

VIRTUAL GAMEPAD – USER MANUAL

A BRIEF DESCRIPTION OF THE APP

Virtual Gamepad is an Android app that emulates a gamepad on your android smartphone and allows you to play games on your Linux computer through Bluetooth.

With this app, you and your friends can easily join together in front of a computer and play almost all of your favorite games. With a virtual gamepad you no longer need to bring your hardware gamepad and you can play anywhere you want and at any time.

The app comes with a very simple and logical layout, and the gamepads included are inspired by some of the most famous and recognized hardware gamepads in the world.

The app connects to the computer through Bluetooth and a server application on the computer that emulates keyboard presses. In the server you can set how many players you are, how many buttons each player needs and also configure which buttons will be pressed. The last feature is great for games where you can't change in-game controls.

Also, as with many modern day gamepads, you can enable both haptic feedback (rumble feature) and accelerometer (simulated gyro).

On the next page follows a user manual on how to install and use the Virtual Gamepad App.

GUIDE ON HOW-TO-USE VIRTUAL GAMEPAD

Hi there, we are very excited about that you have chosen Virtual Gamepad and below you can find guidance manual in how to install and use the app and server.

INSTALLING AND CONFIGURING THE SERVER

If you haven't installed the server before, nor have connected your phone to your computer over Bluetooth, you need to install Bluez v4. There exists a version 5, but it is not supported at the moment. If you are running Ubuntu Linux just copy paste the line below into a terminal, otherwise check out <http://code.google.com/p/bluecove/wiki/stacks> for the Bluez command for your Linux Version.

Code

```
$ sudo apt-get libbluetooth-dev
```

When this is done and Bluetooth is working you will need to download the server application. A link to the server is provided from wherever you downloaded the app.

When you have downloaded the file server.jar, open a terminal and navigate to the directory in which you saved it. Start the server by typing:

Code

```
$ java -jar server.jar
```

The server should now be started and should look similar to the example below.

```
isak@thinkbox:~/Documents/SEP$ java -jar server.jar
VIRTUAL GAMEPAD HOST
BlueCove version 2.1.0 on bluez

Please enter the maximal number of clients [1-10] (default=4):
█
```

Here you can choose how many players that will be able to play (max 10) for this session. Please note that you can be fewer than the chosen amount while playing but if you want to add additional players you will need to type *"reloadConfig"* and redo the configuration. Just pressing the enter button will give you the default value 4.

After choosing the number of players you will be faced with the next question.

```
isak@thinkbox:~/Documents/SEP$ java -jar server.jar
VIRTUAL GAMEPAD HOST
BlueCove version 2.1.0 on bluez

Please enter the maximal number of clients [1-10] (default=4):

Maximal number of clients is set to default: 4

Please enter the number of buttons [1-25] (default=25):
█
```

Here you need to type in the number of buttons you will be using per player. If you are just a few players (1-4) you will only need to press enter and all the provided layouts will work. This feature was added because the total value of buttons may not exceed 255, but due to difficulties with some keys and conflicting keys with other programs, the practical limit is lower than 255. If you plan to play with a lot of people you will need to do a little bit of counting. Keep in mind that a joystick counts as 4 buttons (1 for each direction).

Pressing enter will generate a default configuration file where you can change the keycode for every button, and the server will be started. You will then be faced with the interface below, otherwise check the troubleshoot manual. If you need to change the keycodes, edit your configuration file that should have been created in `~/.config/VirtualGamepad/`.

```
Parsed: client3;button21=0
Parsed: client3;button22=0
Parsed: client3;button23=0
Parsed: client3;button24=0

Device:
  thinkbox
  EC55F9FA34CA

Opening up server connection...
Server up and running!

*****

Virtual Gamepad Host Copyright (C) 2013 Isak Eriksson, Linus Lindgren, Martin Ljungdahl, Patrik Wällgren,
Victor Olausson, William Dahlberg

This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

*****

virtual-gamepad$ █
```

THE TERMINAL COMMANDS:

list	Lists all connected clients name and id.
kick [id]	Kicks client with specified id.
reloadConfig	Reloads the config file. Notice that this will kick all clients and restart the server.
halt	Closes the server.
f	Freezes/unfreezes all inputs from all clients.

THE APP

STARTING THE APP



Bluetooth question in Swedish, pressing the right alternative will start Bluetooth. Pressing the left will show you the main page but the connection won't work

When starting the app with your Bluetooth off, you will be faced with a question regarding whether you want to turn it on, which you will need to answer yes on in order to use the app. The question will be displayed in the phone's main language.

If you have paired the device at any time before, turning on Bluetooth will be enough to play with the gamepad.

CONFIGURE THE CONNECTION



When starting the app and reaching the main page the arrows in the upper left corner will be yellow and turning in a circle – that means that the app is trying to connect to the server.



If the arrows turn green, the app is connected and everything is fine. Pressing the green arrows will disconnect.



If the arrows turn red or if the arrows are red at any time that means that the app is not connected to the server. Pressing red arrows will make the app reconnect. If the app fails to connect a failure message will be displayed at the bottom of the screen.

ENABLE EXTRA FEATURES



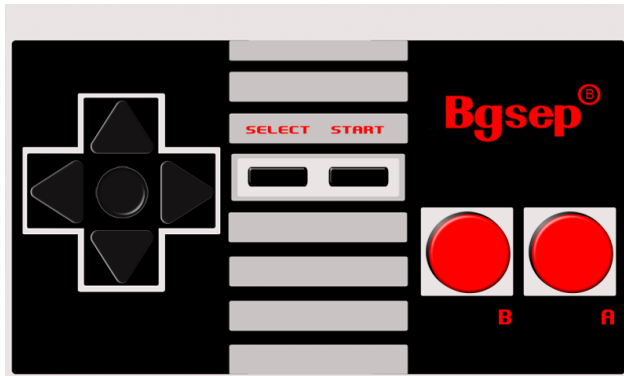
Clicking the dots in upper right corner will display a dropdown menu with extra features.

Here you can enable *haptic feedback*, which is a rumble feature the makes the device vibrate a little bit when a button is pressed.

You can also enable *use accelerometer*, which makes you able to tilt the device left and right and assign this as buttons. For example in a

car game, turning the device left will make the car turn left if configured correctly. The accelerometer is implemented as a joystick (but can be used with all layouts) with five stages, if you turn the device more to one side that button will be simulated pressed with a higher frequency. For example in a car game the car will make a sharper right turn if you turn the device more to the right.

You can also press the about button which, if pressed, will display the license and conditions.

THE CONTROLLERS

The first gamepad is a Nintendo Entertainment System inspired gamepad with two game buttons, a start and a select button and four directions buttons.



The second gamepad is a Nintendo GameCube inspired gamepad with four game buttons, one start button and a joystick with five states.



The third gamepad is a Sony PlayStation inspired gamepad with four game buttons, four shoulder buttons, a start and a select button, two joysticks and four direction buttons.

TROUBLESHOOTING

Error #1

```
$ java -jar server.jar
  VIRTUAL GAMEPAD HOST
Native Library bluecove not available
BlueCove library bluecove not available
$
```

Solution:

Install the correct bluetooth libraries by running the following in your terminal.

Code

```
$ sudo apt-get install libbluetooth-dev
```

Error #2

```
$ java -jar server.jar
  VIRTUAL GAMEPAD HOST
Bluetooth Device is not available
$
```

Solution:

This can happen due to two different reasons. Either Bluez v.4 is not installed and running, or the bluetooth device on your computer is not turned on.