# CogToM Cognitive Architecture

Sensory Memory

Visual MOs

Auditory MOs

Tactile MOs

Olfactory MOs

Not so sure about this...Could help with feature extraction.

ID Perceptor Codelet uses *feature detection* to interpret Sensory MOs to create Entities and Intentions in Perceptual Memory.

ID Perceptor Codelet (LI, GI → O, A)

Symbolic Long-Term Memories

Perceptual Memory

Entities

Intentions

Affordances

Semantic Memory

Rewards

ID codelet identifies which entities in a scene are agents or objects, based on movement and intention detection. Creates Agents, their Drives, and Objects.

Intentionality Detector Codelet (LI, GI → O, A)

ID codelet is activated by the visual identification of movement on a scene.

Affordances Perception Codelet (LI, GI → O, A)

The Affordances Handler creates affordances for the objects in the scene.

RL Learning Codelet implements Reinforcement Learning to create Rewards MOs based on the observer beliefs.

RL Learning Codelet (LI, GI → O, A)

CogToM Working Memory

ID Memory

Agents MOs

Objects MOs

Drives MOs

Memory Objects in ID memory are the agents, their drives, and objects in the environment.

EDD codelet identifies eye direction and attaches that information to the Attention MOs.

Eye Direction Detector Codelet (LI, GI → O, A)

EDD Memory

Attention MOs

Memory Objects in EDD memory take into account which objects have the attention of the agents, and have the property of which agents are looking at them.

Shared Attention Codelet (LI, GI → O, A)

SAM codelet detects shared attention and attaches information to the Shared Attention MOs.

SAM Memory

Shared Attention MOs

Memory Objects in SAM memory store which objects or agents have the shared attention of two or more agents.

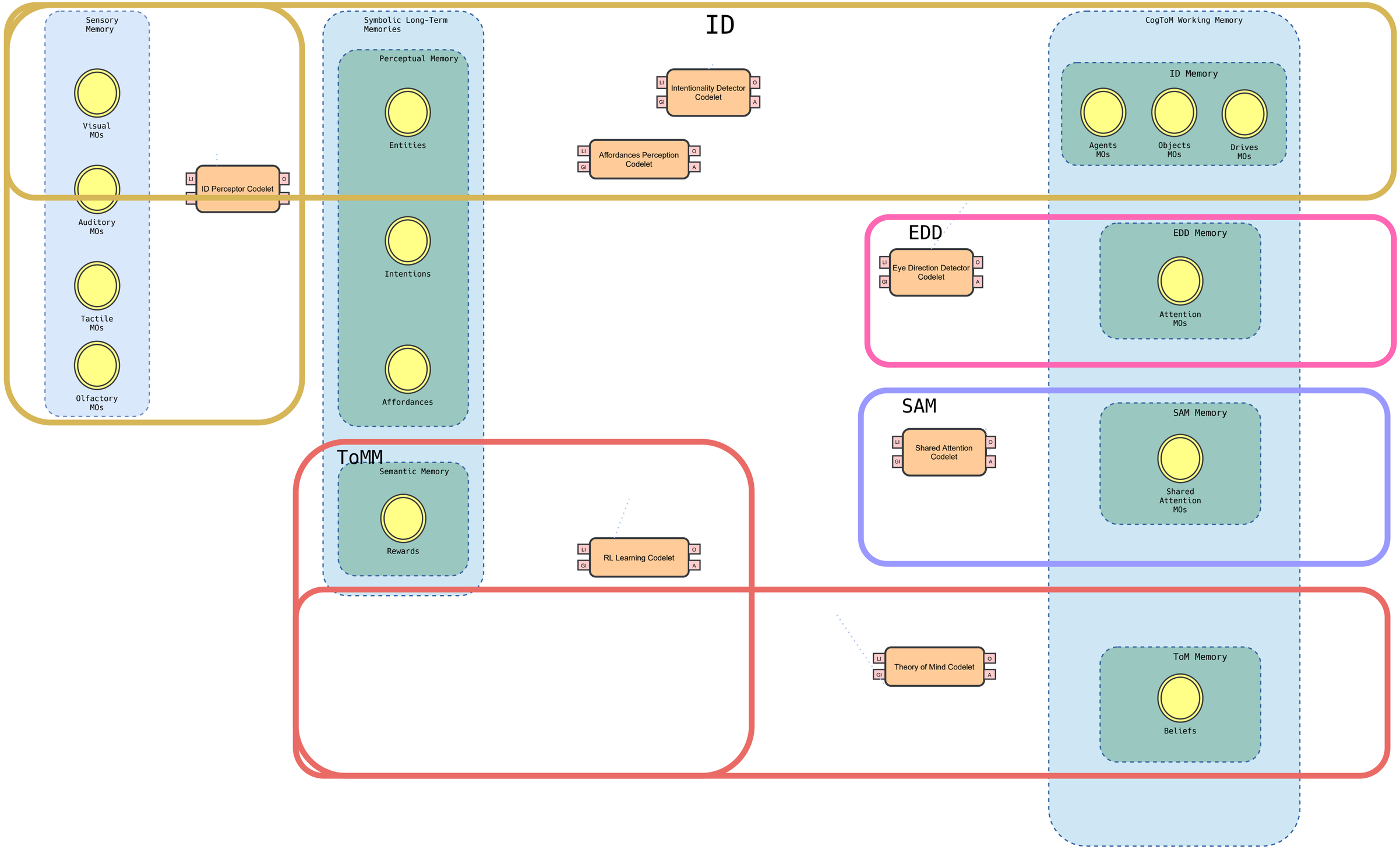
Theory of Mind Codelet (LI, GI → O, A)

The Theory of Mind codelet purpose is to integrate the information from working memory and create Beliefs in ToM Working Memory.

ToM Memory

Beliefs

Memory Objects in ToM Memory are *Beliefs*, representations of the forms:

| | |
|---|---|
| **AGENT** | **AGENT** |
| **BELIEVES** | **BELIEVES** |
| **OBJECT** | **OBJECT** |
| **AFFORDANCE** | **AFFORDANCE** |
| | **TARGET OBJECT** |

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