Agents in Court

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Ensuring consistency of data scattered over a large number of physically distributed sources belonging to different organisations, each with their own distribution policies is a challenge. When security issues such as integrity and confidentiality of data are essential, the challenge is even greater. Distributed mobile agent systems provide the option for distribution of processing and accountability needed for such environments.

The ACCESS (Agent-based Criminal Court Electronic Support Systems) project currently focuses on information access in a large, distributed and dynamic environment, namely that of the Court of Law and the use of the digital dossier (as used in Amsterdam and Rotterdam). This context is illustrated with the example of a drunken driver and his arrest. Notice that the example is fictitious, it shows a *possible* future scenario.

During the course of a trial-chain (sensitive) information is exchanged by multiple parties, such as the police, the public prosecutor, judges and lawyers. Specialized agents can be used during this process to ensure specific (system-wide) tasks, such as the consistency, completeness, integrity and confidentiality of all the (relevant parts of the) information needed. Other agents are user dependent. In the example of a drunken driver and his arrest, the arresting police officer, the public prosecutor, the defendant's lawyer and the judge each have there own (specialized) agent.

Figure 1 shows a small part of the process chain associated with a drunken driver scenario. The scenario starts when *the police stops a motorist for an alcohol check*. If the driver has consumed too much alcohol then the arresting officer can use a PDA to a make a warrant. If the public prosecutor decides that prosecution is required, a new *digital dossier* concerning the case is started. The warrant will then be added to the digital dossier. At this point several system-wide agents will be spawned. One example of such a software agent is the *consistency agent* which looks up the defendant's credentials in the civil population records (*GBA*), checks if the defendant has a *criminal records* and ensures that all found data is consistent (both cross database and in the digital dossier). Of course, the consistency agent communicates with *other resources* (as indicated by the cloud in Figure 1), which can be other databases or agents etc.

An example of a personal software agent is the *prosecutor agent*. This agent gathers all

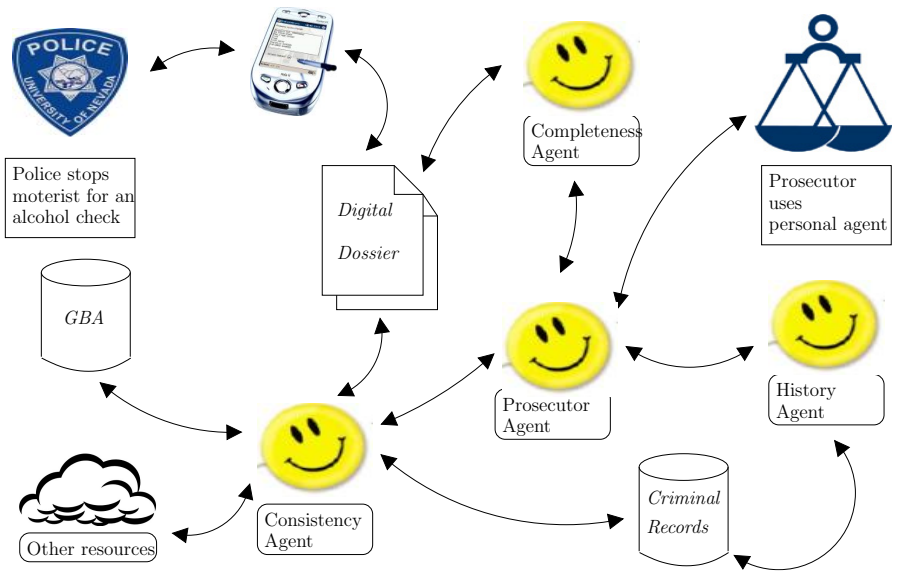

Figure 1: Use of Intelligent Agents in the process chain

relevant information of a case for a public prosecutor. It does this by communicating with system wide agents which, besides the *consistency agent* mentioned before, are in this example a *completeness agent* and a *history agent*. The history agent can access old criminal records and disclose (if allowed) this information to other agents. Finally, the completeness agent is used to monitor the digital dossier. It ensures that all necessary information can be found in the digital dossier. There are obviously more possible agents, both system-wide and for other users. As an aside, the context of a Court of Law is especially interesting as there are a number of legal questions as to which parts of the process-chain can be automated and whether agent-based systems can be used for this purpose.

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