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DEPARTMENT OF COMPUTER GRAPHICS AND INTERACTION
Interaction
Interaction

Human
Interaction

Human

Computer
Interaction

Human

Computer
Try it!
Prototype
SCREEN
MULTITOUCH SCREEN
MULTITOUCH SCREEN WITH IMAGE CAPTURING
It may be good...
It may be good...
Try it!
Prototype
Is this possible?

How?
(MULTI-)TOUCH TECHNOLOGIES
Resistance

Capacitance

Optical
(infrared light)

Acoustic
Laser Light Plane
Frustrated
Total Internal Reflection
Diffused Surface Illumination
Diffuse Illumination
Diffuse Illumination
VISION THROUGH THE SCREEN TECHNOLOGIES
Semi-transparent Mirror
HoloScreen
(PD-LC*) Panel

* Polymer Dispersed Liquid Crystal
No voltage
Translucent
Voltage attached
Transparent
(PD-LC*) Panel

* Polymer Dispersed Liquid Crystal
(PD-LC*) Panel

* Polymer Dispersed Liquid Crystal
Software
Sony PS3 Eye
(altered to capture IR light only)

USB

PS3 Eye Driver & SDK
by CodeLabratories
Community Core Vision
by NUI Group

video
TUIO
Multitouch Driver
by Daniel Danilin

Windows 7
by Microsoft
Canon EOS 400D

Canon SDK
by Canon
Diffuser Switching & Synchronization
by me (a prototype)
diffused

RS-232 command

(not in a proper scale)
diffused

| RS-232 command | Socket on |

(not in a proper scale)
- diffused
- transparent

<table>
<thead>
<tr>
<th>RS-232 command</th>
<th>Socket on</th>
<th>PD-LC on</th>
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</table>
diffused

RS-232 command
Socket on
PD-LC on

transparent

USB command
Camera startup
Photo taking

(not in a proper scale)
diffused

RS-232 command
Socket on
PD-LC on

transparent

RS-232 command
Socket off
PD-LC off

diffused

USB command
Camera startup
Photo taking

(not in a proper scale)
RS-232 command | Socket on | PD-LC on
--|---|---
RS-232 command | Socket off | PD-LC off

USB command | Camera startup | Photo taking | USB photo transfer
(not in a proper scale)
RS-232 command: Socket on, PD-LC on

USB command: Camera startup

Photo taking

USB photo transfer

(not in a proper scale)
RS-232 command | Socket on | PD-LC on
---|---|---
RS-232 command | Socket off | PD-LC off
USB command | Camera startup | Photo taking | USB photo transfer

(diffused) (transparent) (diffused)

(not in a proper scale)
RS-232 command | Socket on | PD-LC on
---|---|---

USB command | Camera startup | Photo taking | USB photo transfer

RS-232 command | Socket off | PD-LC off

(diffused) (transparent)

(not in a proper scale)
RESULT
Now, try it!
FUTURE WORK
Software optimization
Automatic trimming
Applications
Interaction design
Barcodes recognition
More compact hardware setups
for CESC 2011
by Jakub Hušek
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