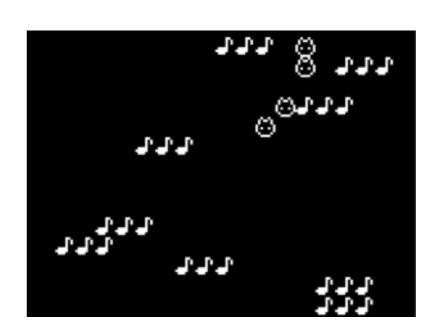
Deployment and Application of Low-Cost Programming Platform for Elementary and Junior High school Students of Nepal

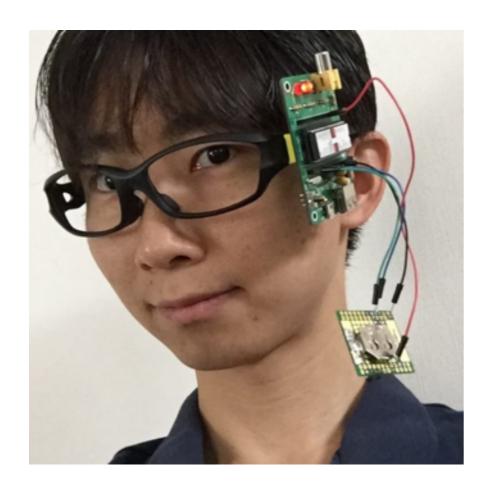














FUKUNO Taisuke 福野 泰介

Inventor of IchigoJam computer
Chair of jig.jp co., Itd.
Co-founder of PCN
(Programming Club Network)

Japan Government's Open Data Evangelist





jig.jp

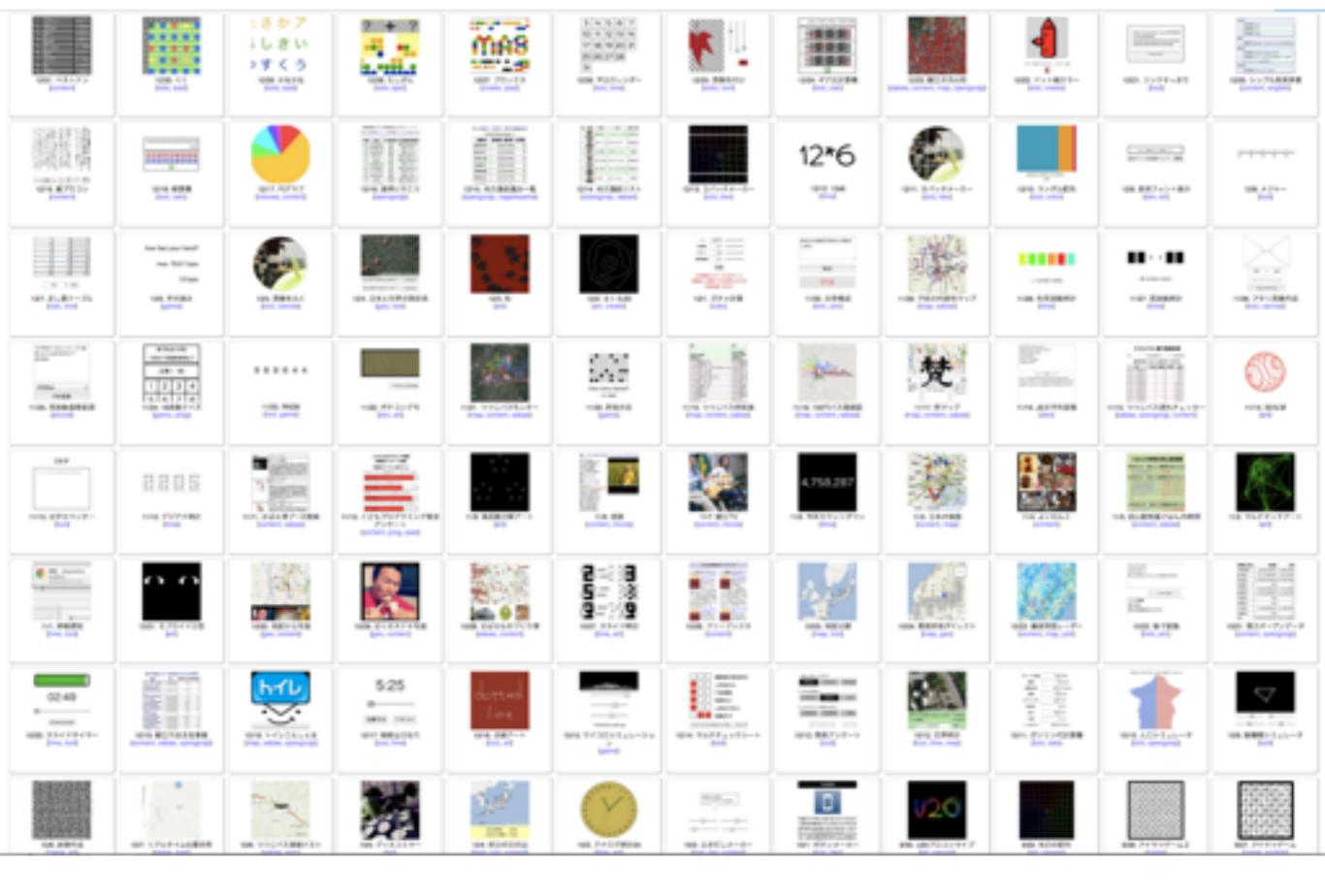
mobile tool softwares closed you for better society

since 2003





Ichi-Nichi Issou (one day, one creation) https://fukuno.jig.jp/

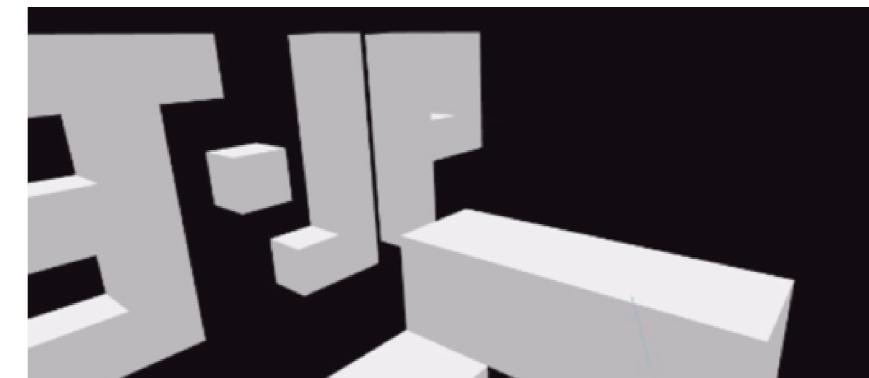


I created 366 web apps in 2012. http://fukuno.jig.jp/2012/

"Oculus Quest" The Latest computer: Mobile VR



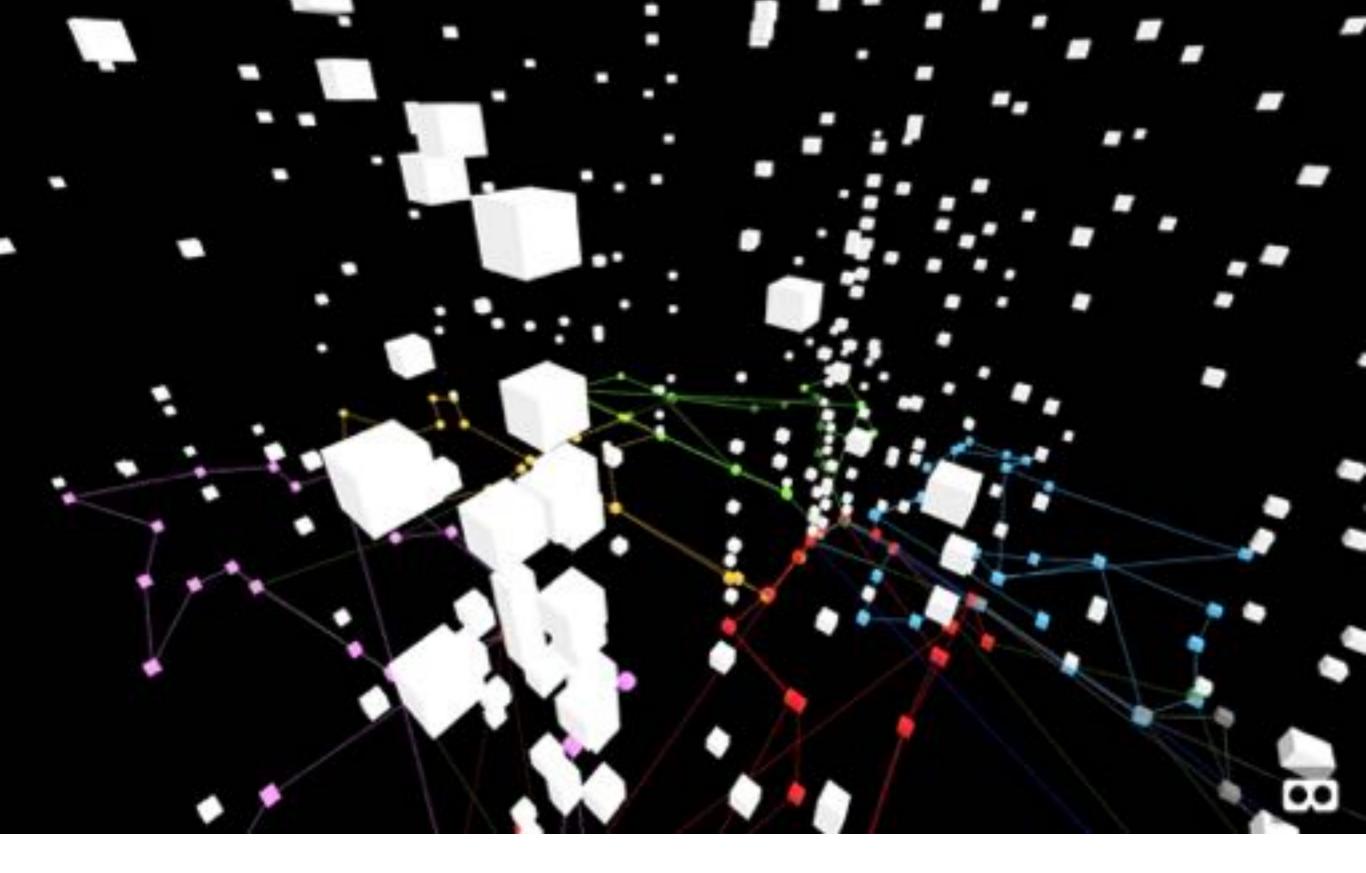
¥49,800-



Like a Minecraft Just 50 lines program!



```
<!DOCTYPE html>
<html>
<head>
     <meta charset="utf-8"/>
     <title>boxcraft for Oculus Quest - A-Frame</title>
     <script src="https://aframe.io/releases/0.9.1/aframe.min.is">
</script>
</head>
<body>
<script>'use strict'
window.onload = function() (
     const scene = document.querySelector('a-scene')
     const list = []
     handright.addEventListener('triggerdown', function(evt) {
           const p = handright.getAttribute('position')
           const snap = 0.1
           let p2 = {
                 x: Math.floor(p.x / snap) * snap + snap / 2,
                 y: Math.floor(p.y / snap) * snap + snap / 2,
z: Math.floor(p.z / snap) * snap + snap / 2.
           let box = document.createElement('a-box')
           box.setAttribute('position', p2)
           box.setAttribute('mixin', 'voxel')
           scene.appendChild(box)
           list.push(box)
     handright.addEventListener('gripdown', function(evt) (
           const b = list.pop()
           if (b)
                 scene.removeChild(b)
     handright.addEventListener('bbuttondown', function(evt) [
           const boxes = scene.querySelectorAll('a-box')
           for (let i = 0; i < boxes.length; <math>i++)
                 scene.removeChild(boxes[i])
     })
</script>
<a-scene>
     <a-assets>
     <a-mixin id="voxel"
           geometry="primitive: box; height: 0.1; width: 0.1; depth: 0.1"
           material="shader: standard">
     </a-mixin>
     </a-assets>
     <a-entity id=handleft oculus-touch-controls="hand: left"></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a-entity></a></a></a>
     <a-entity id=handright oculus-touch-controls="hand: right" laser-</p>
controls raycaster="showLine: true; far: .05" line="color: white;
opacity: 0.75;"></a-entity>
</a-scene>
</body>
</html>
```



Realtime Bus Location Open Data VR visualization of Sabae city

Primary School Kids in Nepal - TabularMaps

Nepal		Taplejung	Sankhuwasabha	Solukhumbu	Panchthar	Illam
		33,117	25,719	20,410	31,059	32,955
Dhankuta	Terhathum	Bhojpur	Okhaldhunga	Khotang	Udayapur	Jhapa
20,767	14,966	26,535	23,685	41,894	45,751	99,079
Morang	Sunsari	Saptari	Siraha	Dolakha	Sindhupalchok	Rasuwa
106,666	105,010	90,082	88,649	28,739	42,904	5,638
Sindhuli	Ramechhap	Kavrepalanchok	Nuwakot	Dhading	Makwanpur	Lalitpur
54,201	28,819	58,467	38,345	51,949	67,401	61,387
Bhaktapur	Kathmandu	Dhanusa	Mahottari	Sarlahi	Rautahat	Bara
30,233	185,783	123,543	123,106	154,034	122,770	155,144
Parsa	Chitwan	Manang	Mustang	Gorkha	Lamjung	Tanahu
101,385	77,954	285	1,505	40,421	22,175	46,286
Syangja	Kaski	Myagdi	Parbat	Baglung	Gulmi	Palpa
35,407	58,130	15,642	16,104	45,222	44,086	38,136
Arghakhanchi	Nawalparasi	Rupandehi	Kapilvastu	Dolpa	Jumla	Kalikot
29,932	95,954	133,612	105,528	6,013	20,311	34,909
Mugu	Humla	Pyuthan	Rolpa	Rukum	Salyan	Surkhet
10,888	11,794	47,047	47,468	59,730	46,293	66,941
Dailekh	Jajarkot	Dang	Banke	Bardiya	Bajura	Bajhang
59,893	56,072	81,579	85,237	67,846	25,845	48,928
Darchula	Achham	Doti	Dadeldhura	Baitadi	Kailali	Kanchanpur
20,861	58,660	41,851	21,839	54,903	133,717	64,865

App of Nepal - using Open Data Nepal

https://fukuno.jig.jp/2460



Nepal and me (Thank you introduce me Mr. Achyut Sapkota Kisarazu, KOSEN)

I graduated from FUKUI KOSEN. KOSEN bring up ICT people local area in Japan.

5 years tech school, KOSEN is spreading to outside of Japan.



IchigoJam CLUB in Mongol KOSEN (2015)

If all Kids can program?

There are a lot of problems in the world.

Let's solve by IT across any borders! (ages, areas and cultures)



IchigoJam workshop in Nepal

by PCN & KidsVenture

at SHREE
MADAN-AASHIRIT ADARSHA
BASIC SCHOOL
2019/04/16
(2076/1/3 at Nepal)





Do you know the price of latest VR development software?

Do you know the price of latest VR development software?



Do you know the price of latest AI development software?

Do you know the price of latest AI development software?



It's really excited era by programmer!

Message for Nepali Kids

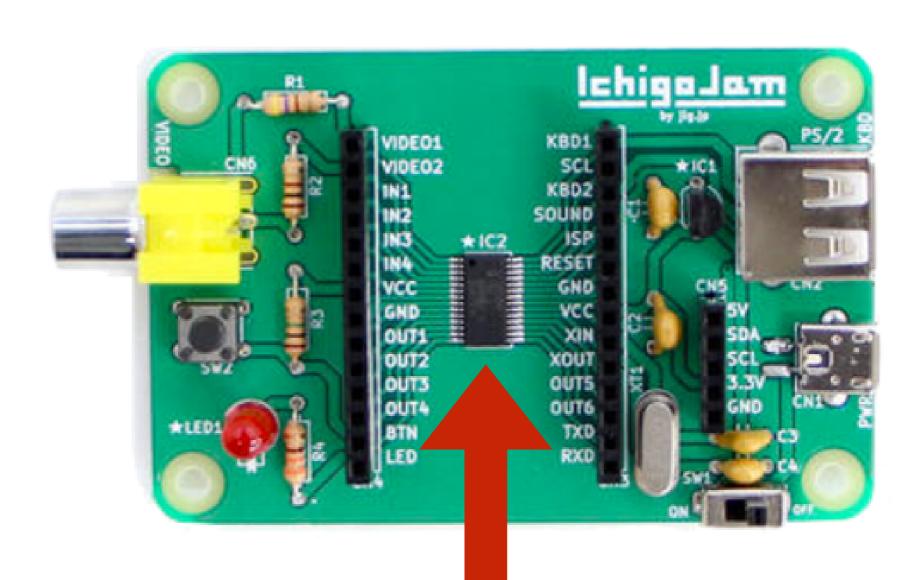
Your dreams come true by learning.

Learn how to learn.

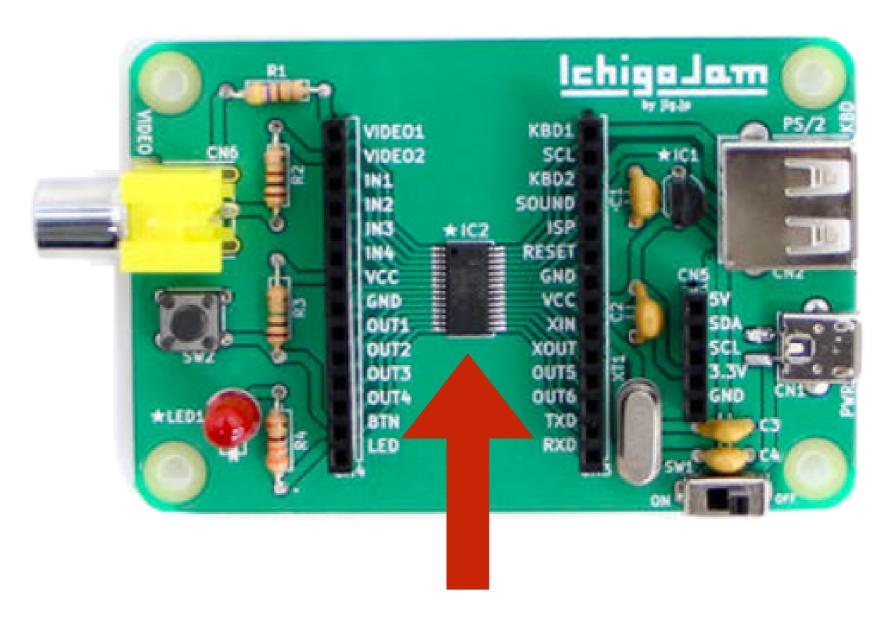
Try to get own web device.

You're lucky that you can use global language!! (I hope to collaborate with Japanese Kids also)

Do you know the price of CPU?



Do you know the price of CPU?



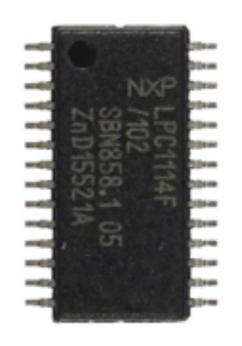
1\$CPU



1\$CPU

How many times can it calculates in 1 second?

Image: LPC1114 秋月電子



50,000,000 times!

(ARM RISC CPU, maximum clock: 50MHz)

Image: LPC1114 秋月電子

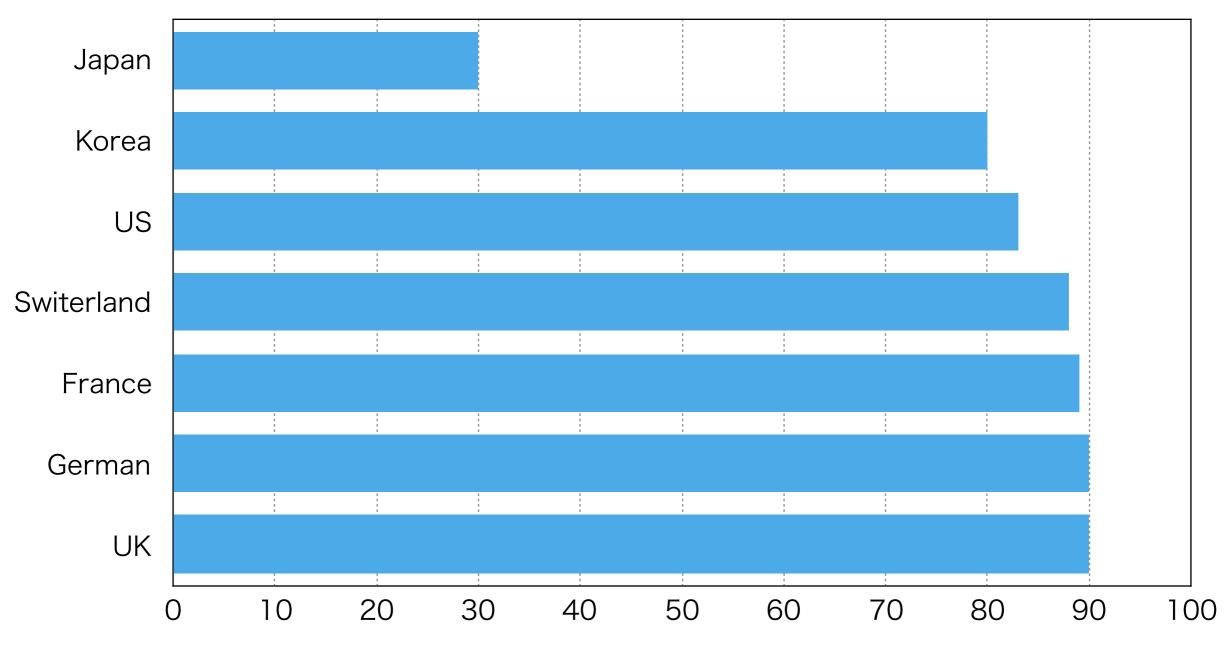
Can you see computers around you?



Washing Machine by Panasonic

Poor Japanese Kids

percentage of Kids(13-15) computer owner



内閣府「わが国と諸外国の若者の意識に関する調査」(2013) Japan Gov's stat

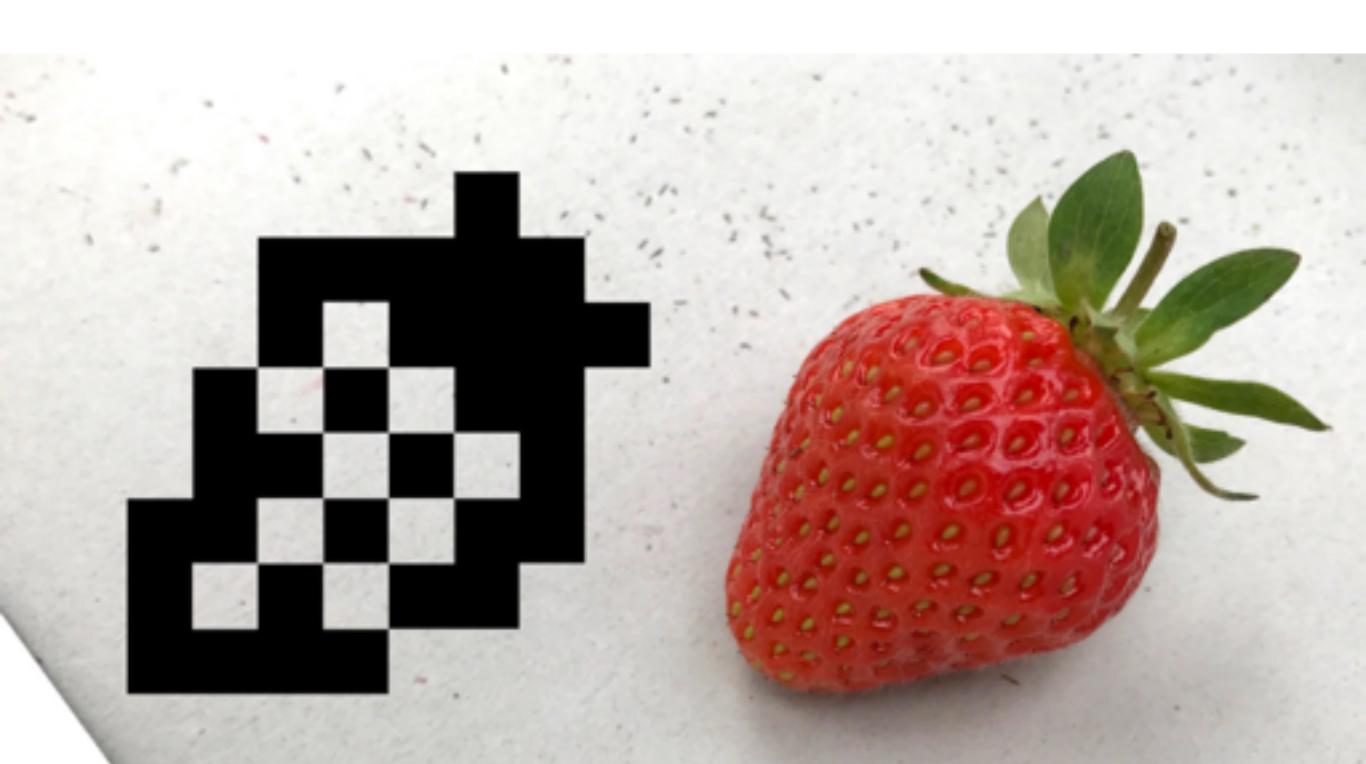
Solution!

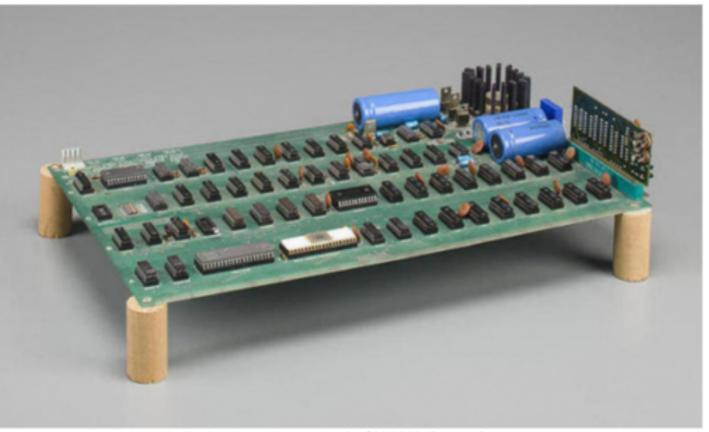




\$15 PC to learn programming

Ichigo イチゴ@ja = strawberry@en Ichi = 1 / Go = 5 → \$15 computer





An Apple I that sold at auction for \$905,000. Source: Bonhams

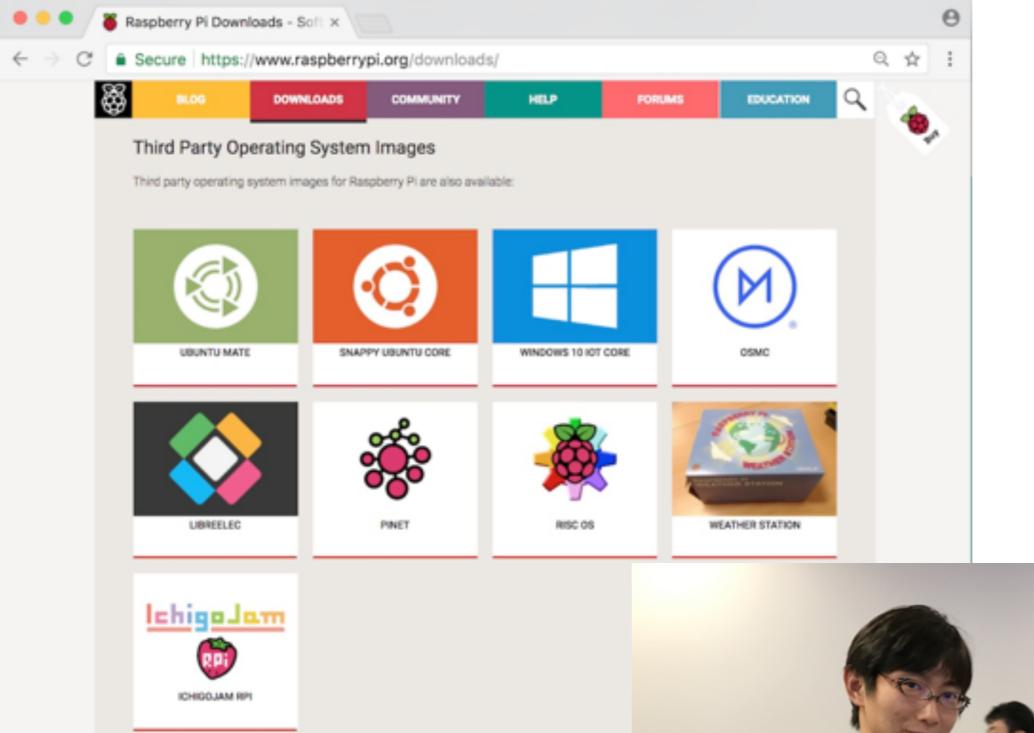
IchigoJam is similar with Apple I

Apple I (1976)

the oldest class PC by Apple Inc.



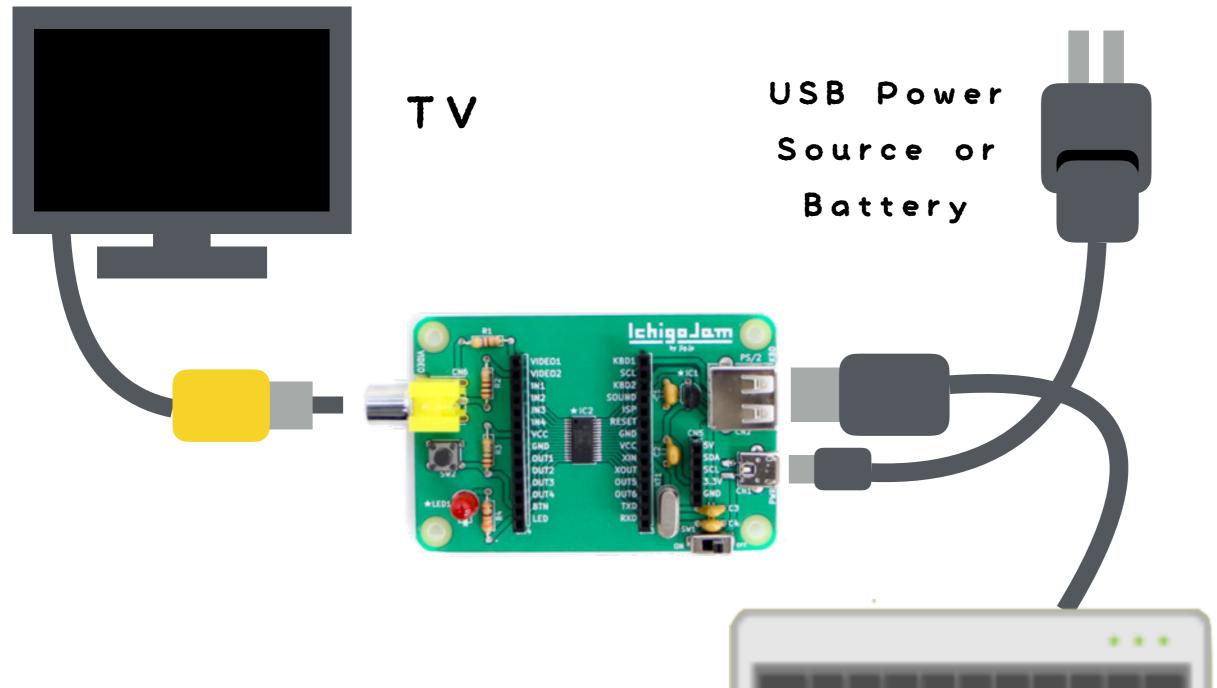
Mr. Steve Wozniak, Apple I Inventor



IchigoJam is OS on Raspberry Pi official



How to start IchigoJam PC



Keyboard \$3~

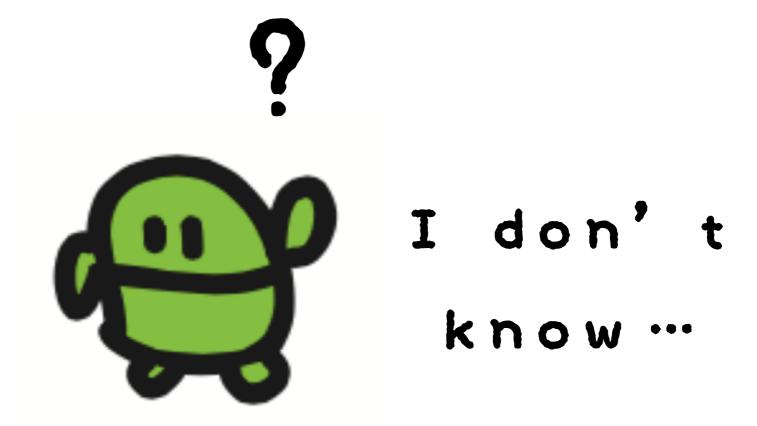




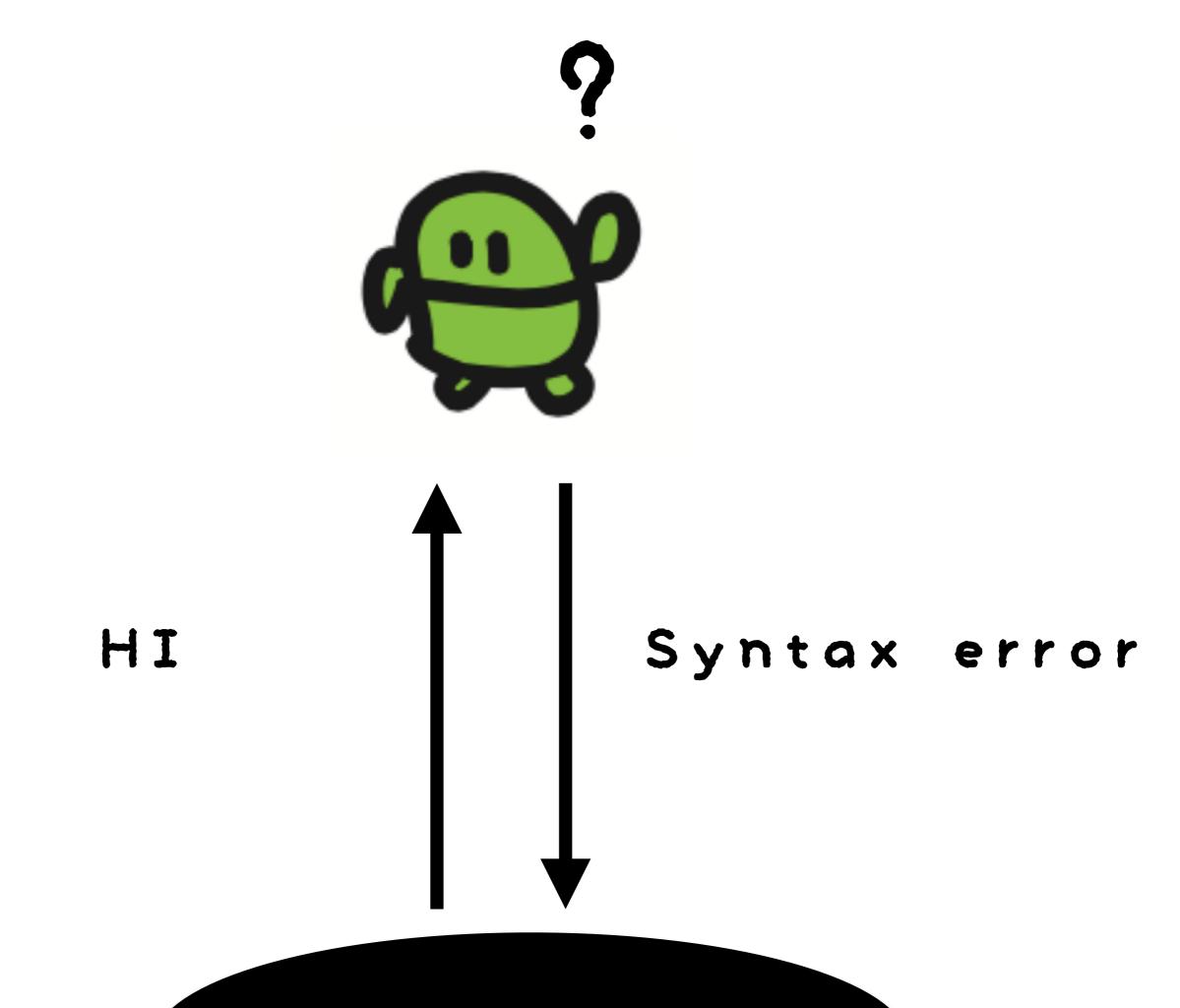
IchigoJam programming club activity
All elementary & junior high school in Sabae

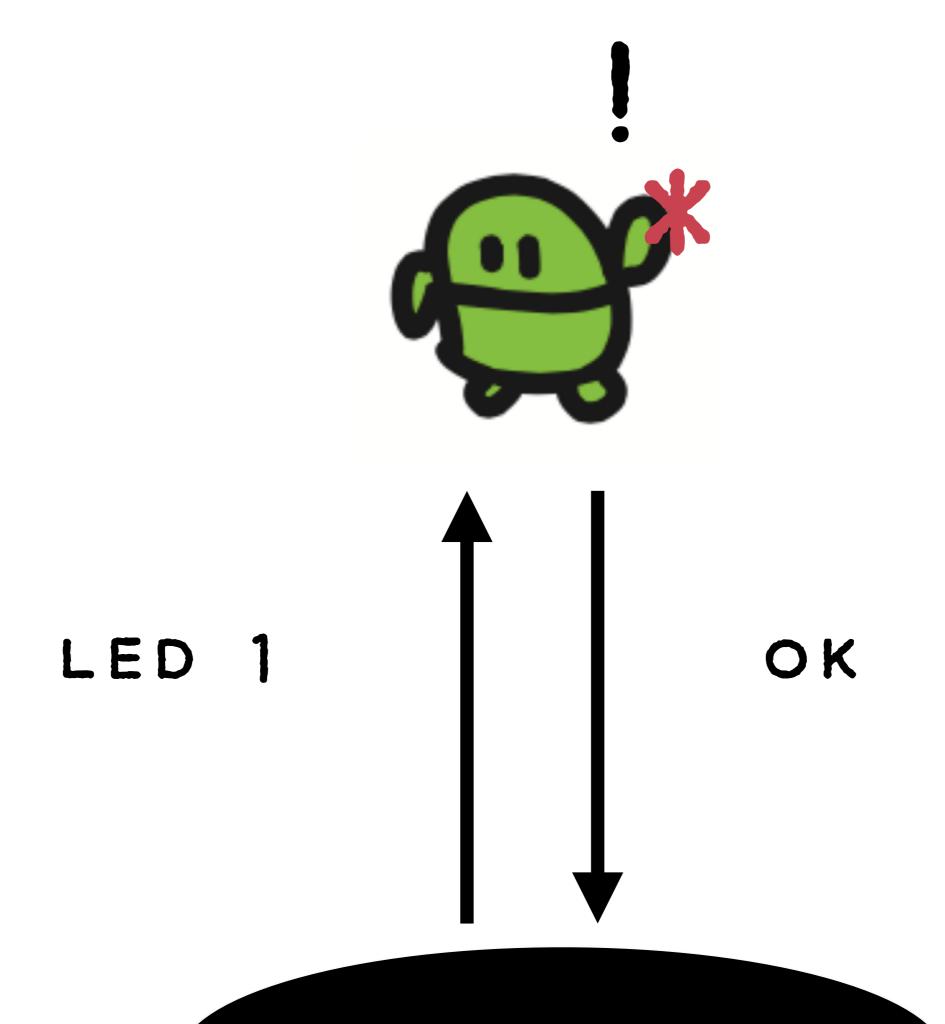
Programming is Chatting with Computer

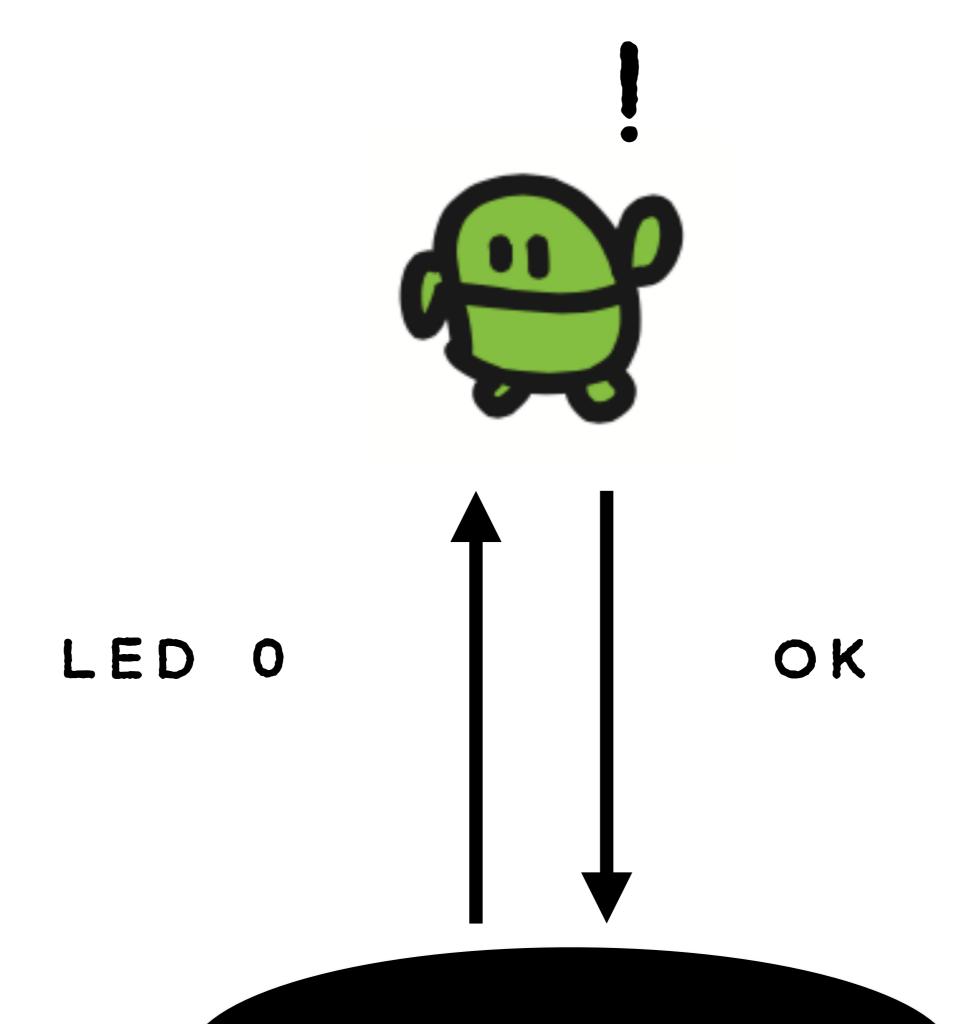




Hey,
light up the
LED!







Live coding!

l'Il program a computer game!

Is it simple?



Teaching is the best way to learning.

Ishikawa KOSEN students can teach to kids

Learn How To Learn



IchigoJam print

simple text to self-learn programming

https://ichigojam.github.io/print/

Programming course

- Light up / LED
- Make Sounds / BEEP
- Compose Music / PLAY
- Multiplication by loop / FOR/NEXT

Ele-making course

Let's chat on a network!

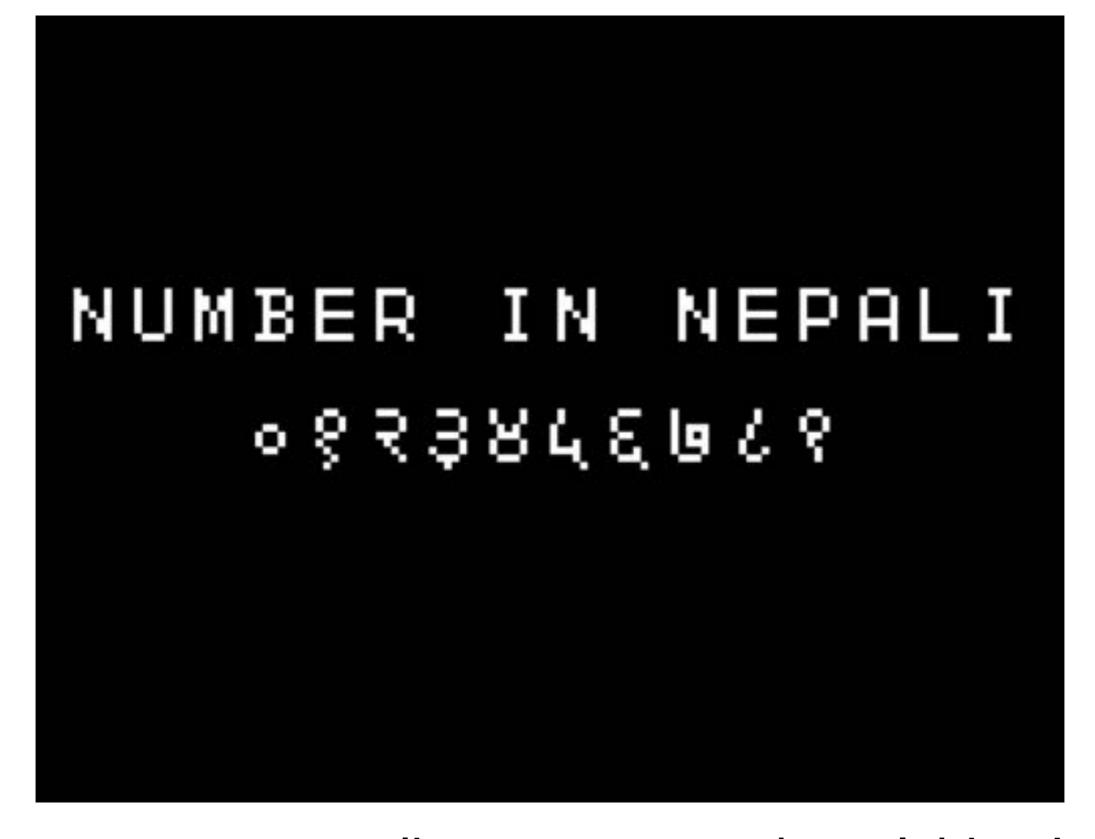
Application course

Number Quiz



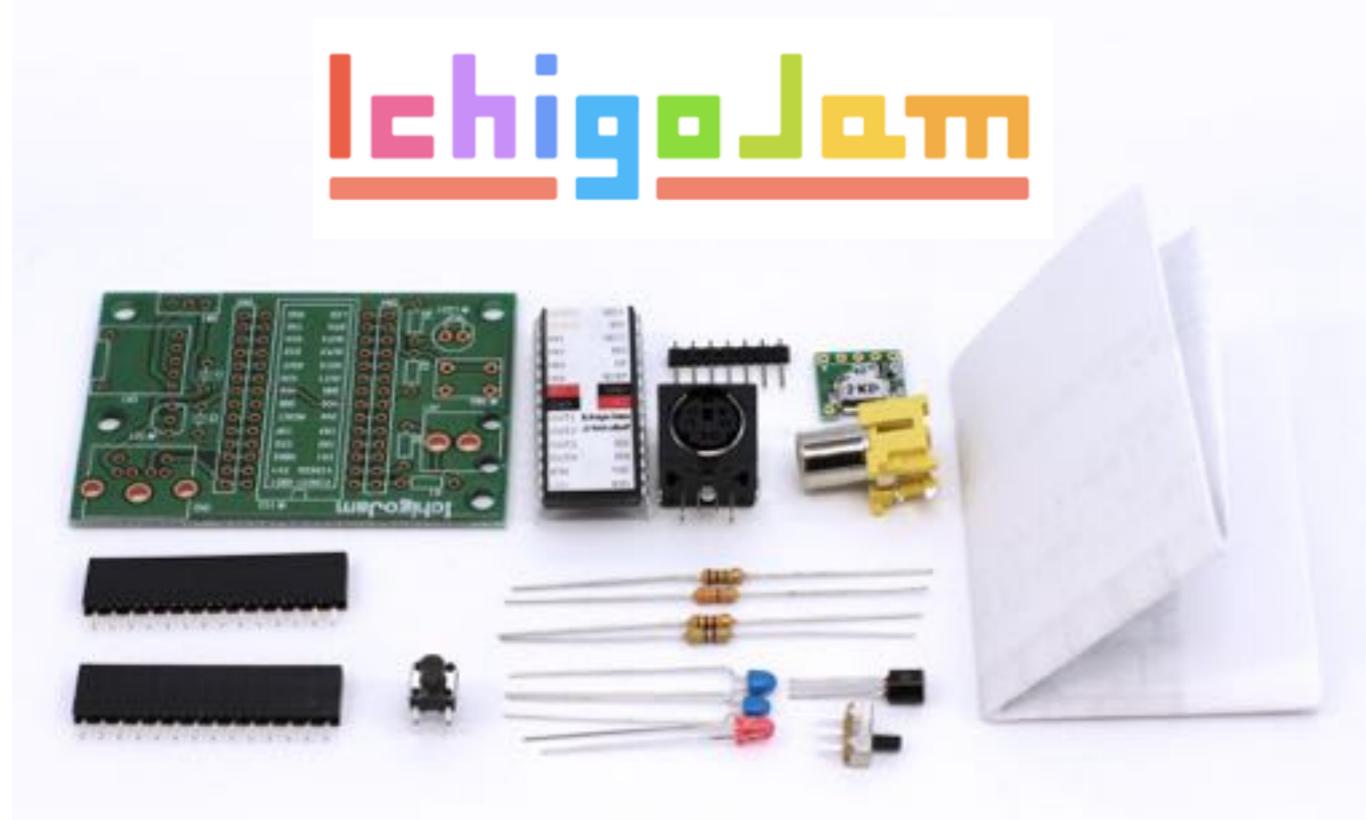
easy printings

We have to translate!

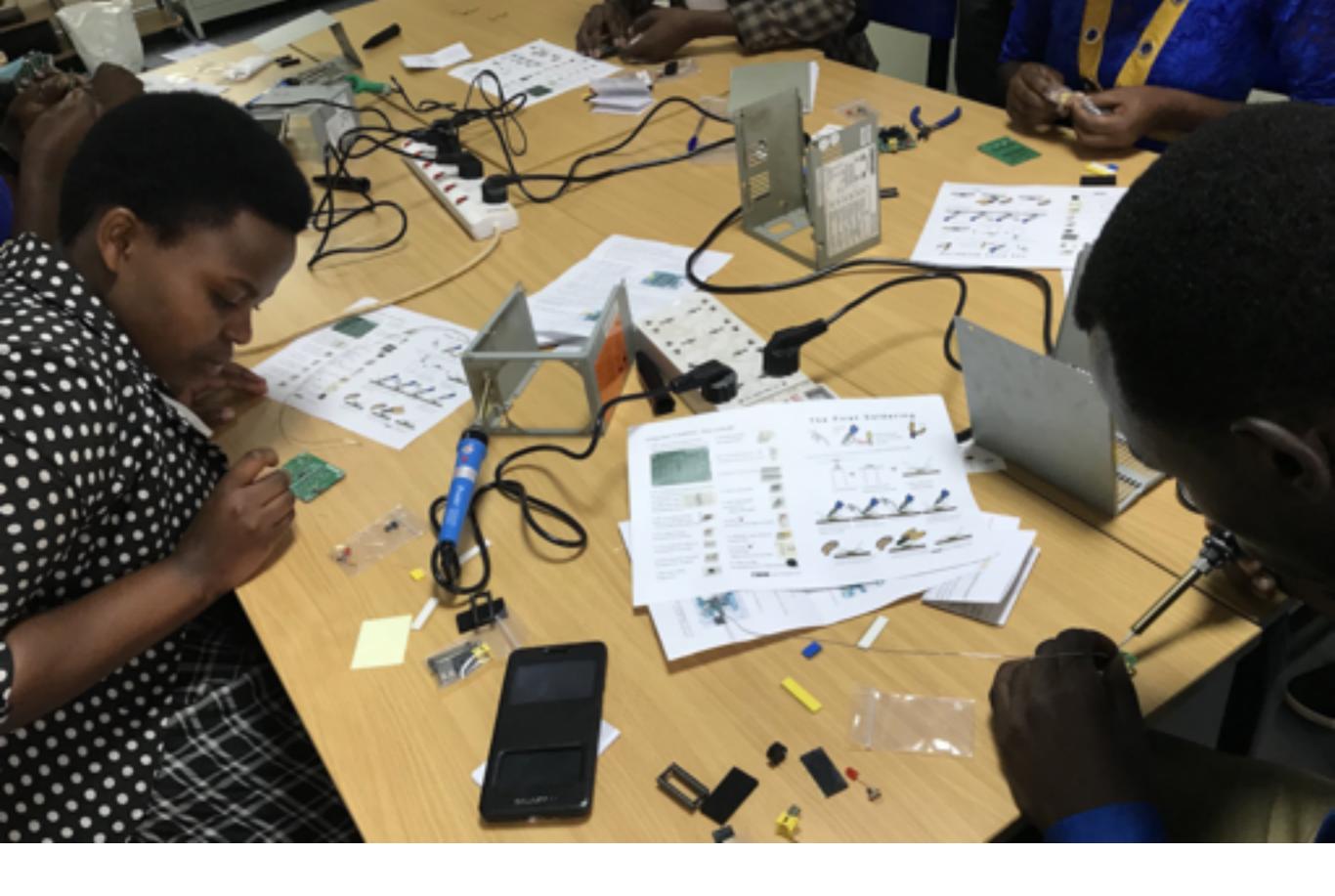


There are many online resources about IchigoJam.

https://fukuno.jig.jp/2459



Making Computer with the soldering iron



in Rwanda Tumba KOSEN (TCT)



IchigoJam BASIC reference ver 1.2

specialism	description	
fig	To take in character	
Shall.	The last in type in special characters with larger	
EARLINGS NET: CTRE-INS	solich mith highlater or Kankana/horsa jit	
later .	Termon, troit	
Sub-Ener	To appends a fine	
INC.	To stop execution, develop a list, showing or life list	
Corner Rep	To more the conver	
Religion	To ease a character boated before of the career	
Teles	To cross to themselve bound on the parties	
M 407	The last in last in special characters with IV E.A. E.() have	
Rose, Sol	To more the career front of line, to more the career and of line	
Page Cit. Riggs Down	To more the career tog, to more the career betters	
Cogn	British die capital letters mode or the small letters mode	
mark - CTML-relLT	Ferinal da insui mode or creatiga mode	
Function large.	Finday series, FELDAD, FESSYE, RELEEF, PHIECK, PLYTERED, PLYCERO, PRYCHEOL, PRINCES.	
Nation	general functions or auto-constant made if you paid this better when you turn on.	

description	-manufile
Sight on the LEED veloce a regarde 1, Sight of Arbent a agents 5	140
wat a frame (Afficial + Text) of early equal from power concentrate made, if early is exten-	TATE
short real mode (Mr) some or MACT()	
selectic constants	WAT MILED I
memory communits at line number	61 LAD1
drive consents is name; which has the line number	
most proper it move FS	81.74
show the program is memory (FA) (for man?) where the late, if minor in the late. The man? show	
to the law, if I to the and I DEC to map!	URT 16,000
	9070 B
	610
	P RTN (DID
	LED RITHO
	1879
	MANUAL PROPERTY.
	500 WEST
	104
	PROVIDENCE.
	5.03
	1040
	75.03
	MARY
	BAT 3000000
	TOURS ON
	MOST I-I
misse i misse y	MINT I'V
reform is fines y	MINT TH
miss image of a desile;	MINE NO
store secondar of a divide y	MINT HILL
return calculate the number in printing	MARK HUMB
set the number to 1 letter of alphabet as named nemocyl variables beginning to the array)	SETAL
Afferdation represent	100 100
set the number to the from highward impact types can sent settings and commed	INPLE WARE A
return the time count from CLT(count up in 1900er)	MINT TICKO
char for time count	10.7
	MINT PARTY
	PRINT CHRONIC
	PROPER ASSOCIATION
	SCHOLA P
After VIDER	MOST SCROOL
mism 1 Français y de FrAllaces	FARLED I
	FA0BLED I
	PANKLEY.
	FARIETI.
man i d'un pole d	P Arrith Little
	entities the continuents in the section. Action programs in continuency (Fig. State of the section (Continuency programs in continuency (Fig. State of the programs in continuency (Fig. State of the programs in continuency (Fig. State of the State.) If the disc and (CDC) to compl. Action for programs in continuency (Fig. State of the State.) If you produce the continuency (Fig. State of the State.) If you produce the continuency (Fig. State of the State.) If you produce the forecast continuency (Fig. State of the State.) If you produce the forecast continuency (Fig. State.) If you produce the forecast continuency (Fig. State.) If you produce the forecast produce (Fig. state.) If you produce the forecast produce (Fig. state.) If you can continue the state of the state.) If you can continue the state of the state.) If you can continue the state of the state.) If you can continue the state of the state.) If you can continue the state. (Fig. state.) If you can continue the state.) If y

http://ichigojam.net/lchigoJam-en.html

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ANA(mm):	stars for value 9 (60) specified values of input terminal (CIPC, 14 (90) 4(5XT) 4, 4 (49) 87X, Translated.	188(6)
OCT man (panel)	mapped moved to the mapped participated moved descent (EVET) 10, year case set all states where your most moved, if moved mappeds it the mapped part revisite tests that larged posts)	OUT LI
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1000	tree specified a better from K. D. E. F. L. A. R. J. In 1911, page (see slage)	CDERPO
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Service Co.	strand a term in half tone higher	Co Bo
1000	second a tens in facilities larger	0.0
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Sia	defined length (3,3,5,4,8,16,55) solid value if	OURC
Ob	at the extree from CVC to CVB satisf value 3	ERCOSC
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in .	migra direa	0.04
9	specific after the mark	CNIE
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	and of marin	C286

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CORES Insure: WETURN	nove to finance and rescale after this constant? when RETURN Abbreviation CRB RETV (and less) NO	00003 100
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182	ettern a legical and y this saleslation)	1981
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1.00	strate a defrage; No (b) calculation	Sheet
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\$10P	ang the program	STOR
CONT	continue the same him or stop line	CONT
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only 100 commands

MASAHARUの魂のプログラム

パクパクブラックホール

・プログラム 分分☆

2016 Jan. **09**



※音が小さいので、音量大でお聞きください。

プラックホールが、いろいろなスプライトを吸い込むPan Cakeプログラムです。 ゲーム性はありませんが、アモ画面などに使えます。

プログラム ver.lchigoJam 1.1.1 10 CLV:CLT:VIDEO 0:?"PC VIDEO 1":?"PC SPRITE START 06":GSB1000:GSB1100:?"PC SPRITE CREATE 02 54":?"PC SPRITE CREATE 03 55":?"PC SPRITE MOVE 02 28 15":?"PC SPRITE MOVE 03 99 99":Q=0

20 IF40>AA=A+1





Kids step up to Apple or PC as application development devices.





by 3D printer

Make, Make, Make!

iPhone/Android Apps

最優秀賞 (4作品) 曼秀賞 (4作品) ノフトウェア 詳しい応募方法は 主催: プログラミングクラブネットワーク(PCN) 後援 : 文部科学省、総務省(940) PCNこともプロコン2018 ご協関企業・団体 I-O DATA aitendo SAKURA R FORUM 8 UNSD ZOZO PFU lchigeJam

PCN Competition for Kids

Prize: Windows Note PC

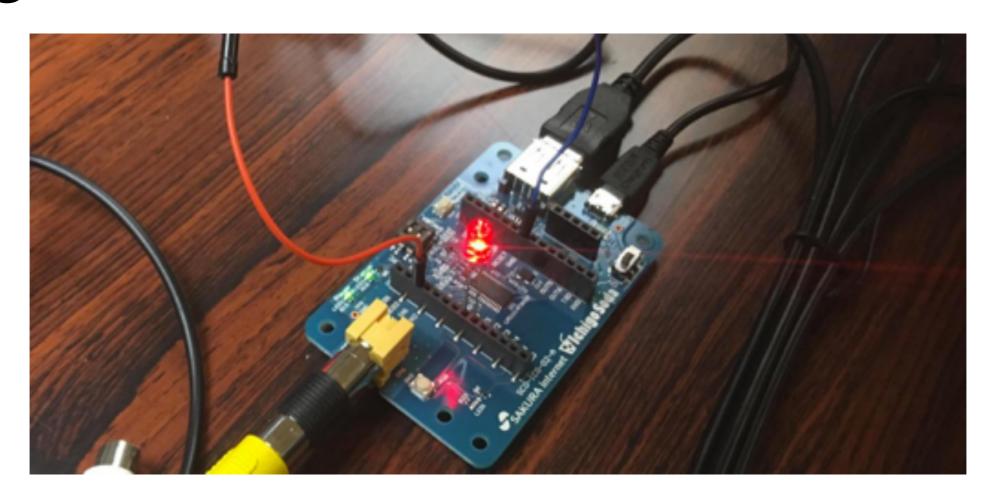


http://pcn.club/contest/

Try to solve social problems with IoT



IchigoJam IoT ¥65/month (10k times)









module of sakura.io

Cat's Health IoT



http://fukuno.jig.jp/1518

Animal Capture IoT



NHK 2015.12.7

「った物で実際にかかると

IoT version available!

Senior Programming Network started!

Bus Location IoT





http://github.com/codeforfukui/busmonitor/

Facebook group 「IchigoJam-FAN」

Twitter #IchigoJam

2500 members may help you.





I taught a basic of IoT with IchigoJam in Tribhuvan University in Nepal.

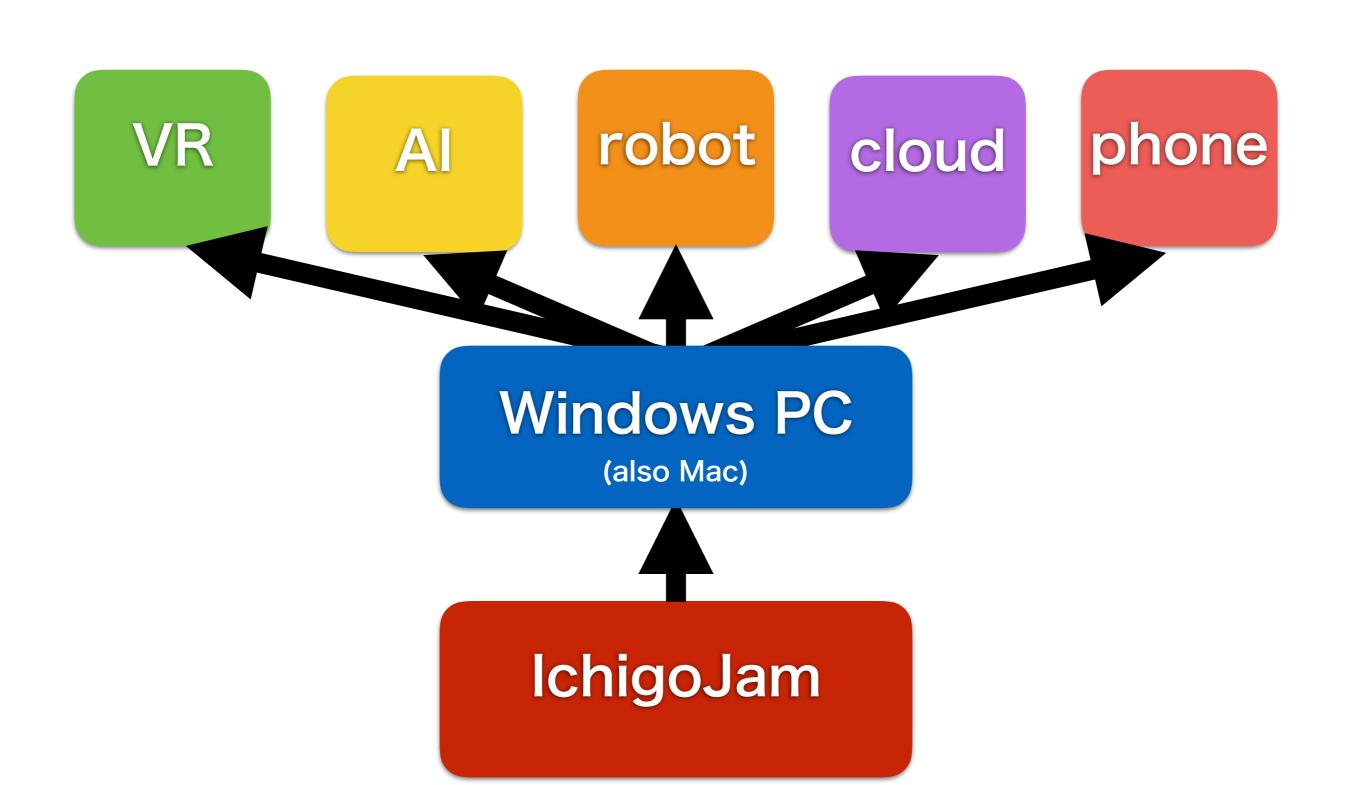


Mr. Subarna Shakya Ph.D joined our PCN Kathmandu!!



I met a BASIC and electronics master in Kathmandu! We can buy keyboard for IchigoJam about \$3!

IchigoJam is basic of computer science



Process to bring up Kids IT creators

- 1. 2 hour curriculum to start programming.
- 2. IchigoJam at school for break time free to use.
- 3. Hold a programming and robot competition.
- 4. Create Nepal and Japan communities with Kids.



福野泰介の一日一創 - create every day

IchigoJam opendata IoT megane Maker jig.jp Sabae KidslT gourmet KOSEN profile english [RSS]

Let's create a bridge between Nepal x Japan!

2019/06/08 #nepal #KidsIT #lchigoJam

Let's collaborate Nepal x Japan!



ネパールのこどもたちにプログラミングを! by PCN & KidsVenture

東日本大震災で復興支援してくれたネ パールの方々に、今度は日本からできる こと。現地のこどもたちに支援を続ける 福島県いわき市の島村さんプロジェクト に、PCN&KidsVenture メンバーで合 流。ネパールのこどもたちに「プログラ ミング」を届けてきました。





プログラミングに触れて目をキ ラキラさせるのは世界中どこの 子供でも同じ。あまり触ること がなかったと話してくれたキー ボード。ひとつひとつ打つたび



ネパールの学校から素敵な証明書が到着!
Thank you very much!
SHREE MADAN-AASHRIT ADARSHA BASIC SCHOOL



facebook.com/taisuke.fukuno fukuno@jig.jp



https://fukuno.jig.jp