



LESSON OF THE MONTH:

MULTIMEDIA FUSION 2

Title: Multimedia Fusion 2 – Understanding the Event Editor

CONTENT AREA:

Technology – Computer Science

GRADE LEVEL:

Middle and High School

STANDARDS:

ISTE NETS

Critical Thinking, Problem Solving, and Decision Making - Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

- Students identify and define authentic problems and significant questions for investigation.

Technology Operations and Concepts - Students demonstrate a sound understanding of technology concepts, systems, and operations.

- Students understand and use technology systems.



Fast Facts

Multimedia Fusion 2 is an object-oriented program designed for creating applications and computer games.

The logic and rules of games are defined by creating events in the Event Editor. After objects have been placed in the Frame Editor, events can be created in the Event Editor to allow interaction between other active objects.

In video games, power-ups are objects that instantly benefit or add extra abilities to the character. These power-ups give players incentives to accept and seek out new challenges.



Note to Teacher: Prior knowledge of Multimedia Fusion 2 is recommended (<http://www.clickteam.com/eng/mmf2.php>).

Prepare Student Sheets by making copies and cutting out one set for each small group.

PURPOSE:

Students will develop if-then conditional statements and translate them into Multimedia Fusion events.

LENGTH OF TIME:

1 hour

MATERIALS:

Computer with Multimedia Fusion 2 software and projector, copies of Student Sheets 1-4 – Statement Cards, white/chalk board

WHOLE GROUP/SMALL GROUP:

1. Introduce the idea of if-then conditional statements by providing real world examples.
Examples: *If your foot presses the gas pedal of a car, then the car will accelerate.*
 If you press a key on a piano, then it will make a sound.
Ask students to share with a partner some of their own examples.
2. Transition the topic to video game examples and show the class the Multimedia Fusion ChocoBreak tutorial game found inside the **Multimedia Fusion installation folder \ Tutorials \ Chocobreak**. Explain that if-then conditional statements are the rules of the game, and they are always being checked and executed while the game is running.
3. In small groups of 3-4, have students write down examples of if-then conditional statements that they observe in the Chocobreak game.
Examples: *If you press the Play button on the title screen, the game will go to the first level.*
 If the ball hits a brick, then the brick will be destroyed.
4. Invite one student from each group to write their if-then statement on the board. Discuss the statements with the entire class after all have completed writing.
5. Using a set of Student Sheet statement cards, model a Brick Breaker example with the following if-then statement:
 If the ball collides with the wall, then the ball will bounce.
 Card Order: (If) (Ball) (Collisions - Another Object) (Wall), (Then) (Ball) (Bounce)
6. After modeling the example, write the following statement on the board and have students work in pairs to order the statement cards to reflect the if-then sentence.
 If the ball collides with the paddle, then the ball will bounce.
 Card Order: (If) (Ball) (Collisions - Another Object) (Paddle), (Then) (Ball) (Bounce)
7. Give students the following "if" clause, and allow them to use the object and action cards to create their own "then" clause.
 If the ball collides with the brick...
Example:
 If the ball collides with the brick, then the ball will bounce, the brick will be destroyed, and player 1's score will receive 100 points.
 Card Order: (If) (Ball) (Collisions - Another Object) (Brick), (Then) (Ball) (Bounce), (Brick) (Destroy), (Player 1) (Score - Add) (100)
8. Model the transition to Multimedia Fusion 2 by selecting various conditional statements created by the statement cards and translating them into the Events Editor of the ChocoBreak game.

INDIVIDUAL:

1. Allow students to begin working on their own computers and start the Multimedia Fusion 2 software.
2. Have students create a new application file and lay out game objects in the Frame Editor using ChocoBreak resources in the Library Toolbar.
The ChocoBreak objects can be found under Local Library > Tutorials > ChocoBreak Tutorial.
Display the completed layout on the projector so that students are not missing important objects.
Note: Objects include the brick, ball, vertical columns, horizontal column, and player. To ease the introduction of the Event Editor, ask students to only place one type of brick into this level.
3. After all of objects have been placed, direct students to set the Movement properties of the ball to "Bouncing Ball" before creating events in the Event Editor.

4. Direct students to the Event Editor. Explain that the left half represents the “if” clause and the right half represents the “then” clause.
5. Model the example translating the following sentence into a Multimedia Fusion event:
If the ball collides with the vertical column, then the ball will bounce.
6. Instruct students to create the following sentence on their own:
If the ball collides with the player paddle, then the ball will bounce.
7. Continue developing additional Multimedia Fusion events after students have come up with if-then conditional statements to include for their game.
Examples: If the ball collides with the brick, then the brick is destroyed, add 10 points to player 1 score, and the ball will bounce.



Note to Teacher: Students may test their events by pressing F7 on the keyboard to test out the current frame. If students are having trouble creating an event, have them write down the if-then conditional statement on paper (pseudocode) and then translate each object or action into the Event Editor.

FOLLOW-UP QUESTIONS

1. What does a Multimedia Fusion event contain?
2. How can you test an event to see if it is working properly?

EXTENSION ACTIVITIES

1. Power-ups give players more excitement and motivation to continue playing a game. Challenge students to create their own power-up using an object from the local Multimedia Fusion library. Some examples may include:
 - slowing down the speed of the ball if it collides with a special object
 - give additional lives or bonus points if the ball collides with a special object
 - creating a second paddle or ball by using the Create Object action



BALL



BALL



BRICK



BRICK



PADDLE



PADDLE



WALL

PLAYER 1

COLLISIONS
(ANOTHER OBJECT)

MOVEMENT
(BOUNCE)

MOVEMENT
(STOP)

DESTROY

SCORE

(ADD)

100

IF

THEN