
| **Internet Explorer** | Latest |
| **Microsoft Office** | Office 2007 |
| **Latest Security Patch and Latest Updates** | Strongly Recommended |

## 16.2.3. Workstation Client Machines

|  |  |
| --- | --- |
|  | **Recommended** |
| **Operating System** | (REVIEW) Microsoft Windows 7 Ultimate,  Microsoft Windows XP Professional |
| **Service Pack** | Latest |
| **Browser** | Latest Internet Explorer |
| **Microsoft Office** | Office 2007 |
| **Latest Security Patch** | Strongly Recommended |

# 16.3. System Compatibility with other software

* (REVIEW) Microsoft Exchange Server
* Microsoft Office 2003 / 2007 / 2010
* Microsoft InfoPath, Microsoft Visio, Microsoft Project
* Microsoft Internet Explorer 8.0 and above
* Google Chrome and Mozilla Firefox
* Microsoft Share point Portal Server
* Microsoft BizTalk Server
* Supporting Email Protocols (SMTP/POP3/MAPI)
* Supporting Internet Protocols HTTP/HTTPS (SSL 128bit Encryption)
* Microsoft SQL Server 7.0 / 2000 / 2005 / 2008
* Oracle 10g / 9i / 8i
* Crystal Reports
* Telerik Reporting

# 16.4. Recommendations for Network

The computer network is the back bone of all data transfer between the users. It is recommended that following steps are ensured to better manage the network and making it secure at the same time once the software is installed and ready for mass deployment.

## (REVIEW) 16.4.1. Network/IT Policy:

It is highly recommended that a detailed IT/Network policy is implemented at the earliest to secure the network against viruses and intruders. Network Policy is also essential to establish a rule based environment of users to ensure that indented computer network or computers are used as per the desire of the higher management. This will minimize use of unauthorized software and minimize misuse of computers. Network/IT Policy should cover the following:

* Network Security issues are pointed out and implementation plan for new security measures are listed covering all areas from software security to hardware and physical security.
* Rules are listed for users according to privileges. This can be done by ensuring that different users groups are created with a view to privileges.
* It is important to list Internet and email rules with a view to secure the network from intruders and sharing of confidential data. Define a baseline level of Network security for any internet – facing computers in the perimeter network. PBM can install different software’s to manage internet on the same network while making it secure by using different proxy servers. Microsoft ISA server is recommended for this role and can be implemented by Workplains system administrator if required.
* General hardware handling points should also be listed in the policy which will ensure computers are kept in good condition and used in proper manner. All computers should be sealed with stickers to ensure computers are not opened manually by users.
* Staff training should also be made part of the policy and ensured that all staff trained to the minimum level.

## (REVIEW) 16.4.2. Operating System Security Measures

It is noted during the study that almost all the domain controller servers installed at PBM configured on default security settings. This poses a large security risk and a potential financial loss for the entire organization. The impact of a malicious attacker or virus could result in a denial of service (DoS) attack, which would make certain servers or machines are unavailable for use to the users. In the worst case, such an attack could compromise confidential information. It is vital that security measures are taken to ensure due to these security issues is not compromised in any way. Workplains recommend the following to minimize the security risk:

* The computers running Microsoft® Windows Server™ 2000/2003/2008 should be secured to the highest possible level, while maintaining a balance of usability based on the client operating systems and other applications in the environment. All of the critical server roles in the organization should be addressed in a manner that has been thoroughly tested, is easy to deploy and operate in the long term, and is supportable by Microsoft and other application vendors.
* In order to implement the appropriate security settings for operating system/network, the responsibilities and usage patterns of user groups within the enterprise should be defined keeping in view future expansion of the network and other development plan. Recommended Network administration/user groups structure is as follows:

## 16.4.3. Domain Administrators:

A domain administration group that is primarily responsible for directory services.

## 16.4.4. Forest Administrators:

The forest administrator is responsible for choosing the group to administer each domain. Because of the high – level access granted to the administrator for each domain, these administrators should be highly trusted individuals. The group performing domain administration controls the domains through the Domain Admin group and other built – in groups.

## 16.4.5. DNS Administrators:

The Domain Name System (DNS) administrator group is responsible for completing the DNS design and managing the DNS infrastructure. The DNS administrator manages the DNS infrastructure through the DNS Admin group.

## 16.4.6. OU Administrators:

The organizational unit (OU) administrator designates a group or individual as a manager for each OU. Each OU administrator is responsible for managing the data stored within the assigned Microsoft Active Directory® OU. These groups can control how administration is delegated, and how policy is applied to objects within their OU. In addition, OU administrators can also create new sub trees and delegate administration of the OU for which they are responsible.

## 16.4.7. Infrastructure Server Administrators:

The group responsible for infrastructure server administration is responsible for managing the Windows Internet Name Service (WINS), Dynamic Host Configuration Protocol (DHCP), and potentially the DNS infrastructure. In many cases, the group handling domain management will manage the DNS infrastructure because Active Directory is integrated with DNS and is stored and managed on the domain controllers.

## 16.4.8. IT Operations:

IT Operations is the group responsible for the ongoing maintenance of the environment. They may be responsible for critical details such as backup and recovery, monitoring and auditing, intrusion detection, or, in some cases, end – user support.

## 16.4.9. Business Unit Owners (Data Administrators):

Data Administrators are responsible for managing data stored in Active Directory or on computers joined to Active Directory. These administrators have no control over the configuration or delivery of the directory service. These may be individuals responsible for ensuring certain functionality or core business services — such as internal or external Web servers or accounting applications — are functioning and accessible.

## 16.4.10. **Important Security measures**

All server roles should be secured in a least privilege manner.

* Minimum list of services for the machine to perform its dedicated function should be enabled.
* A baseline policy will be created that disables all unnecessary services. Manual effort should be required to create a server role policy that enables any services that could have a negative impact on the machine's security.
* All machines will be protected from common Transmission Control Protocol/Internet Protocol (TCP/IP) DoS attacks.
* Network traffic should be protected without resulting in an impact on server performance or functionality.
* Users should be able to log on with a minimal impact on their experience.
* Domain Controllers should continue to replicate Active Directory information with no impact.
* Domain Controller File Replication should not be impacted.
* Name services continue to operate as expected.
* Unauthorized users should not be allowed to enumerate DNS information.
* DNS pollution, or DNS poisoning, Will be prevented.
* Unauthorized users should not be able to enumerate user accounts or shares on machines.
* Clients should continue to be able to receive a DHCP address.
* Clients should continue to be able to access file shares.
* File shares should be able to be published in Active Directory.
* Users should continue to be able to print and view print queues.
* Users should continue to be able to access IIS servers using http or https.
* NetBIOS traffic should be minimized.
* Monitoring capabilities should continue to function properly.
* Complex passwords should be implemented.
* The local accounts on all servers should be secured.
* Services should be configured to run with the least necessary privilege.
* Terminal Services should be utilized for all server based management functionality.

## 16.4.11. Network Administration

One system administrator dedicated to IT computer network at all times to ensure that Network/IT Policy is being implemented and no threads are visible to sensitive organizational data.

It is also recommended that all system administrators must document their network in proper manner i.e. using different form and templates to gather information about the network.

Shown under is basic form that can be used as template to ensure that information regarding users and their operating system is available with the system administrator at all time.

17. Staff Assigned to the Project

# (REVIEW) 17.1. Project Manager

**Bilal Manzoor**

**Designation in the company** Sr. Project Manager

**Role assigned in this project** Project Manager, Business Analyst

**Email**  [bilal.manzoor@workplains.com](mailto:bilal.manzoor@workplains.com)

**Mobile**  +92-300-5349404

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**Degree** MS (Project Management)

**Institution Name** SZABIST Islamabad

**Degree** M.Sc. (Computer Sciences)

**Institution Name** Quaid-i-Azam University Islamabad

Goal Driven Senior Project Manager with Broad IT 13 years’ experience in Fast-Paced, High Tech environment, expertise in Research, Product Development, Product Analysis, Design Architectures, Project Scheduling, Quality Management, Team Building, Support and Trouble Shooting. Effective in utilizing resources, increase quality and reduce cost.

**Experience:**

**Total IT Experience (Yrs): 15+**

**Company Name Workplains *(August 2010 – Present)***

**Designation** **/ Position** ManagerProjects

**Job Description:**

He is responsible for the successful planning, execution, monitoring, and control till the closure of the IT projects.

**Current Assignments: (as Project Manager)**

* HComms
* IVAP – IDPs Vulnerability Assessment and Profiling
* CCCM – Camps Coordination & Camps Management
* CARD System
* Assessment Libya (www.assessmentlibya.org):
* Procurement Management System and Automation of DP Navy:

**Company Name Electronic Government Directorate, Islamabad *(December 2006 – August 2010)***

**Designation** **/ Position** BPR Specialist

**Job Description:**

His primary duties at EGD included the study and analyze the Business Processes of different departments of Federal Government and carried out the researches regarding the execution of efficient and effective Business Processes similar to Processes of Government of Pakistan.

**Major Assignments:**

* Consultancy for Business Process Reengineering of Government of Pakistan’s Business Processes:
* Research on Business Process Modeling Tools:
* Consultancy for Welfare Services (Zakat):
* Consultancy of E-Procurement:
* E-Enablement of Establishment Division:
* Provision of e-Services at CDA, Islamabad:
* E-Enablement of Majlis-e-Shoora (National Assembly & Senate) for Facilitation of Parliamentarians: Consultancy for Formulating Projects for Online Services:
* Research and Analysis on implementation of “Tejari System” in Government of Pakistan:
* Development of PC-I for “E-Enablement of FIA”:
* Development of PC-I for “E-Office (Basic Common Applications) Replication at all Divisions of the Federal Government”:
* E-Office Replication at Finance Division (Pilot Stage):
* Research on E-Office/ERP implementation in Other Countries:
* Process Study - Sui Southern Gas Company and Hinopak Motors Limited, Karachi: Miscellaneous Assignments:
* Developed TORs & SOW for Consultancy for Welfare Services (Zakat)
* Developed Concept Paper for Pakistan Engineering Council (PEC)
* Developed TORs for Health Welfare Services
* Reviewed PC-I “Computerization of Counters” for Ministry of Postal Services
* Developed IT Operation Model for National Coordination Committee (NCC)
* Developed IT Operation Model for National Aligns Registration Authority (NARA)
* Developed IT Operation Model for Pakistan Institute of Parliamentary Services (PIPS)
* Research Paper on “Solution for Online Payments in Pakistan

**Company Name Workplains Pvt Ltd**

**(November 2002 – December 2006)**

**Designation** **/ Position** Development Manager

**Job Description** His main responsibility containing Management of BPM Product Development, Product Analysis, Architectural Design, Project Scheduling, Quality Management, Team Building, Support and Trouble Shooting. He developed a BPM product using Microsoft Latest Development Technologies including .NET. He worked on many other projects including Fatima Jinnah Examination System, Procurement system for Astra CMG Jakarta Indonesia, DGDP E-Office for Directorate General Defense Purchase, System Analysis for Ministry of Defense Production, System Analysis of Procurement system of Paktel and many more.

**Company Name Neonet Solutions**

**(November 2000 – November 2002)**

**Designation** **/ Position** Team Lead

**Job Description** He was involved in Initial Research, Analysis and Architectural Design of Biznetflow Suite. Responsible for Road maps, team building and time scheduling. Using Microsoft COM/COM+ technology he successfully managed and developed a comprehensive Workflow product within two years.

**Company Name Ultimus Pakistan**

**(October 1998 – November 2000)**

**Designation** **/ Position** Software Engineer

**Job Description** Started from Quality Control and Customer Support department and then promoted to Software Development department as Software Engineer. Here worked on many projects including Ultimus FloPro Examination System, Ultimus Reports and Localization of Ultimus Workflow Suite.

# 17.1. Project Manager

**Syed Waqas Shabir**

# 17.2. Sr. Software Developer

**Muhammad Asghar**

**Designation in the company** Sr. Software Engineer

**Role assigned in this project** System Analyst

**Email**  [muhammad.asghar@workplains.com](mailto:muhammad.asghar@workplains.com)

**Mobile**  +92 312 5091760

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**Degree** BS (CS)

**Year**  2002 - 2006

**Institution Name** Allama Iqbal Open University H-8 Islamabad

**Major/Minor** Computer Sciences

**Division/GPA** 1st Division

**Total IT Experience (Yrs):** 8 Years

**Company Name Workplains (May 2006 – Present)**

**Designation** **/ Position** Sr. Software Engineer

**Responsibilities include**

* Research on new technologies for new projects
* Proposing a better technology for the project
* Ensuring compliance with the established procedures
* Involvement in the Full Project Life Cycle
* Meeting the deadlines over deliverables
* Software Development and Database Design
* Involvement with Customer; sorting out issues and problems
* Communication and coordinating with team leader and development team members

**Major Assignments as Software Engineer**

* Business Process Management
* Business Process Reengineering System
* Organization Unit System
* [ERRA](http://www.erra.pk/) Reconstruction System 2006
* [ERRA](http://www.erra.pk/) House Hold System 2006
* NESPAK Construction and Rehabilitation System 2007 - 2008
* OMV Rest House Booking System 2009
* CMPak (Zong) Purchase Requisition System 2009
* OMV Leave Application System 2009
* CMPak (Zong) Leave Application System 2009
* CMPak (Zong) New Employee Setup System 2009
* PAKTEL Work Order System 2008
* Pakistan Air Force Posting System 2008
* Pakistan Army, Navy, Air Procurement System 2008 - 2010
* UNHCR, PDMA Internally Displaced Persons Vulnerability Assessment & Profiling System (<http://ivap.org.pk/>) 2010 - 2011
* UNHCR, PDMA Sindh Camp Coordination & Camp Management System (<http://cccm.com.pk/>) 2010 - 2011
* UNHCR, PDMA Sindh Village Coordination & Village Management System (<http://cccm.com.pk/>) 2010 - 2011
* Pakistan Air Force E-Procurement System
* Pakistan Army, Navy Budget System
* Pakistan Ministry of defense production E-office System
* Pakistan Ministry of defense production Budget System
* Pakistan Ministry of defense production Website (<http://www.dgdp.gov.pk>)
* Pakistan Ministry Of Defense Production Company Registration System
* Pakistan Ministry Of Defense Production Internal Office Note System
* Pakistan Ministry Of Defense Production File Tracking System
* OMV Equipment Failure System

# CVs of

Nabil Manzoor

Zahid Mustafa

Usama Javed

Tayyab Amin

Mohsin Asif

18. Project Life Cycle

21. General Terms and Conditions

The following basic principles would govern this assignment:

WORKPLAINS and the Humanitarian Organization would have access to confidential information made available by the other; each shall protect such confidential information in the same manner as it would protect its own confidential information of like kind.

CONFIDENTIAL INFORMATION

(A) DEFINITION. "Confidential Information" means all information related to the business of the disclosing party that may be obtained by the receiving party from any source as a result of this Agreement, provided that if written, the information is marked as proprietary or confidential, and if oral, shall be followed by a written summary of such oral communication within fifteen (15) days of the date of disclosure. Confidential Information includes (but is not limited to) source code, algorithms, concepts, pricing information, business methods, business and technical plans, research and test results, including the results of any performance or benchmark tests or demonstration of the Software.

(B) EXCEPTIONS. Confidential Information does not include information that the receiving party can demonstrate (i) is or becomes publicly available through no act or omission of the receiving party; (ii) the disclosing party discloses to a third party without restriction on further disclosure; (iii) is rightfully disclosed to the receiving party by a third party without restriction on disclosure; (iv) is independently developed by the receiving party without access to the disclosing party's Confidential Information; (v) is previously known to the receiving party without nondisclosure obligations; and (vi) is required to be disclosed pursuant to any court order provided that the receiving party shall advise the disclosing party of such request in time for the disclosing party to apply for legal protection.

(C) NONDISCLOSURE OBLIGATION. Each party agrees that it will not disclose to any third party any Confidential Information belonging to the other party without the other party's prior written consent. Each party agrees that it will not use the Confidential Information of the other party except as authorized in the Agreement. Each party further agrees that it will maintain the confidentiality of all Confidential Information of the other party and prevent the unauthorized disclosure or use of any Confidential Information by its clients, customers, employees, subcontractors or representatives. Each party further agrees to notify the other in writing of any misuse or misappropriation of the other party's Confidential Information that may come to its attention.

Upon final payment, Humanitarian Organization shall have a perpetual, non-transferable license to use, copy, and prepare derivative works for purposes of your internal business the deliverable items developed in the course of this engagement, whether jointly or individually. All other rights in the deliverable items and related intellectual property rights remain in and/or are assigned to us. Subject to our obligations of confidentiality, each of us shall be free to use the concepts, techniques, and know-how used and developed in the project. In any event, we shall continue to be free to perform similar services for our other clients using our general knowledge, skills, and experience. We warrant that our services will be performed in a professional and workman like manner in accordance with applicable professional standards, and we will re-perform any work not in compliance with this warranty brought to our attention within thirty days after the work is performed. However, we do not warrant, nor will we be responsible for, the performance of any third-party products or services. Your sole and exclusive rights and remedies with respect to any third-party products and services, including rights and remedies in the event a third-party product or

service gives rise to an infringement claim, will be against the third-party vendor or service provider and not against us. We do agree, however, to assign to you any assignable warranties we may receive from any such third-party vendor. In the event we are asked to re-perform any work and it is determined that we have already met our obligations under this paragraph, you agree to pay us on a time and materials basis at our standard rates for time spent on such additional work.

THE PRECEDING IS OUR ONLY WARRANTY CONCERNING THE SERVICES AND ANY WORK PRODUCT, AND IS MADE EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES AND REPRESENTATIONS, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, OR OTHERWISE.

To allow us to be able to manage our participation in the project most effectively, we reserve the right to determine the personnel to perform the work although we will attempt to honor your requests for specific individuals. For the duration of this agreement and for a period of two years after the services are completed, you agree not to employ or solicit the employment of any WORKPLAINS personnel who performed services under this arrangement.

WORKPLAINS’s maximum liability relating to services rendered under this proposal (regardless of form of action, whether in contract, negligence, or otherwise) shall be limited to the charges paid to WORKPLAINS for the portion of its services or work products giving rise to liability. Neither of us will be liable for consequential or punitive damages (including lost profits or savings) even if are aware of their possible existence.

We will indemnify you against any damage or expense relating to bodily injury or death of any person or damage to real and/or tangible personal property incurred while we are performing our services and to the extent caused by the negligent or willful acts or omissions of our personnel or agents in performing the services under this arrangement.

You will indemnify us against any damage or expense that may result from any third-party claim relating to our services or any use by you of any work product, and you will reimburse us for all expenses (including counsel fees) as incurred by us in connection with any such claim, except to the extent such claim, (i) is finally determined to have resulted from our gross negligence or willful misconduct or (ii) is covered by any of the preceding indemnities.

To receive any of the foregoing indemnities, the party seeking indemnification must notify the other promptly that a suit has been brought, must provide reasonable cooperation (at the indemnifying party's expense) and full authority to defend or settle the claim or suit. Neither party will be required to indemnify the other under any settlement made without its consent. This Section shall survive termination of this arrangement.

Either party may, upon giving thirty (30) days written notice identifying specifically the basis for such notice, terminate this arrangement for breach of a material term or condition of this arrangement, provided the breaching party shall not have cured such breach within the thirty (30) day period. In the event of such termination, you shall pay us for all services rendered and expenses incurred by us prior to the date of termination.

Neither of us shall be liable for any delays or failures to perform due to causes beyond our control.

This proposal sets forth terms of agreement between WORKPLAINS and the Humanitarian Organization supersedes all previous discussions and communications leading to the proposed arrangement.

The Agreement shall be governed by and construed in accordance with Pakistani law and the parties irrevocably submit to the exclusive jurisdiction of the Pakistani courts to settle any disputes that may arise out of or in connection with this arrangement.

22. Conclusion

In conclusion, we very much appreciate the opportunity to be of service to the (REVIEW) Pakistan Bait-ul-Mal and look forward to working with you. You can be assured that this assignment would receive our best attention.