SYSTEMS ANALYSIS & DESIGN

SYSTEM ANALYSIS

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Chapter Description

Expected Outcomes

- To discuss requirements determination
- To study methods in gathering requirements

References

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System Analysis

Analysis phase is important because every project requirements and needs must be defined accurately and completely. Based on these requirements, the project will develop a system which meets users expectation.

Systems analysis is a process of understanding in detail what a system should accomplish.

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System Analysis

Process of analysis is large and complicated, it can be divided into two parts which are requirements determination and requirements modelling.

This process involves a huge amount of cost and effort.

System Analysis

A system analyst must conduct eliciting requirement process.

A good analyst should has certain characteristics such as impertinence, impartiality and insight.

Impertinence- question everything and take nothing for granted

Impartiality – unbiased investigation

Insight – assume that anything is possible

Requirement Characteristics

A well-stated requirements should have six basic characteristics:

Testable and verifiable

Justifiable, accurate and correct

Unambiguous

Consistent

Understandable and modifiable

Traceable

Requirement Determination Methods

Gathering requirement can use various methods and techniques. Each method has its advantages and disadvantages,

Two general categories can be classified , which are Traditional Methods and Modern Methods.

Traditional Methods

Traditional methods to gather requirements are as follows:

Interviewing

Surveys and questionnaires

Observation

Analyzing documents

Form analysis

Modern Methods

Modern methods to gather requirements are as follows:

Joint Application Design – JAD

CASE Tools

Iterative Prototyping

Interview

Direct Interview consists of meeting with individuals or small groups to ask questions about their roles, responsibilities and needs for the proposed system.

This method can be classified into two types:

Structured interview – prior to interview session , the interviewer prepares specific set of questions.

Unstructured interview – interviewer has general goals or subject

Interview

There are two basic forms of questions which are:

Open-ended question – let the respondent to answer the question in any way.

Closed-ended question – the respondent has limit set of answers.

Interview

Advantages:

- Respondent can be motivated to answer freely
- Build an active contribution to the propose system
- Instant feedback

Disadvantages:

- Time consuming
- Geographical limitation
- Interviewer must has good communication skill

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Questionnaires and Surveys

This method can be targeted to mass respondents and they can complete the questionnaire at their own time.

Advantages:

- Responses can be easily tabulated and analyze
- Less expensive

Disadvantages:

- Response rate often low
- No opportunity to clarify points

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Direct Observation

This method can be used to discover what happen and how it happens. Information obtain can be confirmed through recall that event or process.

Prior to use this method, analyst must know what to observe and set the objectives.

Unfortunately, this method is time consuming.

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Analyze Document

Analyst must locate and analyze all written documents in order to gains better understanding of the organization and current system.

By doing research on documents ,analyst can confirm the correct requirements.

Disadvantages of this method is reliability of the document if it is not up to date.

JAD

JAD has been developed in the late 1970s at IBM. It focus to bring together the key stakeholders of the proposed system. JAD session is more highly structured associated with the roles of participants.

It must be conducted in a facility located remotely from participants' working environment.

JAD participants consist of leader, user, manager, analyst, scriber and IS staff

Iterative Prototyping

Iterative prototyping been used as a model for evaluation by system stakeholders.

A prototype allows the analyst to quickly transform the basic requirements into a limited working model. By allowing user to use the prototype, they can refine and add their needs.

Questions

1. Discuss common mistakes made by system analyst during requirements determination?
2. What are the advantages and disadvantages of direct observation?
3. Structured English is a modified form of English language used to specify the logic of information system processes. [T/F]