

REVIEW LESSON

MTA Course: Software Development Fundamentals

Lesson name: Software Development Fundamentals 3.2

Topic: Interpret application specifications (One 50-minute class period)

File name: SoftDevFund_RL_3.2

Lesson Objective:

3.2: Interpret application specifications. *This objective may include but is not limited to:* reading and translating application specifications into prototypes, code, and components.

Preparation Details

Prerequisite student experiences and knowledge

Students should have had experience with software projects in which a set of requirements has been provided and they have translated the requirements into a product. This MTA Certification Exam Review lesson is written for students who have learned about object-oriented programming. Students who do not have the prerequisite knowledge and experiences cited in the objective will find additional learning opportunities using resources such as those listed in the Microsoft® resources and Web links at the end of this review lesson.

Instructor preparation activities

None

Resources, software, and additional files needed for this lesson:

- SoftDevFund_PPT_3.2

Teaching Guide

Essential Vocabulary:

application—a program designed to assist in the performance of a specific task, such as word processing, accounting, or inventory management.

component—an individual modular software routine that has been compiled and dynamically linked and is ready to use with other components or programs.

database—a collection of tables composed of records, each containing fields together with a set of operations for searching, sorting, recombining, and other functions.

service—in reference to programming and software, a program or routine that provides support to other programs.

Web application—a set of clients and servers that cooperate to provide the solution to a problem.

Lesson Sequence

Activating prior knowledge/lesson staging (10 minutes)

1. Show the Activator slide in the Microsoft PowerPoint® presentation for this lesson.
 - a. *Ask:* What aspects of an application specification are helpful in creating code for the application?
 - b. *Ask:* If you were to write an application specification, what would you include to make it easy to read and translate into code?
 - c. *Ask:* Name some common software applications.

Lesson activity (25 minutes)

1. Show the PowerPoint presentation.
 - a. Review the definitions.
 - b. Describe an application specification. Provide an example or have students come up with their own examples.

- c. Go over the different types of applications and the reasons why each one would be appropriate for a situation.
 - Windows service
 - Web application
 - Web service
 - Windows Form application
 - Console application
 - Database application
- d. It is helpful to give actual examples of the applications and show them on a display screen.
 - For example: Microsoft Word® is a Windows® application, while dir is a console application.

Assessment/lesson reflection (15 minutes)

1. Show the Lesson Review slide in the PowerPoint presentation.
2. Ask students to identify the most appropriate type of application for each situation below. They should justify their answers.
 - a. You need to store, view, and update employee records, including name, age, address, and other personal information—**database**
 - b. You need an application to start when a laptop is turned on in order to constantly monitor battery usage—**Windows service**
 - c. You want to sell your product to a people all over the world—**Web application**
 - d. You need an application to display status messages on a system with limited graphical capabilities.—console application
3. Students should be given some time to write and share their answers with a peer. Call on students to share their answers with the class.

Microsoft resources and Web links

Windows Form Overview (MSDN)

<http://msdn.microsoft.com/en-us/library/8bxxxy49h.aspx>

Database Application (MSDN)

<http://msdn.microsoft.com/en-us/library/aa984771%28VS.71%29.aspx>

Windows Service Applications (MSDN)

<http://msdn.microsoft.com/en-us/library/d56de412%28VS.80%29.aspx>

Suggested best practices:

- It is important that students have been working with application specifications (simple or complex) throughout the class.

Additional notes to the instructor:

- None