

# Project Proposal — Information Aggregation

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## Organisation

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## Outline

Information aggregation is the bringing together of different information sources. Such information sources are considered to be information assets, whether they be documents, images or multimedia data. What is important is that when information is aggregated it is often possible to derive and imply information which is not explicitly included in any of the data sources. It is possible that whilst the individual information assets contain information considered to have a low sensitivity level, the derived, aggregated information may have a higher sensitivity level.

There are numerous examples which provide complicated and in depth case studies with regards to information aggregation. For example, how can BT control access to maps of their communications networks, where highly sensitive information about government and national infrastructure is present, and derivable from certain parts of the map? Similar examples exist within other areas of the critical national infrastructure, e.g. water supply, communications or power networks.

There are two issues of interest here: firstly, how are the individual information assets controlled from both a content and access point of view? Secondly, how can the aggregated information be controlled?. In other words, how is it decided what data to include in each information asset, and then how can access to that information asset be controlled, such that the aggregated information is also controlled?

## Solution

The aim of the project is to investigate scenarios similar to the example listed above. In particular the following tasks will be carried out:

- Identify a number of prevalent examples which highlight the problem in a business context.
- Produce a definition of the problem using tools such as *soft systems methodology*, to analyse the provided examples. Justification will be provided for the choice of tool.
- Write an overview and critical analysis of existing work, including the solutions to related problems and reasons whether they do, or do not, provide a suitable approach.

- Develop a set of recommendations which outline a best practice solution to the identified problem.
- Develop an abstract model to accompany and support implementation of the recommendations.
- Write an appraisal of the level of success of the project.

## Benefits

The proposed project is not currently related to my day-to-day work role. As such it is difficult to identify any particular benefits to BT from this work. However, the most obvious academic benefit is to obtain an increased understanding of information aggregation, as well as a set of guidelines that may benefit individuals also faced with this problem.

This is a real business issue, raised to me by my industrial sponsor and one that has been confirmed as a worthy area of research by the *National Infrastructure Security Co-ordination Centre* (NISCC)<sup>1</sup> and also by two individuals working for *QinetiQ*<sup>2</sup>.

## Constraints

The main constraints to consider at this stage are:

- The project and deliverables are to be completed and submitted to the university for marking, at the latest, by February 28, 2006.
- The names of any BT clients, or any information covered by BT's corporate security policy should not be included in the project dissertation.
- It is not intended that any of BT's time will be used to fulfil the anticipated workload. If this becomes untenable, then the option of arranging study leave will need to be broached.

## Academic Sponsor

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<sup>1</sup><http://www.niscc.gov.uk/niscc/index-en.html>

<sup>2</sup><http://www.qinetiq.com/>

**Industry Sponsor (Informal)**

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