

TRAINER PREPARATION GUIDE 2.1: CHOOSE AN INPUT DEVICE

Lesson Objective 2.1:

Choose an input device. *Topics:* mouse, keyboard, Kinect®, console, mobile.

Required materials to teach this lesson:

1. Internet access
2. Wikispaces account
3. Wikispaces in Education Tutorial (if needed)
4. 98-374-ENU-2.1-LP
5. 98-374-ENU-2.1-IC
6. 98-374-ENU-2.1-IC_Key
7. 98-374-ENU-2.1-PC

Preparation tasks

Technical preparation activities:

1. Set up a Wikispaces account on Wikispaces.com, add students to the account, and post three scenarios to the account so students can log in and post their responses.

Scenarios for posting to the wiki (additional or alternative game descriptions can be used):

Derek Brown, the CEO of Graphic Design Institute, has received a large contract from a prominent educational products company to design games that will provide an engaging way for students to learn concepts in a variety of topics. He has some possible game ideas and is eager to match the intended learners' experience accurately with the best input device. Derek recognizes that factors such as the goal of the game, the age of the player, and the expected player action are important considerations.

Game 1: A math game that teaches multiplication by allowing the user to shoot at the correct answers as the numbers fly across the screen

Game 2: A chemistry quiz game in which the user jumps through a maze and grabs the correct formulas to match definitions

Game 3: A geometry game in which the user matches a word to a shape by flying a plane through geometrically shaped clouds (triangle, square, rhombus, pentagon, and so on) by enabling the student to match words to shapes

2. Vocabulary:

gamepad: another name for a controller for video games.

input device: a peripheral used to transfer data from the outside world into a computer system.

joystick: a device consisting of a handheld stick that pivots about one end and transmits its angle in two dimensions to a computer. Joysticks often are used to control games and usually have one or more buttons whose state also can be read by the computer. Most I/O interface cards for IBM® PCs have a joystick (game control) port.

keyboard: a hardware device consisting of a number of mechanical buttons (keys) which the user presses to input characters to a computer.

Kinect: is a device used with the Xbox 360®, which sense motions and uses voice recognition for gameplay.

peripheral: any part of a computer other than the CPU or working memory; i.e., disks, keyboards, monitors, mice, printers, scanners, tape drives, microphones, speakers, and cameras, to list just the less exotic ones.

Xbox 360 controller: a game control hardware device specifically designed for the Xbox 360.

3. Additional readings and resources:

MSDN®:

Petzold, Charles. ***Programming Windows Phone 7:***

http://blogs.msdn.com/b/microsoft_press/archive/2010/10/28/free-ebook-programming-windows-phone-7-by-charles-petzold.aspx

Input on the XNA Framework (XBox 360 Controller):

<http://blogs.msdn.com/b/xna/archive/2006/08/25/724607.aspx>

Other resources (books, e-reference):

Computer Dictionary Online: <http://www.computer-dictionary-online.org/?q=~a>

Wikispaces in Education Tutorial: <http://www.slideshare.net/cliotech/wikispaces-tutorial-306220>

It's Time to Take Mobile Gaming Seriously: <http://www.thetechlabs.com/tech-news/its-time-to-take-mobile-gaming-seriously/>

Instructor computer setup:

1. A presentation computer with Microsoft Office® installed and access to the Internet.
2. A projection system for demonstration purposes.

Instructional preparation activities:

1. Review Module 2.1 documents.
2. Have markers and large sheets of paper available for slide 6 of the presentation.
3. Make student documents available as needed.
4. A Wikispaces in Education Tutorial may be useful as a pre-lesson assignment.

Lesson sequence (50 minutes)

Activating prior knowledge/lesson staging (5 minutes):

Direct students to answer each question in the "Guiding questions" section of the in-class activity document or in their personal class notes.

Guiding questions:

1. **What input devices are commonly used when playing games?** Mouse, keyboard, Xbox 360 Game Controller, Windows Phone® (Accelerometer Input), Kinect, and joystick.
2. **What must a game designer consider when selecting an input device for a game to be developed?** The purpose of the game, the audience, and the game play objectives of the game.
3. **How have recent technologies affected how game players provide input?** Kinect has made it possible for users to interact without the use of any controller. Windows Phone can use an accelerometer for game input on the screen.

Lesson activity (40 minutes):

1. Teacher instruction (15 minutes)
 - a. Use the included Microsoft PowerPoint® presentation to review Module 2.1: Choose an Input Device.
 - b. Allow about 5 minutes for the Brainstorming session on slides 5 and 6.
 - c. Demonstrate how to access the class wiki account and show students how to access the pages to post their responses to.
2. In-class activity (20 minutes)
 - a. Students are to complete 98-374-ENU-2.1-IC in the wiki.
 - b. Students must have Internet access to access the Wikispaces account.

Note: This activity can be modified to be a paper-and-pencil activity. To achieve some interactivity in a paper-and-pencil scenario, students can write their original game scenario on a sheet of paper and exchange with classmates to respond with suggestions for input devices
 - c. Students are to complete 98-374-ENU-1.7A-IC.
3. Post-class Activity (5 minutes)
 - a. Provide instruction for the Post-class Activity as needed. Establish a completion date.

Lesson review (5 minutes):

1. Discuss the guiding questions.
2. Instruct students to write and submit any questions they have or any topics about which they would like more assistance.
3. After class, look through the student responses and follow up with any student requiring additional help.