

# 4

# Requirements Engineering

## Get ready!

- Before you read the passage, talk about these questions.
  - What is the purpose of requirements engineering?
  - How are software specifications organized?

## Reading

- Read the webpage. Then, choose the correct answers.
  - What is the purpose of the webpage?
    - to list job qualifications for a requirements engineering position
    - to define various requirements engineering concepts
    - to review a company's requirements engineering process
    - to describe the work experience of several requirements engineers
  - Which of the following is NOT a parameter used to organize requirements?
    - user class
    - objects
    - mode
    - verification
  - Why does a second team of engineers provide validation and verification?
    - to avoid errors in the requirements document
    - to organize requirements specifications
    - to ensure elicitation of important information
    - to determine the most appropriate functional hierarchy



### ShorSoft Software Developers Requirements Engineering Department

We understand that functional and **user-friendly** software comes from well-defined foundations. Therefore, we take great pride in our requirements engineering department. Our engineers perfect every **specification** for the software that we create.

We primarily create **market-driven** software for general consumers. However, we also create some **customer-driven** software for special projects. First, our team makes a detailed requirements document. This is based on **elicitation** of the requirements. Typically, the information comes from people who will likely use the software. Then, a separate team provides **validation** and **verification** for that document. This process prevents mistakes and ensures precision.

We organize requirements by the most appropriate parameters for the software. Specifications can be organized by the **mode**, **user class**, or **response**. In less-common cases, requirements documents are organized by real-life **objects**. Or they might be determined by some other **functional hierarchy**.

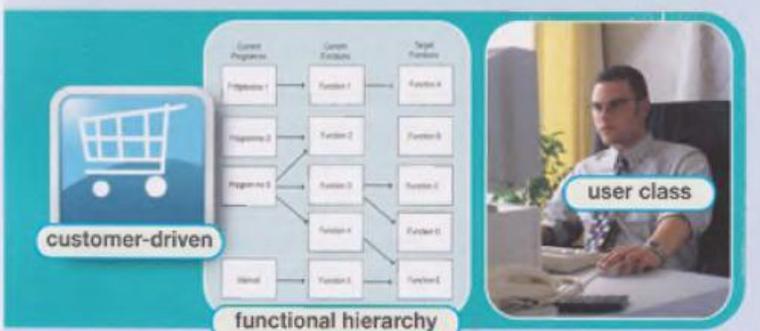
One way or another, we'll get the job done. For more information about requirements engineering services, contact our customer service department.

## Vocabulary

- Match the words and phrases (1-8) with the definitions (A-H).

- |                               |                    |
|-------------------------------|--------------------|
| 1 __ customer-driven          | 5 __ elicitation   |
| 2 __ market-driven            | 6 __ validation    |
| 3 __ specification            | 7 __ verification  |
| 4 __ requirements engineering | 8 __ user-friendly |

- designed in response to specific needs of potential users
- a precise definition of a problem
- designed for broad purposes
- the process of becoming apparent or realized
- the act of checking that requirements are correct
- the act of checking that requirements are stated correctly
- easy for most people to understand or use
- the practice of specifying the necessary features and functions of software



**4** Write a word or phrase that is similar in meaning to the underlined part.

- Some software is defined in terms of its relationship to real life things that can be touched or seen.    \_ \_ j \_ c \_ s \_
- Software specifications can change depending on the status of the person who is using the software.    \_ s \_ r \_ c \_ \_ s \_
- If no traditional specifications are appropriate, a requirements document can be organized by any undefined system.  
\_ \_ n \_ \_ i \_ \_ a \_    \_ \_ e \_ \_ r \_ h \_
- Software that changes according to the way it is used can be defined according to its changeable system of operation.  
\_ \_ d e
- The type of information provided by software upon request is sometimes a specification in requirements documents.  
\_ \_ s \_ o \_ s \_

**5** Listen and read the webpage again. How do engineers identify errors in a requirements document?

**Listening**

**5** Listen to a conversation between two engineers. Mark the following statements as true (T) or false (F).

- The engineers recently assessed requirements for a software update.
- The specifications were made with the wrong data.
- The engineers missed an important deadline.

**7** Listen again and complete the conversation.

**Engineer 1:** Can you give me an update **1** \_\_\_\_\_  
\_\_\_\_\_ for the library catalog application?

**Engineer 2:** It's going slowly. It was good at first, but we found some major problems when we did **2** \_\_\_\_\_  
\_\_\_\_\_.

**Engineer 1:** I don't like the sound of that. **3** \_\_\_\_\_?

**Engineer 2:** **4** \_\_\_\_\_ were based on old data. The requirements didn't include the library's new DVD catalog.

**Engineer 1:** Oh, that's right. Originally, they only included books. Will we be able to fix the problem?

**Engineer 2:** We're **5** \_\_\_\_\_ now. Then we'll just plug it into the existing requirements document.

**Engineer 1:** How long will that take?

**Engineer 2:** We should have it done by the **6** \_\_\_\_\_  
\_\_\_\_\_.

**Speaking**

**8** With a partner, act out the roles below based on Task 7. Then, switch roles.

**USE LANGUAGE SUCH AS:**

Can you give ...  
How long ...  
I was worried ...

**Student A:** You are an engineer. Talk to Student B about:

- a project your company is working on
- problems with the requirements document
- when the project will be completed

**Student B:** You are an engineer. Talk to Student A about a project your company is working on.

**Writing**

**9** Use the conversation from Task 8 to complete the project update.

**ShorSoft Software Developers**

From the desk of: Allison Baxter

Hi Greg,

Here is an update on the \_\_\_\_\_ project.

Current stage: \_\_\_\_\_.

Problems encountered: \_\_\_\_\_.

Next steps: \_\_\_\_\_.

Let me know if you have any questions.  
-Allison