

## **Research Visit Report**

### **Visit by Andy McFarlane to University of Kent 19<sup>th</sup> October 2004.**

On 19<sup>th</sup> October, Dr. Andy McFarlane (AM) visited the AIS research group at the University of Kent. Present at the meeting was Jon Timmis (JT), Alex Freitas (AF), Pete May (PM) and Andy Secker (AS). This meeting came about after AM posted a request on the ais-forum email list expressing interest in the use of AIS in information retrieval. AM and JT has a mutual colleague, Andy Tucson from City university, who through ARTIST, suggested that AM and JT should meet to discuss idea.

AM opened the meeting with an overview of information retrieval and the limitations of current systems. JT provided an overview of AIS, and AS provided an overview of the current state of work on web mining with AIS (which is loosely linked with information retrieval).

Through discussions it became clear that AM was interested in improving performance of his system (OKAPI) through the use of evolutionary algorithms and AIS. Many potential areas of application were discussed, with finally a focus being on the optimisation of certain parameters in searches in OKAPI. It was decided that the way forward would be to implement a simple AIS system that could wrap around OKAPI to be used in the optimisation of a query.

The meeting concluded with actions on JT, AF, AS and PM to think about the AIS side of the application and implement a simple AIS suitable for linking to OKAPI. AM would prepare a suitable database.

It was decided that a follow on meeting would be needed at some point in the future for implementation issues. It was hoped this work would result in at least a single conference paper, maybe a grant application in the future.

### **Subsequent Visit by Andy Secker and Pete May to City University. 19<sup>th</sup> November 2004.**

Following on from the previous visit, we had had a number of communications via email as to the structure of the system we had proposed.

The purpose of the trip was to enable an AIS written in Java to correctly interface with a pre-written information retrieval system written in C. The majority of the day was, as expected, taken up with software engineering issues. Due to the nature of Java working in a virtual machine, the act of allowing a Java program to use native C code is not straightforward. After successfully joining the systems the remainder of the time was taken ensuring no errors were encountered when running the program. The next stage, which is expected to take another 1 to 4 weeks (due to Christmas) is for Andy MacFarlane to implement changes to his C system so it can return to the Java E.A. a correct fitness value.

AM was left to finish linking the AIS with his system and then run a set of experiments.

It was agreed that we would target ICARIS 2005 with a paper detailing this work.