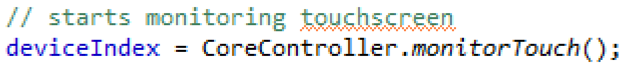
Adapt Tutorial

Using SWAT developers are able to monitor/block/inject events into the system internal devices. In this tutorial we will show how you can create a virtual touch device. We will in real-time block and adapt the touches sent to the touchscreen device.

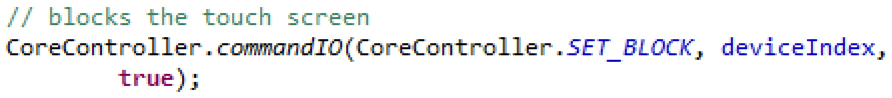
To do so we:

1. Create a class that implements the IOReceiver interface
2. Extend the broadCastReceiver class and check for the SWAT init intent (check tutorial on IOReceiver)
3. Start monitoring the touchscreen



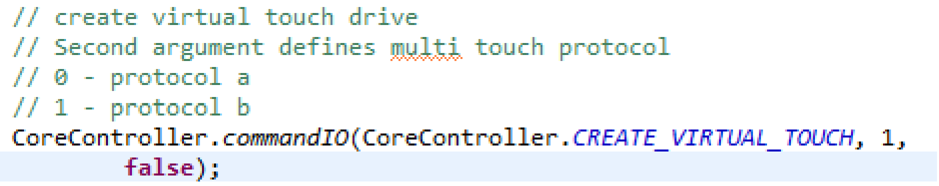
```
// starts monitoring touchscreen
deviceIndex = CoreController.monitorTouch();
```

4. Block the touchscreen



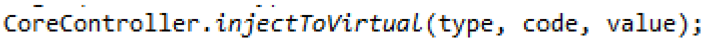
```
// blocks the touch screen
CoreController.commandIO(CoreController.SET_BLOCK, deviceIndex,
        true);
```

5. Create the virtual drive and select the protocol*



```
// create virtual touch drive
// Second argument defines multi touch protocol
// 0 - protocol a
// 1 - protocol b
CoreController.commandIO(CoreController.CREATE_VIRTUAL_TOUCH, 1,
        false);
```

6. On the onUpdateIO method, create the desired adaptation and call



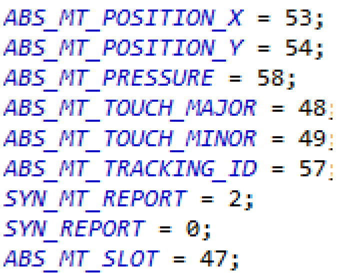
```
CoreController.injectToVirtual(type, code, value);
```

You can try the tutorial at tutorials.adapt.TouchAdapter.

*You have to use the same protocol the default driver of your touchscreen is using. To do so print the messages received in the onUpdateIO and figure out to which of the protocols it corresponds. Bellow there is a link to the protocols documentation.

https://www.kernel.org/doc/Documentation/input/multi-touch-protocol.txt

This are some of the codes that will be received in the onUpdateIO for the touchscreen:



```
ABS_MT_POSITION_X = 53;
ABS_MT_POSITION_Y = 54;
ABS_MT_PRESSURE = 58;
ABS_MT_TOUCH_MAJOR = 48;
ABS_MT_TOUCH_MINOR = 49;
ABS_MT_TRACKING_ID = 57;
SYN_MT_REPORT = 2;
SYN_REPORT = 0;
ABS_MT_SLOT = 47;
```

To check the possible types and codes of all events go to Mswat/jni/input.h