

CHAPTER 2: METHODOLOGY

In this system, the methodology used is the Object oriented.

Object oriented methodology is a new development approach, encouraging and facilitating re-use of software components.

It employs international standard Unified Modeling Language (UML) from the Object Management Group (OMG).

Using this methodology, a system can be developed on a component basis, which enables the effective re-use of existing components it facilitates the sharing of its other system components.

Object oriented Methodology asks the analyst to determine what the objects of the system are? What responsibilities and relationships an object has to do with other objects? And how they behave over time?

OBJECTIVES OF OBJECT ORIENTED METHODOLOGIES

- i. To encourage greater re-use.
- ii. To produce a more detailed specification of system constraints.
- iii. To have fewer problems with validation (Are we building the right product?)

BENEFITS OF OBJECT ORIENTED METHODOLOGIES

- i. It represent the problem domain because it is easy to produce and understand designs
- ii. It allows changes more easily
- iii. It produce nice structure for thinking, abstracting and leads to modular design
- iv. Simplicity
- v. Reusability
- vi. Increase Quality
- vii. Maintenance
- viii. Scalable
- ix. Modularity
- x. Modifiability
- xi. Client/ server Architecture

SOFTWARE DEVELOPMENT LIFE CYCLE MODEL (SDLC)

In this system agile model is used in the System Development Life Cycle (SDLC)

Agile SDLC model is a combination of iterative and incremental process model with focus on process adaptability and customer satisfaction by rapid delivery of working software product.

Agile methods break the product into small incremental builds. These builds are provided in iterations. Every iteration involves cross functional teams working simultaneously on various areas like:

- Planning
- Requirements Analysis
- Design
- Coding
- Unit testing and
- Acceptance Testing

At the end of the iteration, a working product is displayed to the customer and important stakeholders.

ADVANTAGES OF THE AGILE MODEL

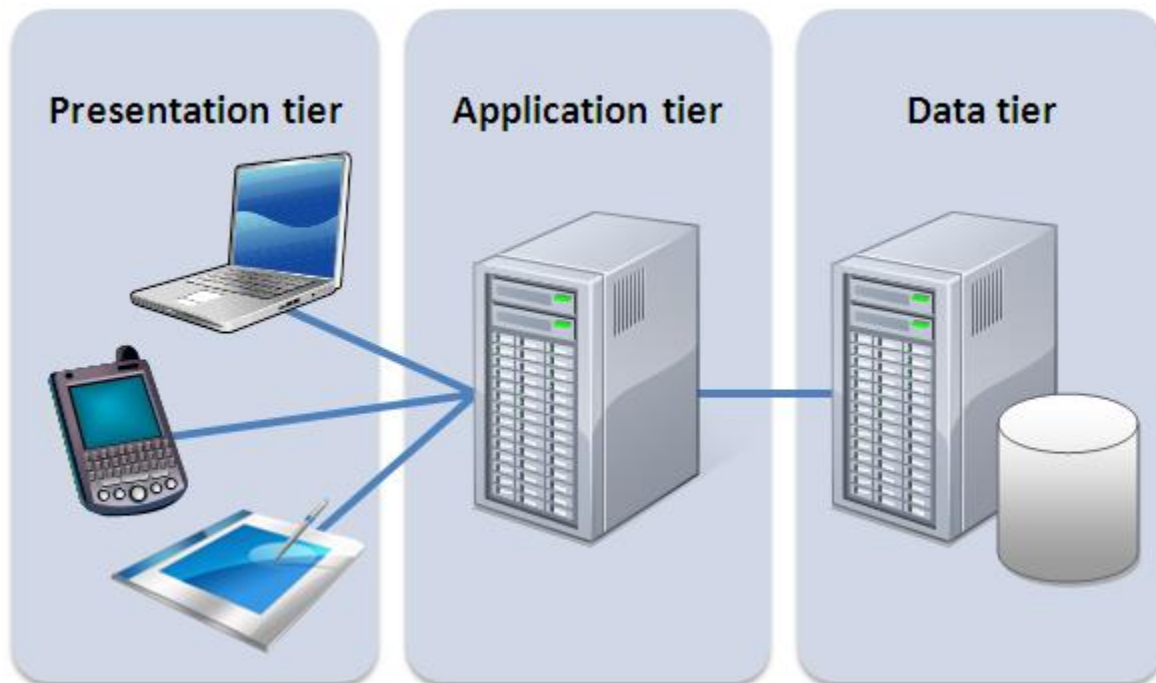
- i. Is a very realistic approach to software development
- ii. Promote teamwork and cross training
- iii. Functionality can be developed rapidly and demonstrated.
- iv. Suitable for fixed and changing requirements
- v. Good model for environments that change steadily
- vi. Easy to manage
- vii. Give flexibility to developers

SYSTEM ARCHITECTURE

The architecture of this new system is three tier architecture which is the client server architecture that consists of a presentation tier or layer, an application tier and a data tier. The data tier or layer consist of the database which stores data, the application tier handle the logic and presentation tier is the graphical user interface which communicate with other two tier.

In this proposed system the presentation layer is built with HTML, CSS, and JAVASCRIPT, an application layer contains the functional business logic and is written in php-PDO, The data tier consists of database and the Database Management System (DBMS) which should be MySQL

THREE TIER ARCHITECTURE



SOFTWARE DEVELOPMENT TOOLS

MySQL is used for creating the database

Editors used: Bracket, Notepad++

Languages used: html, CSS, bootstrap, php-PDO, JavaScript

Software tool used for drawings: Edraw Max