

OBJECTIVE

understand hardware 2.5

UNDERSTAND THE DIFFERENT GAME PLATFORMS

SCENARIO: Adventure Works is developing new video games for Windows Phone 7®. They are making amazing progress with one exception. Most of the teams working on the new games are running into problems related to memory management. While everyone understands the demands that exciting video games place on the memory capacity of mobile devices, they are still having problems fitting their projects into this demanding environment.

- 1. Mobile devices typically have:**
 - a. Large CPUs
 - b. Very limited memory
 - c. More RAM than PCs
- 2. Mobile devices:**
 - a. Usually run just one application at a time
 - b. Typically run four or five applications simultaneously
 - c. Are relatively impervious to being interrupted or terminated
- 3. Because mobile device can have limited connectivity:**
 - a. Only TCP network connectivity is suggested.
 - b. The user may be assessed user data charges for gaming.
 - c. Garbage collection strategies are unnecessary.

HINT



Windows Phone 7 does not use the same processing power as a Windows PC or an Xbox 360.

Answers

1. Mobile devices typically have:
 - b. **Very limited memory**
2. Mobile devices:
 - a. **Usually run just one application at a time**
3. Because mobile device can have limited connectivity:
 - b. **The user may be assessed user data charges for gaming.**

Essential details

- **Memory management** refers to optimizing the use of random access memory (RAM). These procedures include selectively storing data, monitoring it carefully, and freeing memory when the data is no longer needed.
- **Garbage collection** is a process for automatic recovery of heap memory. Blocks of memory that had been allocated but are no longer in use are freed, and blocks of memory still in use may be moved to consolidate the free memory into larger blocks.
- A **mobile device** is a handheld computing device with a touchscreen.
- A **PC (personal computer)** is a general-purpose single-user microcomputer designed to be operated by one person at a time.
- The **Windows Phone** is the operating system that replaced Windows Mobile®; used on the Windows Phone 7.

FAST TRACK HELP

- **Performance Considerations for Windows Phone 7**
create.msdn.com/downloads/?id=636
- **Designing Applications for Windows Phone 7, Chapter 2**
<http://msdn.microsoft.com/en-us/library/gg490770.aspx>
- **Windows Phone**
http://en.wikipedia.org/wiki/Windows_Phone#Games

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