Chapter 5

Introducing AI and IA into a Non Computer Science Graduate Programme

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ABSTRACT

As part of designing a new Master's programme entitled Technology, Innovation and Entrepreneurship there was an apparent need to include a unit involving the use of innovative technologies for the development of innovative products and services. The authors aim was therefore to introduce students to Artificial Intelligence and Intelligent Agents using, however, different from "mainstream" practices since the programme is addressed to students from varying, not necessarily Computer Science related, backgrounds. In this work they report their approach and experience from the entire process -from designing the unit, taking into consideration some inherent restrictions such as coordination of teachers and short duration of the course, to delivering it to a diverse audience that requires different didactic methods to be employed. Their primary aim is to disseminate their ideas and report good practice to fellow educators that may face similar situations or wish to employ any of our techniques.

INTRODUCTION

Teaching topics on Artificial Intelligence (AI) and Intelligent Agents (IA) to students with Computer Science-related background has long been recognised as presenting educators with a number of

challenges. More recently, however, with the rapid expansion of the Internet and the World Wide Web and the increasing impact of these technologies on almost every aspect of human life, AI and IA have become relevant topics to other disciplines as well. Notable examples include Business and Management, where AI and IA can be seen as providing the means for innovation and opportuni-

ties of entrepreneurship. Incorporating AI and IA in courses for non-specialised students presents educators with additional challenges regarding both content and delivery.

One of the fundamental issues to be addressed is that of the amount of technical content involved: as non-specialist students do not have a programming background, such courses cannot be too technical for students to be able to follow them. On the other hand, tackling such topics from a purely theoretical point of view can make the course seem dry, resulting in students losing their interest.

Another issue that requires attention is that of relevance: why and how AI and IA are relevant to business students, for instance, needs to be well communicated and motivated so that they can comprehend the value of such a course. The latter, of course, is also pertinent to student engagement.

In 2008 we were faced with such a challenge, when we decided to deliver a course related to Artificial Intelligence, Intelligent Agents and Multi-Agent Systems to a postgraduate programme under certain conditions that diverge from the norm.

THE CONTEXT: A MASTER'S PROGRAMME IN TECHNOLOGY, INNOVATION AND ENTREPRENEURSHIP

The programme under which we delivered the course is called MSc in Technology, Innovation and Entrepreneurship, TIE for short (MSc in Technology, Innovation, and Entrepreneurship - Programme Description, 2007), and its curriculum includes the following courses: Knowledge Society and ICT Policy, Entrepreneurship and Innovation, Managing Strategic Change, ICT for Strategic Management, Managing Knowledge-Driven ICT Projects, Internetworked Business Enterprises, Innovation Management and New Product Development, and Research Methods followed by a Dissertation. As is obvious from

the curriculum, the programme contains a mixture of technology and business issues and aims to tie Technology, Innovation and Entrepreneurship as the three key drivers of economic growth, provide an integrated, strategic view of management of technology and address the contemporary challenges general managers face today (MSc in Technology, Innovation, and Entrepreneurship - Programme Specification, 2007).

Due to the nature of the programme, the courses do not provide any room for technical skills to be acquired. The programme is aimed at graduates, not necessarily of Computer Science or related disciplines, who would like to acquire and/or enhance their knowledge and skills in Business Management. The focus, however, is not on merely acquiring business management skills, but on understanding how innovation can be driven and managed for the purpose of creating agile businesses and organisations that can take the lead and remain competitive in a globalised economy.

When designing the programme, its proposers suggested that there is room for a course that would include AI and IA, since they can be thought of as innovative technologies as well as technologies which can lead to innovative products and give opportunities for entrepreneurship.

A number of restrictions, however, had to be taken into consideration for the design of such a course. For example, since this programme is aimed at graduates who may already be employed:

- the mode of delivery of all courses is over long weekends, one for each course, i.e. each of the courses is delivered over three days (Friday, Saturday, Sunday).

Additional restrictions include the following:

- The course title should not contain the terms AI, IA or MAS.
- The course should be taught by a team of at least four lecturers.

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