Knowledge management and data classification in Pellucid

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Abstract: The main aim of the Pellucid project is to develop a platform based on the multi-agent technology for assisting public employees in their organization. This paper deals with one of many problems associated with building such a system. There is the problem of classification and identification of required information for agent's performance. Pellucid agents use historical experience and information to assist newly arriving employees, therefore searching for some specific data from the database is a routine task that they have often to do. This paper presents methods for encoding data and creating the database, so that agents can have an easy access to the required information. Furthermore, two methods applicable with every type of database for classification and selection of historical information are presented

1. INTRODUCTION

The problem of introducing new people into an organization is common to many organizations including public administrations. The problem arises when new workers arrive as well as when workers are moved to a different department. Today public organizations (as well as private ones) are most concentrated on training for new workers. Workers have to learn new procedures, technical knowledge, and best practices and to make new experience almost from scratch. This can be quite stressful for many workers and sequentially can be an obstacle in organizational mobility thus reducing the flexibility of the organization, increasing conflicts and further reducing the efficiency of the organization. Moreover, in many cases a part of the past experience of the former workers is almost lost. Newly arrived workers acquire only a part of knowledge of the former colleagues and must repeat several of the experience of his predecessor, including errors, before achieving comparable expertise. The losses due to this situation are quite obvious although difficult to reduce.
Public organizations have a tradition of high inertia and stability and internal mobility is a quite recent phenomenon that still meets several obstacles. For this reason the problem of supporting organizational mobility has not been faced yet in systematic way.

The overall objective of Pellucid is to develop an adaptable platform for assisting organizationally mobile employees, in effect re-engineering their work in the organization. This will improve organization effectiveness and efficiency by formalization, recording, storage and preservation of experience and knowledge; and supporting workers during integration in a new department or role by giving access to specific knowledge and experience accumulated in the past. At the technical level, the objective is to develop and integrate several advanced technologies in a customizable agent-based architecture. These technologies include autonomous co-operating agents; responsive interaction with the end-users; organizational memory; workflow and process modeling; and metadata for accessing document repositories. The objective is also to obtain experience with customization and to formulate guidelines for best practice in using the Pellucid platform in assisting organizationally mobile workers. Because of the short frame of this paper we will deal with only a problem how Pellucid agents are able to automatically identify and capture desired information that they need in the current situation. This task has appeared during realization of the Pellucid system and however it does not belong to one of the main declared