

Mobile Mouse

A generic wireless mouse solution for Android

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Presentation overview

- o Introduction
- o Implementation options
- o Current approach
- o Work so far (demo)
- o Protocol planning
- o Work remaining
- o Possible future work

Introduction

- o Core idea

- o Use phone as an OS-independent mouse
- o Minimize configuration

- o Goals

- o Easy to use on phone side
- o No PC modification required
- o Use phone like a (motion sensitive) mouse

Implementation options



RFCOMM



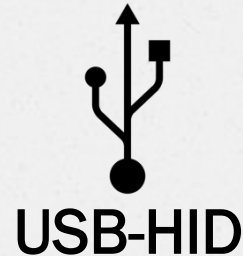
- o Bluetooth over RFCOMM to PC-side app
 - o Already done (lots of apps do this)
 - o Requires download and/or install on PC
 - o PC-side app translates RFCOMM to commands

Implementation options



- o Bluetooth as standard HID device
 - o Trouble getting Android to advertise HID
 - o Already done (app requires rooted Android)
 - o Kernel hacking option is not portable/stable

Implementation options



- o USB as standard HID device
 - o Similar problems to Bluetooth HID
 - o Support may vary between phones

Implementation options



RFCOMM



Bridge

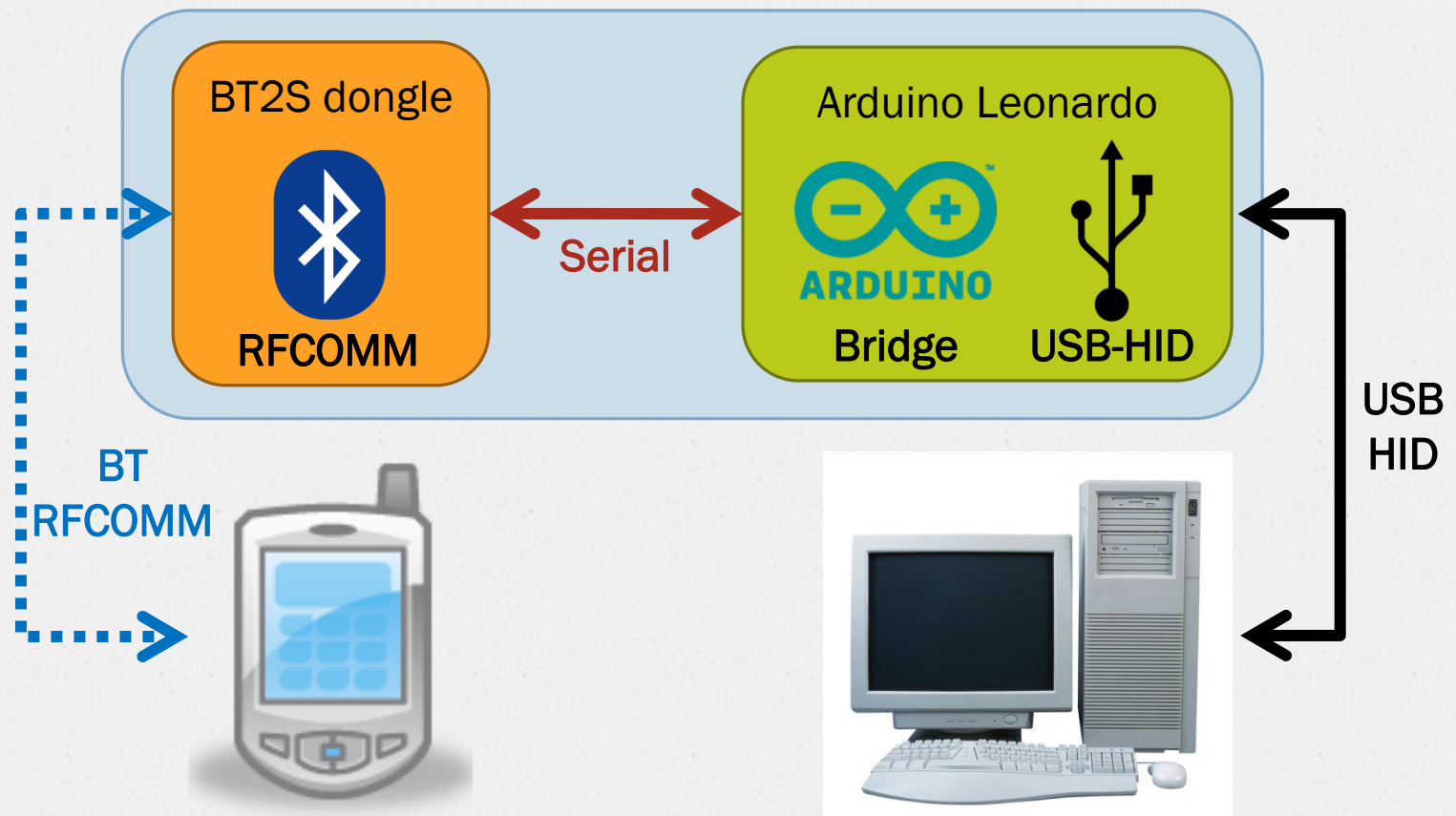


USB-HID



- Hardware bridge from RFCOMM to USB HID
 - Requires hardware device
 - No modification of Android or PC
 - Appears as generic USB mouse + keyboard

Current approach



Work so far

- Investigated approaches
- Basic terminal to keyboard system
- Android app
- Basic protocol for commands

Protocol/syntax

Click (3 bytes)

[255] C [button #]

Keypress (2 bytes)

[255] K [ascii]

Mouse-move (4 bytes)

[255] M [x delta] [y delta] [scroll]

May add more for control characters

Work remaining

- o Implement protocol in test app
- o Use accelerometer to get mouse motion
- o Refine app and user options
- o Consider adding BIOS/boot class support

Possible future work

- Custom hardware dongle
- Distributed Android store app
- More features