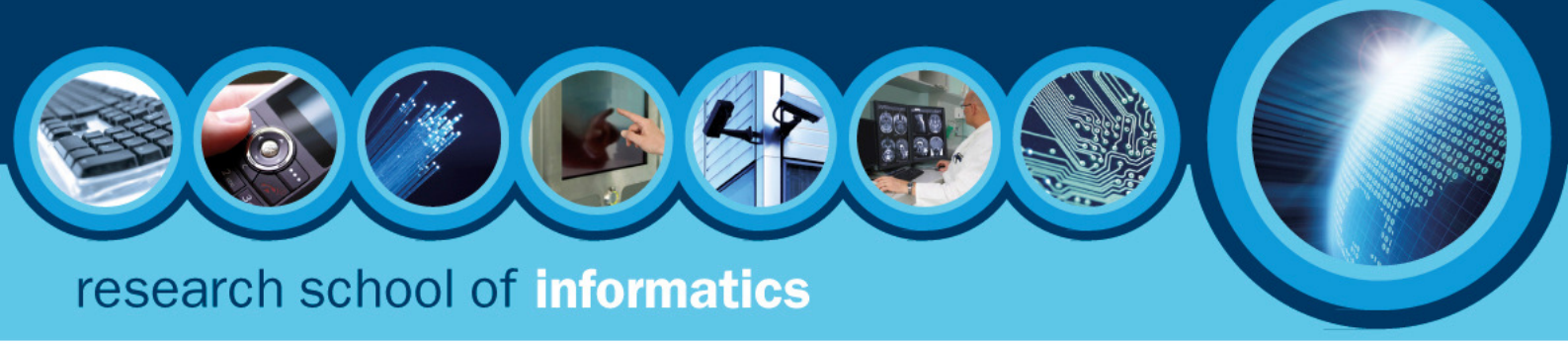

research school of **informatics**

Project Title:	Hybrid Semantic-document Models (Engineering Doctorate)
Student Name:	Darren Clowes
Supervisor Name:	Professor Ray Dawson & Dr Steve Probets
Start/End Date:	July 2007 – June 2011
Funding Source:	Engineering Doctorate Programme (EPSRC & BAE System)
Department:	Computer Science

Project Description:

Increasingly, the design of complex engineered products and systems are becoming more reliant on computer-supported models/representations of information. Most of the knowledge that has been captured and stored for future use is held in traditional, text-based documents. Some of these documents can be very large, which can make retrieving the knowledge difficult and time consuming. In large technical documents such as military standards, considerable semantic knowledge is contained within their text. With documents like these making use of the semantic information as well as the document text can greatly improve an engineer's ability to locate, comprehend and utilise stored knowledge. One such domain is that of Tactical Data Link (TDL) standards, which are defined in the Department of Defence's MIL-STD-6016C. This document is over 7300 pages of prose and tables, with little diagrammatic information.

Using a completely rigorous approach such as a semantic model of the document can be problematic, as often the rigour obtained from the prose can be incomplete or be open to interpretation. In a complex domain such as military standards this can be quite hazardous. Similarly the current approach of using large prose has its drawbacks as it is not clear what has been missed and there can be lots of duplication leading to inconsistencies. As such, using the TDL domain as a template, this research aims to investigate and develop a hybrid semantic-document model for documents pertaining to complex engineering domains.

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