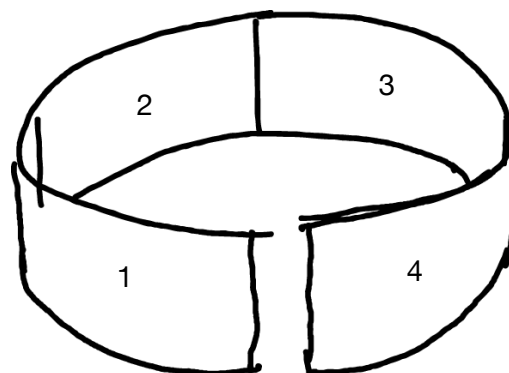


## Screens and Image



4 screens / 4 projectors

approx. screensize 10.3 x 1.5 meters

1	2	3	4
---	---	---	---

Image resolution: 5120 x 720 pixels (4 x 1280 x 720)

The necessary geometry distortion for the cylinder is taken care of by a dedicated standalone application that consumes *Syphon* textures. Send your output-image as a **single** Syphon texture with the proper dimension.

see <http://syphon.v002.info/> for information and software-tools.

Declare your image to the geometry-mapping program when starting up. Send an OSC message on localhost or broadcast to port 8400 stating your app and texture name and alpha value.

OSC msg syntax: `/SwitchSyphonClient appName textureName 1.0`

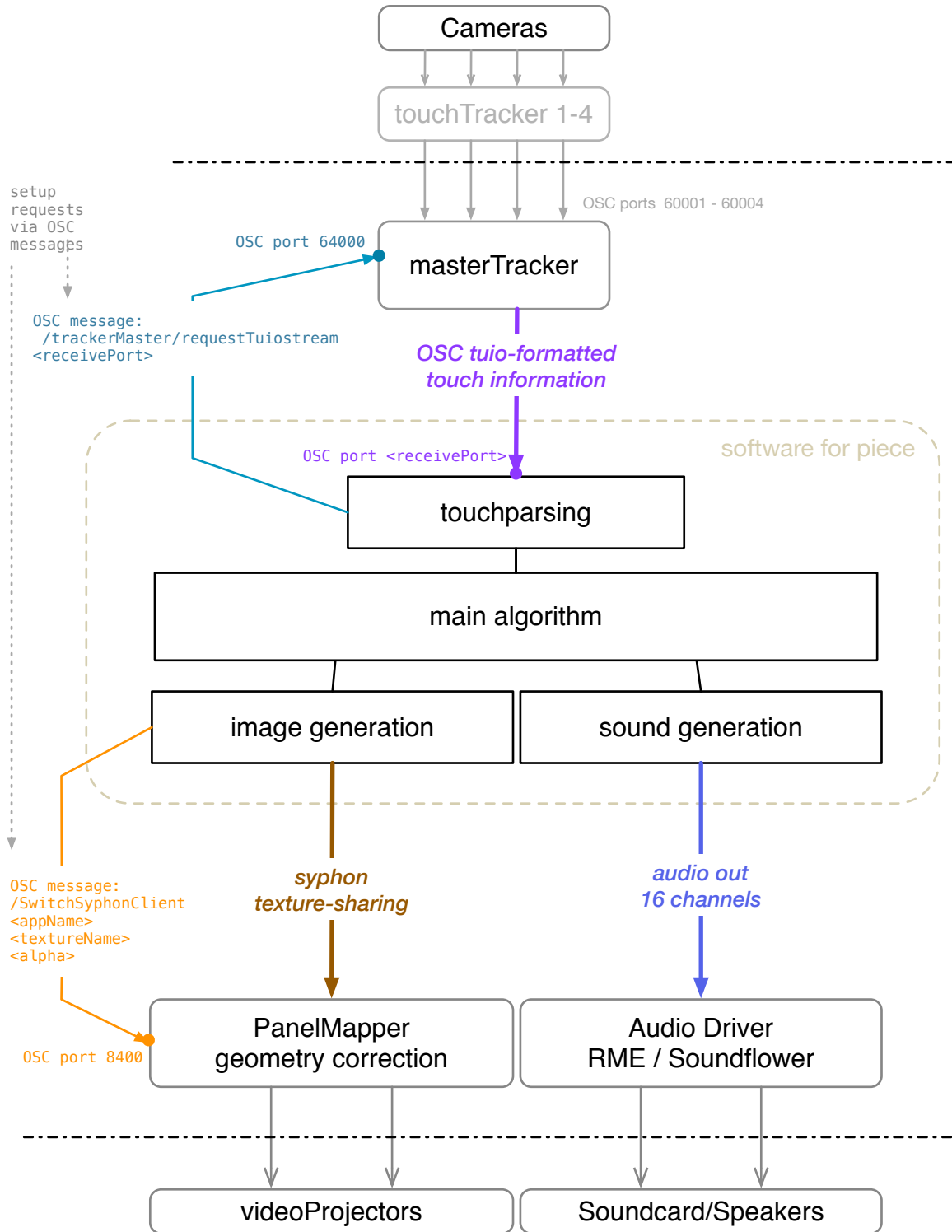
### at application start

```
// panelMapper init
sendIP = "224.0.0.1";
sendPort = 8400;

setAddress( "/SwitchSyphonClient" );
addStringArg( "yourAppName" );
addStringArg( "yourTextureName" );
addFloatArg( 1.0 ); // alpha
```



## Software flowchart, connections and protocols



## Touch interaction

x-coordinates per panel from **left to right**

0. – 1.	1. – 2.	2. – 3.	3. – 4.
---------	---------	---------	---------

y-coordinates 0. – 1.

**from top to bottom** (pixelspace coords)

indices per panel

0-199	200-399	400-599	600-799
-------	---------	---------	---------

The touch points are generated by infrared based blobtrackers positioned behind each screen. They are capable of detecting a large number of points, and mainly react to fingertips but also elbows shoulder etc.

The information of the four trackers is collected in a master application and dispatched on a single OSC port.

The touch information is transmitted via the tuio protocol,  
see <http://www.tuio.org/?specification> for details of this protocol

Announce your application to the tracker master program when starting up. Send an OSC message on localhost or broadcast to port 64000 stating the port on which you are receiving the touch information.

OSC msg syntax: `/trackerMaster/requestTuiostream receivePort`

**NB** there is **NO** continuity of points between panels !

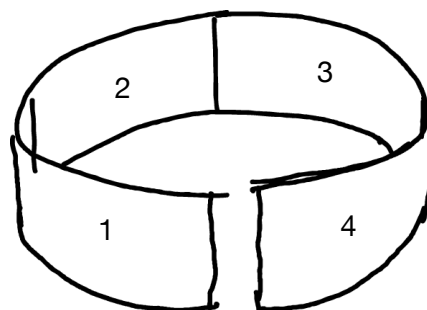
### at application start

```
// trackerMaster init  
sendIP = "224.0.0.1";  
sendPort = 64000;  
receivePort = 27777;
```

```
setAddress( "/trackerMaster/requestTuiostream" );  
addIntArg( receivePort );
```

### at application quit

```
setAddress( "/trackerMaster/releaseTuiostream" );  
addIntArg( receivePort );
```



## Touch interaction II

x-coordinates per panel

0. – 1.	1. –2.	2. – 3.	3. – .4
---------	--------	---------	---------

indices per panel

0-199	200-399	400-599	600-799
-------	---------	---------	---------

example tuio frames (alive to fseq); an empty frame is just an fseq msg  
(ask us for the full tuio log-file for testing purposes)

```

/tuio/2Dcur alive 600 601;
/tuio/2Dcur set 600 3.334896 0.307639 0. 0.;
/tuio/2Dcur set 601 3.302187 0.343056 0. 0.;
/tuio/2Dcur fseq 59384;
/tuio/2Dcur alive 600 601;
/tuio/2Dcur set 600 3.334896 0.307639 0. 0.;
/tuio/2Dcur set 601 3.302187 0.343056 0. 0.;
/tuio/2Dcur fseq 59385;

/tuio/2Dcur alive 400;
/tuio/2Dcur set 400 2.811979 0.221528 0. 0.;
/tuio/2Dcur fseq 59532;
/tuio/2Dcur alive 400;
/tuio/2Dcur set 400 2.811979 0.221528 0. 0.;
/tuio/2Dcur fseq 59533;
/tuio/2Dcur alive 400 401 402;
/tuio/2Dcur set 400 2.82168 0.22691 0. 0.;
/tuio/2Dcur set 401 2.796094 0.206944 0. 0.;
/tuio/2Dcur set 402 2.809146 0.209889 0. 0.;
/tuio/2Dcur fseq 59534;
/tuio/2Dcur alive 400 401 402;
/tuio/2Dcur set 400 2.82168 0.22691 0. 0.;
/tuio/2Dcur set 401 2.796094 0.206944 0. 0.;
/tuio/2Dcur set 402 2.809146 0.209889 0. 0.;
/tuio/2Dcur fseq 59535;

/tuio/2Dcur alive 200 201;
/tuio/2Dcur set 200 1.699219 0.459375 0. 0.;
/tuio/2Dcur set 201 1.715712 0.41169 0. 0.;
/tuio/2Dcur fseq 59823;
/tuio/2Dcur alive 200 201;
/tuio/2Dcur set 200 1.699219 0.459375 0. 0.;
/tuio/2Dcur set 201 1.715712 0.41169 0. 0.;
/tuio/2Dcur fseq 59824;
/tuio/2Dcur alive 200 201;
/tuio/2Dcur set 200 1.699219 0.459375 0. 0.;
/tuio/2Dcur set 201 1.715712 0.41169 0. 0.;
/tuio/2Dcur fseq 59825;
/tuio/2Dcur alive 200 201 202 203 204;
/tuio/2Dcur set 200 1.712674 0.38287 0. 0.;
/tuio/2Dcur set 201 1.727778 0.486343 0. 0.;
/tuio/2Dcur set 202 1.738021 0.488889 0. 0.;
/tuio/2Dcur set 203 1.738862 0.422115 0. 0.;
/tuio/2Dcur set 204 1.69513 0.432674 0. 0.;
/tuio/2Dcur fseq 59826;

/tuio/2Dcur alive 0 1;
/tuio/2Dcur set 0 0.851628 0.440799 0. 0.;
/tuio/2Dcur set 1 0.835342 0.460466 0. 0.;
/tuio/2Dcur fseq 60188;
/tuio/2Dcur alive 0 1 2 3;
/tuio/2Dcur set 0 0.818229 0.459028 0. 0.;
/tuio/2Dcur set 1 0.817969 0.480208 0. 0.;
/tuio/2Dcur set 2 0.843652 0.438628 0. 0.;
/tuio/2Dcur set 3 0.82543 0.457609 0. 0.;
/tuio/2Dcur fseq 60189;

```

## Audio

16 channel (+ 2 subs)

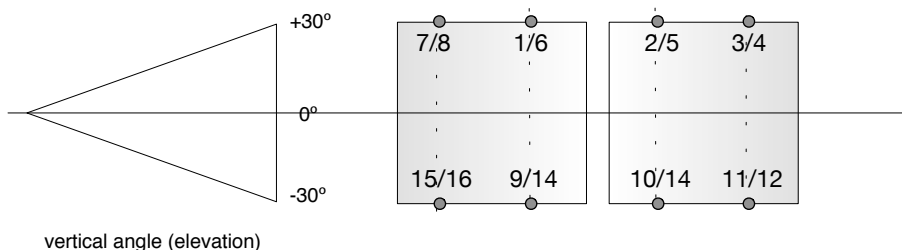
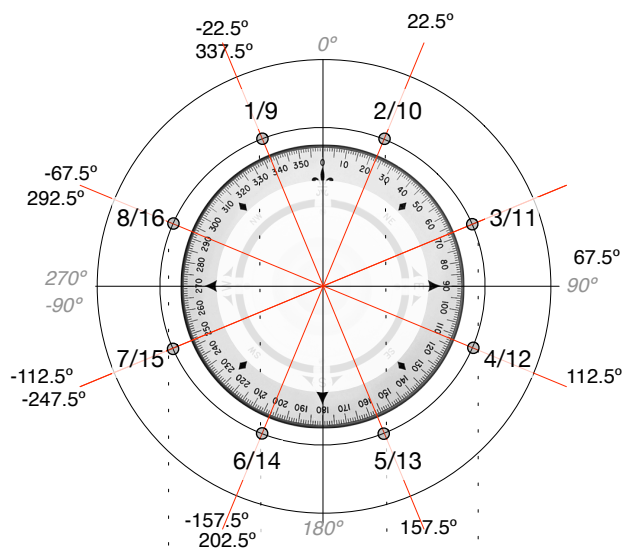
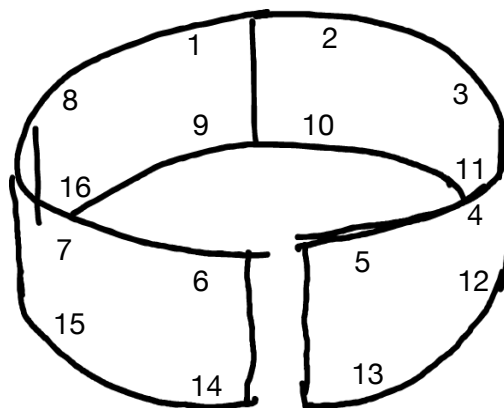
Speaker positions in degrees

(navigational coordinates: zero centre front, positive increase clockwise, cf. also compass rose)

upper ring:  
ID azimuth elevation

- 01: -22.5 30. (337.5)
- 02: 22.5 30.
- 03: 67.5 30.
- 04: 112.5 30.
- 05: 157.5 30.
- 06: -157.5 30. (202.5)
- 07: -112.5 30. (247.5)
- 08: -67.5 30. (292.5)

- lower ring:
- 09: -22.5 -30. (337.5)
  - 10: 22.5 -30.
  - 11: 67.5 -30.
  - 12: 112.5 -30.
  - 13: 157.5 -30.
  - 14: -157.5 -30. (202.5)
  - 15: -112.5 -30. (247.5)
  - 16: -67.5 -30. (292.5)



# Immersive Lab

An interactive audio-visual immersive space  
for artistic experimentation and experiences

Institute for Computer Music and Sound Technology



## Floor-plan (approximate)

