

TouchAll: A Multi-Touch, Gestures, and Fiducials Framework for Flash ActionScript 3.0

Gonçalo Amador & Abel Gomes

e-mails: gamador@it.ubi.pt, agomes@di.ubi.pt

<http://code.google.com/p/touchall/>
<http://www.youtube.com/watch?v=rHqEgB6JwTI>

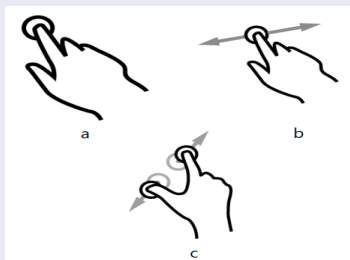
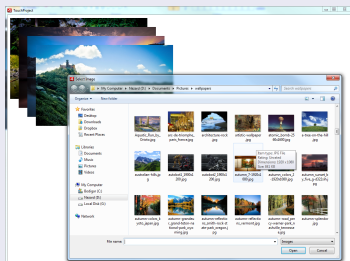
December, 2012

1 Introduction

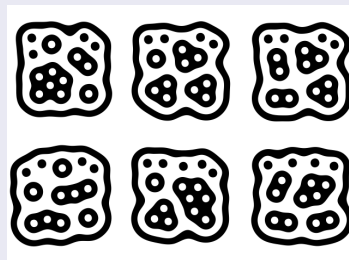
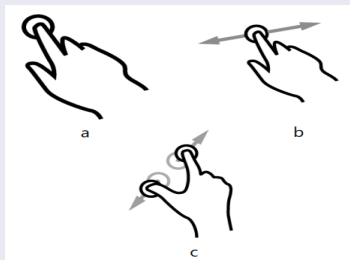
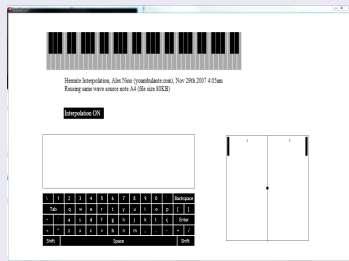
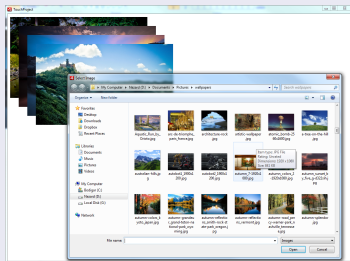
2 TouchAll

3 Conclusions

Overview



Overview



Overview (cont.)



<http://bubblebird.at/tuioflash/>

Overview (cont.)



<http://bubblebird.at/tuioflash/>



<http://www.adobe.com/products/air/sdk/>



<http://opensource.adobe.com/wiki/display/flexsdk/Flex+SDK>

Overview (cont.)



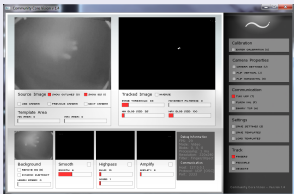
<http://bubblebird.at/tuioflash/>



<http://www.adobe.com/products/air/sdk/>



<http://opensource.adobe.com/wiki/display/flexsdk/Flex+SDK>



<http://ccv.nuigroup.com/>

Contributions

Before TouchAll API



Contributions

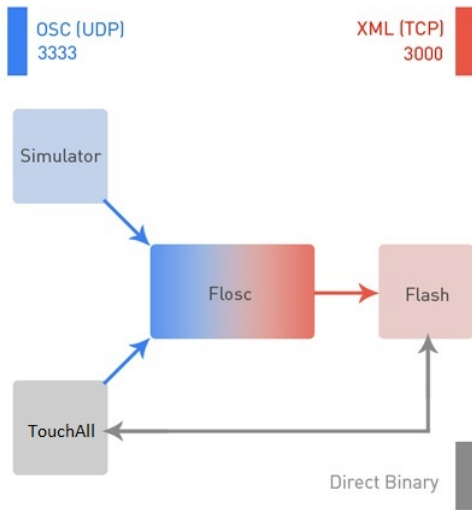
Before TouchAll API



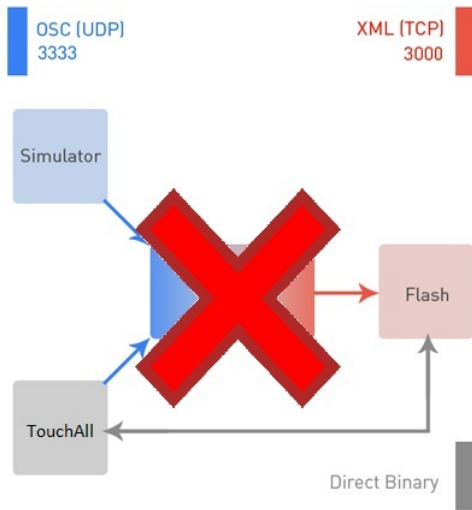
After TouchAll API



Contributions (cont.)



Contributions (cont.)



TouchAll, TUIO AS3, and Flex and Air SDKs layers diagram

Touch All API

Functions to, stage setup, tuio connections,
gestures, multi-touch, and fiducials
widgets for specific fiducial ids

tuio as3 library

Blob, cursor, object/fiducial events
LocalConnection, TCP, and UDP sockets
OSC and Tuio Protocols

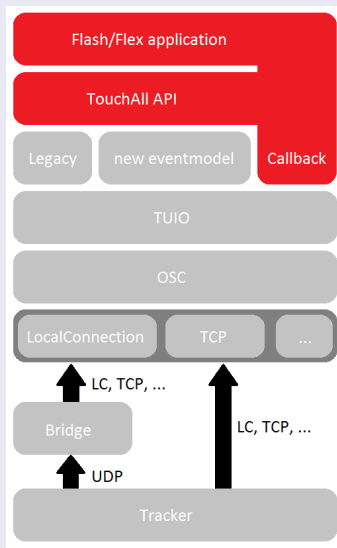
Flex SDK

Gesture, Mouse, and
Keyboard events
Flash/AS3 libraries

AIR 2.* SDK

Stage additional
setup options
UDP support

TouchAll and TUIO AS3 modules



Conclusions

- The time required in developing applications for multi-touch devices can be shortened using TouchAll.
- TouchAll allows to use fiducials and multi-touch through UDP, TCP, flash LocalConnection all in once.
- ActionbScript-based non-free software alternatives exist, but not with native fiducial support.

Future work

- Development of tools that allow device emulation, for multi-touch, multi-mouse pointer, and platform independent application testing.
- Include in the TouchAll API more native widgets for specific fiducials.
- Include in the TouchAll API support for 3D object loading and gesture based manipulation.
- Port TouchAll to Java, C/C++, JavaScript, and/or C#.
- Integrate such ports as an module of an 2D/3D game engine.

Questions, Comments, Observations,
Twitter twitts,
Facebook like's, Facebook posts, Facebook comments???