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Query Based Intelligent Web Interaction with Real World Knowledge

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Abstract This paper describes an integrated system based on open-domain and domain-specific knowledge for the purpose of providing query-based intelligent web interaction. It is understood that general purpose conversational agents are not able to answer questions on specific domain subject. On the other hand, domain specific systems lack the flexibility to handle common sense questions. To overcome the above limitations, this paper proposed an integrated system comprises of an artificial intelligent conversation software robot or chatterbot, called Artificial Intelligence Natural-language Identity (hereafter, AINI), and an Automated Knowledge Extraction Agent (AKEA) for the acquisition of real world knowledge from the Internet. The objective of AKEA is to retrieve real world knowledge or information from trustworthy websites. AINI is the mechanism used to manage the knowledge and to provide appropriate answer to the user. In this paper, we compare the performance of the proposed system against two popular search engines, two question answering systems and two other conversational systems.

Keywords: Automated Knowledge Extraction Agent (AKEA), Artificial Intelligent Natural Language Identity (AINI), Natural Language Processing (NLP), Artificial Intelligence (AI).

§1 Introduction

Traditional media such as television, radio, newspapers and magazines play an important role in reporting and providing the latest information on current events. However, nearly all of these media are linear and unidirectional in nature. In other words, they do not provide interactive communication nor