Research Paper

Role Of Process Modeling In Requirement Analysis And Its Impact

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ABSTRACT:-This research paper describes that how a analysis is the most important part of an SDLC and its also have some tools and techniques which we use in analysis to gather the primary requirement of user s this paper also describes how different techniques are important for the analysis and what is core functionality of the analysis and how we can gather precise and relevant data with the help of different techniques and how it is camparable with the help of case study describes that which way is best to get the user requirement and how it is better.

Keywords:-Analysis ,requirement,SDLC,DFD

I.   INTRODUCTION

Process modeling involves graphically representing the functions or processes,which capture ,manipulate,store and distribute data between a system and its environment and between components within system .a comman form from of a process model is DFD.
requirements analysis includes three types of activitie

Analysis process is the important components which analyzed the organizations needs and requirements (legal entities such as companies, standards bodies), which have a valid interest in the system. They may be affected by it either directly or indirectly. A major new emphasis in the 1990s was a focus on the identification of stakeholders. It is increasingly recognized that stakeholders are not limited to the organization employing the analyst[1]

SystemDevelopmentLifeCycleframeworkprovidesasequenceofactivitiesforsystemdesignersanddevelope rsto follow for developingof software.Understandingthebasicconceptsofsoftwaredevelopment Methodologiesisnecessarytoenableevaluationof   bestsoftwaredevelopmentlife   cycle (SDLC)methodology.Allsoftwareprojectsgothroughthephasesofrequirementsgathering,businessanalysis,Systemd esign,implementation,andqualityassurancetesting[6]

II.   REQUIREMENTS ANALYSIS

Associates recognition-

Stakeholder analysis for a discussion of business uses. Associates are people or organizations (legal entities such as companies, standards bodies) that have a valid interest in the system. They may be affected by it either directly or indirectly. A major new emphasis in the 1990s was a focus on the recognition of *associates*. It is increasingly recognized that asociatess are not limited to the organization employing the analyst. Other associates will include:

- anybody who operates the system (normal and maintenance operators)
- anybody who benefits from the system (functional, political, financial and social beneficiaries)
- anybody involved in purchasing or procuring the system. In a mass-market product organization, product management, marketing and sometimes sales act as surrogate customers (mass-market customers) to guide progress of the product
- organizations which regulate aspects of the system (financial, safety, and other regulators)
- people or organizations opposed to the system (negative stakeholders)
- organizations responsible for systems which interface with the system under design

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- those organizations who integrate horizontally with the organization for whom the analyst is designing the system

Interview

- associates interviews are a basic and most important fact finding technique used in requirement analysis.Interviews are used to find facts ,verify facts ,clarify facts , get the customer involved ,identify the system requirements and know all options.
- anybody who benefits from the system (functional, political, financial and social beneficiaries)
- anybody involved in purchasing or procuring the system. In a mass-market product organization, product management, marketing and sometimes sales act as surrogate consumers (mass-market customers) to guide process of the product
- organizations which regulate aspects of the system (financial, safety, and other regulators)
- people or organizations opposed to the system (negative associates)
- organizations responsible for systems which interface with the system under design
- those organizations who integrate horizontally with the organization for whom the analyst is designing the system

III.   RESEARCH METHODOLOGY

With the help of case studies collected some primary data and and experimentally tested how process model is crucial for requirement analysis and how process   model are involved.

The different approaches of analysis which is make more effective the analysis my research is describes in this topic basically how we can do more effective analysis which approach is best for gathering the information about organization are there one approach is sufficient to gather the information during analysis or we have to be adopted all the approaches during theanalysis this chapter describes how the analysis phase is very important and how we can do more effective analysis how many approaches we can adopt during the analysis what happen and which type of approach what do how they effected analysis by the help of a case study I want to describe the approaches and what happen and which type of information weGather and how they make effective analysis.

The main purpose of analysis of the collected information is to clearly understand the exact requirements of the customer and resolve anomalies, conflicts and consistency in the gathered requirements.
Ex of inconsistency –if one end user wants a furnace to be switched –off at a fixed temp but another end user wants the water-shower to be switched –on instead of being switched- off find out the basic requirement of that problem . The basic principle used in problem analysis is-

Divide and conquer

This means partition the problem into sub-problem and then understands eachSub problem and its relation to other sub-problems and thus understanding the total problem.
Various problems associated with analysis are –
The first problem is to obtain the necessary information from the client and the users.
Second problem of analysis is how to organize the information obtained so the information can be effectively evaluated for completeness and consistency .

Third problem is during the analysis is resolving the contradiction that may appear in the statements of information from different persons contradiction occur in between the client and end user because client look for the the output and end –user look for input we cannot ignore both we have satisfy both of them so it is necessary to achive mutual understanding between them .
Fourth problem is designing the internal design.
There are different phase of analysis
1.informal approach
2.SSAD(structure system analysis and design)
DFD,E-RD,Data Dictonaries
3.OOSAD(object oriented System Analysis and Design)

With the help of case study implement different phase of analysis-
In this research work informalanalysis of a case study and I found that informal analysis plays a very important role to gather the basic information about the organization. In informal analysis I have chosen a college where many departments and many courses are available but there is a lack of information system for the common people to know about this college. In my research I just want to improve the information system of by introducing the college information system by the website this college is situated in Bahraich Uttar pardesh and the name of this college iskisan P.G. College . So I have started it with analysis and collect some valuable and basic information about the college the work running manually this college is situated in Bahraich district

U.p. a website to take the admission and to gather all the information about the college which courses are running about the fee faculty classes and infrastructure facility all these things have decided to go there and stared first phase of analysis with informal analysis and

I have put some sort of questionnaire which very basic questions to gather the information about the college
1. Which type of changes you want in your system?
2. Which type of modification you want in your system?
3. What is your budget to implement this system in your college?
4. How many departments are running your college?
5. How many faculties and staff member in your college?
6. Give me the list of technical savvy and non-technical staff member in your college?
7. Check your accountability for provides the technical training to your staff member?

And after putting up these questions I got all the basic information about the college after collected the information make CAD for college information system cad is also known as ZERO level –DFD where we cannot store the data The main advantage of the cad that its represent an overview of tha working system but don't provide detail information so overcome to this we make DFD of the system.

CAD-An overview of an orgnisational system that shows the system boundries ,external entities that interact with the system and the major information flows between the entites and the system .this graphical representation single process depicts the whole system.
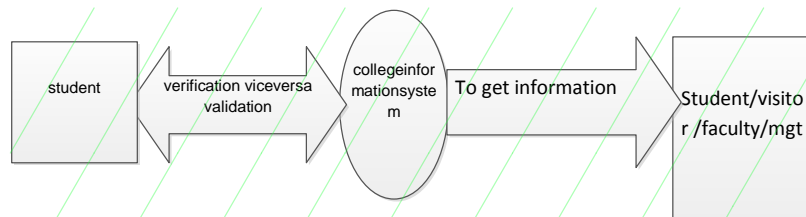
This is the first step to do the analysis after doing this the result shows that informal analysis is the basic step to get the core information of concern system,this analysis is not very descriptive by this approach we can miss some information or cannot get the all detail information this is the first technique through which we strat first phase of SDLC.
Next approach is

Structured analysis:- structured analysis technique uses function based decomposition while modeling the problem .It focuses on the functions performed in the problem domain and the data consumed and [produced by these functions .structured analysis method helps an analyst to decide what type of information to obtain at different point in analysis .structured analysis also helps to organize the information in such a manner that analyst feel comfortable even in the most complex system.
This methodology is based on the following underlying principles
1. Top –down decomposition approach
2. Divide and conquer principle
3. Graphical representation

DFD –also known as bubble chart is a simple graphical notation that can be used to represent a system in terms of the input data to the system various processing carried out on these data, and the o/p data generated by the system DFD helps the analyst forbetter understanding of system and can be effectively used during analysis. DFD shows the movement of data through the different transformation or process in the system.

In my research work I have taken the example of K.D.C and made zero and first level DFD to demonstrate the graphical representation of the college working during the analysis phase as we know that analysis is most crucial phase of SDLC ,because its tells about the user requirements and gather all the information , how many ways to represent the organization working and what is working of the system, DFD is the way to represent the working of an organization, it is also known as the data flow diagram which represents the working of an organization with the help of pictorial representation.

So I have taken a live example of an college ,this is basically a case study through which I want to justify my research work that how the analysis part plays a significant role to develop a software either it's a complex system or it's a general information system of a particular organization.

DFD NOTATIONS:

a.Process

b. flow of data

c. source or sink of data

d.data store
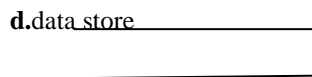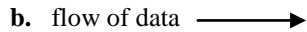
by using these symbols we can defined detailed working of college step by step pictorially and a picture always says thousands words dfd also fascilate level wehere we can provide detail information about the orgnaisation or system .DFD is the way to representing study about the orgnaisation graphically it is the one of way which is effective tool to represent analysis in pictorially and working of concern orgnaisation .which plays very important role in sdlc phase to make SRS.

The main advantage of the bubble chart that we can repsernt more detail and specify working of whole system. This is next technique which I used to gather the requirement information.
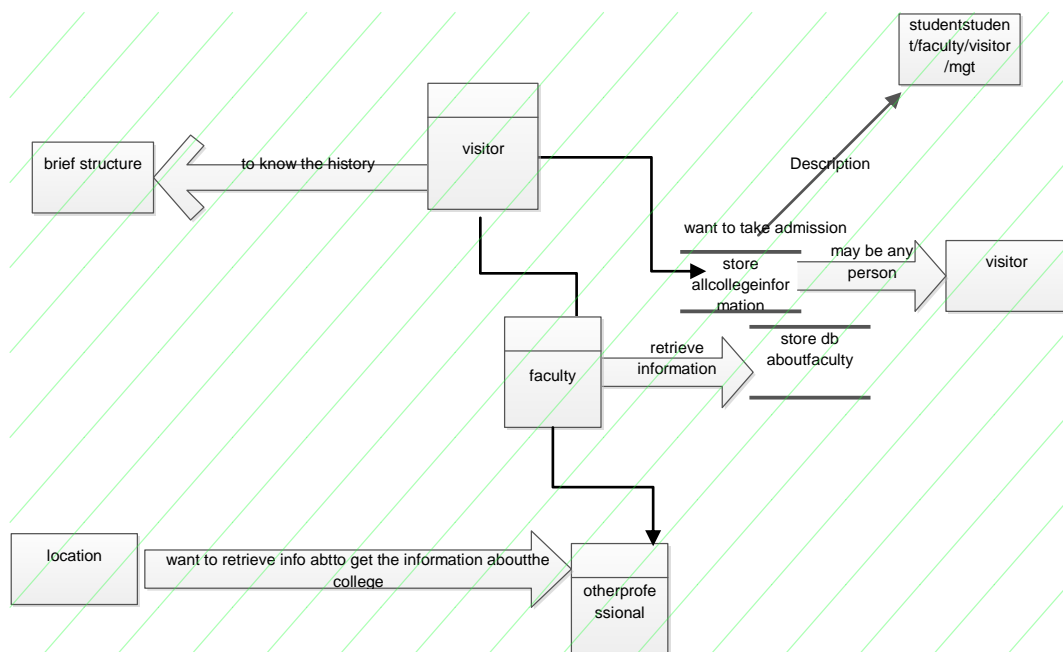
This is the graphical representation of the DFD which tells more about the college system its much better in camparison to CAD , however expand the level of DFD working of system will be clear

Structure charts:- A structure charts depicts the   modular orgnaisation of an information system .the orgnaisation or system is hierarchical.a structure charts graphically shows the way the components of a program or a system are related

IV.   CONCLUSION

After all these study and comparison I found that dfd depicts and gives more information about the system ,similarly informal analysis there are some restrictions to gather the information structure chart is also like a dfd but they have no a complete information about the concern organasiation   so in graphical

representation Bubble chart is so specific and this case study proves that analysis is most important and crucial part of the SDLC where we can defined the working of an orgnaisation or system.

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