

Project 3: Decision making in human robot joint action

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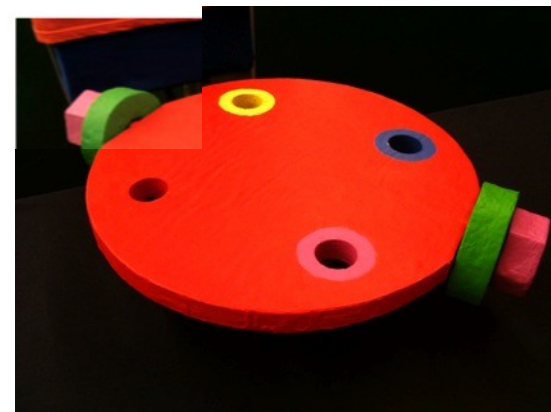
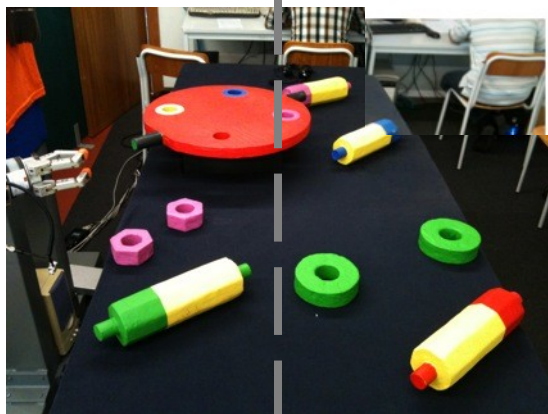
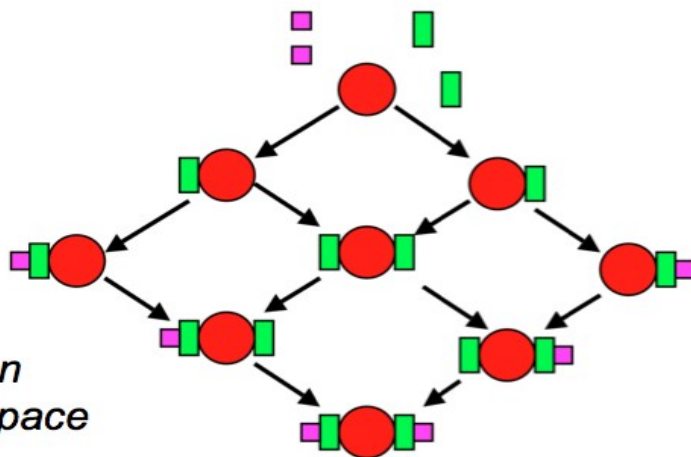
Tutors: Rui, Luis, Emanuel

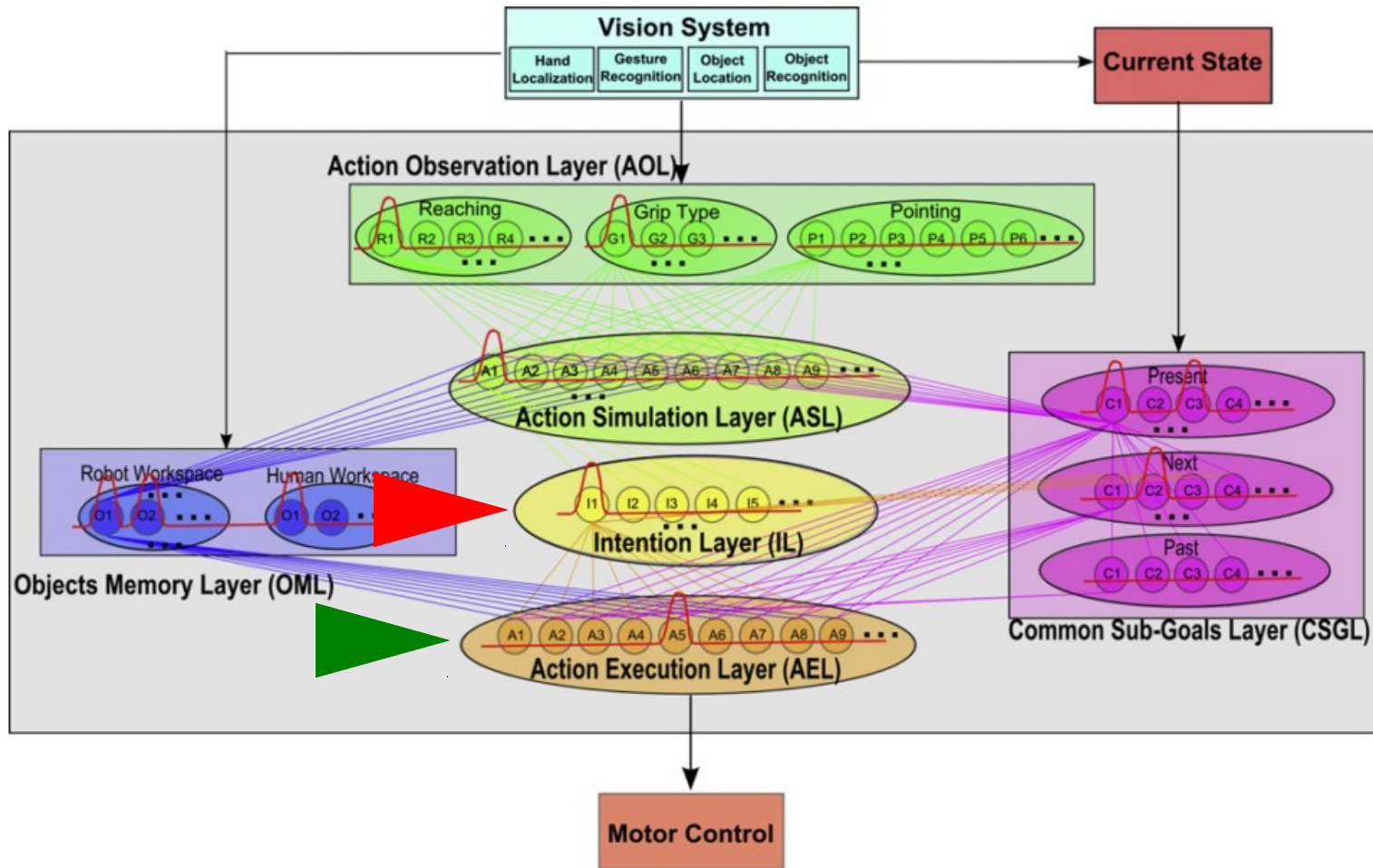


The construction task:

Robot
workspace

Human
workspace

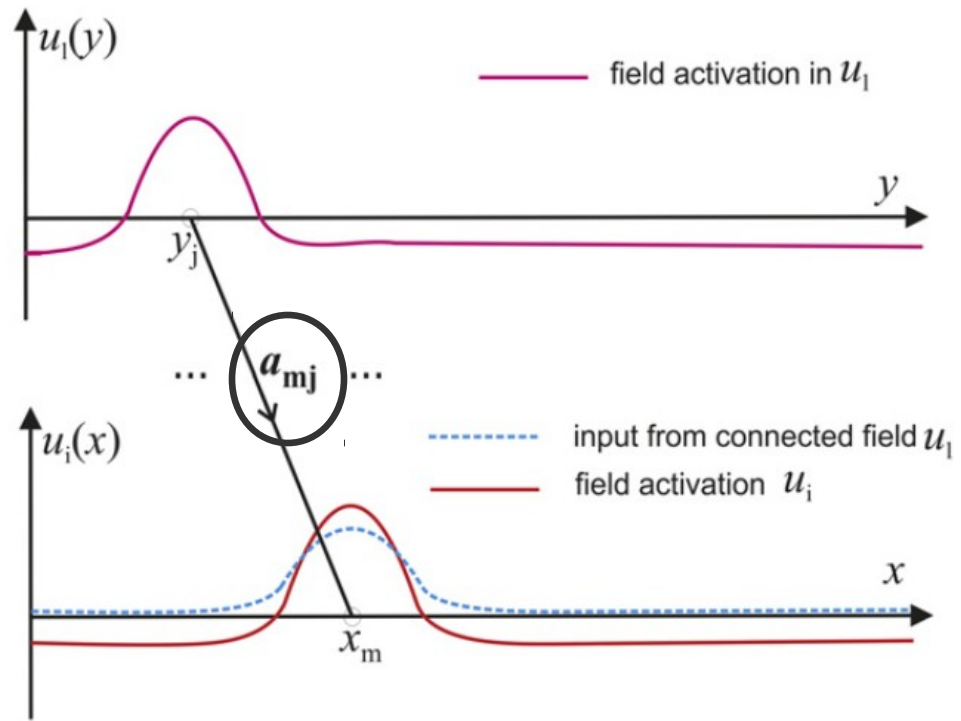




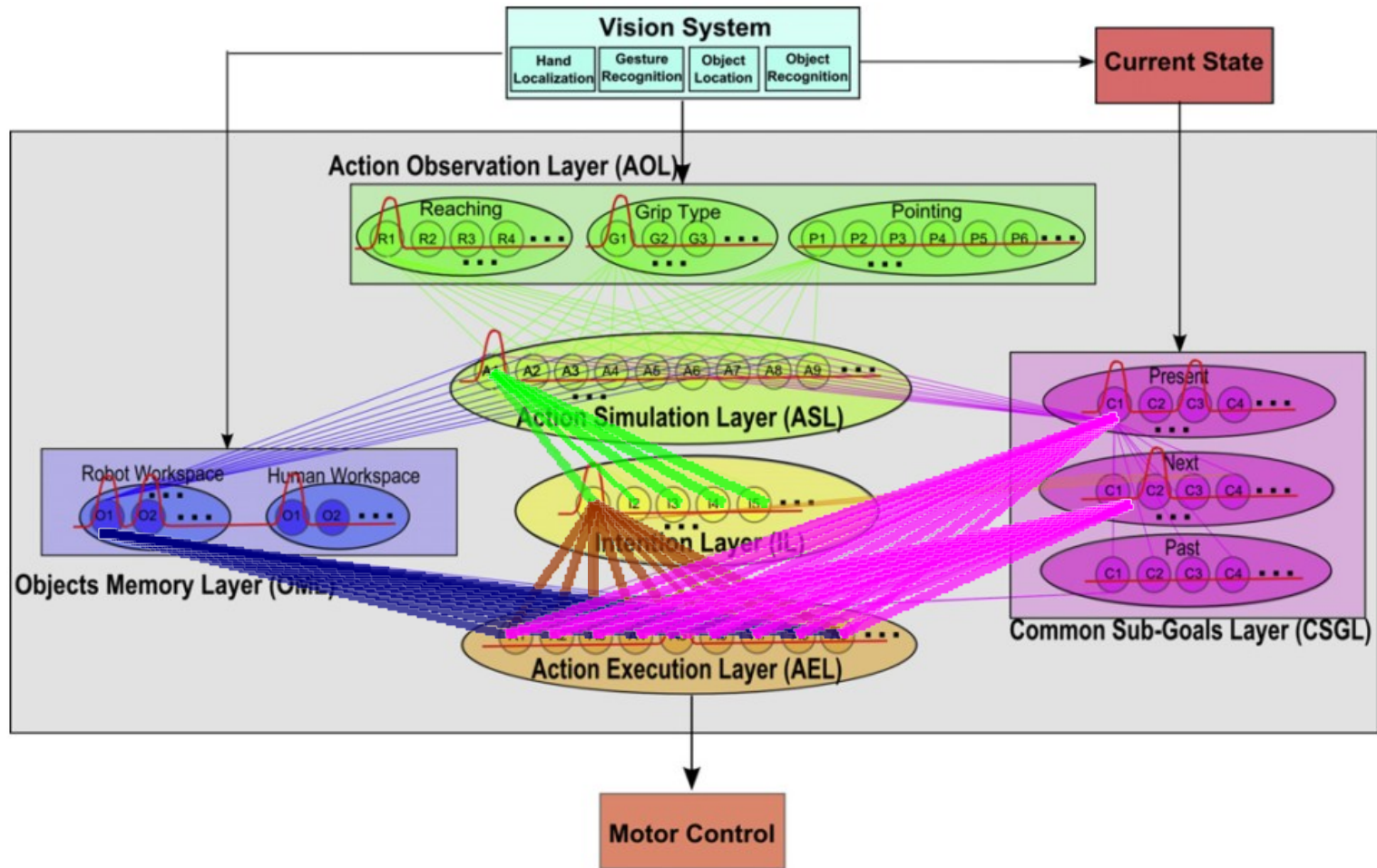
Intention layer: Intended end-goals of human, e.g. insert a wheel

Action Execution Layer: Robot action to execute, e.g. hand a nut to human

$$\tau_i \frac{\delta u_i(x, t)}{\delta t} = -u_i(x, t) + S_i(x, t) + \int w_i(x - x') f(u_i(x', t)) dx' - h_i$$



$$\frac{dh_i}{dt} = -\left(\frac{1}{\tau_{i,\min}}\right) (1 - c_h)(h_i - h_{i,\min}) - \left(\frac{1}{\tau_{i,\max}}\right) c_h (h_i - h_{i,\max})$$



Results...

videos



Thanks!

to Luis, Rui, ARoS, Emanuel, Estela and the rest of the summer school



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