FOUNDATION FOR INTELLIGENT PHYSICAL AGENTS

FIPA Refuse Communicative Act Specification

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Foreword

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Contents

42

1   Scope

This document specifies the Refuse communicative act that is compliant to [FIPA00037] requirements.

45   **2   Refuse**

Summary	The action of refusing to perform a given action, and explaining the reason for the refusal.
Content	A tuple, consisting of an action expression and a proposition giving the reason for the refusal.
Description	The *refuse* act is an abbreviation for denying (strictly speaking, *disconfirm*ing - see [FIPA00044]) that an act is possible for the agent to perform, and stating the reason why that is so. The refuse act is performed when the agent cannot meet all of the preconditions for the action to be carried out, both implicit and explicit. For example, the agent may not know something it is being asked for, or another agent requested an action for which it has insufficient privilege. The agent receiving a refuse act is entitled to believe that: the action has not been done, the action is not feasible (from the point of view of the sender of the refusal), and, the (causal) reason for the refusal is represented by the a proposition which is the third term of the tuple, (which may be the constant true). There is no guarantee that the reason is represented in a way that the receiving agent will understand: it could be a textual error message. However, a co-operative agent will attempt to explain the refusal constructively.

Formal Model	`<i, refuse(j, <i, act>,  )>`
	   `<i, disconfirm(j, Feasible(<i, act>))>;`
	   `<i, inform(j,    Done(<i, act>)   I_i Done(<i, act>))>`
	     `FP : B_i  Feasible(<i, act>)   B_i (B_j Feasible(<i, act>)`
	       `U_j Feasible(<i, act>))   B_i     B_i (Bif_j    Uif_j  )`
	     `RE : B_j  Feasible(<i, act>)   B_j`
	
	 Where:
	
	     `=    Done(<i, act>)    I_i Done(<i, act>)`
	
	 Agent *i* informs *j* that action *act* is not feasible, and further that, because of proposition , *act* has not been done and *i* has no intention to do *act*.

Example	Agent j refuses to i reserve a ticket for i, since i there are insufficient funds in i's account.
	
	 `(refuse`
	  `:sender j`
	  `:receiver i`
	  `:content`
	    `((action j`
	     `(reserve-ticket LHR MUC 27-sept-97))`
	    `(insufficient-funds ac12345))`
	   `:language FIPA-SL)`

46

47

47 **3   References**

48 [FIPA00037]   FIPA Communicative Act Library Specification. Foundation for Intelligent Physical Agents, 2000.
49   `http://www.fipa.org/specs/fipa00037/`
50 [FIPA00044]   FIPA Disconfirm Communicative Act Specification. Foundation for Intelligent Physical Agents, 2000.
51   `http://www.fipa.org/specs/fipa00044/`