

# **SCALABLE HUMAN-COMPUTER COLLABORATIVE ASSESSMENT**

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## Abstract

Human-computer collaborative assessment (HCCA) is an approach to e-assessment which emphasises the role of the human expert in making judgements. This approach is embodied in the Assessment21 software; for instance we take a very conservative approach to automatic marking, but provide flexible tools to aid the human marker.

Making HCCA suitable for widespread adoption (in HE or Professional Bodies for instance), requires many scalability challenges to be addressed. Procedural issues are just as important as software features, and the two often interact. We will describe work done over the last two years to turn an existing set of HCCA tools, proven in high-stakes exams, into a scalable product. The ability to handle large numbers of students taking an exam at the same time, and to monitor exams in progress, were already present. These are necessary, but not sufficient.

Scalability requires minimising dependence on highly skilled, highly trusted, individuals and instead allowing academics, Information Services personnel, administrators and invigilators to take e-assessment on board with a small amount of training, while where possible also reducing their workload. For academics this is relatively easy as marking times are often much reduced. For administrators and invigilators, replacing the handing of paper scripts with online procedures is cost-effective, provided those procedures are sufficiently simple.

Access control, assessment creation procedures, student data handling, distribution of large answer sets between markers, and deployment of the software itself must all be considered, as must training of the relevant personnel. We will discuss our solutions to some of these problems, and also ways of dealing with computing infrastructure which was not designed with assessment in mind.