Abstract

This study collected data on various format of writing date in English language and investigated the process underlying their translation into Yoruba language text. It formulates a date referencing model for the translation process, implements the model and evaluates the system with a view to developing a system that translate date to Yoruba language. The Yoruba language date translation process was achieved by identifying and extracting a date phrase in English language using regular expressions, the extracted date phrase is then converted to the British pattern of date referencing which is the DD/MM/YYYY. It is this pattern of date referencing that is then translated to Yoruba language textual format. A Context-Free Grammar (CFG) that capture the various patterns of date referencing in English Language was specified. The CFG to capture the English language date phrase was modeled using the Push-Down Automata (PDA) and the software for the translation of the English language date phrase to the corresponding Yoruba language phrase was implemented with the Python programming language with the PyQt5 Graphical User Interface (GUI) module. The evaluation of the system was carried out using the Mean Opinion Score (MOS). The MOS was done using 45
questionnaires administered to some Linguistics students and staff of the News department, Orisun FM, (Radio station) Oke Itase, Ile-Ife, Osun state, Nigeria, to elicit their knowledge of the translation of the selected date phrases. The responses were compared with the output of the system. A desktop application for the translation process was deployed for windows operating system. The results of the system's evaluation showed that the application was able to translate the English language date phrases to Yoruba language text and produce 100 percent accuracy relative to a Yoruba language Expert translation.

The result of the respondents to the questionnaires shows that most of the respondents are not familiar with the orthography of the Yoruba language, which means that a large percentage of Yoruba language native speakers cannot tone mark their responses correctly. Another observation was that most of the respondents could not translate the year numbers to Yoruba language as they are not familiar with translation of large numbers. In conclusion, this study has shown that date referencing translation process can be computationally analyzed using the modern knowledge of computing.

References


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**Index Terms**

Computer Science

Artificial Intelligence

**Keywords**

Keywords: Translation process, Date, Calendar, number, Yoruba Language, Year, knowledge