

Use of Arabic in Computerized Information Interchange (*)

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There is a growing demand in the Arab world for the use of Arabic script in inputting and accessing information systems and the establishment of Arab databases. In all Arab countries, Arabic is the working language in management, business, accounting, education, arts, and literature and to a lesser extent in science, medicine, and engineering. Arab member countries in the International Information System for Agricultural Sciences and Technology (AGRIS), whose carrier language is English, face some difficulties in preparing documents in the Arabic language for AGRIS input. The method of script conversion through transliteration, which is used by AGRIS and the Library of Congress is neither helpful or acceptable to Arab librarians and information specialists. These and similar complaints have prompted information and computer specialists to address the issues of Arabization of computer terminals and input/output procedures. This article addresses the problem of Arabic computerized information exchange and highlights the basic differences between treatment of Arabic and English. It also discusses the various Arab attempts to formulate standards for coding Arabic letters and vowels points and their sorting sequence. Another area that this article explores is the high degree of syntactical flexibility which characterizes the Arabic language and complicates data retrieval, computer aided translation, and human machine interface. A unified standard for the Arab/Latin Computer Code known as CODAR-UFD based on the ASCII Code was adopted in 1982. This article discusses this new code and describes some of the existing terminals that use other codes.

Introduction

The Arabic language is spoken by over one hundred million people in 21 countries throughout the world. The Arabic alphabet, which is also used in the Farsi and Urdu languages, is completely different from the Latin alphabet used in Western countries. This means that most of

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the relatively inexpensive computer equipment widely available in the West is unsuitable for the Arab market. Librarians who attempt to use Latin alphabet computers quickly become frustrated by the need to transliterate Arabic bibliographic information using Latin characters.

Instead of using Arabic terminals and input-output programs, the Library of Congress has decided to use the existing equipment and programs by transliterating information in its Middle East Catalog using the Latin alphabet. Arab member countries in the International Information System for Agricultural Sciences and Technology (AGRIS), whose carrier language is English, also face some difficulties in preparing documents written in the Arabic language for AGRIS input [1]. The method of script conversion through transliteration is foreign to Arab users who are the ultimate consumers of Arabic documents. Furthermore, there are several different and often inconsistent conversion systems, and their application leads inevitably to great diversity of practices and ensuing incompatibility of entries [2].

Arab operators in Arab libraries and information centers using Latin terminals are not expected to be efficient in using Latin characters. Furthermore, because of the nature of Arabic names and the construction of Arabic bibliographic records, the use of the Latin alphabet will result in unavoidable errors.

The purpose of this article is to identify problems associated with the use of Arabic in input and output (I/O) devices, the present efforts to introduce a unified code for the Arabic language along the ASCII and EBCDIC Codes, and to describe efforts being made to use Arabic in computerized information systems.

Technical and Linguistic Problems

The production of high quality Arabic/Latin terminals and printers poses technical problems that are peculiar to the Arabic language. These problems which should be addressed by linguists and computer scientists can be described as follows:



* **Researches and studies**

* **Recherches et études**

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