YokeEmulator
1.1.0.0 Manual

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1 Introduction

1.1 YokeEmulator WP

YokeEmulator(WP) is a Joystick & header tracker mobile App,to use that you should have **YokeEmulator Server OpenTrack** and **vJoy**

1.2 YokeEmulator Server

YokeEmulator is a upper computer run on your PC, receive your mobile sensor signal and send to Game.It's an essential suite for YokeEmulator.

1.3 vJoy

vJoy is a device driver that bridges the gap between any device that is not a joystick and an application that requires a joystick. If you develop an application for windows that requires user physical input you should consider incorporating vJoy into your product.

vJoy can be incorporated as-is or modified. vJoy can be used with fixed configuration or configurable. It also comes with tools and example code that feeds it with data and configure the virtual joystick.

vJoy is implemented as a joystick virtual-device driver for windows (XP and up) that does not represent an actual hardware device.

The vJoy device is seen by Windows as a standard joystick device. However, it receives its signals through a simple software interface. Coders can take advantage of this interface by modifying the provided sample code.

Download : http://vjoystick.sourceforge.net/site/index.php/download-a-install

1.4 Opentrack

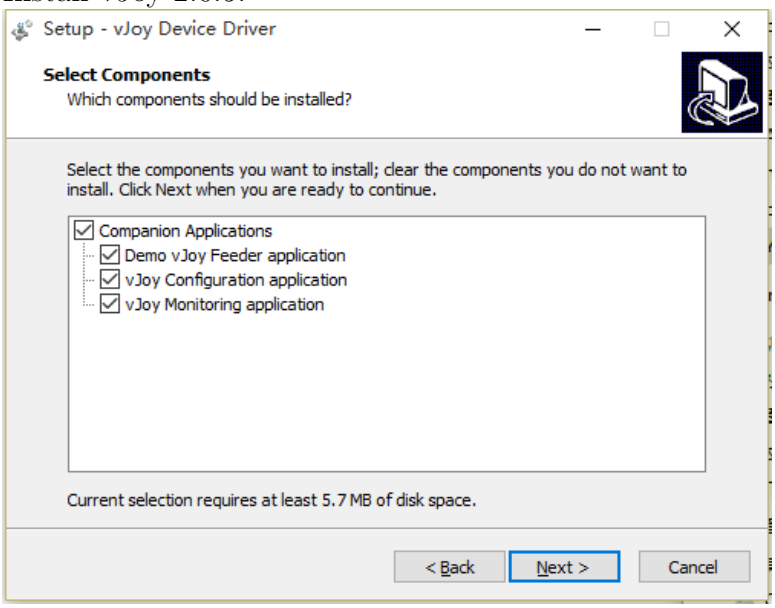
Opentrack is an application dedicated to tracking user's head movements and relaying the information to games and flight simulation software.

Not to be confused with railway planning software ¡http://opentrack.ch¿

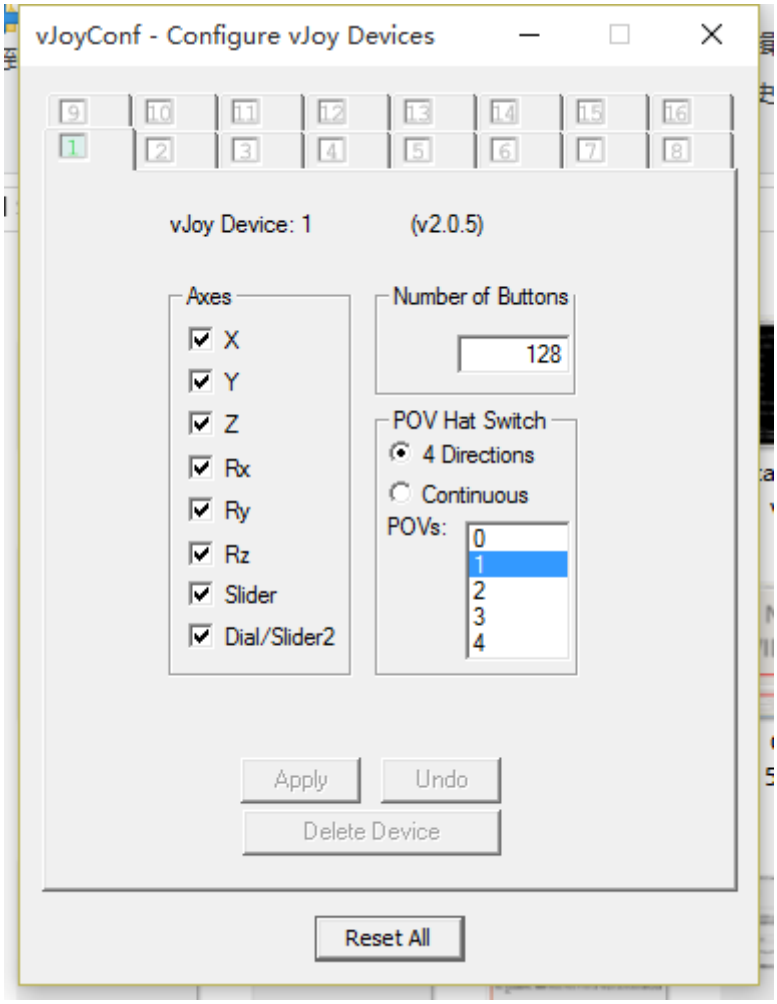
Home Page : https://github.com/opentrack/opentrack

2 Installation

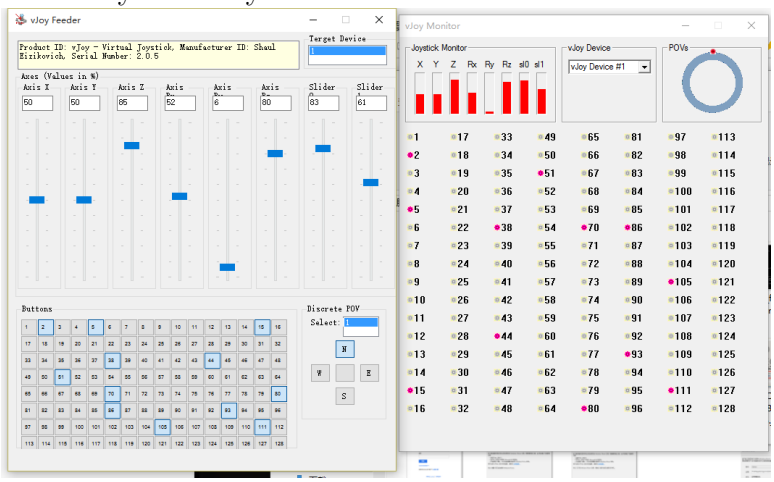
Step 1. Install vJoy 2.0.5.



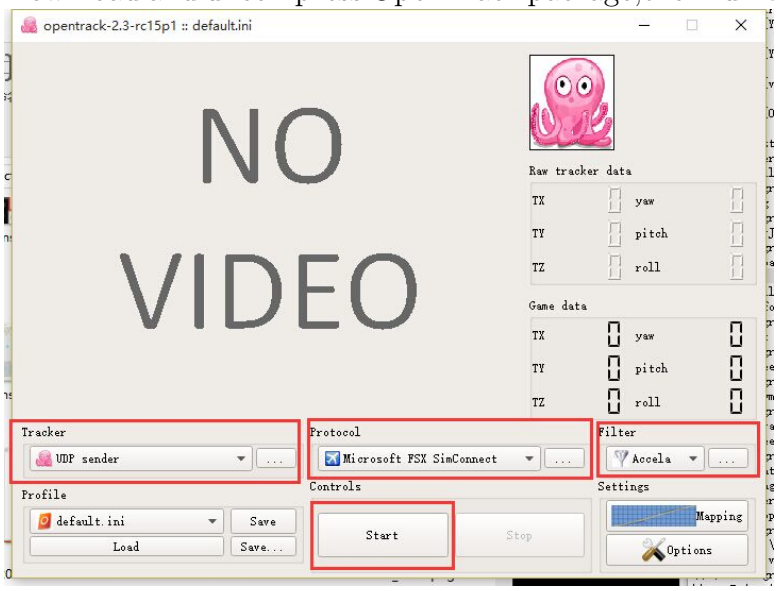
Step 2. Config vJoy use vJoyConf.



Step 3. Test vJoy use vJoy Moniter and Feeder Demo.



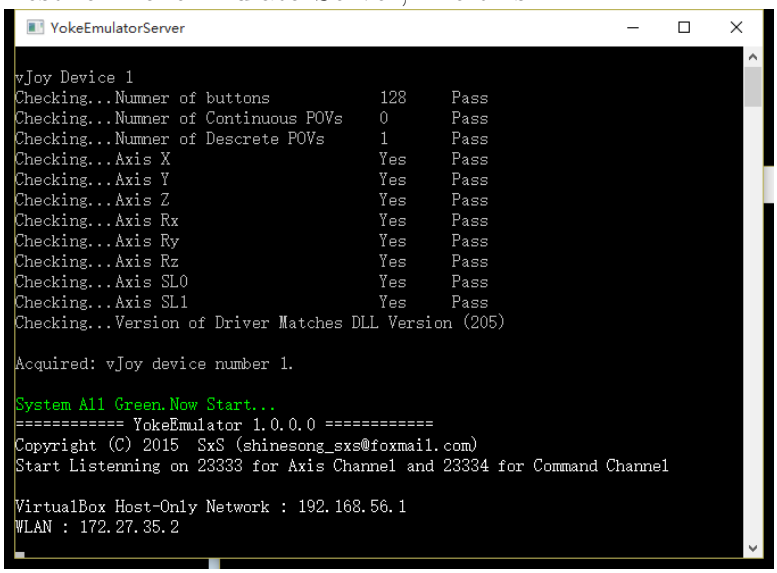
Step 4. Download and uncompress OpenTrack package,then run **opentrack.exe**.



Set **Tracker** to **UDP sender**,and check the config port.Set protocol according to your game.Set **Filter** to **Accela** as recommend,finally Press **Start** button.

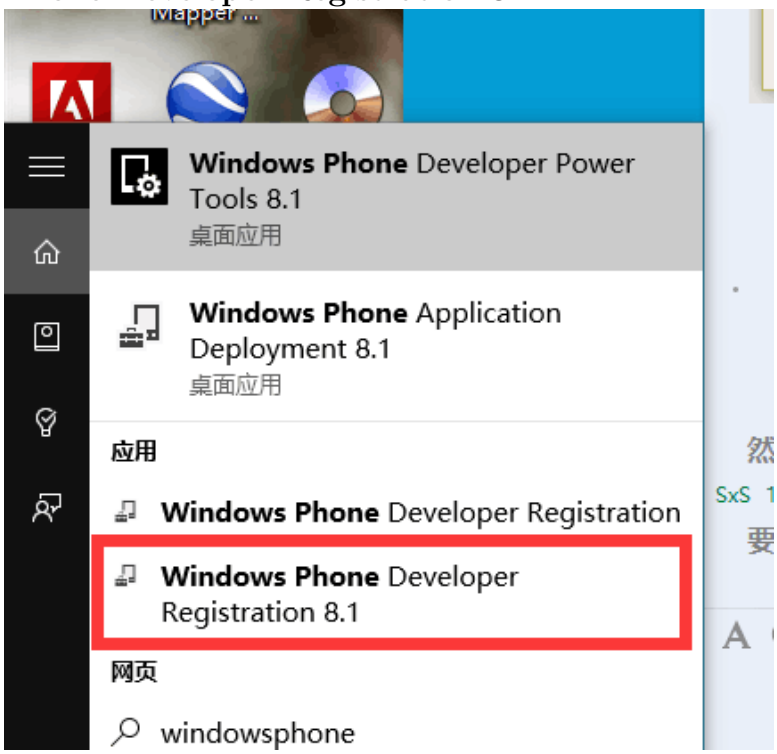
Step 5. Install .Net framework 4.5.2.

Step 6. Test for YokeEmulatorServer,Like this



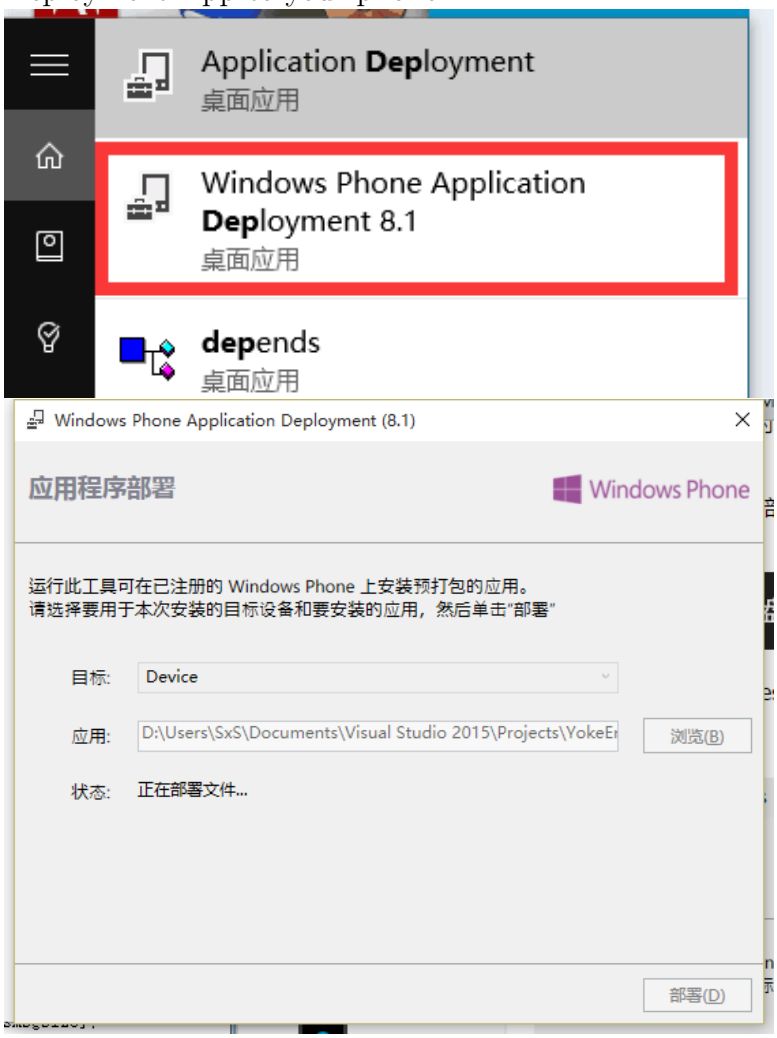
Step 7. Unlock your phone with your Developer MS Account,use **Windows**

Phone Developer Registration 8.1

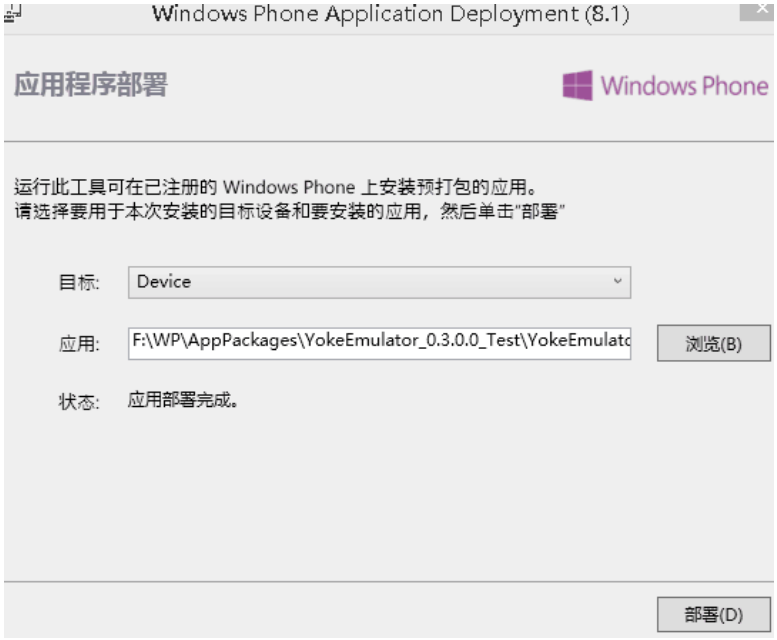


If you see this message,your phone is already unlocked.Like this.

Step 8. Deployment App to your phone.



If you see this message,you have deploy app success.

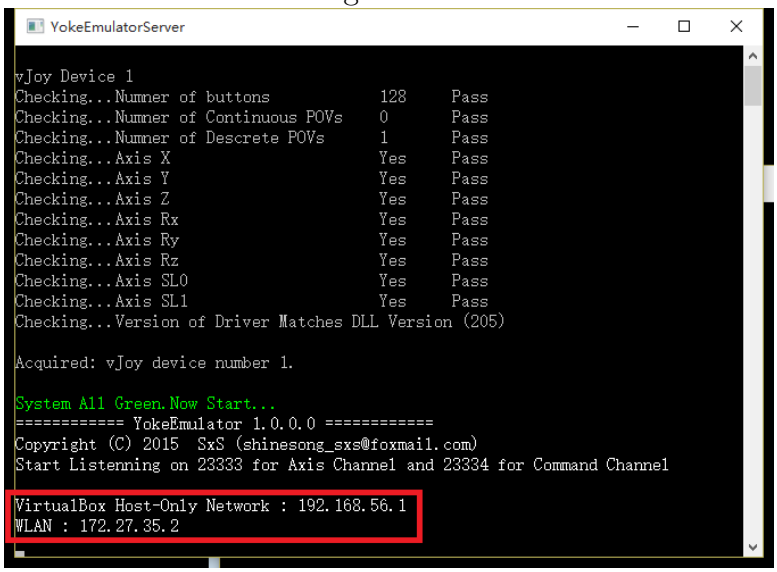

Windows Phone Application Deployment (8.1)
应用程序部署
Windows Phone
运行此工具可在已注册的 Windows Phone 上安装预打包的应用。
请选择要用于本次安装的目标设备和要安装的应用，然后单击"部署"
目标:
Device
应用:
F:\WP\AppPackages\YokeEmulator_0.3.0.0_Test\YokeEmulato
浏览(B)
状态:
应用部署完成。
部署(D)

3 Usage

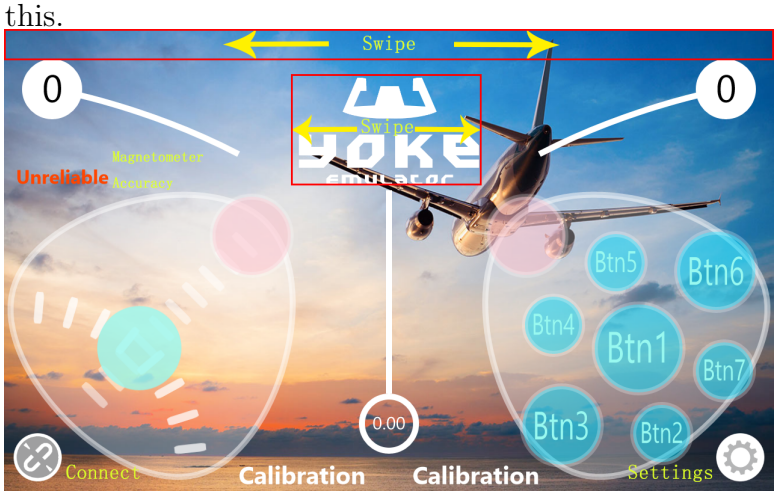
Step 1. Make sure your phone connect to WiFi which can access to your pc.

Step 2. Run Opentrack and press Start button for HeadTracker.

Step 3. Run YokeEmulator Server, you can read avaliable ip and interface name from newest message.

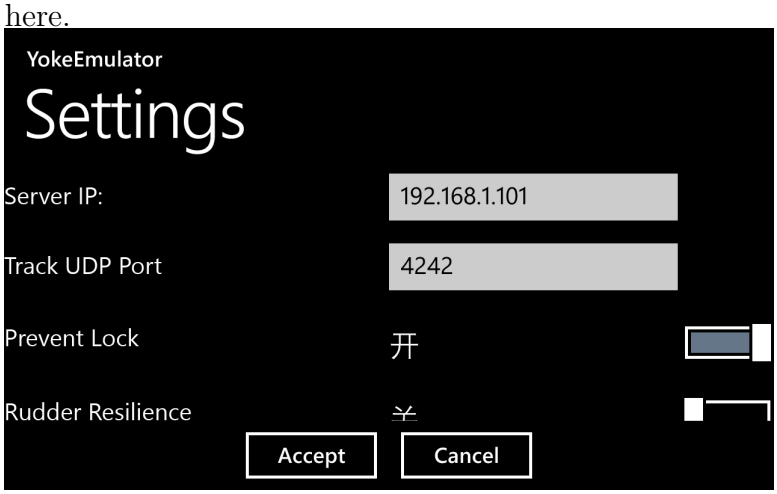


Step 4. Run YokeEmulator App on your phone,you can see main page like this.



This page have two Buttons,in left bottom and right bottom corner.The top long red box area is **Page Swithcer**,you can swipe left and right switch to other page.Also,you can swipe horizonal on Logo Area to switch sensor mode,include {None,Joystick,Tracker}.

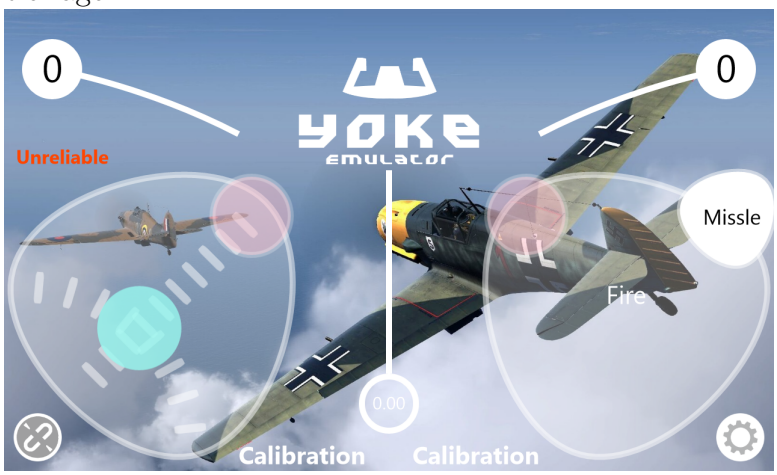
Step 5. Press setting button on the right bottom corner to navigate to **Settings Page**.You can set pc IP, opentrack port and other fucntions here.



When you finish edit,press **Apply** to save changed.

Step 6. Press **Connect** button on the left-bottom of screen.

Step 7. You can use Page Switcher navigate to another page,called BattlePage.



Step 8. The left pad is called Rudder Pad,and the right is called Button Panel.They both have a red point on the corner,it's called Tracker Trigger, you may pressed both of them together to active Tracker Mode.And when you release both of them, mode will return to normal.

Step 9. You can press two red point, and move your finger up and down to opposite direction,you can zoom the viewport,experiment yourself.

Step 10. You can see two Calibration label on the center-bottom of page,when you press both of them, program is setting to Calirating mode,when you release them.The attribute of your phone will be record as normal attribute.

4 Develope

4.1 YokeEmulatorServer Protocol

YokeEmulator Server Listen at two udp channel,port is **23333** (joystick axis) and **23334** (ctrl commmand).You can send message to these port act as joystick.

JoyStick Axis Protocol

bit	type	Comment
0-7	double	X-axis value (0-1)
8-15	double	Y-axis value (0-1)

Control Command Protocol

bit	type	Comment
0	char	op flag
1-8	double or char*2+blank	value or [bid][state]+[0]*6

Note: flag {'x','y','z','X','Y','Z','s','l'} for 8-axis 'b' for button 'p' for POV, when op is axis flag(XYZ correspond for rx,ry,rz),value should be 0-1;when op is 'p', value should be 0-360&-1(empty);when op is 'b',only first two bytes are avaliable,bid represent button id (1-128),state is an binary value(0 for released,1 for pressed).

4.2 Opentrack UDP Receiver Protocol

Control Command Protocol

bit	type	Comment
0-7	char	tx
8-16	double	ty
17-24	double	tz
25-32	double	yaw
33-40	double	pitch
41-48	double	roll

5 ChangeLog

5.1 1.1.0.0

1. Add two Axis to main page.

2. Support most to 3-axis 1-rudder 7/2 buttons,joystick and headtracker.This is a stable version.

5.2 1.0.0.0

1. Change UI presentation.Make it comfortable for manipulating.
2. Reconstruct App to provide powerful handling.
3. Add battle Page
4. Add Header Tracker Zoom
5. Add Calibration
6. Add Gesture manipulation.

5.3 0.3.0.0

1. Add Head Tracker mode.

5.4 0.2.0.0

1. Support for X Y Axis,Z for Rudder Axis,Slider Axis.Up to 128 buttons/toggle.Swithable Discrete 4 director Hat/Continual Hat;
2. Customize Button/Toggle,Buttons Name;(See Settings page)
3. Keep Screen unlock;

5.5 0.1.0.0

1. Support for X Y Axis,Slider Axis,4 buttons and Continual Hat;

dev