

Text Messenger - NXT

Suggested Time

60 minutes

Age

15 - 18

Challenge

In this activity, design and construct an RCX car and program it to travel in a straight line until it hits a wall. Once it hits the wall, program the car to reverse direction and continue until it hits another wall at which point it stops.



Topics

Programming & Bluetooth

Subjects

Technology

Programming Themes

Bluetooth

Materials

- 2 NXT bricks

***Building
Instructions******Programming
Instructions***

1. No assembly required!

Activate Bluetooth:

1. On the NXT's menu, scroll over to Bluetooth using the light grey arrows.
2. Select Bluetooth by pushing the orange button.
3. Scroll over to On/Off. Select On/Off to turn Bluetooth on.
4. When the NXT is on, if Bluetooth is on there will be a little Bluetooth symbol (see logo, below) in the upper left-hand corner of the display.

The Bluetooth logo:

**Rename an NXT:**

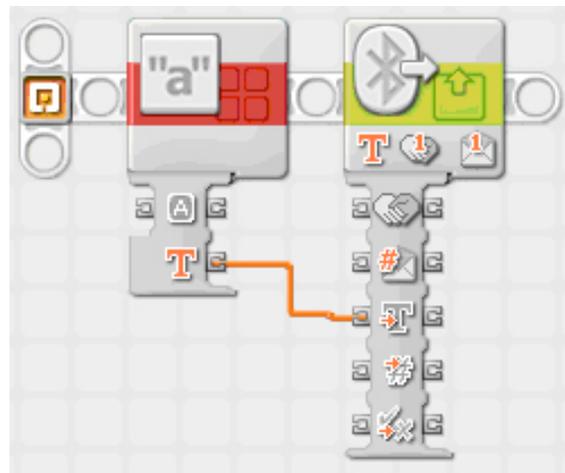
1. In NXT-G, select your NXT window icon in the bottom right corner control panel.
2. Select your NXT under the communication tab.
3. In the right corner is a box to rename your NXT. Type in your unique name (one that is different from the name of your 2nd NXT), and click the arrow to the bottom right when finished.

Establish Bluetooth Connection Between the NXTs:

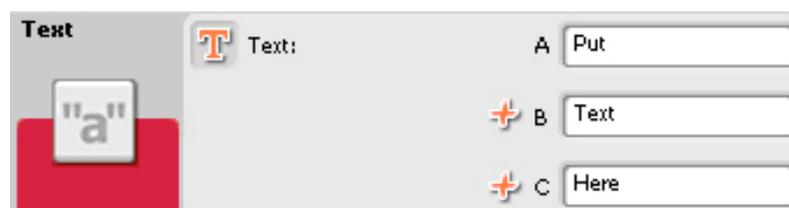
1. Return to the Bluetooth option on the NXT brick menu.
2. Scroll over to search on the sender NXT.
3. The NXT will then prompt you to choose a slot (the NXT can be connected to 4 devices at a time). Choose a free slot.
4. Each NXT will beep and be prompted to enter a passkey. The passkey is 1234 and should be automatically entered on the screen.
5. Select the check mark on both NXTs to establish a connection. This connection can be verified by looking in the top left corner of the NXT screen. If the Bluetooth symbol only has a < sign next to it, no connection has been made. If the Bluetooth symbol has two symbols, <>, next to it, then the connection has been made.
6. Once connected, you can view your available connections under the Bluetooth menu. Scroll over the connections to view them.

Programming Instructions for NXT-G:

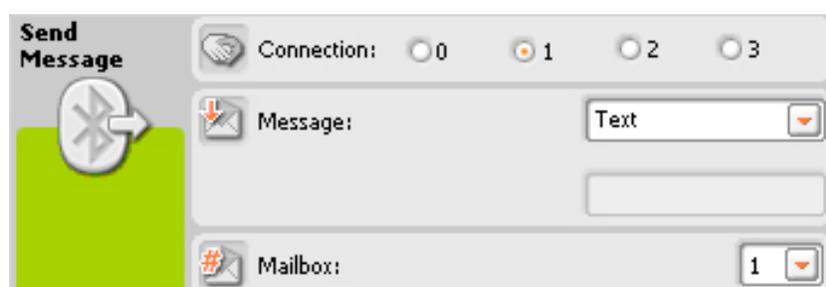
1. Turn the Bluetooth feature on for both NXTs. (see previous page)
2. Rename each NXT so that they can easily identify one another. (see previous page)
3. Choose one NXT to be the sender and one to receive the text message. Establish a connection between your NXTs with the sender. (see previous page)
4. Program the sender NXT to send a message via Bluetooth.



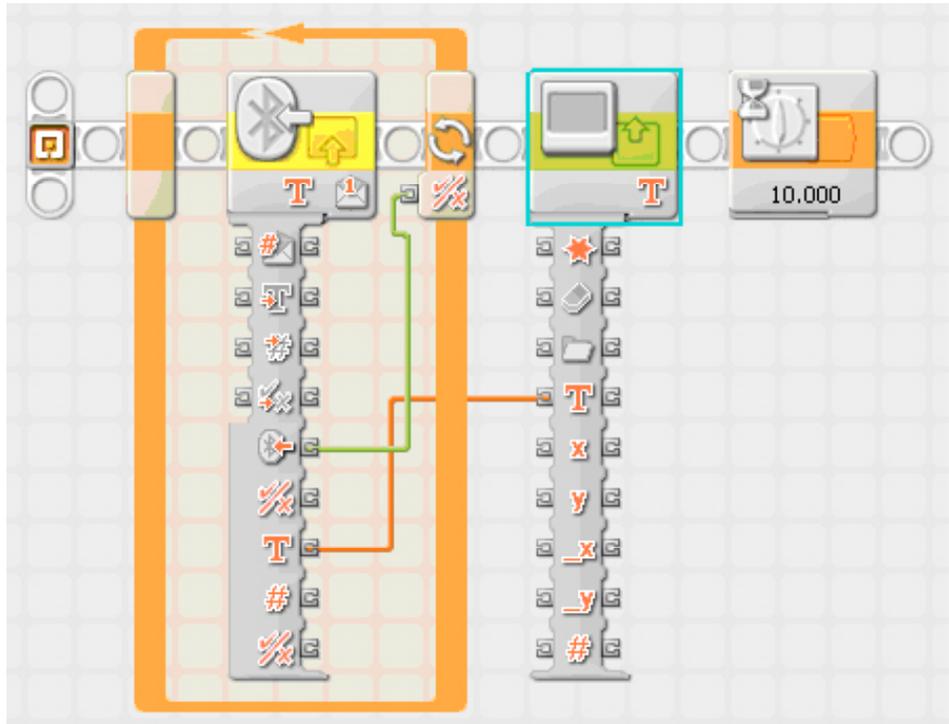
5. Use a text block to type the message you wish to be displayed on your other NXT.



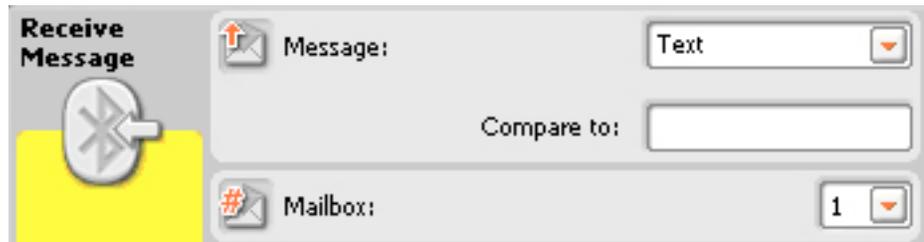
6. Use a send message via Bluetooth block to select a connection number (previously designated when establishing the connection) and data type (text in this instance).



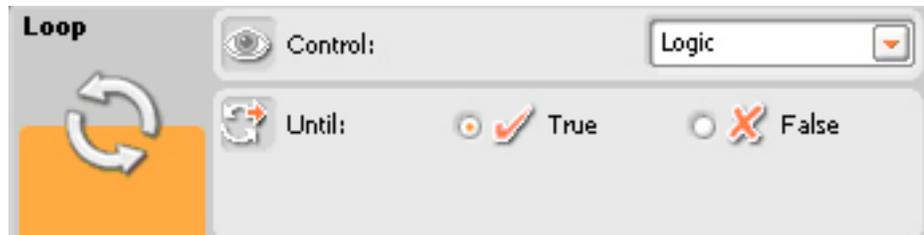
7. Program the receiver NXT to receive a message via Bluetooth.



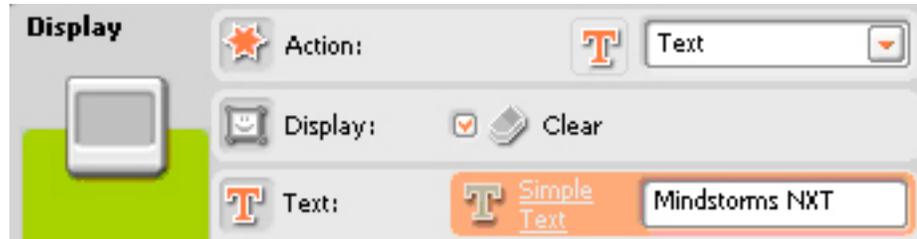
8. Use a receive message via Bluetooth block to monitor for an incoming message. Set the block to receive text.



9. Place the receive message block in a loop so that it continually monitors for the incoming message. The loop will continue until true.



10. Use a display block so that the message received will appear on the NXT screen.



11. Use a wait for block so that the message will appear on the screen for a period of time.

