ObjectTracker

Attributes

cur_id: *int*
s_IDs = *int : source object*
b_IDs = *int: barrier object*
r_IDs = *int : receiver object*
sp_IDs = *int : sound_path object*

Operations

set appropriate dictionary based on isinstance()

add(source, barrier, receiver, or sound path object)
if is_isntance(source): IDs = s_IDs.. for example
cur_id is incremented
source/barrier/receiver/soundpath._ID = cur_id
IDs[cur_id] = source, barrier, receiver, or soundpath object

remove(source/barrier/recever/soundpath object)
if is_isntance(source): IDs = s_IDs.. for example
this_id = source/barrier/receiver/soundpath._ID = None
source/barrier/receiver/soundpath._ID = None
del IDs[this_id]

App

Attributes

object_tracker: ObjectTracker

Operations

add_source()
add_barrier()
add_receiver()
add_soundpath()

remove_source()
remove_barrier()
remove_receiver()
remove_soundpath()

update_source()
update_barrier()
update_receiver()
update_soundpath()

Source

Attributes

_ID: *int*
geometry: *Point*
dBA: *float*
reference_dist: *float*
octave_bands: *Optional[OctaveBand]*
count: *float* = 1
tag: *str*
path: *str*
make: *str*
model: *str*
q_tested: *float*
q_installed: *float*
insertion: *float*

Operations

Receiver

Attributes

_ID: *int*
geometry: *Point*
name: *str*
dBA_limit: *float*

Operations

predicted_dbA() -> float

Barrier

Attributes

_ID: *int*
geometry: *Segment*
name: *str*
dBA_limit: *float*

Operations

Adders

add_source():
- new Source s is made
- s is added to sources set

add_receiver():
- new Receiver r is made
- object_tracker.add(r)

add_barrier():
- new Barrier b is made
- object_tracker.add(b)

add_soundpath():
- new SoundPath sp is made
- object_tracker.add(sp)

Removers

remove_source(s):
- object_tracker.remove(s)
- for soundpaths sp containing s
  remove_soundpath(sp)

remove_receiver(r):
- object_tracker.remove(r)
- for soundpaths sp containing r
  remove_soundpath(sp)

remove_barrier(b):
- object_tracker.remove(b)
- for soundpaths sp containing b
  sp.allowed_barriers.remove(b)

remove_soundpath(sp):
- object_tracker.remove(sp)

Sound_Path

Attributes

_ID: *int*
source: *Source._ID*
receiver: *Receiver._ID*
allowed_barriers: *set(allowed Barrier._IDs)*
ignore: *bool*
directivity: *int*
barrier_method: *ARI|FRESNEL|NONE|EITHER*

Operations

predicted_dBA(): float
insertion_loss_ARI(): float
insertion_loss_fresnel(): float

Predicted_dBA()

for