

FOUNDATION FOR INTELLIGENT PHYSICAL AGENTS

FIPA Failure Communicative Act Specification

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38 **Contents**

39	1	Scope.....	1
40	2	Failure.....	2
41	3	References.....	3
42			

42 **1 Scope**

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

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46 **2 Failure**

Summary	The action of telling another agent that an action was attempted but the attempt failed.
Content	A tuple, consisting of an action expression and a proposition giving the reason for the failure.
Description	<p>The failure act is an abbreviation for informing that an act was considered feasible by the sender, but was not completed for some given reason.</p> <p>The agent receiving a failure act is entitled to believe that:</p> <p style="padding-left: 40px;">the action has not been done, and,</p> <p style="padding-left: 40px;">the action is (or, at the time the agent attempted to perform the action, was) feasible</p> <p>The (causal) reason for the refusal is represented by the proposition, which is the third term of the tuple. It may be the constant <i>true</i>. Often it is the case that there is little either agent can do to further the attempt to perform the action.</p>
Formal Model	<pre> <i, failure(j, a,)> <i, inform(j, (e) Single(e) Done(e, Feasible(a) I_i Done(a)) Done(a) I_i Done(a))> FP: B_i B_i (Bif_j Uif_j) RE: B_j </pre> <p>Where:</p> <pre> = (e) Single(e) Done(e, Feasible(a) I_i Done(a)) Done(a) I_i Done(a) </pre> <p>Agent <i>i</i> informs agent <i>j</i> that, in the past, <i>i</i> had the intention to do action <i>a</i> and <i>a</i> was feasible. <i>i</i> performed the action of attempting to do <i>a</i>, that is, the action/event <i>e</i> is the attempt to do <i>a</i>, but now <i>a</i> has not been done and <i>i</i> no longer has the intention to do <i>a</i>, and is true.</p> <p>The informal implication is that is the reason that the action failed, though this causality is not expressed formally in the semantic model.</p>
Example	<p>Agent <i>j</i> informs <i>i</i> that it has failed to open a file.</p> <pre> (failure :sender j :receiver i :content ((action j "open(\"foo.txt\")") (error-message "No such file: foo.txt")) :language FIPA-SL) </pre>

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48 **3 References**

- 49 [FIPA00037] FIPA Communicative Act Library Specification. Foundation for Intelligent Physical Agents, 2000.
50 <http://www.fipa.org/specs/fipa00037/>