

transHumUs

a poetic experience in mobile robotics

Wednesday 18th May, 2016

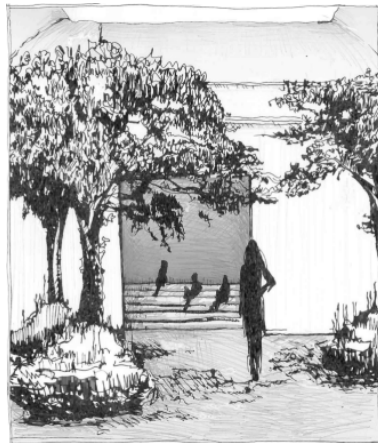
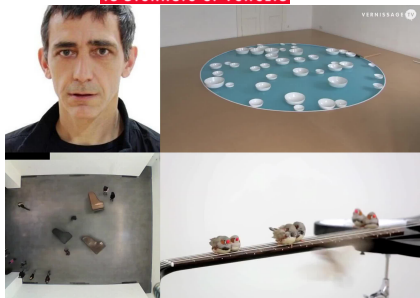
G. Saurel M. Taïx J.-P. Laumond

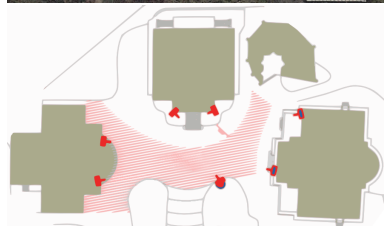
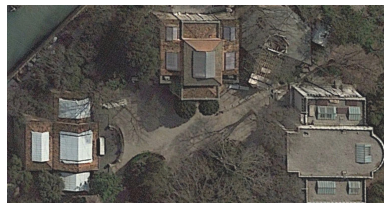


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- 3 trees: 1 inside, 2 outside (shared area)
- Alive
- height: 5 m ; \varnothing : 3 m ; weight: 4 tons
- speed: ≤ 1 m/min
- path: function of the tree's metabolism
- motion: smooth and holonomic
- noiseless



Ubisense



```

state ← 1                                ▷ Finite State Machine variable
start_loop:                               ▷ Start label
loop
  map_sap_flow[position] ← S3             ▷ Updating maps
  map_timestamp[position] ← timestamp
  if ||goal - position|| < 1 then        ▷ Need new goal
    for i ← 1, N do
      if state = 1 then
        goal ← MINI(map_sap_flow)
      else if state = 2 then
        goal ← MAXI(map_sap_flow)
      else
        goal ← MINI(map_timestamp)
      end if
      state ← (state + 1) % 3
      if CLEARPATH(goal - position) then
        goto continue                    ▷ new goal is good
      end if
    end for
    goal ← position                       ▷ Failed to find a new goal
    v ← 0
    sleep 5s
    goto start_loop                       ▷ Try again
  end if
continue:                                  ▷ Success label
  v ← S1
  ω ← 2S2 - 1
  θ_goal ← atan2(y_position - y_goal, x_position - x_goal) - α_position
  sleep 100ms
end loop
function MINI(map)
  return coordinates of a random minima of map
end function
function MAXI(map)
  return coordinates of a random maxima of map
end function
function CLEARPATH(trajjectory)
  return trajjectory ∩ (borders ∪ trajjectory_otherAGV) = ∅
end function                                ▷ No obstacle between position and goal
  
```

