

Industrial Liaison Board, Department of Computing

30th May 2013

5pm

Drawing Room, 170 Queen's Gate

South Kensington Campus

Minutes

Present

External Mr Mark Baker (Mind Candy), Mr Tim Brennan (Amadeus Ltd.), Mr Joseph Do (MindLink Software), Dr Krisztian Flautner (ARM Ltd.), Mr Patrick Goldsack (Hewlett-Packard Laboratories), Mr Adrian Grindrod (Orange Labs), Mr Mark Hammond (Imperial Innovations), Mr Simon Holden (Morgan Stanley), Dr Bill Mitchell (BCS), Mr Jon Page (Independent Consultant), Mr Hugh Proudman (IBM), Mr Ashley Ramrachia (The Hut Group), Ms Wendy Tan-White (Moonfruit), Mr Mike Warriner (Google).

Internal Professor Susan Eisenbach (Head of Department), Dr Tony Field (Director of Undergraduate Studies), Ms Barbara Harder (Industrial Liaison & Student Support Officer), Professor Michael Huth (Deputy Director of Research), Dr William Knottenbelt (Industrial Liaison Co-ordinator), Professor Wayne Luk (Professor of Computing), Ms Anne O'Neill (Department Operations Manager), Professor Daniel Rueckert (Director of Research).

Apologies Mr Paul Clarke (Ocado), Ms Carolina Costa (Orange Labs), Mr Andrew Eland (Google), Mr Alex Kozlenkov (Betfair), Mr Vincent Mak (Deutsche Bank), Professor David A. Oxenham (Dstl), Dr Alessandra Russo (Director of Postgraduate Studies), Professor Morris Sloman (Deputy Head of Department).

Agenda Item

1. Welcome and Introduction

Professor Susan Eisenbach welcomed all attendees to the meeting, in particular the new members: Tim Brennan (Amadeus Ltd), Mark Hammond (Imperial Innovations) and Wendy Tan-White (Moonfruit). Professor Eisenbach briefly introduced Moonfruit, as the organisation had not previously been represented on the Board.

2. Minutes of the Last Meeting

The minutes of the last meeting, held on 31st May 2012, were approved (*Paper 1*).

3. Matters Arising

Professor Eisenbach reported that Computing at School was becoming increasingly popular and that the provision of teacher training would be open for discussion later in the meeting.

Professor Eisenbach reported that Home/EU firm acceptances for Computing, as of 24th May 2013, were up and that Overseas firm acceptances were down (*Paper 2*). Professor Eisenbach added that in terms of MSc applications, 126 had accepted the offer at this point.

4. Strategic Issues

a) BCS/IET Accreditation Feedback

Professor Eisenbach reported that the Department had received very positive feedback in the BCS/IET accreditation process. Special praise had been attributed to the Department's strong links with industry and the embedment of industry's needs into the curriculum.

b) Non-Technical Aspects of the Teaching Curriculum

Dr Field presented the (compulsory) 'soft skills spine' for year 1-4, with a view to requesting feedback on the courses and opening the curriculum up to future contributions from the Board:

- Year 1: Ethics in Computing, Presentation Skills, Computing Topics (independent research)
- Year 2: Human-Centred Design, Team Skills Development, Software Copyright
- Year 3: Group Project (teamwork, presentation skills), Business and Management for Computing Engineers
- Year 4: Industrial Placement (incl. professional and environmental issues).

Dr Field presented the course outline for 'Ethics in Computing', which comprises computer crime (e.g. hacking, virus creation, security and child pornography), copyright and intellectual property rights, invasion of privacy, workplace issues (e.g. depersonalisation) and the wider social impacts (e.g. artificial intelligence). Dr Field reported that this course teaches the students the *what*, *why* and *how* of professional ethics, their implementation via ethical frameworks and their practical application through the use of regulations and codes.

Dr Field also showed the course outline for 'Human-Centred Design', which teaches the students to think about the different types of human beings using the software system and to present a solution to each of the key stakeholder, i.e. end-user, solution provider and intermediaries. Dr Field stated that the focus is on working within an inter-disciplinary team and to demonstrate a solution to an inter-disciplinary panel. Ms Wendy Tan-White (Moonfruit) stated that to bridge design and technology is key for the success of a business and in great demand with industry.

Dr Field reported that the year 3 course 'Business and Management for Computing Engineers' had received disappointing feedback from the students via the online course evaluation. Dr Field reported that the students felt that the list of topics was somewhat dry and removed from what they had hoped to learn on the course. Dr Field reported that the students wanted more practical input, such as a thorough explanation on how to start and run a company. Professor Eisenbach stated that there is an optional entrepreneurship course that the students can take and that three quarters of the students go to work in large organisations. Mr Simon Holden (Morgan Stanley) pointed out that an understanding of management and business concepts is important also for a Computing Engineer working in a large organisation. The Board discussed what should be taught to Computing Engineers on a management course and agreed that what the students clearly wanted was a course based on scenario and case-based learning with guest speakers from industry who, for example, would give clear examples on how they had started a company. Several Board members expressed a willingness to contribute further to the discussions on how best to teach the core business and management topics.

Action: Board members to contact Dr Field (ajf@imperial.ac.uk) if they think they or a colleague have something interesting to add to this discussion.

c) Centre for Doctoral Training (CDT)

Professor Wayne presented the pros and cons of the conventional UK PhD: the pros are that the conventional UK PhD is a rigorous, in-depth original research over a relatively short period of time (3 years), while the cons are that the PhD student has a narrow focus, engages in little peer-to-peer learning, has little or no user engagement and may come to the most relevant discovery in his/her research at the end of the 3 years when there is no more funding left.

Professor Wayne reported that the EPSRC (Engineering and Physical Sciences Research Council) invests £350M in the CDTs in order to train research leaders within priority areas identified by the Research Council. Professor Wayne reported that a typical EPSRC CDT is a 4-year doctorate comprising a critical mass of renowned supervisors, peer-to-peer learning, in-depth doctoral research and courses that expand the PhD student's interdisciplinary knowledge and transferable skills (e.g. through outreach via public engagement). Professor Wayne reported that the 2013 outline call had received 356 submissions from 56 universities, of which 176 from 41 universities had been invited for a full proposal.

Professor Wayne outlined the Imperial CDT in HiPEDS (high performance embedded and distributed systems), whose focus is a unique world-class education and training experience fostering a cross-layer understanding of technologies, design, development, implementation, operation and support. The CDT will apply these themes mainly in three key application areas that are beneficial to society: healthcare systems, smart cities and information society.

The Department holds 8 EPSRC studentships, of which 4 are Imperial sponsored, and 4 are open for industry sponsorship. In order for industry to get involved in sponsorship, a letter of support (outlining the needs, benefits, as well as the financial and in-kind contributions such as guest lecturers, provision of sandpit), is needed by the Imperial deadline of 11th July. The EPSRC deadline is on 18th July and the results are published in November/ December; in September 2014, the first cohort of students will start.

Professor Eisenbach stated that the Department was very industry-focused with its undergraduate students and that the aim was to roll out this focus to PhD students.

Action: Board members to contact the Department if they or their colleagues would like to sponsor CDT studentships.

d) Future of MSc Provision

Professor Eisenbach asked the Board for advice regarding the provision of part-time MSc degree programmes as enrolment had been subdued. Various structures were put to the Board, such as MSc programmes spanning over 2, 3 or 4 years and the possibility of delivering the teaching in 2-week blocks. Mr Mike Warriner (Google) stated that for the employer, having an employee available full-time was of more value than the employee investing time in a part-time MSc. The Board stated firmly that there was no strong demand from industry for part-time MSc programmes.

5. Industry Presentation

The following Board member presented to the meeting:

The Hut Group – Mr Ashley Ramrachia, Group Talent Director
'Skills for graduate and placement students'

The Hut Group is an online retailer with 16 websites selling non-perishable goods out of one warehouse. It currently is the only business in the world with this model, and due to its strong revenue growth, the Hut Group's aim is to turn itself from a start-up into a global organisation. The Hut Group want graduates with strong fundamental skills in coding and quantitative analysis skills. They also need to have the ability to spot an opportunity in the e-commerce market and to create new areas of revenue. The 16 websites operate as individual businesses, so that graduates working for the Hut Group get the unique experience of working for a start-up whilst being embedded in a rapidly expanding, large organisation. Mr Ramrachia highlighted that The Hut Group were particularly careful to make sure that the graduate is a good cultural fit.

6. AOB

Professor Eisenbach reported that almost 50% of the Eastern European applicants were female, which indicates that girls do have an interest in Computing. The Board agreed that Computing at schools should be made interesting to both girls and boys. Dr Mitchell (British Computer Society) reported that there are 250,000 primary school teachers, who all teach all subjects. Mr Adrian Grindrod (Orange Labs) stated that children are open to experimenting with technologies and that it was the teachers who need support. The Board discussed this and agreed that focused Master Teacher workshops ('Teacher Code Camps') were needed, so that teachers can train other teachers.

7. Close

The meeting closed at 7.00pm.