

# Animating justice?

Gareth Norris considers the implications of using multimedia displays in court.

*The recent case in Puglia, Italy, surrounding the murder of British student Meredith Kercher, has raised some important questions over the use of computer generated animation (CGA) in legal settings. The animated sequence in question intended to portray the events surrounding the death of the British student on the night of 1 November 2007. Jurors in the trial watched three animated characters representing the three defendants (Knox, Raffaele Sollecito, and Rudy Hermann Guede) attack Kercher. The animation is particularly damning for Knox, who was witnessed in the simulation to be delivering the fatal stab wound. As the animation is running, still photographs from the scene showing bruises and wounds to Kercher are interjected into the presentation.*

In a similar way to the increasing demands for prosecutors to produce DNA and other forensic evidence to add credibility to their case, it is already suggested that animations and interactive multimedia displays will also be *de rigueur* in criminal and civil trials. The recently established 'Forensic Multimedia Unit' at the Scottish Police Services Authority is one example of the growing use of CGA in legal proceedings. The facility aims to provide a range of multimedia services to aid in the prosecution of offenders. One of the many advantages the centre proposes is that it can 'transport detectives, lawyers, jurors, and judges back to a crime scene' and will undoubtedly save on time and costs. However, in the US a number of cases have already begun to question the procedural fairness and potential to mislead a jury resulting from the use of such technology.

Despite the relative acceptance of CGA and similar multimedia

representations into the courtroom, its use in the Kercher case is of particular concern due to the heavily contested forensic evidence and conflicting accounts of the multiple defendants. This ultimately casts some 'reasonable doubt' over the possible accuracy of the sequence depicted; this becomes more problematic when the potentially prejudicial effects of the animation are factored into the equation. Additionally, the highly realistic 'avatar' style characters add realism to the events which, alongside the still photographs from the scene, has the potential to mislead a jury into believing that the animation is in fact a realistic portrayal of the events of that November evening. There are a multitude of different formats and effects which can be added to individual animations to emphasise the salient features of the incident. For example, making the animation appear to be more 'scientific' (see Figure 1) could add credibility to the evidence and make it appear more accurate than the reconstruction on which it portrays. Whilst CGA is

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intended to *aid* in the juror decision making process, it is increasingly being used as a method to add credibility to the respective legal team's version of events.

Alongside CGA, additional software is finding its place in the high-tech courtroom. In the trial of Michael Skakel, jurors were presented with a 'litigation software' package (see Figure 2) which was able to present the complicated and interwoven pieces of evidence to jurors in a seamless and integrated manner (Carney and Feigenson, 2004). This 'toolbox' utilised a number of interactive menus that

enabled evidence to be projected onto a large screen in the courtroom with the click of a mouse. The impact of this technology was assured by utilising a range of psychological mechanisms for increasing attention and

comprehension. For example, Skakel's apparent contradiction of his own alibi was highlighted by overplaying his taped confession alongside a projected transcript of his own evidence. On appeal, Skakel's legal representatives made claims that the interactive software utilised processes akin to 'subliminal evidence' – a claim the prosecution vehemently denied in so far that they suggest their method of presentation was 'blatant' in its approach and clearly presented the facts.

One of the first major cases in the US to use CGA was in the accident



Figure 1: Different presentation effects: 'scientific' (left), and fully rendered (right). © See3d Ltd



Figure 2: Example of a litigation support tool, similar to the one used in the Michael Skakel trial. Legal counsel can integrate photographic evidence alongside documents and video/audio at the click of a mouse. © 360Fusion

investigation of Delta Airlines Flight 191 in 1985. In this instance, the legal argument centred upon establishing liability to pay compensation, estimated to be between \$150–200 million, for wrongful death, loss of aircraft, and associated damages. During the trial, the Justice Department produced a detailed 45 minute long animation depicting the defense's theory of events. In his summing up, US District Court Judge David Belew made reference to the impact of the animation in making his decision to rule for the defence (Selbak, 1994). This decision attributed the primary cause of the tragedy to human error as a result of the pilots not adhering to the warnings from the air traffic control personnel in combination with a general lack of training in dealing with these – albeit rare – situations.

Selbak's review implied that the use of an animated sequence in the Delta Airlines case signalled a new era in the use and acceptance of CGA in the courtroom. The animated sequence added the real-time voice recording (from the cockpit and air traffic control) to the presentation, illustrating to great effect the instructions given to the pilots and the actual movements of the aircraft. The reason it was so effective could be due to the verbal and visual testimony being presented in

combination. The often cited 'Weiss-McGrath' study (see Selbak, 1994), indicated that after 72 hours only 10 per cent of oral information and 20 per cent of visual information is retained; when oral and visual information are presented simultaneously, this increases to around 65 per cent.

Experimentally, Morell (1999) explored Mayer and Sim's Dual Coding Theory of multimedia learning and highlighted computer animated displays and oral testimony to be most persuasive. Using four different conditions (expert testimony with visual aids; expert testimony with diagrams; expert testimony with computer animation; expert testimony with diagrams and computer animation), Morell concluded that the latter two condition(s) in which the animation was presented along with expert testimony produced the most effective recall of the videotaped stimulus material over a two-week period. Additionally, Weiss-McGrath

suggested that demonstrative evidence had other positive aspects, including highlighting important information and breaking the monotony of a lengthy and/or complex trial.

Whilst there are many advantages that the use of technology can demonstrate, the use of CGA in particular has raised concerns from academics and practitioners. In one of the few experimental examinations of CGA in a legal context, Kassin and Dunn (1997) showed how the animation could have both facilitative and prejudicial effects by presenting mock jurors with a reconstruction of an equivocal suicide. The scenario involved a body being discovered either 5–10 or 20–25 feet from the edge of a building, suggesting the individual had either a fallen or jumped. They concluded that when the animation was congruent with the physical evidence, the animation had a facilitative effect in cementing juror's decisions; however, the opposite premise did not necessarily hold, with a number of participants mistakenly believing an object falling from a height could land some 20–25 feet from the edge.

In their comprehensive review of the use of CGA in legal contexts, Feigenson and Dunn (2003) suggest a range of possible studies to test the impact of these presentations on jurors' decision making, including 'manipulating the observer's point of view ... would be predicted to have various legally significant effects'. The results of a study examining the angle with which an animated sequence is viewed were presented at the American Psychological Association's (APA) annual conference in Toronto (Norris, 2009). Using a two-vehicle car accident presented in three different views –

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Figure 3: The animation viewpoints presented representing the three experimental groups: (1) Overhead; (2) Internal; and (3) Facing. © See3d Ltd

overhead, internal, and facing (see Figure 3) – demonstrated some significant differences in the perceptions of culpability for the accident.

The results of the experiment indicate that judgments of culpability can be manipulated – to a degree – depending upon the angle upon which the animation is presented. Differences in judgments of speed were also recorded, but these failed to be statistically significant. The study showed quite simply that the angle 'Facing' Car 1 condition showed the largest difference in judgments, with 92 per cent of participants apportioning blame to this car. This becomes more meaningful when compared to the other two animations; here participants were slightly less decisive, with those in the 'Overhead' view assigning 43 per cent of the blame for the accident to Car 1, and the 'Internal' view 34 per cent. Taken as a whole, the findings reported here suggest that the use of

animations in legal contexts should be mindful of the potential to influence judgments based upon a simple manipulation of the angle of view.

The use of multimedia presentations and CGA is fast becoming an integral part of the legal system in the US and more recently in the UK. Some high profile cases, including the Ipswich murderer, Steve Wright, have used similar technology at trial. However, the relative paucity of research and specific legal guidelines raises questions over admissibility and potential for misuse. As with related areas such as expert evidence, forensic science, and DNA in particular, we are only just beginning to understand the manner in which jurors comprehend this type of evidence and its possible benefits for justice. ■

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**Dr Gareth Norris** is a lecturer in the Department of Law and Criminology at Aberystwyth University.

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