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Request for Comments: ????   GMD FIT
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A Standard for the Performatives in the Communication between Applications and User M

Status of this Memo

> This document specifies a standard for the communication between adaptable/adaptive end-user applications and user modeling systems on the level of communicative primitives named "performatives", and requests discussion and suggestions for improvements. Please refer to the current edition of the "Internet Official Protocol Standards" (STD 1) for the standardization state and status of this protocol. Distribution of this memo is unlimited.

Introduction

This protocol is intended to define the communication between adaptable/adaptive end-user applications and user modeling systems. Applications can inform user modeling systems about observations concerning the user. User modeling systems can make assumptions about user characteristics and supply applications with currently held assumptions, both on demand and unsolicitly.

The protocol defines the communication on a level of communicative primitives named "performatives". The standard builds on the inventory of KQML performatives listed in [Finin et.al. 1993] (but makes a few minimal additions and modifications that were deemed necessary). Like KQML, this standard makes no commitment as to the language in which the content of the performatives is expressed.

The (modified) performatives are grouped into four levels. Performatives of Level 1 are deemed to be mandatory for a reasonable communication between applications and user modeling systems. Any user modeling system that merits this name should be able to process these performatives. Performatives of Level 2 are regarded as desirable already at the current stage, but not as strictly mandatory. Level 3 performatives characterize a communication standard that should be achieved in the near future, while the processing of Level 4 performatives can be postponed to a more distant future.

The following sections list the performatives that belong to each level.

Level 1 performatives

- tell
- signal (signal is like tell, except that it does not have an :in-reply-to parameter and that it should be processed by the recipient with highest priority)
- error
- sorry
- reply
- ask-whether (ask-whether is like ask-if, except that :content <expression> must must not be a sentence schema)

Level 2 performatives

- untell
- ask-if
- ask-about
- ask-one
- ask-all
- stream-all
- eos
- achieve
- register
- unregister
- transport-address

Level 3 performatives

- insert
- delete   (with :content <expression>, where expression must not be a sentence schema)
- delete-one (with :content <expression>)
- delete-all (with :content <expression>)
- evaluate
- stream-about
- unachieve
- advertise
- subscribe
- monitor

Level 4 performatives

- deny
- standby
- ready
- next
- rest
- discard
- generator
- forward
- broadcast
- pipe
- break
- broker-one
- broker-all
- recommend-one
- recommend-all
- recruit-one
- recruit-all

Security Considerations

Security is not generally a problem, but special measures must be taken (such as data encryption and process authorization) if data protection is desired.

Acknowledgement

This memo is the result of two standardization workshops during the 4th and 5th International Conferences on User Modeling in 1994 and 1996. It benefitted particularly from contributions of Josef Fink, Wolfgang Pohl, Ana Paiva, John Self, ...

References

[Finin et.al. 1993] T. W. Finin et.al. Specification of the KQML Agent-Communication Language. Available at "http://www.cs.umbc.edu/kqml/papers/kqmlspec.ps", 1993.

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