Apply Your Knowledge

This section contains four mini-cases. Each case describes a situation, explains your role, and requires you to apply what you learned in the chapter.

1 Colonial Movers

You are the IT manager at a regional moving company that recently merged with a major competitor. The company president asked you to prepare requirements for a new information system to support the combined company.

Tasks

1. Should employees be involved in developing the new system? If so, what should be their role?
2. What types of system requirements will you focus on? Explain each one in detail.
3. You decide to conduct a series of JAD sessions. Prepare a memo to participants, and include a detailed plan.
4. What fact-finding methods could you use to collect information from employees at Colonial Movers? Suggest at least three methods, and explain the pros and cons of each.

2 General Hardware Products

Your boss, the IT director, wants you to explain FDDs, BPM, DFDs, and UML to a group of company managers and users who will serve on a systems development team for the new marketing system.

Tasks

1. Explain how an FDD can be used in requirements modeling.
2. Describe BPM and how it can be used.
3. Explain how DFDs can be used in requirements modeling.
4. Describe the UML and how it can be used during systems development.

3 Zevo Chemical Company

Zevo is currently reaching the end of the requirements modeling phase of a new inventory control system for their global company. As a systems analyst, you are asked to support this ongoing project.

Tasks

1. How would you explain scalability? How would you ensure that scalability has been considered in Zevo's requirements model?
2. How would you define total cost of ownership (TCO)? What costs should be included in a TCO estimate?
3. Explain why documentation is essential for Zevo's new system, and how documentation can be used during systems development.
4. What software tools could you use to develop, publish, and distribute Zevo's systems documentation?

4 Westwood College

The school is considering a new system to speed up the registration process. As a member of Westwood's IT team, you will interview stakeholders affected by the registration process.

Tasks

1. List all the registration system stakeholders. How is each group affected?
2. Interviews can be time-consuming and expensive. What are your specific goals, and how would you justify a series of interviews?
3. During the interviews, what types of questions will you use, and why? Develop at least five sample questions and explain how each question will help you achieve your objectives.
4. What are the advantages and disadvantages of open-ended, closed-ended, and range-of-response questions?

Case Studies

Each chapter includes a Chapter Case, a Continuing Case, a Capstone Case, and an Online Case Simulation. You can learn more about the Online Case Simulation in the MIS CourseMate Features section.

Chapter Case: Town of Eden Bay (Part 3)

The town of Eden Bay owns and maintains a fleet of vehicles. You are a systems analyst reporting to Dawn, the town's IT manager.

Background

In Chapter 2, you learned that the town's maintenance budget has risen sharply in recent years. Based on a preliminary investigation, the town has decided to develop a new information system to manage maintenance costs more effectively, instead of outsourcing it to private firms.

In Chapter 3, you helped plan the presentation to the Town Council for an initial budget request, which was approved. The new system will be named RAVE, which stands for Repair Analysis for Vehicular Equipment. Now Dawn wants you to perform additional fact-finding to document the specific requirements for the new system. She stressed that user input is absolutely critical at this stage.

Tasks

1. Review the interview summaries in Chapter 2. For each person (Marie, Martin, Phil, Alice, and Joe), develop three additional questions: an open-ended question, a closed-ended question, and a range-of-response question.
2. Based on what you know so far, list the requirements for the new system. You can use your imagination if necessary. Consider outputs, inputs, processes, performance, and controls. Include at least two examples for each category.
3. You decide to analyze a sample of vehicle records. What sampling methods are available to you? Which one should you use, and why?
4. Dawn thinks it would be a good idea to conduct a JAD session to perform additional fact-finding. Draft a message to the participants, with a brief explanation of JAD methods and a proposed agenda.

Continuing Case: Personal Trainer, Inc.

Personal Trainer, Inc. owns and operates fitness centers in a dozen Midwestern cities. The centers have done well, and the company is planning an international expansion by opening a new "supercenter" in the Toronto area. Personal Trainer's president, Cassia Umi, hired an IT consultant, Susan Park, to help develop an information system for the new facility. During the project, Susan will work closely with Gray Lewis, who will manage the new operation.

Background

During requirements modeling for the new system, Susan Park met with fitness center managers at several Personal Trainer locations. She conducted a series of interviews, reviewed company records, observed business operations, analyzed the BumbleBee accounting software, and studied a sample of sales and billing transactions. Susan's objective was to develop a list of system requirements for the proposed system.

(continues)

Continuing Case: Personal Trainer, Inc.

Fact-Finding Summary

- A typical center has 300–500 members, with two membership levels: full and limited. Full members have access to all activities. Limited members are restricted to activities they have selected, but they can participate in other activities by paying a usage fee. All members have charge privileges. Charges for merchandise and services are recorded on a charge slip, which is signed by the member.
- At the end of each day, cash sales and charges are entered into the BumbleBee accounting software, which runs on a computer workstation at each location. Daily cash receipts are deposited in a local bank and credited to the corporate Personal Trainer account. The BumbleBee program produces a daily activity report with a listing of all sales transactions.
- At the end of the month, the local manager uses BumbleBee to transmit an accounts receivable summary to the Personal Trainer headquarters in Chicago, where member statements are prepared and mailed. Members mail their payments to the Personal Trainer headquarters, where the payment is applied to the member account.
- The BumbleBee program stores basic member information, but does not include information about member preferences, activities, and history.
- Currently, the BumbleBee program produces one local report (the daily activity report) and three reports that are prepared at the headquarters location: a monthly member sales report, an exception report for inactive members and late payers, and a quarterly profit-and-loss report that shows a breakdown of revenue and costs for each separate activity.

During the interviews, Susan received a number of "wish list" comments from managers and staff members. For example, managers want more analytical features so they can spot trends and launch special promotions and temporary discounts. Managers also want better information about the profitability of specific business activities at their centers, instead of bottom-line totals.

Several managers want to offer computerized activity and wellness logs, fitness coaching for seniors, and various social networking options, including e-mail communications, fitness blogs, Facebook, and Twitter posts. Staff members want better ways to handle information about part-time instructors and trainers, and several people suggested using scannable ID cards to capture data.

Tasks

1. Draw a DFD that shows how data will be stored, processed, and transformed in the TIMS system.
2. Draw an FDD that shows the Personal Trainer's main functions. Also draw a use case diagram that represents the interaction between a user and the proposed TIMS system.
3. Using the information gathered during fact-finding, develop a requirements checklist that includes examples in each of the five main categories.
4. Gray is not familiar with the TCO concept. How should Susan explain it to him?

Capstone Case: New Century Wellness Group

New Century Wellness Group offers a holistic approach to healthcare with an emphasis on preventive medicine as well as traditional medical care. In your role as an IT consultant, you will help New Century develop a new information system.

Background

New Century asked you to perform a preliminary investigation for a new business support system. You had several meetings with Dr. Jones to discuss office records and accounting systems. Anita Davenport, New Century's office manager, participated in those meetings. You also completed a project management plan for New Century. Now, you are ready to develop a system requirements model.

In the preliminary investigation report, you recommended a detailed analysis of four key areas: patient scheduling, billing and accounts receivable, human resources, and payroll. Because these areas are highly interactive, you suggested that an integrated system would provide the greatest benefits. Dr. Jones and the partners agreed, but they also expressed interest in a medical practice support system and asked whether the business support system could be expanded. After research and analysis, you concluded that medical practice support should be a separate system to be considered in New Century's long-term strategic plans. Because future integration would be very important, the business support system design should be compatible with a future medical practice support system.

In your meetings with Dr. Jones and Anita, you stressed that IT projects are much more successful when users have a sense of ownership, and the best way to create that "buy-in" is to get them involved in the development process. In your view, joint application development would be ideal method to develop the new system, and everyone agrees. Your next task is to form a JAD team and conduct the requirements modeling process.

Tasks

1. Review the organization chart you prepared in Chapter 1 and determine who should be on the JAD team, and why. Also, how will you create a sense of team ownership from the start?
2. You may be given a standard set of interview summaries, or you may conduct role-play interviews. Either way, use the information to complete Tasks 3 and 4.
3. Develop a checklist that includes several requirements for system output, input, process, performance, and control.
4. Design a questionnaire to learn how New Century patients feel about insurance procedures and appointment scheduling. Your questionnaire should be designed for a sample group of patients, and should follow the suggestions in this chapter. After you complete the questionnaire, select a sampling method and explain your choice.

CASE Tool Workshop

Systems analysts use CASE tools to help them plan, build, and maintain information systems. To learn more about CASE tools, turn to Part B of the Toolkit that follows Chapter 12. You can complete these tasks with the Visible Analyst® CASE tool, which is available with this textbook, or a similar tool.

Background

As a part-time student assistant in the computer lab at your school, you were asked to evaluate various CASE tools and submit the results. You have completed an overview of the software and you got some hands-on experience. Now you want to try creating a functional decomposition diagram FDD) that will show business functions and processes.

Tasks

1. According to Visible Analyst, functional decomposition diagrams (FDDs) involve top-down business planning decisions, and should be the starting point for modeling business functions and processes. Visible states that "There is no rule that you must begin here, but some other things are easier if you do." Visit the Visible Analyst glossary function to learn what, specifically, might be easier. Report your findings in a memo.
2. Suppose you want to create an FDD of the functions at your school or your place of employment. Using Figure 4-8 on page 140 as a model, create a simple FDD with three top-level functions. For one of the functions, create two additional levels.