EV3 Classroom: Menu System

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Lesson Objectives

- Learn to use variables
- Learn to create a menu system that is not limited to a particular number of choices
- Learn to create a menu system that updates the menu view
- Prerequisites: Variables, Math Blocks, Brick Buttons
A Fancier Menu System

In the “Using Brick Buttons as Sensors” Lesson in Intermediate, one of the challenges asked you to create a menu with 4 choices and a single screen display for the entire menu.

In this version, we build a menu system that updates the menu view each time you change your selection and lets you have a larger number of menu choices.

To make this menu, you will need to learn how to use variables.
Challenge: Make a menu system that lets you perform 3 actions (display and say the numbers 1, 2, and 3) based on the button pressed.

Step 1: Use a variable to store the current menu choice

Step 2: Display the menu description for the current menu choice

Step 3: Wait for the user to press a button (top, middle, down buttons)

Step 4: Based on the button press: run the code for the menu choice (for middle button), or increase/decrease the menu choice variable (for up/down buttons)

Step 5: Go back to 2...
Main Component

Variables can store values for later use. Make a variable and give it a name “Menu” before using it.

Variables

Once created, the variable shows up in the Block Palette under Variables. A Set “Menu” and Change “Menu” Block are also automatically created.
Set Variable Menu to start at 1

Display the word ONE, TWO or THREE at the center of the screen using Display Blocks

Clear the screen before each word is displayed
When the Up or Down brick buttons are pressed, change the value of the variable Menu by 1.

Depending upon which value is picked, play a different sound ("one", "two", or "three").

In this example, sounds are played based on the menu item picked. You can replace this with any code you wish.
The ideas in this lesson can be adapted to help you build a mission sequencer for FIRST LEGO League. Sequencers are useful because they:

- Allow you to skip missions if you are short of time
- Allow you to repeat failed missions
- Allow you access missions quickly (find them easily)

If your Menu Action code is long (not just a display and sound), consider creating My Blocks out of your code.
This tutorial was created by Sanjay Seshan and Arvind Seshan

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