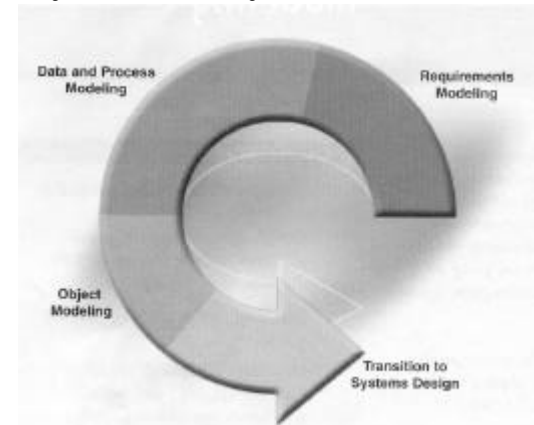


# System Analysis (Phase-2) – Part 1 Requirement Modeling

Peter Lo

## Systems Analysis Phase Overview



## Systems Analysis Phase Overview

- The systems analysis phase includes the four activities:
  - ◆ Requirements Modeling
  - ◆ Data and Process Modeling
  - ◆ Object Modeling
  - ◆ Transition to Systems Design

## System Requirements Checklist

- System requirements fall into five general categories:
  - ◆ Outputs
  - ◆ Inputs
  - ◆ Processes
  - ◆ Performance
  - ◆ Controls

## Typical examples of system requirements

- Outputs
  - ◆ The Web site must report online volume statistics every four hours, and hourly during peak periods.
- Inputs
  - ◆ A data entry person at the medical group must input patient services into the billing system
- Processes
  - ◆ The human resources system must interface properly with the existing payroll system.

## Typical examples of system requirements

- Performance
  - ◆ The system must be operational 7 days a week, 365 days a year.
- Controls
  - ◆ The system must provide log-on security at the operating system level and at the application level.

## Fact-Finding

- Fact-finding involves answers to five familiar questions: **Who**, **What**, **When**, **Where**, and **How**.
  - ◆ **Who**? E.g. Who performs each of the procedures within the system?
  - ◆ **What**? E.g. What is being done?
  - ◆ **Where**? E.g. Where are operations being performed?
  - ◆ **When**? E.g. When is a procedure performed?
  - ◆ **How**? E.g. How is a procedure performed?

## Fact-Finding Techniques

- Interviews
  - ◆ The interviewing process consists of these seven steps:
    - 1) Determine the people to interview.
    - 2) Establish objectives for the interview.
    - 3) Develop interview questions.
    - 4) Prepare for the interview.
    - 5) Conduct the interview.
    - 6) Document the interview.
    - 7) Evaluate the interview.

## Fact-Finding Techniques

- Document Review
  - ◆ Obtain copies of actual forms and operating documents currently in use. Review blank copies of forms, as well as samples of actual completed forms.
- Observation
  - ◆ Personal observation also allows you to verify statements made in interviews and determine whether procedures really operate as they are described.

## Fact-Finding Techniques

- Questionnaires and Surveys
  - ◆ A questionnaire, also called a survey, is a document containing a number of standard questions that can be sent to many individuals.
- Sampling
  - ◆ The samples include records, reports, operational logs, data entry documents, complaint summaries, work requests, and various types of forms. Sampling techniques include systematic sampling, stratified sampling, and random sampling

## Interviews vs. Questionnaires

- Advantages of Interview
  - ◆ More familiar and personal.
  - ◆ React immediately to anything the interviewee says.
  - ◆ Watch for clues to determine if responses are knowledgeable and unbiased.
  - ◆ Improved human relations.
- Disadvantages of Interview
  - ◆ Costly and time-consuming process.
  - ◆ Preparation and follow-up work is required.

## Interviews vs. Questionnaires

- Advantages of Questionnaires
  - ◆ Opportunity to provide input and suggestions.
  - ◆ Recipients can answer questions at their convenience.
  - ◆ Allows anonymous responses.
- Disadvantages of Questionnaires
  - ◆ Preparing a good questionnaire requires skill and time.
  - ◆ Question can be misinterpreted.
  - ◆ Recipients might view them as intrusive, time-consuming, and impersonal.

## Interviews vs. Questionnaires

- As an analyst, you should select the technique that will work best in a particular situation.



## Documentation

- You should document your work according to the following principles:
  - ◆ Record information as soon as you obtain it.
  - ◆ Use the simplest recording method possible.
  - ◆ Record your findings in such a way that they can be understood by someone else.
  - ◆ Organize your documentation so related material is located easily.

## Software Tools

- Many software programs are available to help you record and document information. Some examples are:
  - ◆ **Case Tools:** Use CASE tools for systems development.
  - ◆ **Word Processing:** Create reports, summaries, tables, and forms
  - ◆ **Spreadsheets:** Track and manage numerical data or financial information.
  - ◆ **Databases:** Manage information about events, observations, and samples.
  - ◆ **Presentation Graphics:** Organizing and developing your formal presentation.