Abstract

In this paper, we present the concept of a node which consists of a human actor, one or more agents, and their combined functions to represent a collective intelligent entity. Basically, the instantiation of nodes with diverse pre-defined functions in a workflow process could represent a domain in which humans interact with other humans via software agents in a collaborative environment to achieve some common goal. Here, the agents’ functions supplement the demands of the corresponding human’s pre-defined functions. As a part of this research, a survey is conducted to determine generalized functions of humans and agents in a node. The aim is to solicit information pertaining to humans’ daily tasks and the kind of assistance they would prefer to have to ease those tasks. The tasks entail communicating with people, using several devices and/or media such as Document, Email, Phone, and SMS. This paper proposes a Nodal Approach (NA) to simplified modeling of humans and software agents with their pre-defined functions for collaboration. An example user application is developed and
tested involving several academician functions assisted by their corresponding software agents.

References

- D. Poole and A. Mackworth, "Intelligence foundations of computational agents."


**Index Terms**

Computer Science  
Intelligent Systems

**Keywords**

Software Agents  Multi-agent System  Nodal Approach  Human-agent Node  Academician Functions