Indo-German Collaborative Program on Voiced based Multilingual Information Access (V-MIA) System development.

Final Preparatory phase Workshop

AU-KBC Research Centre, Anna University, Chennai 3rd-6th December, 2004

A Workshop on Indo-German Collaboration for Voiced based Multilingual Information Access (V-MIA) System development was conducted by the AU-KBC Research Centre at Anna University in Chennai on 3-6th December 2004. This workshop was the final meeting of a series of preparatory workshops that had been taking place since February 2004. The first Indo-German Workshop on Language Technologies was held in Anna University during February 17-19, 2004, under the aegis of the *DST (Govt. of India) and BMBF (Govt. of Germany)* under the scheme of the "*Indo-German Bilateral Cooperation in Science & Technology*". The coordinating agency from the Indian side was the *AU-KBC Research Centre ,Anna University*, and from the German side it was the *DFKI (German Research Center for Artificial Intelligence)*. The participants were Seven German scientists from various institutions in Germany who had been earlier involved in the *Verbmobil* Speech-to-Speech Project, and thirty Indian scientists from Academic Institutions and Industry. In this workshop it was decided that a system such as V-MIA would be developed for Indian languages in collaboration with DFKI along the lines of the *Verbmobil* Project.

DST and BMBF funded a collaborative pilot project in July 2004 to prepare a detailed Project Proposal for V-MIA, and the AU-KBC Research Centre constituted the following four Working Groups (WG), along with their coordinators, to carry this out:

- WG on Speech Technologies—TIFR Mumbai.
- WG on Language Technologies—IIIT Hydearbad
- WG on Ontologies and Corpora—IIT Kharagpur
- WG on Systems Engineering—Expert Systems, New Delhi

These Working Groups worked in consultation with all the participants of the Feb 04 Workshop as well as some others who expressed interest in joining. They held two more meetings in DST, New Delhi on 7th Oct. and 19th Nov. where further details were evolved. A draft proposal was prepared and circulated by 25th Nov., and a final shape to it was given in the December Workshop in Chennai.

The following scientists participated in the December workshop in Chennai:

From Germany:

1. Dr. Norbert Reithinger, DFKI
2. Mr. Reinhard Karger, DFKI

From India:

1. Dr. S S Agrawal, C-DAC Noida
2. Mr. K Arora, CDAC Noida
3. Mr. S Baskaran, AU-KBC Anna University
4. Dr. H.Darbari, CDAC Pune
5. Dr. C N Krishnan, AU-KBC Anna University
6. Dr. D.Mishra, IIIT Hyderabad
7. Dr. H.Murthy, IIT Madras
8. Dr. Om Vikas, MCIT, Govt. India
9. Dr. S. Rajendran, AU-KBC Anna University
10. Dr. K. Samudravijaya, TIFR Mumbai
11. Dr. R. Sangal, IIIT Hyderabad
12. Dr. S. Sarkar, IIT Kharagpur
13. Dr. M. K Sinha, Expert Software New Delhi
14. Dr. L. Sobha, AU-KBC Anna University.
15. Mr. N. Verma, CDA Noida

The Meeting finalized the Proposal with detailed and exhaustive inputs from the German side. In its present version which is to be executed in 30 months, it would have two deliverables:

- A Telephone speech input V-MIA System for the domain of Railway Information in five Indian Languages—Indian English, Hindi, Tamil, Bengali and Telugu. This would be delivered in 24 months.
- A Telephone voice Speech-to-Speech System Technology Demonstrator for the domain of Railway Information, to be delivered in 30 months.

It will use Technologies such as Speech Recognition, Dialog Management, Information Extraction and Retrieval, Speech Generation, Software Design, Multilingual Servers etc., and the first is viewed as a Product Development activity, and the second a Technology Demonstrator. For the first system, the input is a directed dialog through telephone (including cell phone). The speech input is converted to a searchable query and is searched in a database in this case, the Railway Information Data base). The searched result is in a template form and the lexical transfer to the source language is given using a bilingual dictionary. This is then generated into a speech output in the source language. The second system (Speech-to-Speech) would accept a subset of normal human telephone speech in one language, and after translation, deliver it to the person at the other end of the phone in his/her language.

The experience of the Verbmobil Project has been incorporated substantially in this proposal, and this is expected to continue through out the next phase of this activity.

The Meeting also finalized the System Engineering as well as the Project Management framework and other details of this multi institutional activity. The proposal would be submitted by the AU-KBC Research centre to the DST by the 15th of Dec 04. It is expected that other agencies such as the DIT (MCIT) would also be supporting this effort, as it is essentially built on the capacities created through the TDIL Program of the DIT.

Courtsey :

Prof. C.N. Krishna,
AV-KBC Research Centre
Anna University
Chennai - 600025