Question Answer TARA: A Terrorism Activity Resource Application

Robert P Schumaker[1] and Hsinchun Chen[1]

[1] Artificial Intelligence Lab, Department of Management of Information Systems
The University of Arizona
1130 E. Helen St. Tucson, AZ 85721
{rschumak, hchen}@email.arizona.edu

1 Introduction

Terrorism research has lately become a national priority. Researchers and citizens alike are coming to grips with obtaining relevant and pertinent information from vast storehouses of information gateways, dictionaries, self-authoritative websites, and sometimes obscure government information. Specific queries need to be manually sought after, or left to the mercy of search engines that are generally scoped.

In our poster we demonstrate a possible solution in the form of a narrowly focused Question Answer system, TARA, which is based upon successful ALICE chatterbot which has won the Loebner contest for most human computer in 2000, 2001, and 2004.

2 Terrorism Activity Resource Application (TARA)

TARA is a type of shallow fact-driven Question Answer system that performs syntactic parsing of user input and can convey an 'expert appearance' in narrow knowledge domains [2]. Terrorism-specific definitional information is collected from various reputable websites and incorporated into the knowledge banks of TARA. Thus asking the system about Zyklon B, or Ricin will return valuable information to the user. We feel that such a tool an be an invaluable asset to those individuals wishing to learn more about specific terrorism aspects in a conversational context.

3 Testing TARA: Experimental Results

From experiments on the TARA system, we discovered that interrogative-style input is most prevalently used, which coincides with the findings of Moore and Gibbs whom discovered that chatterbots are often used as simple search engines [1]. In particular, participants were most interested in obtaining definitional information, however, they desired such information in a conversational context. User input beginning with

'What' was the most used interrogative, and surprisingly enough, sentences beginning with 'Are' provided the most satisfactory chatterbot responses. It was also discovered that providing terrorism domain information along with general conversational knowledge increased user satisfaction levels as well.

4 Conclusions

The main contribution of the TARA system is to provide a way to mitigate many of the current information overload problems present in field of terrorism research. Providing definitional responses to natural language queries could prove to be a valuable aid in contrast to existing search strategies.

5 Acknowledgements

References

1. Moore, R. and Gibbs, G.., Emile: Using a chatbot conversation to enhance the learning of social theory, Univ. of Huddersfield, Huddersfield, England, 2002.
2. Wallace, R.S. The Anatomy of A.L.I.C.E. in A.L.I.C.E. Artificial Intelligence Foundation, Inc., 2004.