

Lecture #8: Planning with time and resources

What makes temporal planning different from classical planning?

Describe in words what $x@t:(v_1,v_2)$ and $x@[t_1,t_2]:u$ mean.

What is a timeline?

How can we separate temporal assertions $at(r)@5:(L1,L2)$ and $at(r)@[T1,8]:loc3$, where $L1,L2$, and $T1$ are variables?

Is this timeline consistent ($\{at(r)@5:(L1,loc3), at(r)@[T1,8]:loc3\}, \{5 \leq T1\}$)?

Does chronicle ($\{at(r)@5:(L1,L2)\}, \{\}$) support assertion $at(r)@[7,8]:loc3$? If yes, what is the enabler?

How is planning operator defined for planning with chronicles? What are the major differences from classical planning operators?

Can any sequential planning problem be represented in planning with chronicles?

Model the blockworld problem using chronicles. What does change if we have more grippers?

What is the major difference between state variables and capacity (resource) variables?

Can increase and decrease of resource be modelled using borrowing?

What is a resource conflict?

What is a minimal critical set?

Does existence of a minimal critical set imply a resource conflict?

Why is it enough to resolve conflicts for all minimal critical sets?