

Sign In (https://www.hackster.io/users/auth/arduino?current_site=arduino&setup=true&redirect_to=%2Fprojecthub%2Fmtashiro%2Fcontrol-servos-using-wii-nunchuk-9136bd)

Control Servos using Wii Nunchuk

In this project we will connect a Wii nunchuk to an Arduino and control pan/tilt servos.

arudino (/projecthub/projects/tags/arudino)

wii nunckuk (/projecthub/projects/tags/wii+nunckuk)

14,731 VIEWS 8 COMMENTS 56 RESPECTS

COMPONENTS AND SUPPLIES



Arduino UNO & Genuino UNO
(/projecthub/products/buy/41?
s=BAhJlhYxNzI1MyxCYXNIQXJ
OaWNsZQY6BkVG%0A)


(/projecthub/pro
ducts/buy/41?
s=BAhJlhYxNzI1M
yxCYXNIQXJOaW
NsZQY6BkVG%0
A)

×1

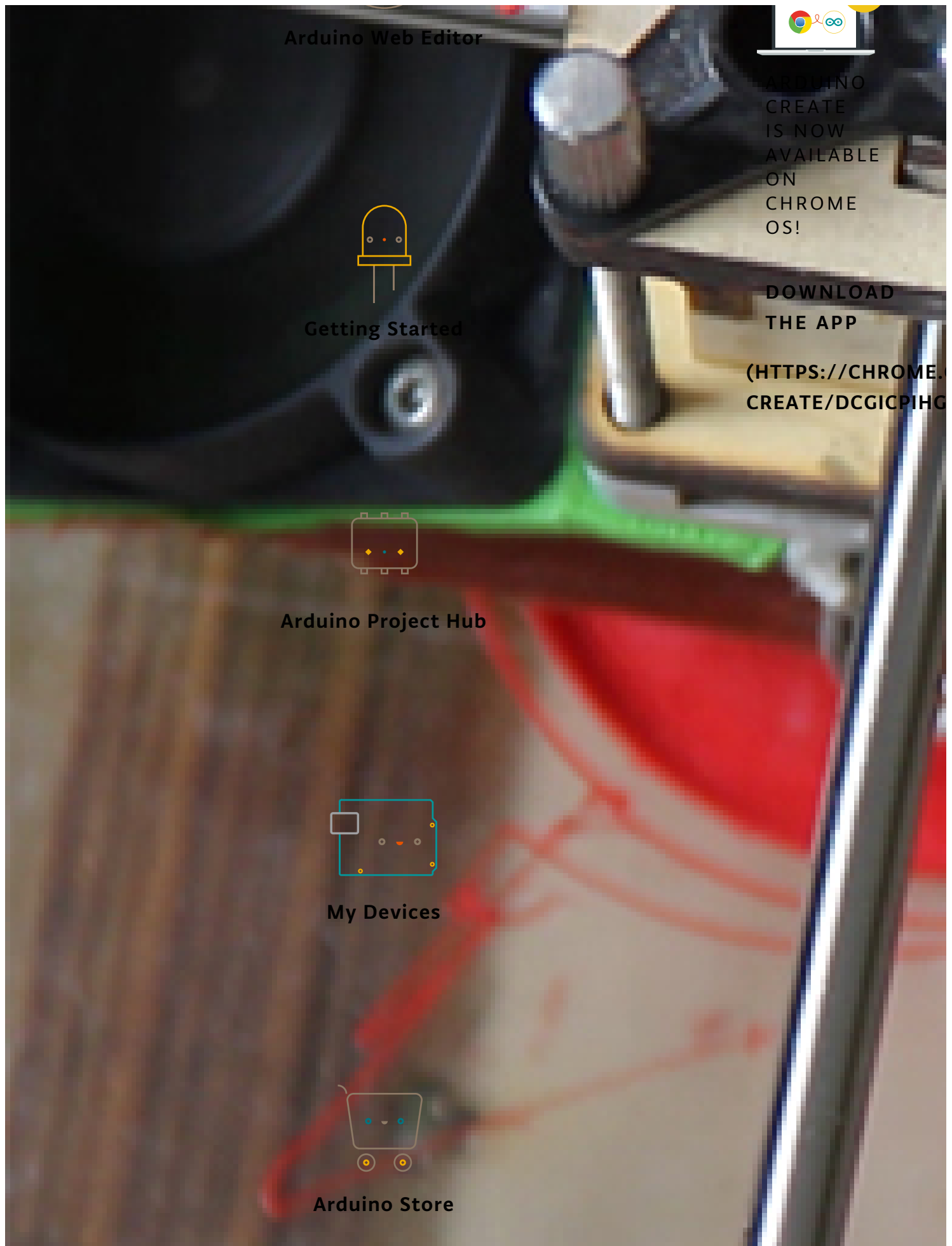
((/proj (/projecthub/products
/ ecthu /buy/41?
p b/pro s=BAhJlhYxNzI1MyxCYX
r ducts NIQXJOaWNsZQY6BkV
o /buy/ G%0A)
j 41?
e s=BAh
c JlhYx
t NzI1M
h yxCYX
u NIQXJ
b OaWN
/ sZQY6
p BkVG
r %0A)
o
d
u
c
t
s
/
b
u
y
/
4
1
?
s
=
B

A
h
Jl
h
Y
x
N
z
l
l
M
Y
x
C
Y
X
N
l
Q
X
J
O
a
W
N
s
Z
Q
Y
6
B
k
V
G
%
O
A
)

Pan/Tilt Kit
(/projecthub/products/buy/8469?s=BAhJlhYxNzI1MyxCYXNIQXJOaWNsZQY6BkVG%0A)

×
(1 
/ (/proj (/projecthub/products/buy/8469?s=BAhJlhYxNzI1MyxCYXNIQXJOaWNsZQY6BkVG%0A)
p ecthu /buy/8469?
r b/pro s=BAhJlhYxNzI1MyxCYX
o ducts NIQXJOaWNsZQY6BkV
j /buy/ G%0A)
e 8469?
c s=BAh
t JlhYx
h NzI1M
u yxCYX
b NIQXJ
/ OaWN
p sZQY6
r BkVG
o %0A)
d
u
c
t
s
/
b
u
y
/
8







o BkVG
d %0A)
u
c
t
s
/
b
u
y
/
8
4
7
1
?
s
=
B
A
h
Jl
h

,"
Y
X
N
Z
I
I
M
Y
X
C
Y
X
N
I
Q
X
J
O
a
W
N
s
Z
Q
Y
6
B
k
V
G
%
O
A
)

×
(
,


.
Z
I
I
M
Y
x
C
Y
X
N
I
Q
X
J
O
a
W
N
s
Z
Q
Y
6
B
k
V
G
%
O
A
)

Jumper wires (generic)
(/projecthub/products/buy/4
5?
s=BAhJlhYxNzI1MyxCYXNIQXJ
0aWNsZQY6BkVG%0A)

×
(
/
p
r
n



(/projecthub/products/buy/45?s=BAhJlhYxNzl1MyxCYXNIQXJOaWNsZQY6BkVG%0A)

u
j
e
c 1 
t (/proj (/projecthub/products
h ecthu /buy/45?
u b/pro s=BAhJlhYxNzl1MyxCYX
b ducts NIQXJOaWNsZQY6BkV
/ /buy/ G%0A)
p 45?
r s=BAh
o JlhYx
d Nzl1M
u yxCYX
c NIQXJ
t OaWN
s sZQY6
/ BkVG
b %0A)
u
y
/
4
5
?
s
=
B
A
h
Jl
h
Y
x
N
z
l
1
M
Y

x C Y X N I Q X J O a W N s Z Q Y 6 B k V G % O A)

× 1

^

11/20

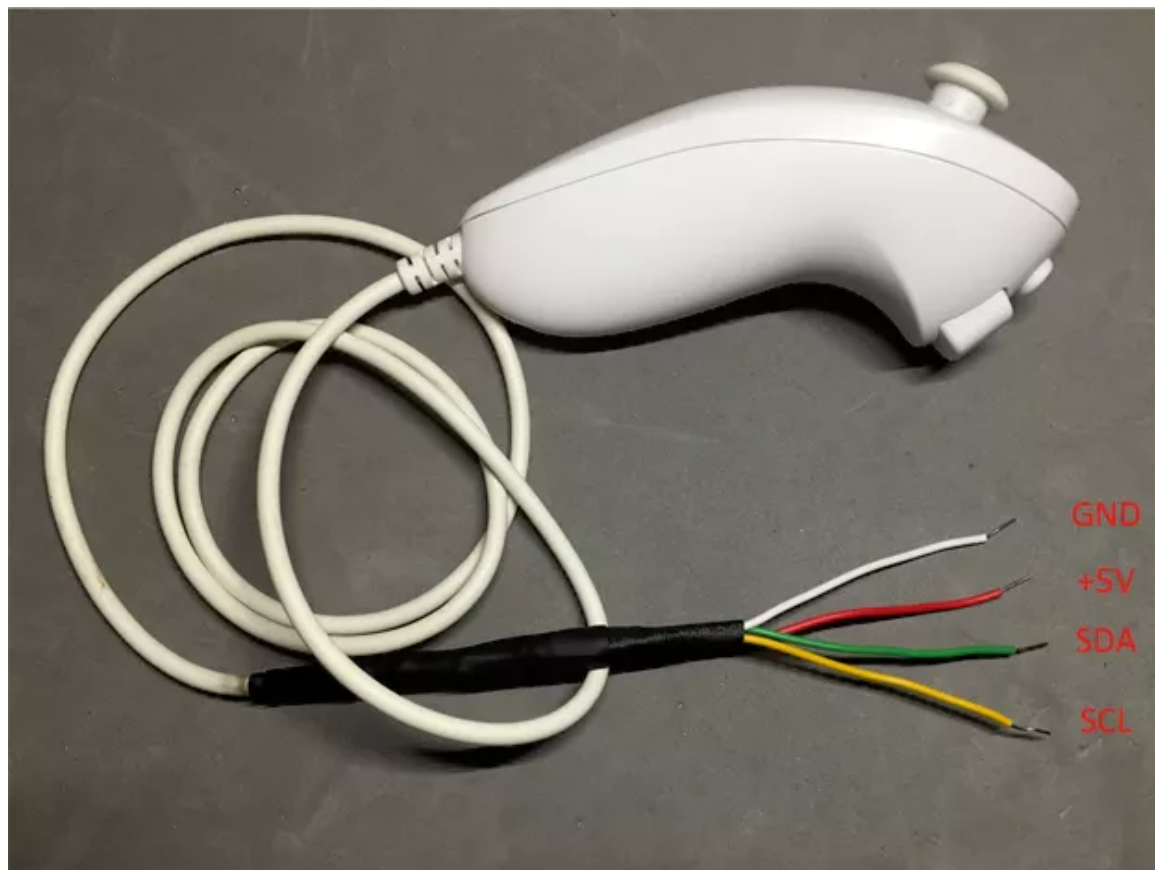
I came across some old Will nunchuks in a closet and thought, "perfect gadget to connect to an Arduino". After some time with a hackster.io users best friend, Google, it looked like the nunchuk uses I2C. Perfect for an Arduino. It also looks like a lot of people have done exactly that. So I did some digging at found some code from todbot.com to utilize the Will nunchuk then added my own code to control the servos!

This is a very simple project and I am sure you can find plenty of applications for this. Like teasing your cat with a laser pointer attached. :)

Step 1 - Wii Nunchuk

There are a couple ways to connect this to the Arduino. You can buy a Wii nunchuk adapter (<https://www.sparkfun.com/products/9281>) or do what I did and just cut the wires since I didn't have a Wii to connect it to any longer.

I soldered some solid core wires to the nunchuk wires so I could make breadboard connections easier. I matched the color to the exposed nunchuk wires.



Pins

Connect Wii Nunchuk to Arduino UNO as follows:

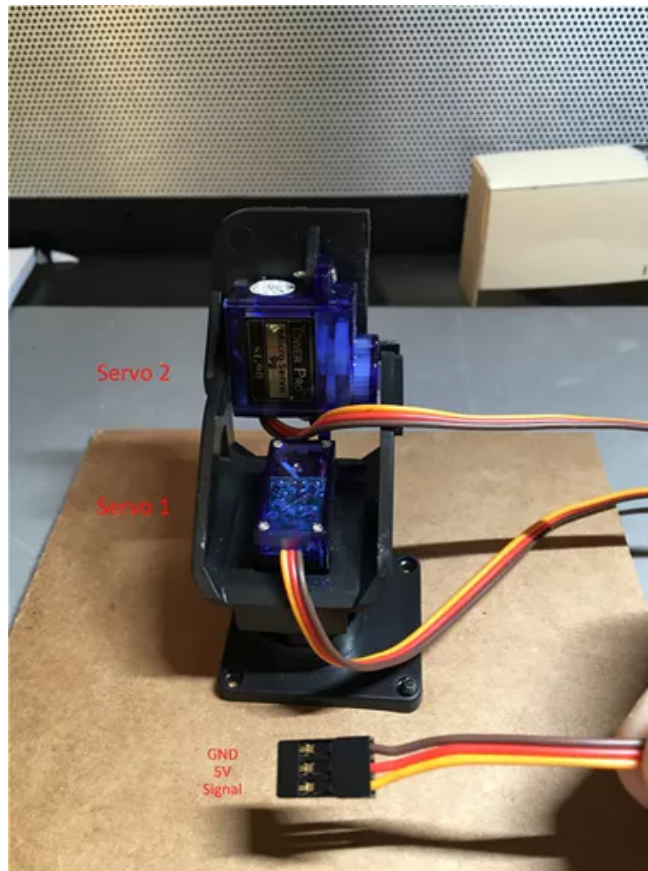
White wire (GND) --> GND

Red wire (+5V) --> 5V

Green Wire (SDA) --> Analog 4 or dedicated SDA pin

Yellow (SCL) --> Analog 5 or dedicated SCL pin

Step 2 - Connect Servos to Arduino



Servo pins

Connect the three wires to the Arduino as follows:

Servo 1 (x-axis)

Brown (GND) --> GND

Red (5V) --> 5V

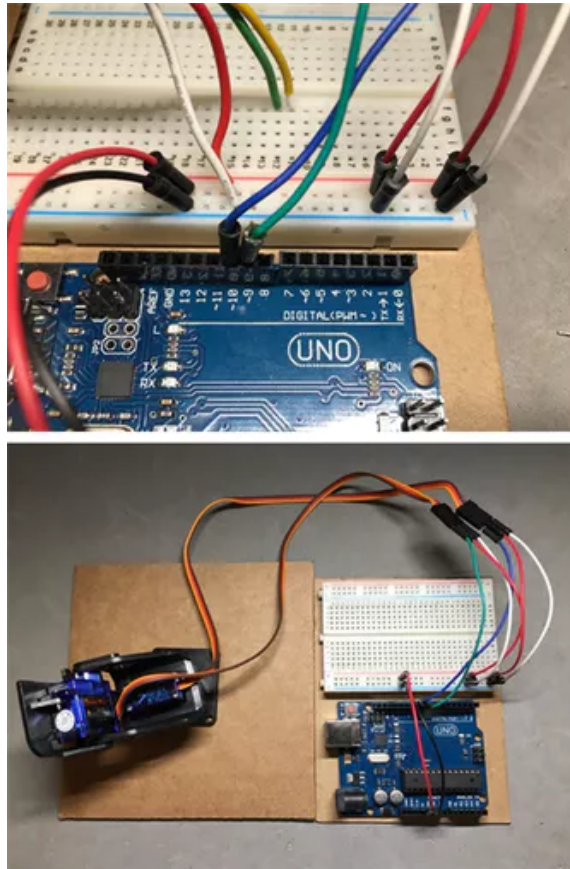
Yellow (data/Signal) --> Pin 10 on the UNO

Servo 2 (y-axis)

Brown (GND) --> GND

Red (5V) --> 5V

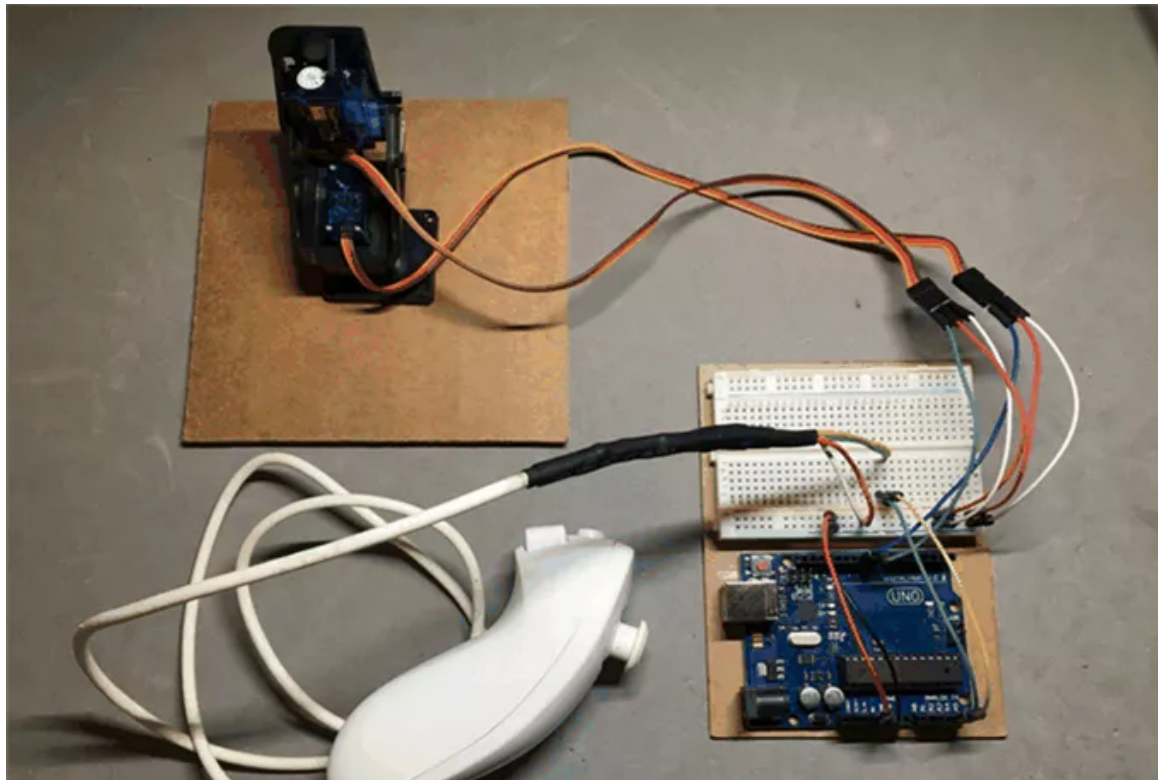
Yellow (data/Signal) --> Pin 9 on the UNO



UNO Connections

Step 3 - Bringing it all together

Here's what it looks like all connected. Kinda messy sorry.



Upload the code using the Arduino IDE. There are 2 standard libraries that you need.

- The code will do the following:

- Initialize the nunchuk using I2C
- Initialize the servos
- Read the nunchuk data
- Move the servos based on the nunchuk readings

*** Thanks to todbot.com for the Will nunchuk code.

See it in action!!

Wii Servo control



I hope this is useful and please provide me with any feedback as I am always willing to learn. Enjoy!!!

CODE

nunchuk_code Arduino



(/PROJECTHUB/CODE_FILES/53652/DOWNLOAD)

Code used to read Wii nunchuk and position servos




```

12  */
13
14  #include <Wire.h>
15  #include <Servo.h>
16
17  Servo servoLeft;          // Define left servo
18  Servo servoRight;         // Define right servo
19
20  static uint8_t nunchuck_buf[6];  // array to store nunchuck data,
21

```

COMMENTS

Please log in (/projecthub/users/sign_in?

id=17253&m=base_article&reason=comment&redirect_to=%2Fprojecthub%2Fmtashiro%2Fcontrol-servos-using-wii-nunchuk-9136bd%23comments) or sign up

(/projecthub/users/sign_up?

id=17253&m=base_article&reason=comment&redirect_to=%2Fprojecthub%2Fmtashiro%2Fcontrol-servos-using-wii-nunchuk-9136bd%23comments&source=popup) to comment.



Mike Hogan (/projecthub/mhogan)

2 years ago

(/pr
Great
hack !!
ject
hub/
mho
gan)



Mark Tashiro (/projecthub/mtashiro)

2 years ago

(/pr
Thank
you Mike
ject
hub/
mtas
hiro)



Aris Tomaselli (/projecthub/Kiriaus)

2 years ago

Sorry but I don't understand what the Nunchuck_setpowerpins function is used for.
 Could you explain this point? Thanks

hub/

Kiria

us)



Tiritoakiwi (/projecthub/Tiritoakiwi)

10 months ago

(/pr
 Thanks so much. Worked like a charm.

object

hub/

Tirit

oaki

wi)



Mark Tashiro (/projecthub/mtashiro)

10 months ago

(/pr
 Glad it worked out for you!

object

hub/

mtas

hiro)



LLB99 (/projecthub/LLB99)

9 months ago

(/pr

Hi!

My project works perfectly but i would like you to explain to me what the
 nunchuck_decode_byte function is for.

I expect a response soon.

THX



alexdeng890 (/projecthub/alexdeng890)

7 months ago

(/pr

How would you add LEDs to it so when you turn left or right on the nunchuck, an LED
 turns on?

Ex: Servo Turns Left, Green LED Turns On, Servo Turns Right, Red LED Turns On

alex
 Any information will be appreciated.

890)

**neelp1030 (/projecthub/neelp1030)**

11 days ago

(/pr
Is one micro servo needed or two?
ject
hub/
neel
p103
0)

AUTHOR

(/projecthub/mtashiro)

Mark Tashiro (/projecthub/mtashiro)

4 PROJECTS 27 FOLLOWERS

FOLLOW (/PROJECTHUB/USERS/SIGN_UP?ID=58262&M=USER&REASON=FOLLOW&REDIF**ADDITIONAL CONTRIBUTORS**

- Wii nunchuk code by todbot (<http://todbot.com/blog/bionicarduino/>)

PUBLISHED ON

February 27, 2016

RESPECT PROJECT (/PROJECTHUB/USERS/SIGN_UP?ID=17253&M=ARTICLE&REASON=RESPECT&RE...**GIVE FEEDBACK****Share****I made one (/projecthub/users/sign_up?id=17253&m=base_article&reason=follow&redirect_to=%****MEMBERS WHO RESPECT THIS PROJECT**

(/projecthub/asoomar)



(/projecthub/mhogan)



(/projecthub/jordanwolf1)



(/projecthub/ITProfis)



(/projecthub/mulderp)



(/projecthub/RobotHacker)



(/projecthub/noelbarbuto)



(/projecthub/daniel6610)

and 48 others

PROJECT REPLICATED BY

