

OSC Scheme

Scott Hewitt

www.ablelemon.co.uk

26th Jan 2008

GEM Days @ Hudds Uni

I have a dream..

- Common API across MAX/MSP patches
- Common interface between many languages

Current Implementations

- Jamoma
- Ad hoc
- Midi

Why OSC

- Common
- Robust
- Real time

Desired Features

- Encapsulate meaning within data
- Human Readable
- Realtime
- Recordable

The Standard Features

- Based on reserved (OSC) name spaces
- Reserved name spaces in any order
- Optional Auto Setup
- Optional self documenting / propagating

Proposed First Layer Address Spaces

- /test
- /setup
- /chat
- /app
- /user
- /time
- /score
- /documentation
- /hardware

Reserved Name Spaces

- /test

message 'check + ip + time'

response 'auto + ip + time'

Features

- Test structure built into protocol
- Basic realtime network/application profile

Reserved Name Spaces

- /setup

reserved message set x /y

'x' corresponds to the position within the hierarchy
'y' the name for detection

eg. set 1 /setup set 2 /pan

Features

- Dynamic configuration
- Auto upgrade

Reserved Name Spaces

- /chat

Features

- Communication standard
- Simple implementation
- Publicly accessible stream
- Wide extensibility

Reserved Name Spaces

- /app

Features

- Stable network aware/transparent API
- Separates application streams
- Consistent application stream structure
- Allows interaction of applications without awareness
- Data Structure communicated within protocol (limited operational overhead)

Reserved Name Spaces

- /user
- Requires individual identifier

Features

- Flexible area layout
- Accountability for data

Reserved Name Spaces

- /time
- From Start
- World Time (Almost depreciated due to NTP)

Reserved Name Spaces

- /score
- /timestamp

Features

Prepared events offline synchronization

Performance playback standard

<http://openalbum.adamjansch.co.uk>

Reserved Name Spaces

- /documentation

Features

Request /namespace

Reserved Name Spaces

- /hardware

Permits connection of device

Shared or Local

Utility network future

Examples

- /user/john/app/maxmsp bang
- /app/maxmsp open
- /user/sam/setup/ set 1 /setup set 2 /pan
- /chat dave hello

Why use it?

- Encourages Server / Client topography
- Fully network aware
- Multi-platform
- Easy to implement
- Expandable
- Human Readable
- Obvious Data Structure

Todo

- Develop OSC proxy server
- Additional client implementations
- Make some music