USAID | DELIVER PROJECT

HEALTH COMMODITY MANAGEMENT INFORMATION SYSTEM (HCMIS)

DETAILED FUNCTIONAL REQUIREMENTS

FOR HUB EDITION

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1 INTRODUCTION

The Detailed Functional Requirements document addresses the user and functional requirements required for designing and implementing Health Commodity Management Information System Hub Edition (HCMIS HE).

HCMIS HE is designed in such a way that systematic record-keeping systems that can help efficiently manage daily transactions at warehouses are efficiently implemented. In addition to this, HCMIS HE is developed in order to minimize and if possible avoid problems that are experienced at the hub/warehouse. Moreover, HCMIS HE provides a mechanism by which essential and standard pharmaceutical working procedures are enforced. Some of the standards that are better supported by the system includes First to Expire, Fist out (FEFO), batch, and expiry tracking.

HCMIS HE also helps managers at warehouse and/or health facilities to generate appropriate and timely stock reports that help them make sound decisions.

1.1 Purpose

The purpose of this document is to establish the functional and non-functional requirements for the HCMIS HE so as to provide appropriate direction to the design and development process. Besides, defining the HCMIS HE Functional Requirements Document helps to lay down a base for writing accurate and complete technical requirements for HCMIS HE.

As specific releases are developed, applicable and more precise requirements will be defined in the lower level specifications.

1.2 Approach

Analysis of the Detailed Functional Requirements Document (DFRD) was accomplished in two phases: the determination of the functional requirements for HCMIS HE and subject matter expert interviews. This approach is developed in order to optimize and facilitate IT analyst's ability to collect documents that are essential inputs to define HCMIS HE requirements.

1.2.1 Project Initiation

Development of Project Scope and Project Plan

The first phase of the analysis was initiated by a meeting with USAID | DELIVER PROJECT staff to discuss the deliverables. From this meeting, a project scope and project plan was developed and these documents were presented and approved through frequent discussions regarding the system description, project goals, methodology, project schedule, and deliverables.

1.2.2 Subject Matter Expert Interviews and discussions

In-depth Interviews with Subject Matter Experts (SMEs)

In-depth interview and discussions with subject matter experts were completed. These interviews and discussions were essential for gaining understanding of the HCMIS HE requirements from routine hub/warehouse activities. Besides, the warehouse's personnel were part of the discussion sessions enabling the possibility of gathering several requirements that can be used as a foundation for the final requirements.

1.3 Document Organization

This document is divided in to four chapters. These are:

Chapter one: - *Introduction* – states the purpose, approach, document organization, and intended audience about DFRD.

Chapter Two: - *Functional Area Requirements* – describes the functional area requirements about HCMIS HE

Chapter Three: - *Next Area* – addresses the non-functional area requirements about HCMIS HE

Chapter Four: - *Additional Section* – addresses additional sections such as definitions and acronyms

1.4 Intended Audience

The key audience for this document consists of the following groups:

- Development team
- Project Manager (PM)
- Quality Assurance Team
- Stakeholders

2 FUNCTIONAL AREA REQUIREMENTS

This section provides top-level requirements based on which HCMIS HE will be developed. Table 1 lists the basic requirements that apply to HCMIS HE.

Table 1: HCMIS HE functional requirements

Func Req #	Requirement Description	References
HE-FR-01	Managing user accounts	HCMIS Software Document
HE-FR-02	Managing system settings	HCMIS Software Document
HE-FR-03	Editing pipeline information	HCMIS Software Document
HE-FR-04	Adding/editing/deleting supplies list	HCMIS Software Document
HE-FR-05	Adding/editing/deleting drug's information	HCMIS Software Document
HE-FR-06	Managing hub information	HCMIS Software Document
HE-FR-07	Customizing drug list	HCMIS Software Document
HE-FR-08	Setting up warehouse profile including number of racks, pallet locations dimensions etc.	HCMIS Software Document
HE-FR-09	Maintaining manufacturer	HCMIS Software Document

Func Req #	Requirement Description	References
HE-FR-10	Maintaining dimensions of packages for items per manufacturer	HCMIS Software Document
HE-FR-11	Maintaining different storage types	HCMIS Software Document
HE-FR-12	Maintain preferred storage type and storage location for items in the warehouse	HCMIS Software Document
HE-FR-13	Maintain separate logical stores for different programs in the same warehouse	HCMIS Software Document
HE-FR-14	Setting/selecting storage location for pallets and non-palletized items	HCMIS Software Document
HE-FR-15	Confirming if items are actually put on their planned locations	HCMIS Software Document
HE-FR-16	Recording item requests from facilities	HCMIS Software Document
HE-FR-17	Approving amount to be issued for facilities	HCMIS Software Document
HE-FR-18	Generating pick list including the location, item name, batch number and expiry date of items to be issued	HCMIS Software Document
HE-FR-19	Confirming if the issue items are actually picked up and issued, generation Stock Transfer Voucher	HCMIS Software Document
HE-FR-20	Consolidate non full pallets to save space	HCMIS Software Document
HE-FR-21	Palletizing items on receipt	HCMIS Software Document

Func Req #	Requirement Description	References
HE-FR-22	Managing Pick Face replenishment	HCMIS Software Document
HE-FR-23	Handling loss/adjustment	HCMIS Software Document
HE-FR-24	Managing Pick Face replenishment	HCMIS Software Document
HE-FR-25	Handling inventory control	HCMIS Software Document
HE-FR-26	Controlling receive transaction activity log	HCMIS Software Document
HE-FR-27	Controlling issue transaction activity log	HCMIS Software Document
HE-FR-28	Controlling loss/adjustment log	HCMIS Software Document
HE-FR-29	Controlling inventory log information	HCMIS Software Document
HE-FR-30	Handling database backup and restore	HCMIS Software Document
HE-FR-31	Exporting data to PFSA in PDA, Server and Excel formats	HCMIS Software Document
HE-FR-32	Generating reports regarding the stock status, over stock items, stock out items, issues by receiving unit, expired products, near expiry products, and storage status	HCMIS Software Document

Func Req #	Requirement Description	References
HE-FR-33	Generating summary reports that include summary chart, stock expiry status and cost summary	HCMIS Software Document

3 NEXT AREA

The HCMIS HE is developed by taking functionality, reliability, cost, ease of use, and time parameters into consideration so that it can be best implemented than what off-the-shelf systems could possibly provide.

The HCMIS HE provides careful consideration to the Ethiopian specific practices by discarding the clustered and zillion of inventory practices that are not applicable for the Ethiopian context. In addition to this, HCMIS HE is designed so as to be installed and maintained easily by limited number of relatively non-expert and non-IT personnel with low maintenance cost.

HCMIS HE conforms to the donor's assisted programs with multi-faceted interventions and commodities managed and accounted for specific health intervention programs. Once the HCMIS HE is ready for use, will be free to install in as many hubs/warehouses as needed. However, commercial applications will require per site/per user license and licensed database for each site that makes a country-wide deployment virtually out of question because of potentially millions of dollar of budget requirement.

This section of the document elaborates the next areas of functional requirements that are given due attentions in the design and implementation of the HCMIS HE.

3.1 User Interface (UI)

The HCMIS HE will be designed user friendly and flexible. And also, it will have a graphical user interface that is easy to understand and use. The system also enables users to perform their business in effective and efficient manner.

3.2 Hardware Considerations

As far as the existing hardware infrastructure is concerned, except CISCO wireless router, functional computer with printer, and Uninterrupted Power Supply (UPS), there is no need of acquiring special purpose hardware devices to run the Hub Edition of HCMIS. This makes the HCMIS somehow affordable and less costly. Hence, the new system will be designed to support single machine installation at the hubs.

3.3 Backup and Recovery

Data backup and recovery will be the other features of the HCMIS HE. In line of this, the backup will be taken from the hub/warehouse on regular basis. Taking backups on regular basis will eventually help to restore/recover the system at the time of failure.

3.4 Extensibility

The new system shall be designed in such a way that it supports the addition of new features and customizations at next major version upgrade.

3.5 Error Handling and Extreme Conditions

The HCMIS HE system will have an automatic error handling mechanism which shall alter users about the errors that they have committed so that they can correct the problems later.

3.6 Platform Compatibility

The system shall be designed to run on Windows XP and/or later operating systems that integrate the .Net 4 runtime framework.

3.7 Reliability

Reliability is one of the relevant non-functional requirements of the system. Hence, the HCMIS HE will be designed and developed in order to produce accurate and timely outputs such as various reports and transaction logs.

3.8 Security Issues

In order to grant access to the HCMIS HE, the system shall require users to enter their username and password. The HCMIS HE shall also be developed and maintained in compliance with internationally established guidelines and standards for protecting computer systems, networks and information.

3.9 Usability by Target User Community

User's acceptance of the system is one of the many significant things that the new system shall fulfill. Hence, the HCMIS HE shall be acceptable by the target user community. To this end, the system shall be designed and developed in a manner that it envisions all the requirements of users.

4 ADDITIONAL SECTION

4.1 Abbreviation

This document may contain terms, acronyms, and abbreviations that are unfamiliar to the reader. A dictionary of these terms, acronyms, and abbreviations can be found in the next sections.

- DFRD – Detailed Functional Requirements Document
- FEFO - First to Expire First Out
- HCMIS HE – Health Commodity Management Information System Hub Edition
- PFSA - Pharmaceutical Fund & Supply Agency
- PDA - Personal Digital Assistant
- PM – Project Manager

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