

**A Multi-Class Interest Profile (M-CLIP)  
For Online Competitive Intelligence Systems**

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## **A Multi-Class Interest Profile (M-CLIP) For Online Competitive Intelligence Systems**

As business moves toward a more electronically networked environment, virtually unlimited access to information is becoming available. There is a wide variety of tools that can be utilized to perform environmental scanning for the purpose of gathering competitive intelligence. However, unless those tools are provided with an adequate specification of the environmental variables that need to be monitored, they cannot be expected to perform successfully. A great deal of research has been devoted to studying *how* to look for information, while seemingly overlooking the equally vital issue of *what* information to look for. The purpose of this paper is to propose a means of creating a profile of scanning interests that more completely expresses information needs, thus leading to more effective environmental scanning.

Attempts have been made to address the problem of accurate environmental scanning through the application of a wide range of tools. Profile-based tools, such as intelligent agents, push phase information access, and information filters screen information through a profile of interests or preferences. These profiles are often made up of a set of topics or keywords that describe specific interests. The primary weakness of this filtering approach is its reliance on the completeness and accuracy of a one-dimensional or single-class profile. If that profile is insufficient in any way then the effectiveness of the filtering process is seriously impaired. For example, if the profile is incomplete or too narrow in scope, the filter will be unable to extract all of the pertinent information available and the investigator may remain unaware of many important facts. If, on the other hand, the profile is too broad or general, then the filtering process may, in fact, *increase* information overload by generating a flood of irrelevant

information. In short, the filtering criteria specified within the profile is the pivotal element in determining the success or failure of any filtering system.

Current profiles have been described as a model or a set of words that identify specific interests. In their current form, however, such profiles are often incomplete and unlikely to be sufficiently comprehensive to capture all of the issues that are significant to a corporate decision maker. Even highly individualized profiles tend to be single-dimensional unless extreme care is taken during profile construction. The restrictiveness of using a single-class profile significantly limits the potential of any information filtering system to serve as a reliable information-gathering tool in the workplace.

Because of the difficulty inherent in expressing a complete set of information needs in a single-class profile, a multiple-class profile must be considered. A multi-class interest profile (M-CLIP) provides the capability of expanding the representation of interests to reflect the different areas that make up an individual's information needs. By adapting previous work in the development of knowledge bases of description categories over which individual models of interests can be defined, the M-CLIP provides a framework based on the various types of information needs, each of which is made up of a set of attributes or keyword categories designed to insure that key items within each area are accounted for. By expanding the scope of the profile from a traditional one-dimensional or single-class representation to a multi-dimensional representation, the M-CLIP makes it possible for the filtering system to provide enhanced coverage and effectiveness.

## **Design**

The multi-class interest profile (M-CLIP) is based on the premise that the information needs of any corporation span several areas. The various components that make up these

information needs vary from company to company and project to project. An analysis of information needs of corporate users in the areas of project management, strategic planning, competitive analysis, and environmental analysis provides a basis for the following primary components that make up the M-CLIP:

- (1) A *project* class consists of interest areas selected to accommodate the information needed to better manage projects that the corporation is currently undertaking. This includes both long-term situations, such as tracking the daily or weekly actions of a major competitor, as well as shorter-term specialized projects such as the investigation of a possible acquisition or alliance prospect. A variety of internal and external factors, and the awareness of these factors, can influence the success or failure of a project. Studies indicate that only around twenty percent of the projects undertaken are successfully completed due to poor management, technical failure, and legislative or regulatory changes.

The project component allows environmental scanning tools to be used to more effectively gather information relevant to ongoing projects. Information regarding project attributes such as market considerations, product differentiation, economic environment, and material costs are vital to project control. Project stakeholders, such as clients, users, managers, investors, technology suppliers, and upper management, must be factored in. Considerations such as technical requirements and manpower capabilities must also be monitored. Increased access to pertinent information can help project managers to anticipate problems and act accordingly, thereby reexamining both the feasibility and the appropriateness of project objectives and planning assumptions on an

ongoing basis. By being made aware of pertinent information as soon as it becomes available, project administrators can better identify and manage risks.

- (2) An *organizational* class includes such individualized areas as technical interests, investment issues, corporate news, industry information, etc. This includes both internal and external information at both the tactical and strategic levels that may have not been previously shared with all appropriate divisions of the organization. For example, a regional manager in Miami may be closely watching the actions of a new competitor, not realizing that the Denver office has a complete file on the company since they have been doing business there under a slightly different name for a number of years. By sharing this information, the Miami office could be proactive rather than reactive to the actions of the new competitor. Also, by sharing this information, strategic planners may find that plans must be altered due to the expansion of a formerly regional competitor.
- (3) An *industry* class is intended to satisfy information needs that stem from the type of industry or organization performing the investigation. This class can target information related to the general external environment of the company. For instance, the C.I. officer may want to keep a watchful eye on possible changes in competitive, economic, political, legal and regulatory, technological, and socio-cultural forces. This includes both the domestic and international marketplaces.

Each of the components that make up the M-CLIP includes a set of suggested interest areas for which multiple keywords or concepts can be specified. Because no such list can realistically be exhaustive, each class is made extensible by including provisions for a set of user-defined categories for which additional interest areas can be specified.

## **Practical Applications**

The M-CLIP allows the calibration of information gathering techniques to a specific organization or type of corporate user. By expanding the interest profile to encompass the complete spectrum of corporate interests, the M-CLIP provides the means to access a greater percentage of relevant online information.

The multiple classes that comprise the M-CLIP provide a set of customizable components. This customization can take place on a variety of levels. If users are individually responsible for constructing their own profiles, then the organization can develop component templates and make them available to users to provide suggested interest areas. If, instead, the organization prefers to supply standardized profiles to users, then entire profile components can be pre-built and customized to target a particular specialization, situation, project, or the overall organization. Once created, these components can be reused throughout the organization with minimal modifications. This makes it possible to create a complete profile by integrating a set of pre-constructed components. This helps to insure that individuals in key positions throughout the firm are performing the type of information acquisition necessary for optimal decision-making.

The multi-class interest profile can be utilized in intelligent filters, profile-based push software, bandwidth managers, search engines, and intelligent agents, all with the express purpose of providing competitive information for business. The separation of content and design allows the concept of multiple classes of scanning interests to be implemented in a variety of ways, and it can be easily implemented using any object-oriented tool as a plug-in or enhancement to an existing information-delivery system. In whatever way the M-CLIP is used, the enhanced profile will improve the performance of any profile-based information gathering

tool by making it possible to gather more relevant information while at the same time being more discriminating. The enhanced profile means that many forms of filtering tools can become even more valuable in a corporate setting by providing decision makers with a more robust form of information technology to help them assess issues in an efficient, accurate, and timely manner.