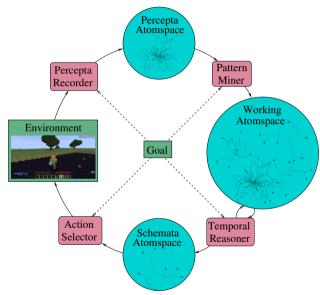
Rational OpenCog Controlled Agent

Nil Geisweiller, Hedra Yusuf

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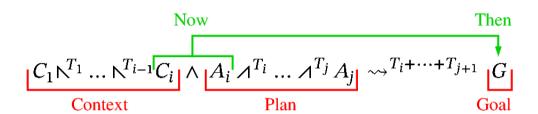


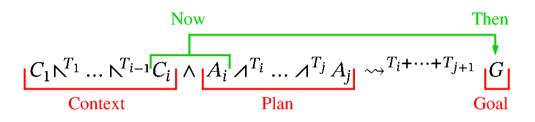




$$C_1 \wedge^{T_1} \ldots \wedge^{T_{i-1}} C_i \ \wedge \ A_i \wedge^{T_i} \ldots \wedge^{T_j} A_j \ \leadsto^{T_i + \cdots + T_{j+1}} \ G$$







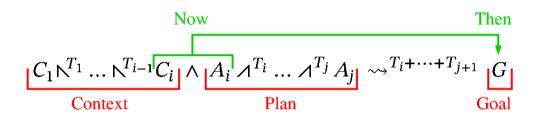
$$[C_1 \wedge^{T_1} \dots \wedge^{T_{i-1}} C_i](t)$$
 = True | False



Now Then
$$C_1 \wedge^{T_1} \dots \wedge^{T_{i-1}} C_i \wedge A_i \wedge^{T_i} \dots \wedge^{T_j} A_j \rightsquigarrow^{T_i + \dots + T_{j+1}} G$$
Context Plan Goal

$$\begin{bmatrix} C_1 \wedge^{T_1} \dots \wedge^{T_{i-1}} C_i \end{bmatrix} (t) = \text{True} \mid \text{False} \\ \mapsto \mathcal{D}ist(Bool)$$





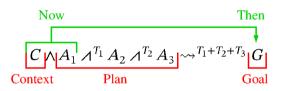
$$\begin{bmatrix} C_1 \wedge^{T_1} \dots \wedge^{T_{i-1}} C_i \end{bmatrix} (t) = True \mid False \\ \mapsto \mathcal{D}ist(Bool) \\ \mapsto \mathcal{D}ist(\mathcal{D}ist(Bool))$$

$$C \wedge A_1 \wedge^{T_1} A_2 \wedge^{T_2} A_3 \rightsquigarrow^{T_1+T_2+T_3} G$$

$$C \wedge A_1 \wedge^{T_1} A_2 \wedge^{T_2} A_3 \rightsquigarrow^{T_2+T_3} G$$

$$C \wedge A_1 \wedge^{T_1} A_2 \wedge^{T_2} A_3 \rightsquigarrow^{T_3} G$$

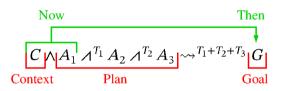




$$C \wedge A_1 \wedge^{T_1} A_2 \wedge^{T_2} A_3 \rightsquigarrow^{T_2+T_3} G$$

$$C \wedge A_1 \wedge^{T_1} A_2 \wedge^{T_2} A_3 \rightsquigarrow^{T_3} G$$

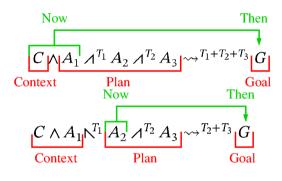




$$C \wedge A_1 \wedge^{T_1} A_2 \wedge^{T_2} A_3 \rightsquigarrow^{T_2+T_3} G$$

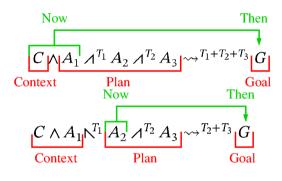
$$C \wedge A_1 \wedge^{T_1} A_2 \wedge^{T_2} A_3 \rightsquigarrow^{T_3} G$$





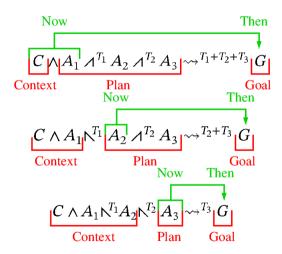
$$C \wedge A_1 \wedge^{T_1} A_2 \wedge^{T_2} A_3 \rightsquigarrow^{T_3} G$$





$$C \wedge A_1 \wedge^{T_1} A_2 \wedge^{T_2} A_3 \rightsquigarrow^{T_3} G$$





Example of schemata

Collect diamonds



Learning schemata



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Balancing exploitation and exploration



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