

27 March 2003

BCS/CPHC Panel for Distinguished Dissertation 2003

Dear Sirs

Dr. Andrew Winter

Dr. Andrew Winter received a First Class honours degree in Computer Science from University of Wales in 1999. He became a PhD student, funded by EPSRC, in October 1999, submitted his PhD thesis in September 2002, and was examined by in December 2002 by a panel, which consisted of Professor Ken Brodlie (Leeds, external), Dr. Mark Jones (internal) and Professor John Tucker (convenor).

Andrew was one of the most talented and diligent students that the Department has had over the past decade. He possesses excellent knowledge of many aspects of computer science (in particular computer graphics), and excellent skills in software development, technical writing and presentation. Through his study, he has demonstrated a high degree of scientific curiosity, enthusiasm for technical innovation and unusual ability to grasp new technologies quickly. He is among the very few students in this Department who were able to complete their PhD programmes, with some excellent research results, within three years.

Andrew was an all-round PhD student in terms of his research capability. (i) His work on field-based modelling resulted in a novel approach to the generalisation of volume graphics. (ii) His work on image-swept volumes resulted in an innovative technique for constructing volumetric models from images and videos. (iii) His work on texture mapping filled a noticeable gap in volume graphics. (iv) His work on Bézier volumes demonstrated his confidence and capability of tackling complex geometrical problems that require a good understanding of the underlying mathematical concepts. (v) His work on *vlib* resulted in the first volume graphics API that was released as open source in 2001 in New York. He has authored and co-authored several publications, including papers presented, or to be presented, in VolumeGraphics2001 (New York), Eurographics2002 (Saabrücken), and VolumeGraphics2003 (Tokyo), and papers appeared in Computer Graphics Forum and an editorial book by Kluwer Academic Publishers.

In summary, the work presented in Dr. Winter's PhD dissertation represents a significant milestone in volume graphics. His work has created a noticeable impact at the international level. I recommend his PhD dissertation without any reservation.

Yours sincerely,

Min Chen (supervisor)
Professor of Computer Science
University of Wales Swansea