Portable Natural Language Front Ends - A Review

Flávia A. Barros & Anne DeRoeck
University of Essex
Department of Computer Science
Colchester - CO4 3SQ - U.K.

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Abstract

This report reviews Natural Language Front-Ends developed with the goals of portability and robustness.

Some of the most prominent system in the area are presented here in the light of well-defined criteria which lead to a clear judgement of the adequacy of such systems as portable NL Front-ends.

A comparison among the system is provided, also guided by the established criteria for the analysis of these Front-ends.

1 Introduction

Attempts for providing Natural Language systems to access data date from the late 60's with systems like STUDENT[Bobrow 1967] and REL[Thompson et al. 1969]. Such systems represented the landmark of a new conception of data access either in isolated files or in data bases. The next decade started with systems like LUNAR[Woods et al. 1973] and SHRDLU[Winograd 1972], which, like the earlier systems, were still developed for a specific application in a particular domain.

The preoccupation of providing the user with portable interfaces came only with PLANES[Waltz 1975] and LADDER[Hendrix et al. 1978], Front-ends for Database interrogation. Although both systems were also dedicated to one domain of application, the authors showed interest in providing for some portability in what concerns the domain of application. However, such adaptation would be a demanding and slow process.

The 80's shed new light on the development of such Front-ends, with the emergence of systems like TEAM[Martin et al. 1983, Grosz et al. 1987], LDC[Ballard & Tinkham 1984], Ginsparg's system [Ginsparg 1983], among others. Such systems present a much higher degree of portability than the previous ones. However, they lost some capability for treating Natural Language expressions and phenomena like elliptical queries or anaphoric references due to the lack of domain-dependent information available before the query reaches the Database.