Terms of Reference for The Shadbolt Review of Computer Science Degree Accreditation and Graduate Employability

Summary

1. Professional accreditation systems have a crucial role to play in setting standards and supporting professional development, ensuring that courses equip individuals with high quality, relevant skills, and that they continue to refine their skills and knowledge.

2. It is widely accepted across academia, professional bodies and industry that improvements need to be made to the accreditation systems for computer science degrees, to ensure that they are fit for the future. There is also a consensus that this will require a fundamental review of the systems, including going back to first principles about the purpose and role of accreditation, as well as how it is discharged. The Government is therefore commissioning an independent review of computer science degree accreditation in England, leading to recommendations on how the degree accreditation systems could be reformed to ensure that it keeps pace with the needs of the profession.

3. The Review will be led by a senior independent figure with expertise in computer science within higher education, and strong connections to the profession and industry. The Reviewer will be supported by the Higher Education Funding Council for England (HEFCE) in carrying out the Review. The Review should also work with relevant accrediting bodies, including the British Computer Society (BCS), the Institution of Engineering and Technology (IET), and other relevant bodies such as the Engineering Council, the Council of Professors and Heads of Computing (CPHC), the Tech Partnership, the National Centre for Universities and Business (NCUB),the Information Economy Council (IEC) and appropriate academies and chartered bodies. Where appropriate, the review should take into account the findings of other reviews which may address similar issues.

4. The Review should include a specific focus on how the accreditation system can help address the issue of computer science graduate employability. Evidence gathered as a result of a joint BIS-DfE review of Science, Technology, Engineering, Mathematics (STEM) Skills provision has highlighted issues around employment outcomes for computer science graduates. Evidence shows that computer science graduates have higher rates of post-degree unemployment than other subjects. This may be significantly influenced by student characteristics and local economic conditions. It may also be a function of the way data is collected and classified. The Review will consider the extent to which computer science graduates might benefit from degree courses which feature increased employer engagement, more up to date course content and, where appropriate, increased levels of work experience, taking into account the particular characteristics of students and the industry. The Review will direct a more detailed report on the state of computer science employability.

Interdependencies

5. The Review will start ahead of a wider independent review of STEM degree accreditation, which will look at whether there are other areas of STEM degree course provision that would merit similar investigation. It is expected that the findings of this review will inform the work of the wider review.

Key areas for investigation

6. The Review should consider, but not be limited to, examining:

- The purpose of accreditation – why is it being undertaken and what is it meant to achieve?
- What is the accreditation system assessing when making judgements about professional competence and course expectations?
- How should accreditation be carried out, to ensure the necessary speed and agility to keep up with the profession's changing needs, whilst also minimising burden?
- How is accreditation used in practice and how is it updated – what benefits does it/should it bring to students, industry, course providers, and the profession overall?
- More specifically, how can the accreditation system ensure that degree course content is up to date and relevant for the needs of the industry? In particular ensuring employer engagement in course design, and where appropriate incorporating work experience/placements in degrees, for both students and staff?
- How can accreditation systems address continuing professional development needs as well as skills and professional competence arising from higher education courses?

7. The Reviewer will also be supported by work being undertaken by HEFCE to interrogate data on computer science graduate employment outcomes. The first major output of this work will be the publication of more granular data on the employment outcomes of computer science graduates than is currently published, in March/April 2015. This publication will highlight differences in employment outcomes among computer science graduates, and will examine the type and nature of any employment they enter. Subsequent work to be published in summer 2015 will further enhance the understanding of employability outcomes: addressing issues relating to the impact of social background and personal characteristics on graduate employment outcomes. These publications will also include an analysis of the impact of geographic factors on employability outcomes, and the flows of graduates into computer science occupations on both a local and national basis. The reports will incorporate case studies that identify good practice that could be scaled up more widely across the sector.

Timing

8. The review should report in the autumn of 2015.