

Think Research → Centre for Digital Entertainment Project Specification

About Think Research

Think Research is a small, young Air Traffic Management consultancy based in Bournemouth. We specialise in air traffic operational concept validation, simulation, analysis, safety studies and human factors. On behalf of our clients, we have provided expertise on present and future aviation and air traffic concepts in both the ATM and Airport domains.

Since the company formed over 6 years ago the main focus of the business has been on providing consultancy to clients such as EUROCONTROL, NATS, Luftfartsverket and many other government and national agencies across Europe. In late 2008 Think Research began developing software products that support ATM research, modelling, simulation and analysis. These products are now coming to market and receiving interest from the global air traffic industry. It is expected that the development and application of such products will become a major part of Think Research's future business.

About the PhD programme with CDE

Taken from <http://www.digital-entertainment.org/>:

"The CDE's purpose is to train the next generation of leaders in the Film Visual Effects, Computer Games, Virtual Worlds and Animation industries.

We are offering a unique doctoral program that places researchers directly in companies to work on real projects. Under academic supervision your work will form the basis of an Engineering or Professional Doctorate.

You will also be supported in your research by access to a range of options from Bath and Bournemouth's respected Masters programmes. This taught programme will be tailor made for your needs and arranged in consultation with you, your host company and academic supervisors.

Doctoral studentships are fully-funded providing fees, a tax free stipend and dedicated funding for international conferences."

About the Project

Project Details

The air traffic industry is traditionally slow to grasp new technology both in research and in application. New systems and methods for aircraft control can take up to 10 years from idea to implementation due to the strict regulations and safety requirements. This culture is, to a lesser extent, also present in research support. The tools available to research and development are often old and do not make use of state of the art computing capabilities.

Think Research are developing an analysis product called RECALL to quickly produce visual analysis results from air traffic simulations. RECALL has been extended to cover basic 2D visualisations and some 3D models. We now wish to expand that capability, by breaking away the traditional boundaries of air traffic and aviation modelling and visualisation tools, whilst still maintaining and preferably increasing commercial feasibility.

This project will therefore have the following objectives:

- To enhance 3D modelling, simulation, visualisation and analysis capabilities within the Think Research product range.
- To develop tools that move away from basic analysis of historical aircraft data, instead generating their own analysis data in real time based on aircraft trajectory modelling and behavioural modelling.
- To develop and apply innovative modelling and simulation techniques to future (i.e. for the years 2020 and beyond) aerospace research concepts and present the findings at international conferences.
- To explore ways in which advanced graphics, visualisation and simulation ideas traditionally found in the games and entertainment industries can be commercially exploited in the air traffic (and aerospace, aviation....) industry.
- To act as a stimulus for further and continued research based around the themes of modelling, simulation, visualisation and analysis.

Profile

The ideal candidate would have:

- Excellent knowledge and experience of Java, C, C++, OpenGL, GIS software.
- Excellent mathematical modelling skills.
- The ability to work in a small, young and dynamic company environment.

An interest in aerospace, aviation, aircraft or air traffic is useful but not essential.

Apply Now!

If you are interested in this opportunity contact Think Research on phd@thinkresearch.co.uk or call to discuss it: +44 (0) 1202 247 204.

The application deadline is 30th July 2010 for a start date in October 2010.