A Guide to Neruon IoT

Introduction

Hey there! You may have heard about the news "Neuron supports IoT now". But what does IoT actually mean? How should we take advantage of the IoT technology? And what can we do with the IoT technology of Neuron? Guess you are still confused about these questions. Don't worry. You will find all the answers in this essay.

What is IoT?

IoT refers to the Internet of Things. The concept was proposed by Peter T. Lewis in 1985. Over the past decades, mobile phones are playing more important roles in people's daily life because of the rapid development of the mobile Internet. You might find out that almost everyone owns a mobile phone. The mobile phones provide people faster and more efficient ways to communicate with each other and the complex social relationships in the real world extend to the Internet, which gives birth to the "Internet of Humans". The Internet of Humans is growing fast and spawns plenty of well-known companies like Facebook, Google and Tencent. Now, let's put it this way. It's like that devices brought into the Internet of Things all have phones of their own. They use the phones to communicate with each other. It can be fairly said that the IoT will bring plenty of benefits into our life. For instance, in the future, self-driving cars can decide themselves at what speed they are supposed to drive based on the information gathered by sensors. Moreover, IoT gives self-driving cars access to the information about the traffic conditions in real time and helps cars find the most optimal route.

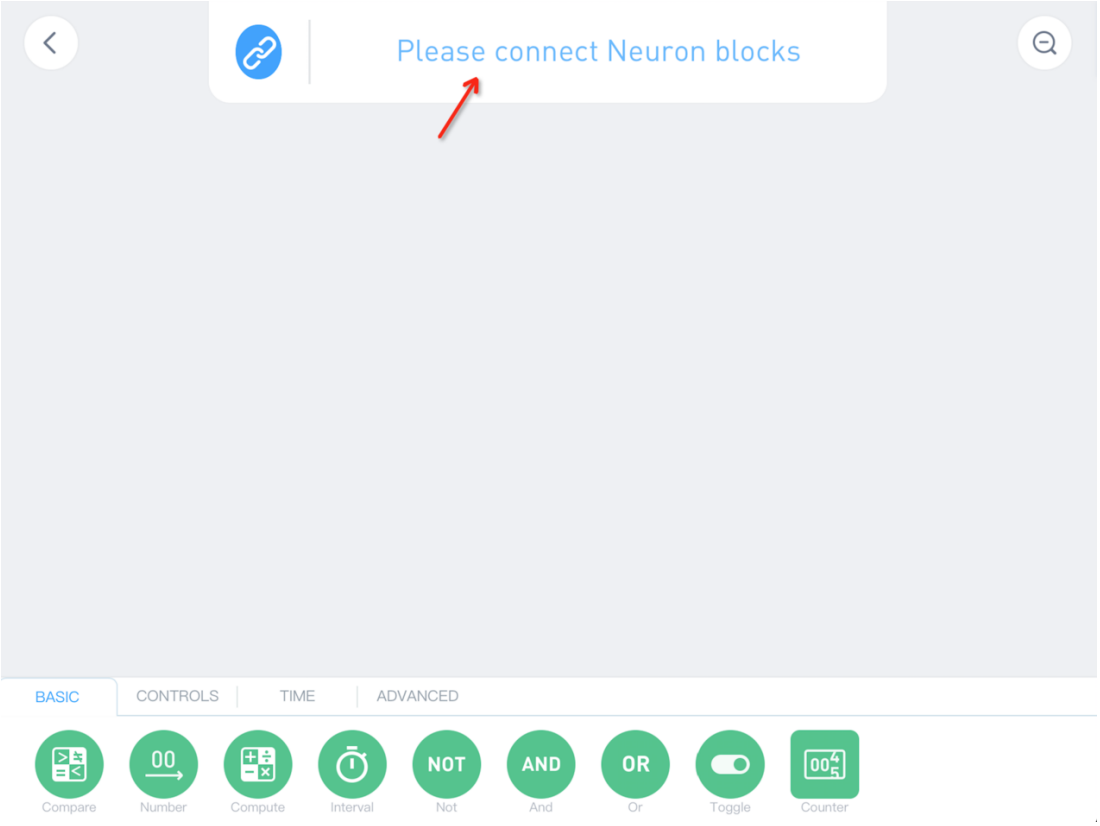
Another example is the Smart Home. By bringing your home appliances into the IoT, you can easily remote control your home appliances to do things.

Simply speaking, once a device or a creature gets connected to the Internet, we can gather the information about them or instruct them to do things, both of which makes IoT commercially appealing.

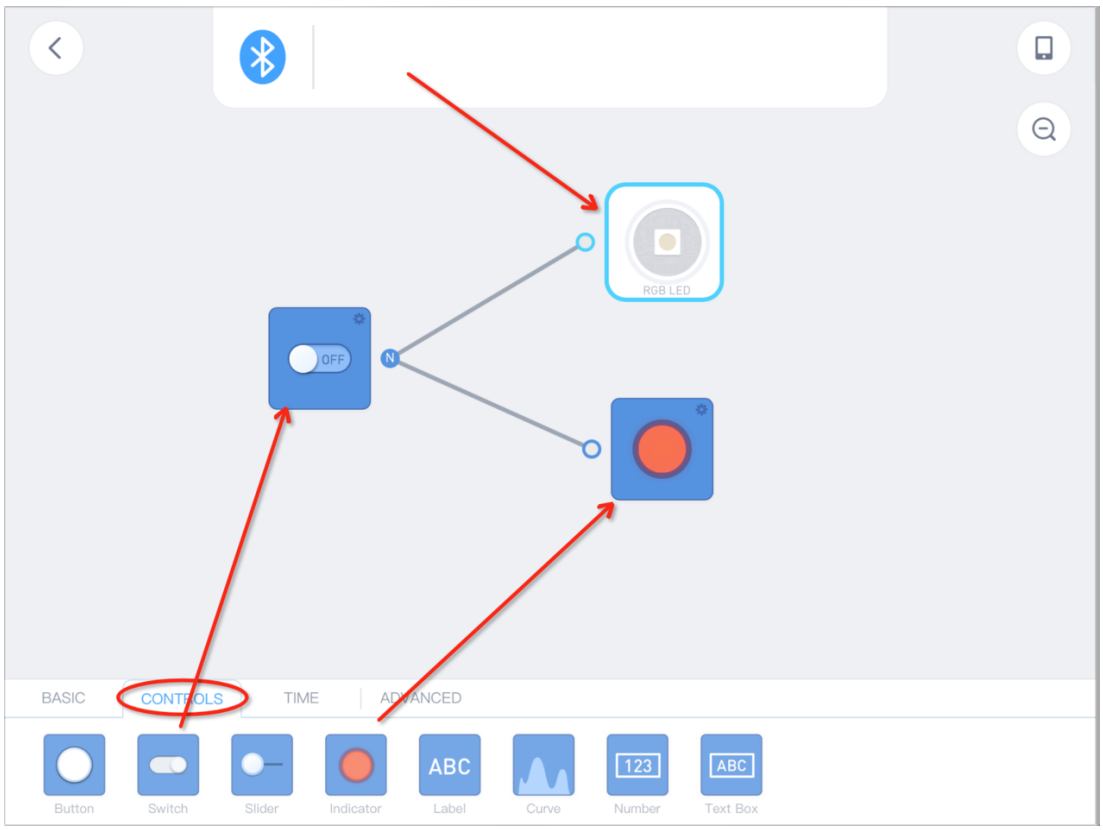
How to use Neuron IoT?

In this session, we will use the RGB LED as an example to show you how to take advantage of the IoT feature to control an LED lamp via Internet.

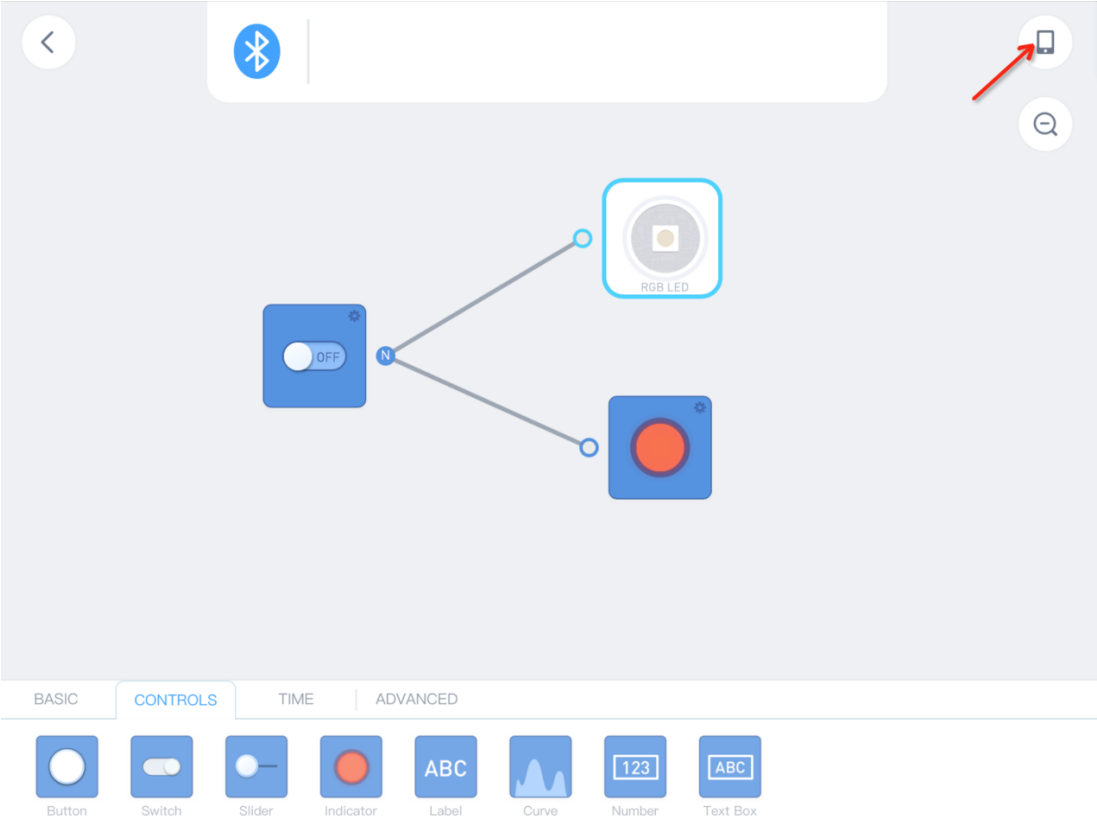
1. Using the Bluetooth block or the Smart Power block, you can connect the Neuron device to the Neuron app.



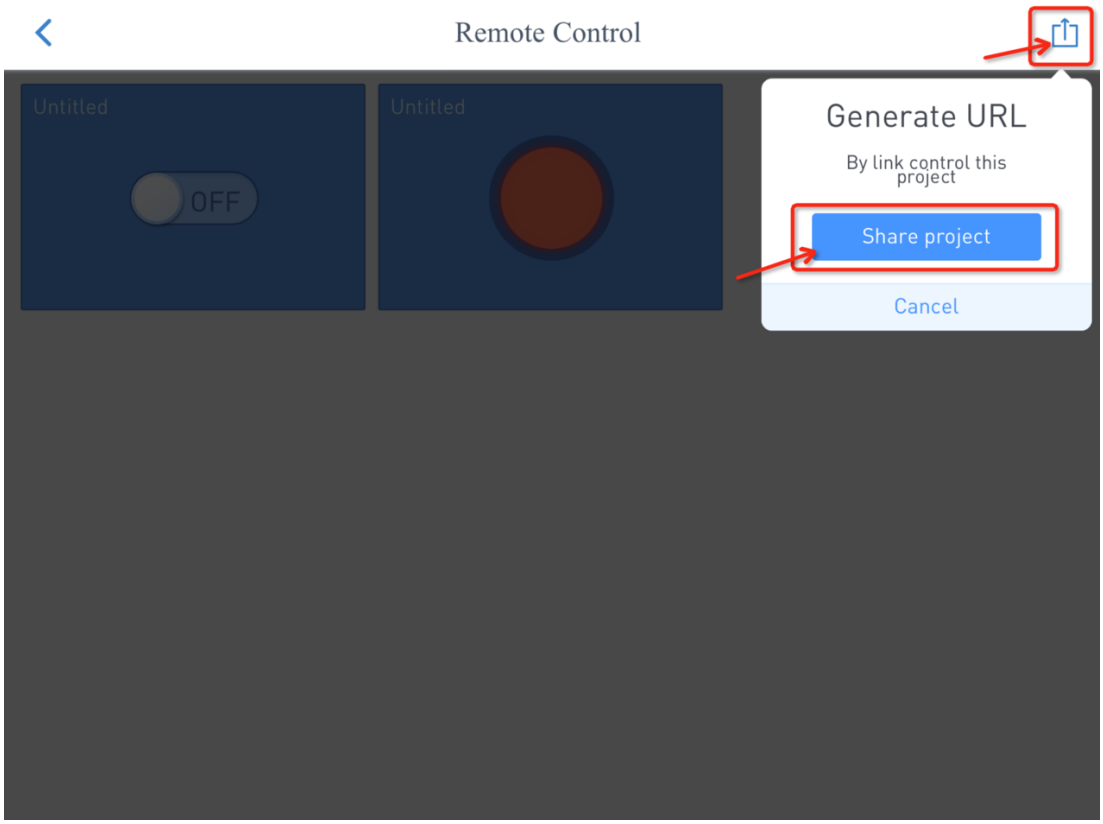
2. Drag nodes from the CONTROLS category to create a project as shown below.

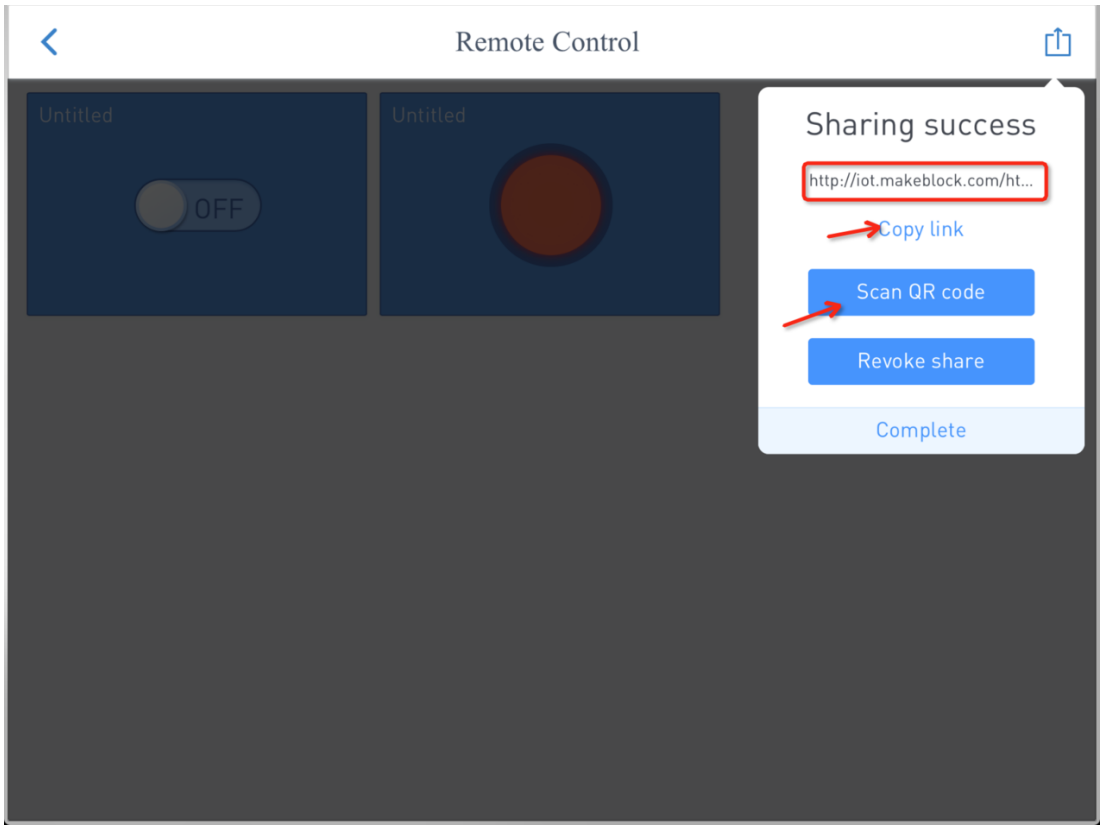


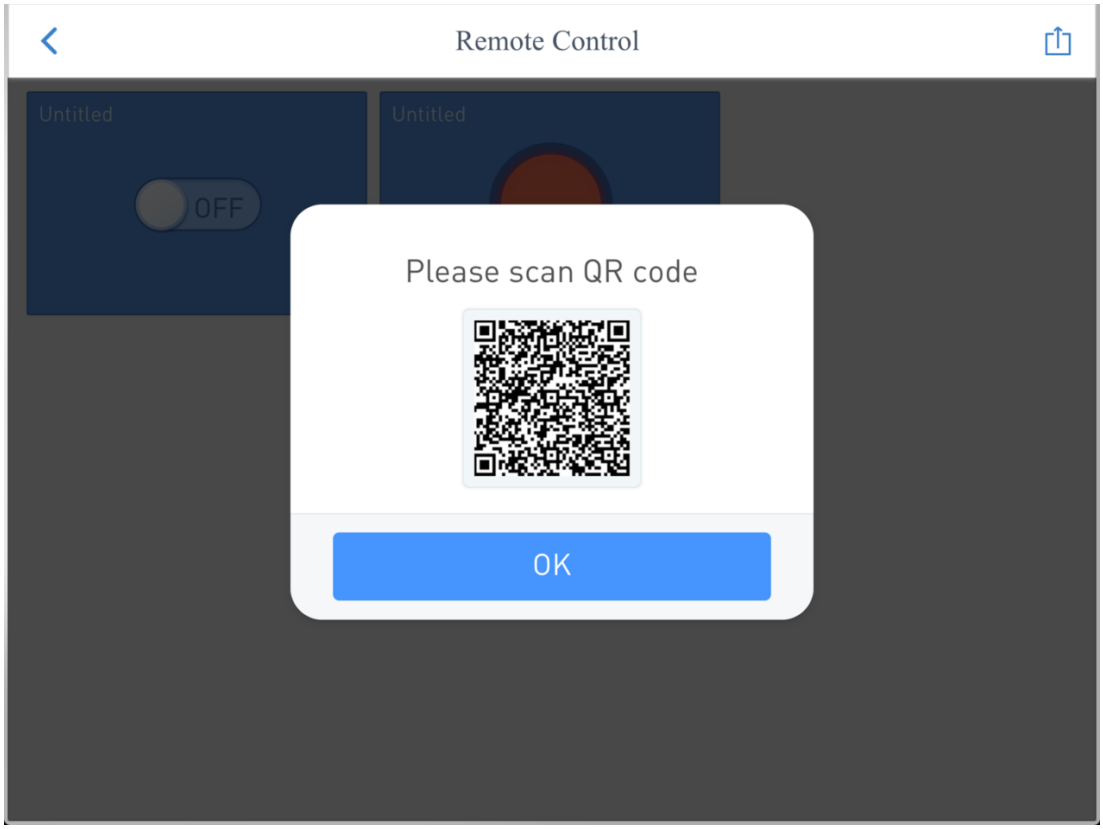
Tap the phone icon on the upper right corner to generate the control interface of the cloud app.



3. Tap the icon as shown below and tap "Share project" to share the cloud app to the mCloud.





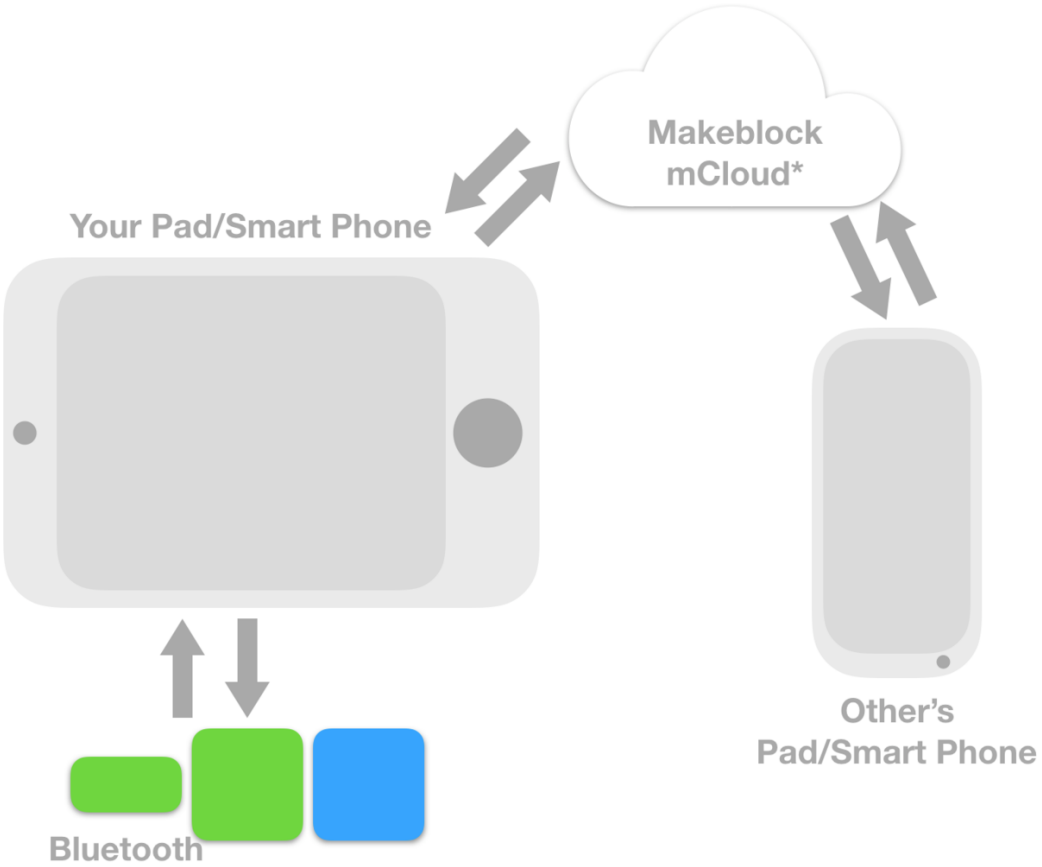


4. A link of the mCloud will be generated. You can tap the copy button to add it to your clipboard. Or you can scan the QR code to open it (good news for your phone~).

5. Now all you need is a device that's connected to the Internet. Open the link on the device and then you can access parameters and control the Neuron to do things. For instance, you can make the RGB LED light up by toggling the switch.
If what you have is a Neuron Inventor Kit, you can still apply the same method to make the LED panel show whatever you like. For instance, you can have the LED panel show weather reports in real time.

How does Neuron IoT work?

Through the Bluetooth block, the Neuron blocks get connected to a mobile device (a cell phone or a tablet). And the mobile device gets connected to the Internet via WiFi and mobile Internet. With the CONTROLS, the Neuron app can a cloud app. By sharing your project to the Makeblock mCloud, you can get a link (of course you can open it by scanning the QR code). Then, you can open the link to read the Neuron blocks or control the blocks to perform tasks anywhere, on any devices.
The following picture shows how they are connected.



The Neuron WiFi block is excellent at calculating so it can transmit images or audios in real time. The role of the WiFi block in the Internet of Things is just like a small cell phone or a tablet.

How is Neuron IoT useful?

In the modern world, IoT is widely applied in many fields and enjoys quite a bright future. The popularity of blockchains and AI brings more possibilities into the IoT, which offers possible solutions to some technology problems. You may want to go the traditional way: buy a WiFi chip, design the hardware, set up and configure the server. However, even for college students, this won't be an easy thing. For most common people, mastering these skills means little. Yes, we commute between two places using vehicles. But we don't have to master the principles of manufacturing, right? The mission of us is to help students create their own IoT projects that can solve problems and make their life better. IoT is just the tool that is used to get problems solved. What's more important is the process of identifying and solving problems. It's more about developing the skills of students in analytical thinking, independent thinking and solving problems. In this aspect, IoT is no exception. It's just a tool, a super user-friendly tool.

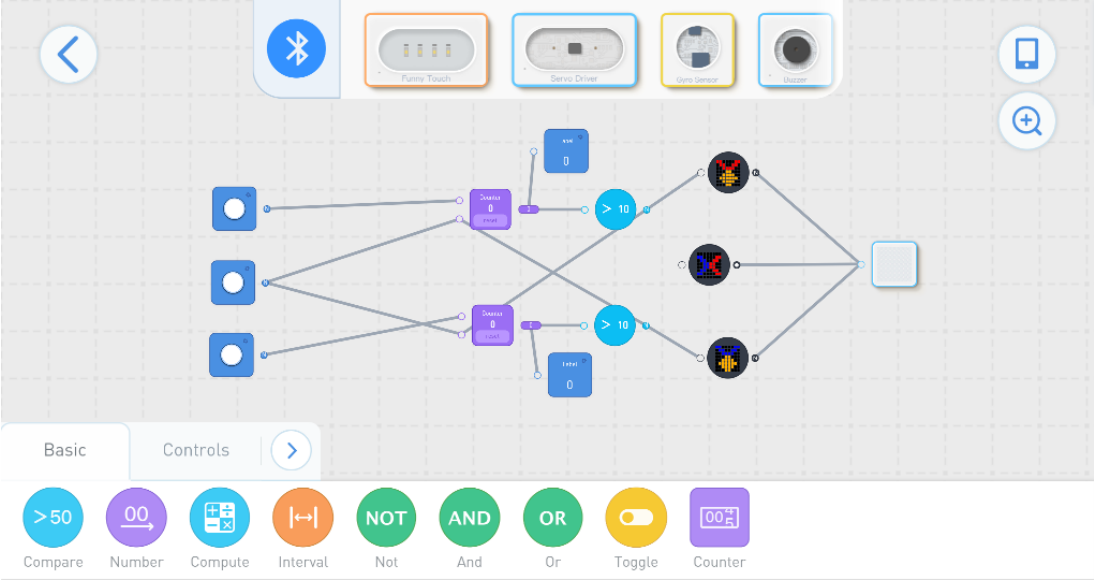
Neuron Sample Projects

Create Real Online Games

The cloud app is 100% open to the pubic so anyone that gets access to the link can open the cloud app (of course, you can unshare it if you'd like). With this feature, you can create your own online games. In the following sample project, only three blocks are needed for creating a simple online game, Bluetooth, Battery and LED Panel. The game allows two online players in this case but you can make some adjustments on the design to include more players.

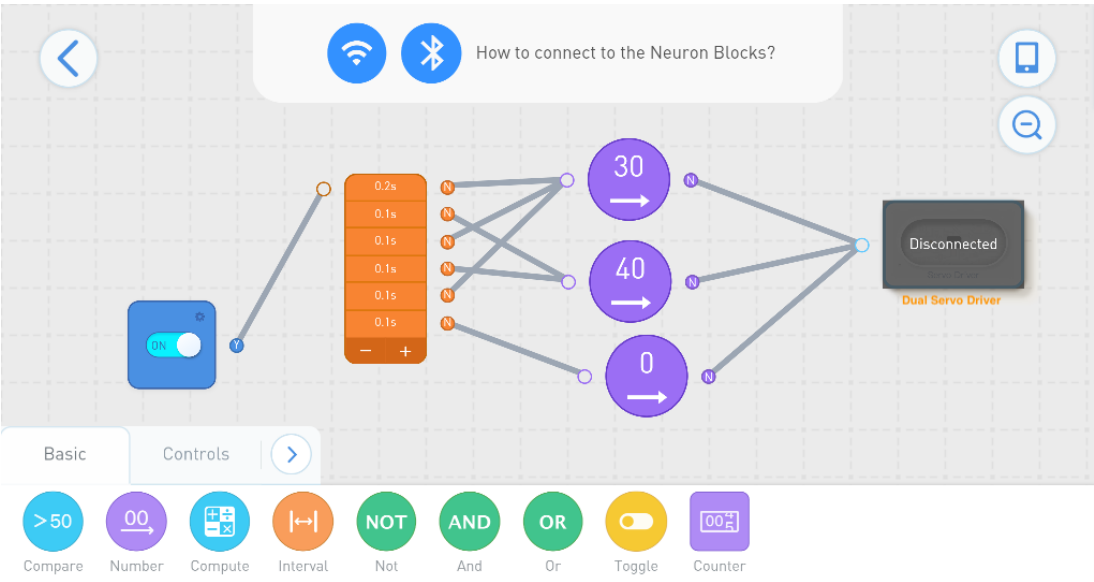
After creating the cloud app, you can share the app to the makeblock mCloud. Send the link or the QR code to a friend and invite him or her to join you on a mobile device.

One of the players acts as the Red team and the other one acts as the Blue team. The two teams take turns pressing the button. The one that bumps into the pre-set number wins the game (the default number is 10 but you can reset it).



Remote Feeding System

The Neuron IoT enables you to control a device that's located thousands of miles away. With this feature, you can do plenty of things. For instance, you can use the servo to keep the magnetic board shaking until the food placed on it fall into the fish bowl. By doing this, you can feed the fish even if you are thousands of miles away. Or you can upgrade the feeding system: Turn it into a cat-feeding system.



Package Pick-up Box

With the IoT feature of Neuron, you can read sensors that are located thousands of miles away. Behind the values often hides some important information. For instance, you can use the ultrasonic sensor block to make yourself a smart package pick-up box. The value remains high when no package is left in the box; and the value will fall once there's a package left in the box. Ok, now you make yourself a smart package pick-up box.