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Glossary of Terms

ADL	Activities of daily living
IW	Intelligent Wheelchair
AI	Artificial Intelligence
BDI	Belief- Desire-Intention
HRI	Human–machine (Robot) interaction
NASA	National Aeronautics and Space Administration
SCA	Shared Co-operative Activity
SMM	Shared mental model
RPD	Recognition–Primed Decision model
CAST	Collaborative Agent architecture for Simulating Teamwork
POMDP	Partially Observable Markov Decision Process
OPOMDP	Oracular Partially Observable Markov Decision Process
HOP-POMDP	Human Observation Provider POMDP
MI-MDP	Mixed-Initiative Markov Decision Processes
LM–HOP	Learning Model of Human Observation Provider
MOMDP	Mixed–observability Markov decision process
CTM	collaborative task mode
ACT-R	Adaptive Control of Thought-Rational
NCARAI	Navy Center for Applied Research in Artificial Intelligence

SPA	Sense-Plan-Act
LAAS	Local Area Augmentation System
LAAS	LAAS architecture for autonomous systems
UIL	User interface layer
SCL	Superior Control Layer
LCL	Local Control Layer
MMSE	Mini-Mental State Examination
IADL	Instrumental activities of daily living
ROS	Robot Operating System
USAR	Unified System for Automation and Robot Simulation
C^3Arc	cBDI Based Cognitive Collaborative Control
SLAM	Simultaneous Localization And Mapping
Robotic WC	Robotic Wheelchair
S.D	Standard Deviation
ANOVA	Analysis of Variance

Symbols and Notations

$\mathcal{B}$	Denotes set of all possible beliefs
$\mathcal{D}$	Denotes set of all possible desires
$\mathcal{I}$	Denotes set of all possible intentions
A^c	Denotes all communicative action of the human
A_c	Set of agent action
$\mathcal{B}_A$	Assumed belief
$\mathcal{B}_s$	Basic belief
$\mathcal{B}_I$	Interaction belief
$\mathcal{B}_h$	Belief of human actions perceptual process
$self_{aware}$	A belief update function through generates belief from the environment
$Interaction$	A belief update function through interaction generates belief from a set human interaction
$human_{intent}$	A belief update function through human intent generates belief candidates from communicative action
G	Task object
V	Set of nodes
E	Set of edges
precond	Precondition
postcond	Postcondition
$U_{\mathcal{B}}$	Updating of belief

C_h	Human capacity
$value$	Agent's behaviour state
$\prec$	Order constraint
W	Environment
π	plan
W_π	sub-plan
MB	Shared belief
$\mathcal{C}$	cBDI agent
H	A human
$Collb$	Collaborative plan
Hp	Strategy repository
ψ	Adopted goal
g	Current adopted goal
p	Level of significance
$\mathsf{H}_\mathsf{n}^\mathsf{0}$	Null hypothesis
$\mathsf{H}_\mathsf{n}^\mathsf{a}$	Alternative Hypothesis