



Smalltalk XXL

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Fencing software



Action is very fast : 3 minutes for a match with up to ten hits
Up to 30 pistes in parallel for an event with different competitions
(foil, sabre, men, women ...)
Who goes where and when ?
Competition mishaps, online results, international regulations

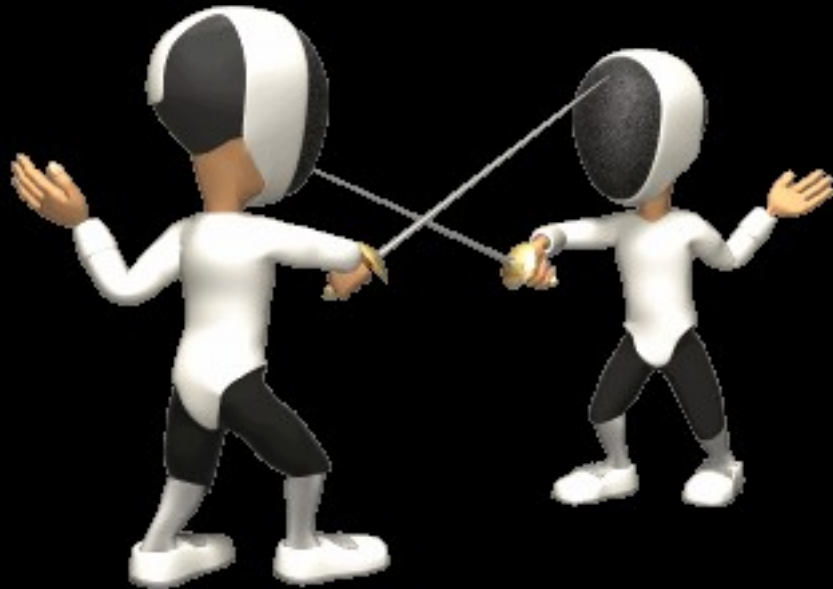
Fencing devices



Hardware

Ethernet

Fencing machine



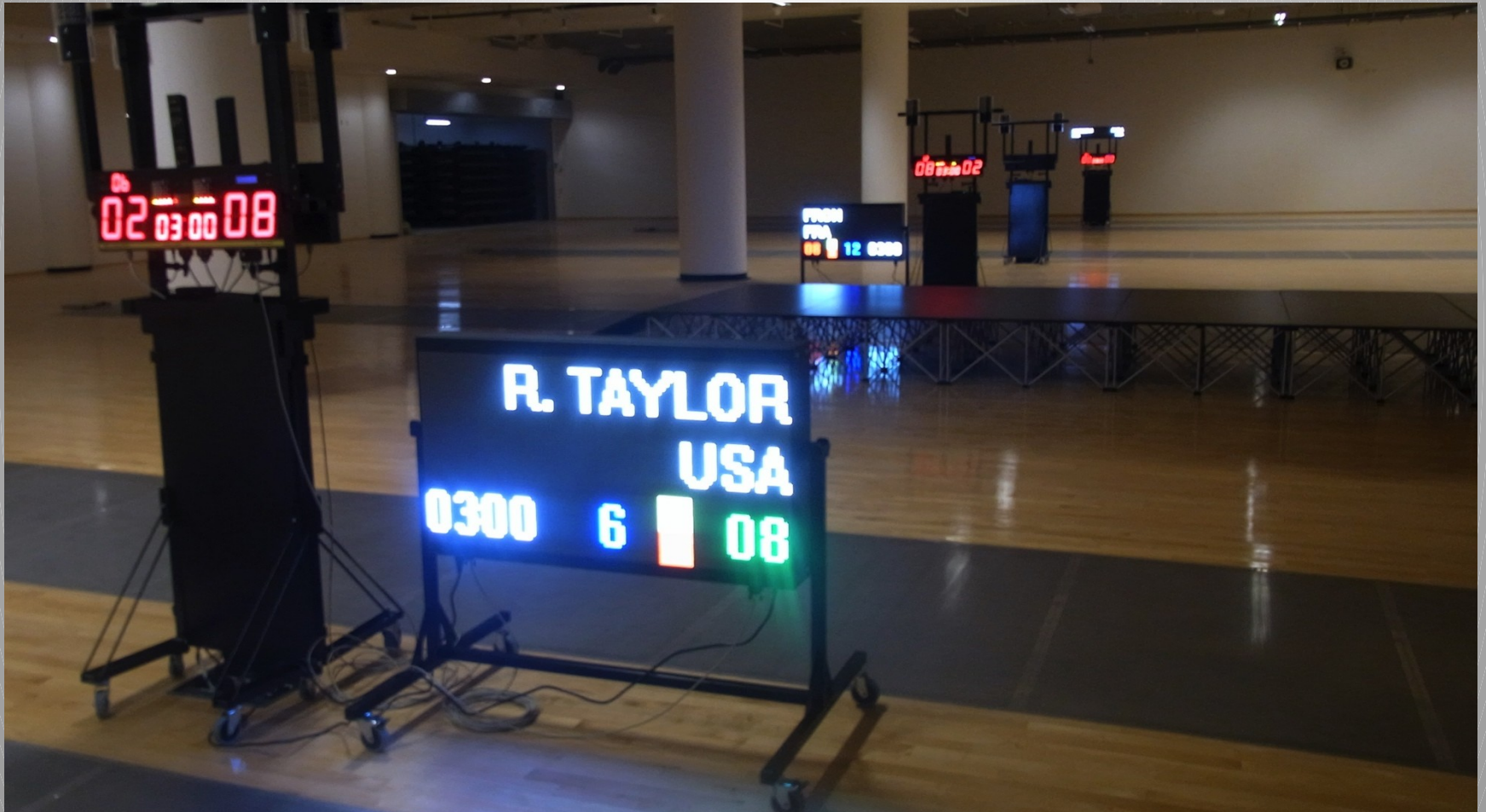
Network



results



Led displays with names



Technology hurdles

- **Networking** with apparatus
- **XML** parsing and persistence
- Real time networked **display** without flickering
- Print documents in **PDF**
- **Web services** for results
- Packaging and licence m



Will you take some Java ?



- Started project ... in Java since the Lantronix provided Applet samples
- Long time to develop an Applet fit to 64 k (hosted in the ROM) with character antialiasing and double buffering (generate images in memory by hand)
- Ready to go in Sept 2013

In October Oracle changed its Applet policy

Fast track: Reimplement in Smalltalk...



Singapore Stadium metro station

Networking design issues

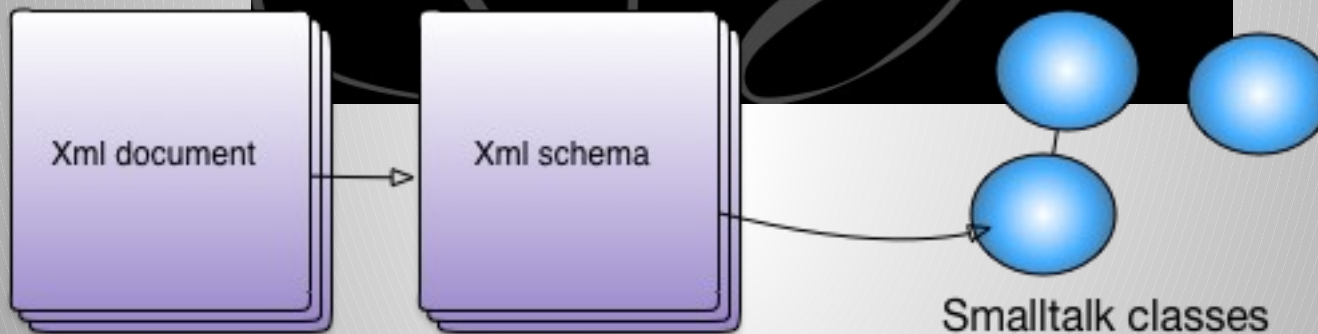
- Define a protocol compatible with the device state; the device should not know about the competition; should be able to handle several competitions
- **Discovery protocol** to identify all devices on the network
- Ability to access both the local machines on Ethernet network and web services through wifi : an ip address is linked to the network interface, not to the computer
- **Broadcast or multicast ?** No routers, traffic low enough, no partition
 - Broadcast imposes internet address on the same subnetwork : requires manual configuration
 - Multicast address could be used

Ethernet all over



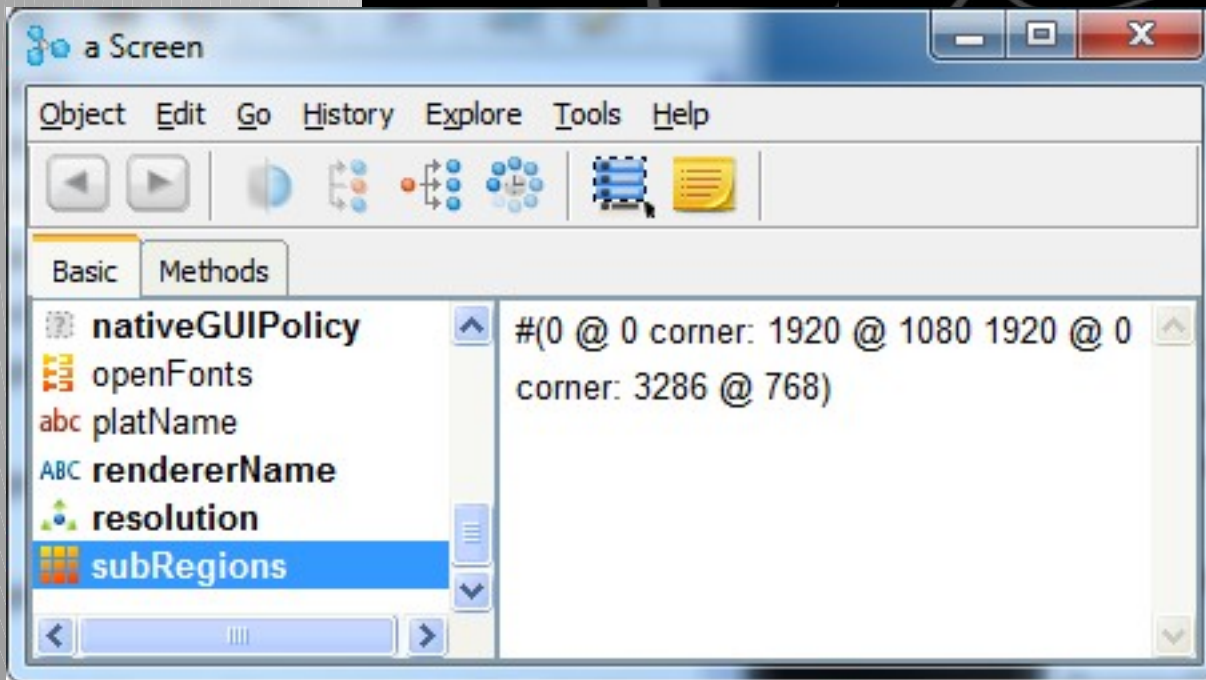
XML files

- Use Sixx for persistence
- Use **XMLObjectBinding** for International Federation (FIE) compliance



Real time display

- Large screens (160 inches) as extended screens.



Real time display

- Use DoubleBuffering to avoid flickering
postOpenWith: aBuilder

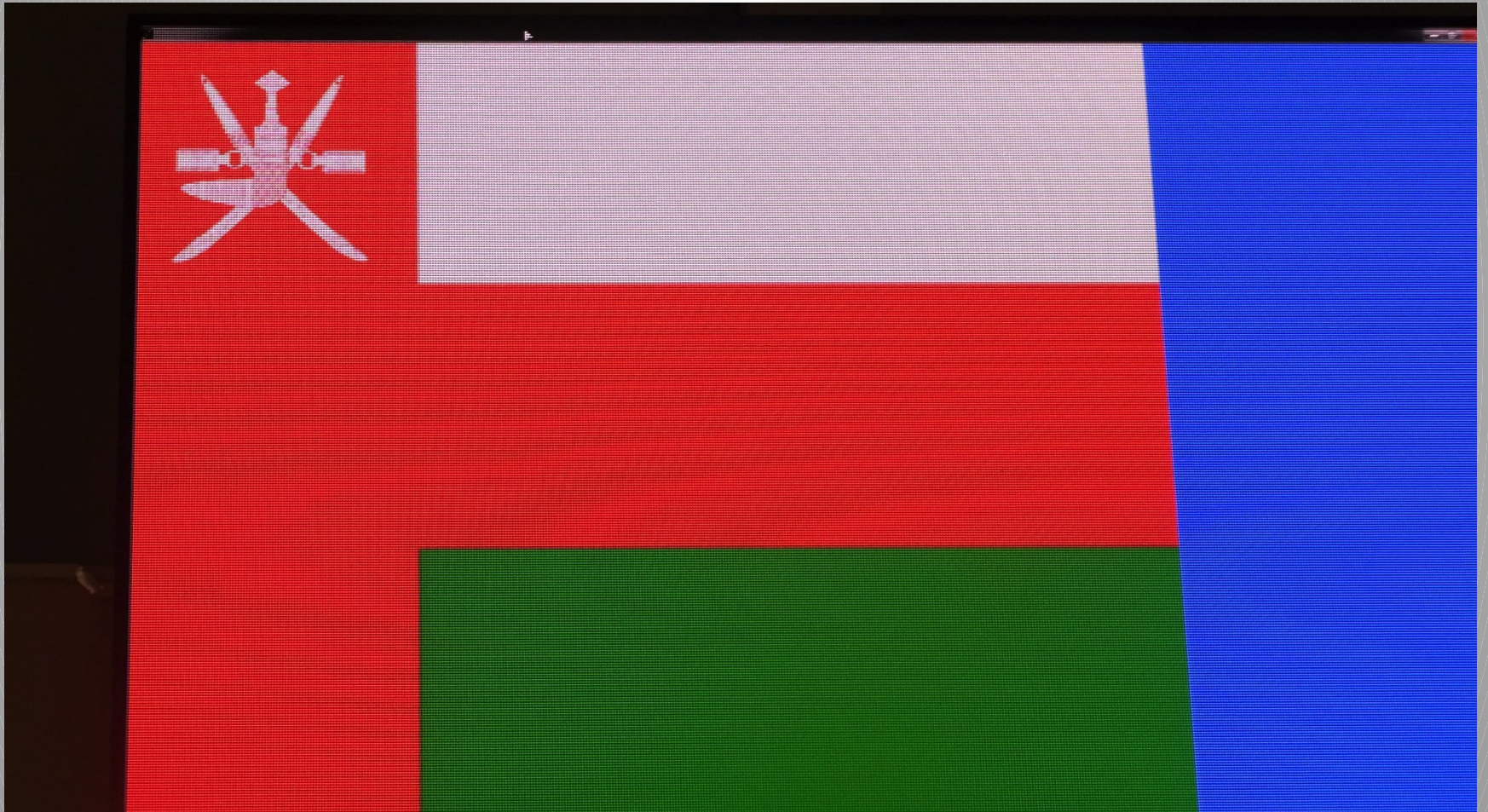
```
builder window damageRepairPolicy:  
DoubleBufferingWindowDisplayPolicy new.
```

- Yes it works with cairo !

- Map librsvg2 to provide scalable high quality graphics using DLLCC



Librsvg



Librsvg



Pdf documents

- Cairo again !
- Demo



PDF Reports

Epee - Men - Junior
 Stage 1 - Poules

30/06/14

Men Competition

Poule #01

Referee

Piste

Piste 1

- 1 **Team1**
- 2 **Team2**
- 3 **Team3**
- 4 **Team4**
- 5 **Team5**
- 6 **Team6**
- 7 **Team7**

	1	2	3	4	5	6	7
1		3	4	45	45	45	45
2	45		45	45	45	45	45
3	45	5		45	45	45	45
4	6	7	10		45	45	45
5	8	9	11	12		45	45
6	13	14	15	16	17		45
7	18	19	20	21	22	23	

	Victories	Vict/Matches	Scored	Received	Index	Ranking
4	0.667	187	135	52	3	
6	1.000	270	57	213	1	
5	0.833	230	105	125	2	
3	0.500	158	184	-26	4	
2	0.333	130	219	-89	5	
1	0.167	120	248	-128	6	
0	0.000	123	270	-147	7	

Web service results

			Referees	Participants	Results										
			Poule Stage #1	Ranking	Table Stage #2										
			Ranking												
▼ Poule #01															
			1	2	3	4	5	6	7	Victories Vict/match	Scored	Received	Index	Ranking	
1	SEITZ	Tom	■	V5	1	V5	V5	3	V5	4	0.667	24	14	10	2
2	FIGUERAS	Manuel	1	■	V5	V5	3	1	V5	3	0.500	20	19	1	4
3	FABRE	Mehdi	V5	1	■	1	V5	4	V5	3	0.500	21	21	0	5
4	CHAPUIS	Allan	2	2	V5	■	V5	2	V5	3	0.500	21	18	3	3
5	THOMAS	Clement	1	V5	1	0	■	V5	4	2	0.333	16	24	-8	6
6	FERRET	Alexis	V5	V5	V5	V5	1	■	V5	5	0.833	26	17	9	1
7	DE ZUTTERE	Thibaud	0	1	4	2	V5	2	■	1	0.167	14	29	-157	

Future

- Commercially available in autumn
- Server side events for real time web monitoring
- Test test test ...
- <http://www.fencingfox.com/esug/demo.html>
- <http://www.fencingfox.com/welcome>

With id 1003

