

My Approach

4.1 Introduction

The main focus of this chapter is to discuss about how the feasibility study was conducted, the analysis of the existing system for requirements gathering, designing of the proposed system and choosing the appropriate development environment for the proposed system.

4.2 Selection of Software process model for the proposed system

Even though all the existing system requirements and expected requirements from the proposed system for my unit is known to me as an employee, there are many different requirements existing in other units. Therefore, a detail requirement analysis was conducted at each different user category of the proposed system including the importers.

After this comprehensive system study, the Software Requirements Specification (SRS) for the proposed computerized system of CIIS was finalized.

Following the stake holder agreement with the prepared SRS, the water fall model approach was selected for developing the proposed system. The reasons for this selection were that the progress of the project at each stage can be monitored by the management with the documents available at the end of each stage and everybody was in agreement with the identified requirements in the SRS. (See table 3.1 for comparison of different process models)

4.3 Selection of System analysis & design methodology & UML

There are 2 main concepts in software modeling approach namely Object Oriented Analysis & Design (OOAD) & Structured System Analysis and Design Modelling (SSADM).

Out of the above, two modeling approach, the OOAD has the following benefits [12]

- the ability to tackle more challenging problem domains
- improved communication among users , analysts, designers, and programmers
- increased consistency among analysis, design, and programming activities
- explicit representation of commonality among system components
- Robustness of systems
- Reusability of analysis , design, and programming results
- Increased consistency among all the models developed during object oriented analysis, design, and programming.

(See table 3.2 for the comparison OOAD and SSADM)

Also SSADM approach is time consuming compared to the OOAD.

Therefore, when the benefits of OOAD over SSADM was considered , OOAD methodology was selected for analysis and designing purposes of the proposed system

4.3.1 Unified modelling language (UML)

Using UML notations we can graphically depicts the object –oriented analysis and design modules. It has the following benefits [12]

- facilitates to specify the requirements of a system and capture the design decisions
- helps to promote communication among people involved in the development effort
- increase communication ability with domain experts, users
- multiple views of the system can be represented using variety of graphical representation like use case diagrams, class diagrams, activity diagrams etc

4.3.2 Functional requirements view of the system

Represents the functional requirements of the system from the user's point of view.

Ex. use case diagrams

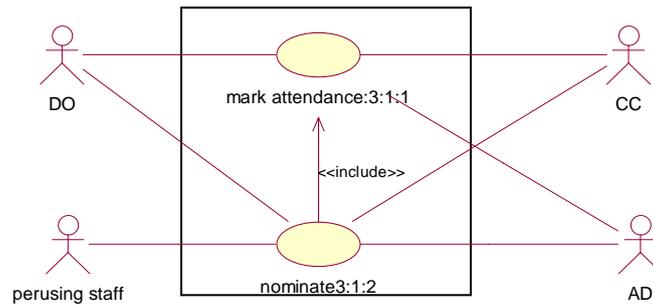


Figure 4.1 a sample Use case diagram

4.3.3 Static structural view of the system

Emphasizes the static structure of the system using objects, attributes, operations and relationships.

Ex. class diagram

4.3.4 Dynamic behaviour view of the system

Emphasizes the dynamic behaviour of the system by showing collaborations among objects and changes to the internal states of objects.

Ex. sequence diagrams, activity diagrams

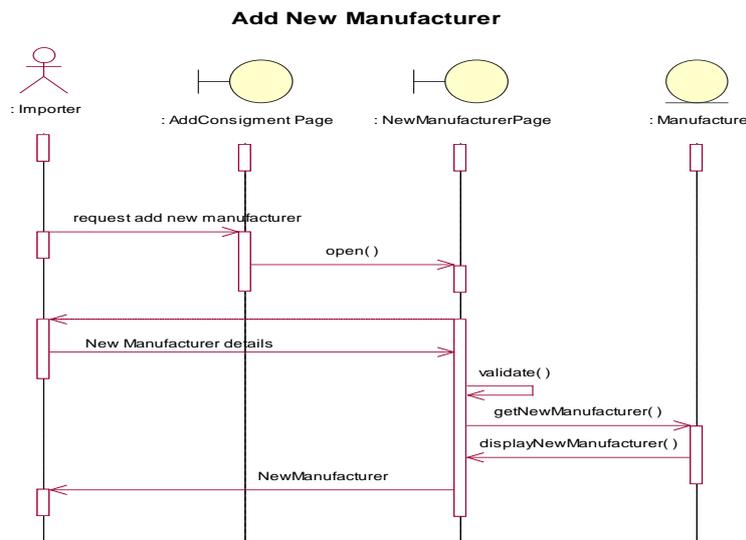


Figure 4.2 – a sample sequence diagram



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4.4.2 Use of E-R Diagram

An entity-relationship data model (E-R model) is a detailed, logical representation of the data for an organization. The E –R is expressed in terms of entities in the business environment, the relationship or associations among those entities, and the attributes or properties of both the entities and their relationships. An E –R model is normally expressed as an entity-relationship diagram that is a graphical representation of an E-R model [14].

4.4.3 Use of WAMP

“WAMP” acronym stands for Windows, Apache, MySQL and PHP. Since WAMP is on open sourced software, there is no cost for obtaining it.

4.4.4 Use of Adobe Dream weaver as Interface designer

Adobe Dream weaver was selected as the interface design tool in the system. It is user friendly common web development software which supports HTML / PHP

4.5 Scope of the project

- receiving of notification will be done online
- Duty officer’s activities will be automated in the proposed system
- Perusing of the entries will be done online
- Importer will have a feedback at the different stages of Entry processing
- Decision making on Entries will be done online
- Calculation of charges will be computerized

4.6 Limitation of the Scope

This system addresses only Entry processing activities of the CIIS.

4.7 Summary

The main focus of the discussion in this chapter is about the selection of software development methodologies and the reasons for not using other available methodologies.

The focus of next chapter is a detail discussion about the analysis and design part of the proposed system.