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SnapTrack™
Software Programming Tutorial

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Introduction to Block Programming:

Programming a motor using a programming language can be a difficult and frustrating experience, given the syntax / convention challenges that accompany programming languages in general.

In contrast, intuitive block programming capability provided by SnapTrack™ simplifies the motor programming process via use of pre-programmed blocks. These pre-programmed blocks enable the user to create advanced procedures by simply clicking and dragging.

Below is an example of how pre-programmed blocks can be configured per a push button procedure that will turn on a motor, and then move the motor at a set motion profile (reference Figure 1.).
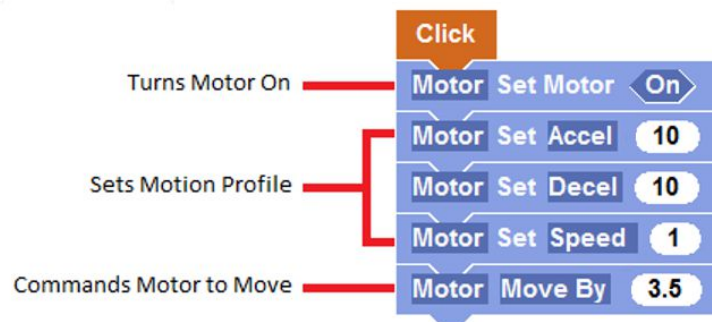

Figure 1. Push Button Block Program, Click and Set Motor

Procedure blocks' physical ridges enable them to fit with other blocks, and therefore link commands together (as in the case of the Click and Set Motor program above).

Editing Blocks:

Programming blocks also contain editable components, i.e., texts within shapes such as "XAxis" and "On" (reference Figure 2.).

These editable components allow the user to change a block's function within the context of the procedure by simply clicking on them. These texts are adjustable by simply clicking on them. There are 2 types of texts within blocks:
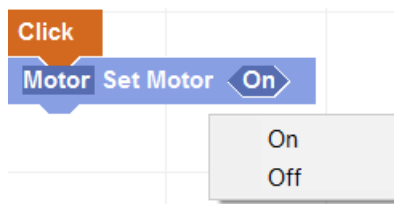

Figure 2. Programming Block Texts Within Shapes – Procedure Options

When the text background with a shape is dark (reference the dark blue hexagonal "On" shape, Figure 2.), a menu list of corresponding options appears when user clicks the shape. These options can potentially change the entire function of a given procedure.

For example, if the "Off" option is chosen per Figure 2., the procedure now turns "Off" the motor when the button is clicked.

Alternatively, when text background in an oval editable shape / component is white, a number pad will appear when user clicks the shape. The user can then use the number pad to input a number that corresponds with the desired action into the shape, in this case, a given motor set speed (reference Figure 3.).
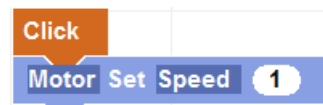

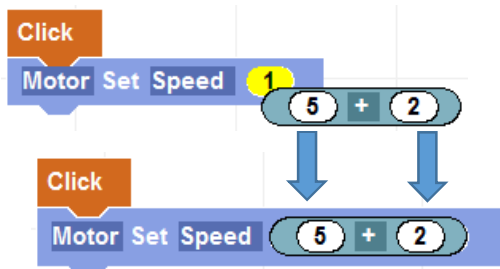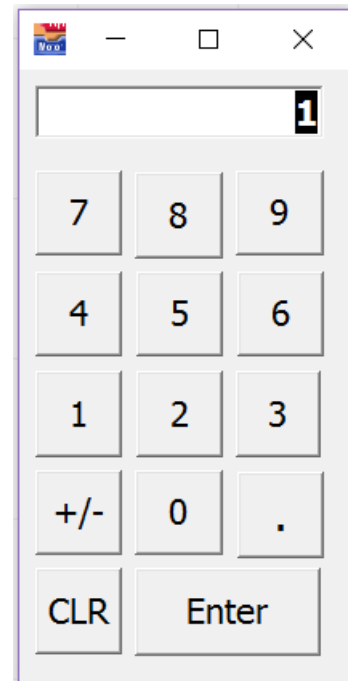*Figure 3. Text Within Shapes -- Numeric Options*

Figure 4. Editing via Dragging and Dropping a Shape Block

Finally, the user can edit / customize a programming block input by simply clicking on, dragging and dropping an existing shape block (already configured with the desired input) from one programming block to another (reference Figure 4.).

Block Types:

1. **Procedure Block:** A procedure block is a ridged block that performs the listed command. Procedure blocks can be pieced together to create a list of commands (reference Figure 5.).
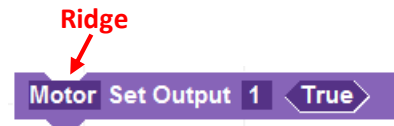

Ridge

Figure 5. Procedure Block

2. **Input Blocks:** Input blocks are used to provide specific instructions within a given procedure block. There are two (2) input block types, BOOLEAN blocks and NUMBER blocks, each representing a different data type.

   a. BOOLEAN blocks are hexagonal / 6-sided blocks that return a TRUE or FALSE value (reference Figure 6).

Figure 6. Boolean Block

   b. NUMBER blocks are oval blocks that return a NUMERIC value (reference Figure 7).

Figure 7. Number Block

User Units:

It can be very difficult to program a motor if the user is not familiar with how its units (i.e., procedure command steps) are defined, and related terminology. SnapTrack™ allows user to control input numbers' units. These units are therefore called "user units."
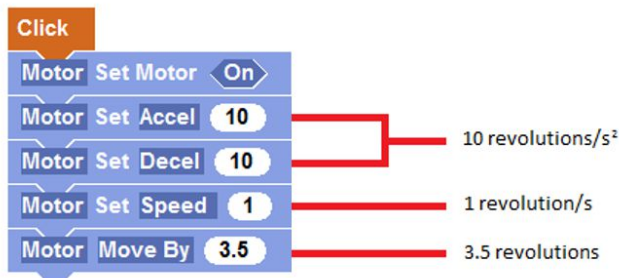
For Example: By default, SnapTrack™ has set user units for acceleration, deceleration, speed, and distance (reference Figure 8).

Figure 8. SnapTrack™ Default User Units

NOTE: To take advantage of our YouTube *SnapTrack programming video*, visit:
https://www.youtube.com/channel/UCWFo3Ed2p689ZiIBow0O-0w

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