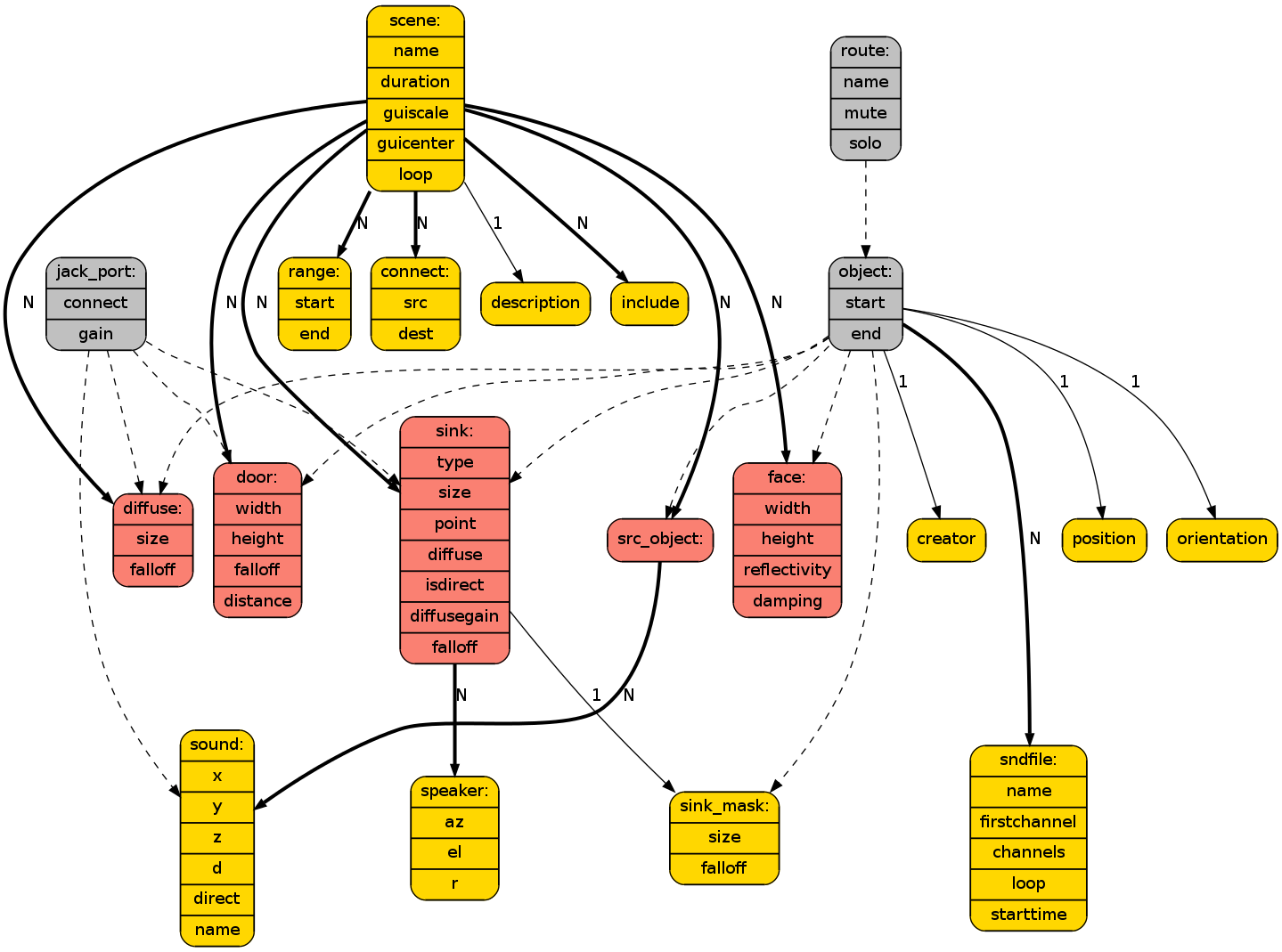
# Specification of TASCAR file format

TASCAR is a toolbox for acoustic scene creation and rendering. Acoustic scenes are stored in a scene definition file in XML format together with a list of sound files. Scenes can be defined either manually or with the help of scene creation tools (e.g., GPS track manipulation and conversion tools, blender 3D authoring tool).



Solid arrows: Sub-nodes; dashed arrows: attribute inheritance

scene

Top-level node of a TASCAR scene definition (tsc) file.

Valid attributes:

name Name of scene

duration Duration of scene in seconds; default: 60

guiscale Display scaling in meter; default: 200

guicenter Display center (x, y, z) in meter; default: 0 0 0

loop Loop scene (true|false); default: false

Valid sub-nodes:

src\_object, sink, diffuse, door, face, range, connect, description, include

src\_object

Define an object with sound sources.

Valid attributes:

name Name of a source object

mute Mute object (true|false); default: false

solo Solo object (true|false); default: false

start Render activity start time in seconds; default: 0

end Render activity end time in seconds; default: 0

The render activity is limited to the interval [start,end] if end > start.

Valid sub-nodes:

position, orientation, creator, sndfile, sound

sink

A sink defines a virtual microphone and is usually used as a listener, or as input for coupled room simulations. Speaker-based decoding methods (currently nsp, later also vbap) require the specification of loudspeakers (see node “speaker”).

Valid attributes:

name, mute, solo, start, end (see above)

connect Connection to jack port

gain Gain of jack port in dB; default: 0

type Sink type (omni|cardioid|amb3h3v|amb3h0v|nsp)

size Size of box in which no distance-rule is applied (x,y,z in m); default: 0 0 0

point Render point sources (true|false); default: true

diffuse Render diffuse sources (true|false); default: true

isdirect Render direct sources (true|false); default: true

diffusegain Gain applied to diffuse sources in dB; default: 0

falloff Length of Hanning ramp in m, or -1 for normal distance model; default: -1

Valid sub-nodes:

speaker, sink\_mask, position, orientation, creator, sndfile

diffuse

Node for diffuse background sources or diffuse reverberation. Diffuse sources are processed in first order ambisonics.

Valid attributes:

name, mute, solo, start, end (see above)

connect Jack connection of port

gain Gain of jack port in dB; default: 0

size Size of box in which the diffuse source is audible; default: 1 1 1

falloff Length of Hanning ramp outside of box in m; default: 1

Valid sub-nodes:

position, orientation, creator, sndfile

face

Rectangular reflector object. The origin is in the left bottom corner of the face (if orientation is 0,0,0).

name, mute, solo, start, end (see above)

width Width of rectangular reflector in m; default: 1

height Height of rectangular reflector in m; default: 1

reflectivity (currently unused; default: 1)

damping (currently unused; default: 0)

Valid sub-nodes:

position, orientation, creator, sndfile

door

Sound portal for coupled-room simulation.

name, mute, solo, start, end (see above)

connect Jack connection of port

gain Gain of jack port in dB; default: 0

width Width in m; default: 1

height Height in m; default: 2

falloff Length of Hanning ramp when passing the door; default: 1

distance Distance of virtual summed source in m; default: 1

Valid sub-nodes:

position, orientation, creator, sndfile

sound

Omnidirectional sound source as part of a src\_object.

connect Jack connection. The special token “@” will be replaced by “<scenename>.player:<objectname>”.

gain Gain of jack port in dB; default: 0

x,y,z Relative position to object; default: 0

d Distance from object along motion path; default: 0

direct treat sound as direct sound (true) or mirrored sound (false); default: true

name Name of sound

sndfile

Sound file, will be played back by the player part. The jack port name will be <scenename>.player:<objectname>.<channel>

name Sound file name (can be any libsndfile supported file type)

firstchannel First channel in sound file to be used; default: 0

channels Number of channels to be used; default: 1

loop Loop count, or 0 to loop infinitely; default: 1

starttime Start time in sound file in seconds (negative values: start with zeros); default: 0

creator

load, origin, addpoints,velocity, rotate, scale, translate, smooth, resample, trim, time

