

FOUNDATION FOR INTELLIGENT PHYSICAL AGENTS

FIPA Inform Ref Communicative Act Specification

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1 Scope

This document specifies the Inform Ref communicative act which is compliant to [FIPA00037] requirements.

2 Inform Ref

Summary	A macro action for sender to inform the receiver the object which corresponds to a descriptor, for example, a name.
Content	An object description (a referential expression).
Description	<p>The <i>inform-ref</i> macro action allows the sender to inform the receiver some object that the sender believes corresponds to a descriptor, such as a name or other identifying description.</p> <p><i>Inform-ref</i> is a macro action, since it corresponds to a (possibly infinite) disjunction of <i>inform</i> acts (see [FIPA00046]), each of which informs the receiver that “the object corresponding to <i>name</i> is <i>x</i>” for some given <i>x</i>. For example, an agent can plan an <i>inform-ref</i> of the current time to agent <i>j</i>, and then perform the act “<i>inform j</i> that the time is 10.45”.</p> <p>The agent performing the act should believe that the object or set of objects corresponding to the reference expression is the one supplied, and should not believe that the receiver of the act already knows which object or set of objects corresponds to the reference expression. The agent may elect to send a <i>refuse</i> message (see [FIPA00055]) if it is unable to establish the preconditions of the act.</p>
Formal Model	$\langle i, \text{inform-ref}(j, \text{Ref } x \delta(x)) \rangle \equiv$ $\langle i, \text{Inform}(j, \text{Ref } x \delta(x) = r_1) \rangle \mid \dots \mid \langle i, \text{Inform}(j, \text{Ref } x \delta(x) = r_k) \rangle$ $\text{FP: } \text{Bref}_i \text{Ref } x \delta(x) \wedge \neg \text{B}_i(\text{Bref}_j \text{Ref } x \delta(x) \vee \text{Uref}_j \text{Ref } x \delta(x))$ $\text{RE: } \text{Bref}_j \text{Ref } x \delta(x)$ <p>Note that $\text{Ref } x \delta(x)$ is one of the referential expressions: $\iota x \delta(x)$, $\text{any } x \delta(x)$ or $\text{all } x \delta(x)$.</p> <p><i>Inform-ref</i> represents an unbounded, possibly infinite set of possible courses of action, in which <i>i</i> informs <i>j</i> of the referent of <i>x</i>.</p>

Example	<p>Agent i requests j to tell it the current Prime Minister of the United Kingdom.</p> <pre>(request :sender i :receiver j :content (inform-ref :sender j :receiver i :content (iota ?x (UKPrimeMinister ?x)) :ontology world-politics :language FIPA-SL) :reply-with query0 :language FIPA-SL)</pre> <p>Agent j replies:</p> <pre>(inform :sender j :receiver i :content (= (iota ?x (UKPrimeMinister ?x)) "Tony Blair") :ontology world-politics :in-reply-to query0)</pre> <p>Note that a standard abbreviation for the <i>request</i> (see [FIPA00057]) of <i>inform-ref</i> used in this example is the act <i>query-ref</i> (see [FIPA00054]).</p>
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3 References

- [FIPA00037] FIPA Communicative Act Library Specification. Foundation for Intelligent Physical Agents, 2000.
<http://www.fipa.org/specs/fipa00037/>
- [FIPA00046] FIPA Inform Communicative Act Specification. Foundation for Intelligent Physical Agents, 2000.
<http://www.fipa.org/specs/fipa00046/>
- [FIPA00054] FIPA Query Ref Communicative Act Specification. Foundation for Intelligent Physical Agents, 2000.
<http://www.fipa.org/specs/fipa00054/>
- [FIPA00055] FIPA Refuse Communicative Act Specification. Foundation for Intelligent Physical Agents, 2000.
<http://www.fipa.org/specs/fipa00055/>
- [FIPA00057] FIPA Request Communicative Act Specification. Foundation for Intelligent Physical Agents, 2000.
<http://www.fipa.org/specs/fipa00057/>