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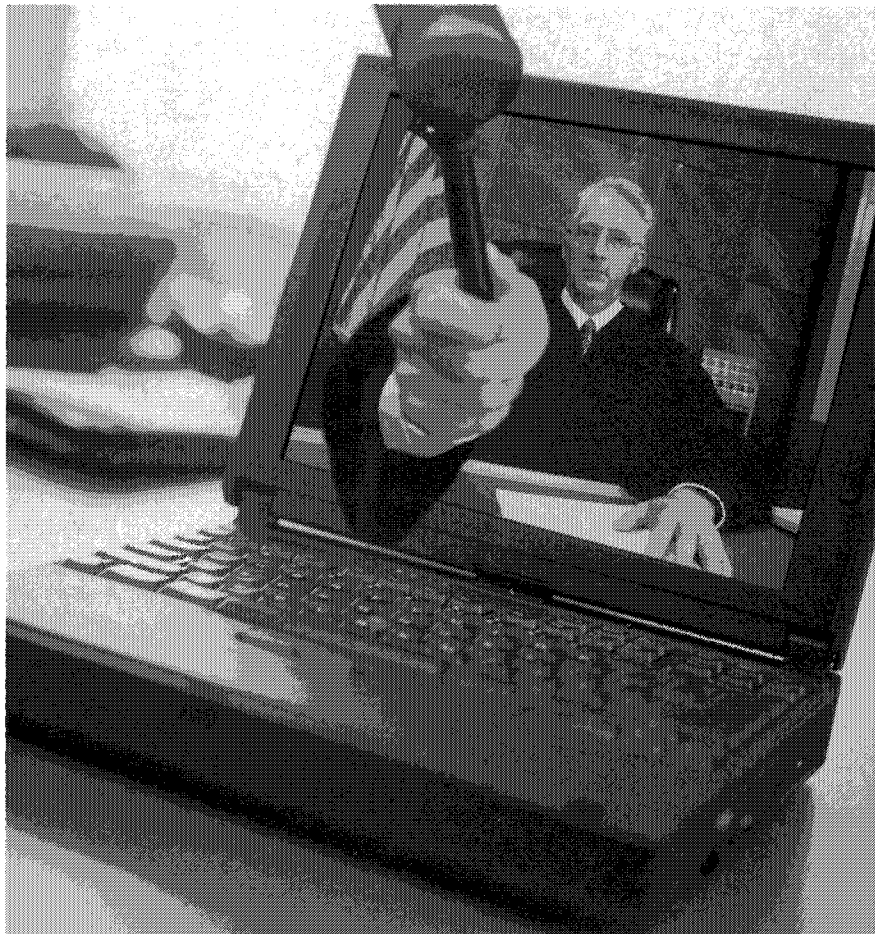
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The Courtroom 21 Project: Creating the Courtroom of the Twenty-First Century

by Fredric I. Lederer



The mission statement of the Courtroom 21 Project is "to improve the world's legal systems through the appropriate use of technology." When Thomas Jefferson appointed the nation's first law professor by designating George Wythe¹ as William & Mary's professor of law and police, neither the practice of law nor courtroom adjudication involved technology. Our world has changed greatly since that time, of course, and the rapid adoption of technology by courts and law firms is changing our traditional practices. This is especially true as technology increasingly moves into the courtroom, poten-

tially enhancing evidentiary comprehension by fact finders while decreasing trial time.

Data obtained in 2002 and 2003 by the Federal Judicial Center (FJC) indicates "a large percentage of [approximately ninety] federal district courts have access to primary forms of advanced technology—either via a permanent installation in one or more courtrooms or equipment that is shared among courtrooms."² Judges, administrators, and trial lawyers are now asking both fundamental and practical questions about these technologies, among them the following:

- Do they actually work as promised?
- Can trial lawyers usefully employ courtroom technology, and, if so, at what cost to the court and with what benefits?
- How do these technologies affect trial participants: judges, counsel, witnesses, parties, jurors, interpreters, court reporters?
- What are the effects of these technologies on trial practice?
- Does courtroom technology help or hurt the administration of justice?

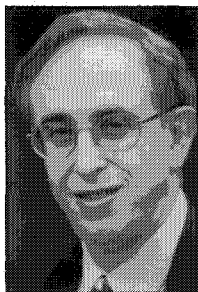
These are only some of the questions that the Courtroom 21 Project works to answer. Launched formally in August 1993, the Courtroom 21 Project is the world center for courtroom and related technology demonstration and experimentation. The project itself is a joint effort of William & Mary Law School and the National Center for State Courts (NCSC). Physically located at William & Mary Law School in Williamsburg, Virginia the Courtroom 21 Project has worked diligently to perform its primary public service mission: to improve the world's legal systems through the appropriate use of technology.

McGlothlin Courtroom

The McGlothlin Courtroom is the hub of the project, its experimental center. A retrofitted courtroom into which the latest in modern technology has been installed, it is the most technologically advanced trial and appellate courtroom in the world. It is upgraded continually and customarily closes for at least one week each year for major improvements. The courtroom is capable of facilitating almost anything that ought to be done in a courtroom, including e-filing; Internet-based docketing; sophisticated electronic case management; hypertext-linked electronic

motions, briefs, and arguments; multiple concurrent remote appearances by judges, lawyers, parties, and witnesses; comprehensive technology-based evidence presentation; immediate Web-published multimedia court records; wireless broadband connectivity at counsel table for lawyers; multiple technology-aided foreign language interpretation; and much more.

The Courtroom 21 Project's initial goal was to demonstrate commercially available technology to the many judges, court administrators, lawyers, professors, technologists, court reporters, architects, and others who visit our Williamsburg home. This remains our most fundamental task. Demonstrations usually take about two hours and are conducted as frequently as five times per week. For those who cannot physically visit Williamsburg, video-conferenced demonstrations are easily arranged. For major programs such as the Court Technology Conferences conducted by the NCSC and meetings of the National Association of Court Managers, the project can deploy a portable high-tech courtroom, complete with staff members, to demonstrate and explain its functioning. Staff members also are available to speak at judicial and bar programs, and travel extensively in support of the project's continuing education function. Demonstrations can be either general or specialized in nature, depending upon the audience.



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The Proven Advantages of Courtroom Technology

As we celebrate the tenth anniversary of the Courtroom 21 Project, we are proud to share what we have learned during our development. Although we have many specific facts, the core of what we have learned can be presented simply:

- When designed and installed properly, courtroom technology is sound and reliable.
- Technology-augmented trials tend to be more visual than traditionally presented trials.
- When used by properly prepared lawyers, often supported by paralegals or other parties, technology can make trials fast and efficient

and contribute to the fact finder's understanding of the evidence.

- Technology can enable live testimony from parties who otherwise could not attend a trial, provide a fairer playing field for those who would be at a disadvantage without assistive technology, potentially decrease the cost of legal representation, and provide new forms of evidence impossible without technology.

The utility of all forms of courtroom technology remains entirely dependent on the human participants of a trial, all of whom are and remain collectively more important than the technology.

New Frontiers

Soon after the project began, it was apparent that the critical issues were not ones of pure technology but rather focused on how people involved in the administration of justice could use this technology and what the effects of that use might be. With that in mind, the project dedicated itself to an ongoing program of formal and informal experimental work. The project performs formal, grant-funded research such as its year and a half-long study of technology in the jury room, which was supported by the State Justice Institute.³ It cooperates with experts such as William & Mary Professor of Psychology Kelly Shaver to give the department experimental laboratories in which to evaluate the effects of technology.⁴ In recent years the project also has been especially proud of its ongoing relationship with the FJC.

The Courtroom 21 Project also conducts a wide-ranging program of informal experimental work. The law school curriculum includes the Legal Skills Program, winner of the ABA Gambrell prize. The program is a two-year, mandatory, nine-credit course in which we teach law students professional ethics, legal research and writing, interviewing, negotiation, alternative dispute

resolution, and basic trial and appellate practice. We do this within twelve simulated law firms, each "staffed" by sixteen first-year law school "associates," sixteen second-year "senior associates," a third-year (teaching assistant) "junior partner," and a faculty "senior partner." Each "office" is composed of four four-person working groups. During the two years, each working group represents four (role-played) major "clients" and a number of minor "clients," one of which is represented throughout a litigation cycle, with interrogatories, motion practice, and appeal from the actual trial transcript. This provides us with the equivalent of slightly more than 400 lawyers.

With the assistance of LexisNexis File & Serve, every first-year law student acting as an associate files complaints and answers electronically, using the File & Serve e-filing system. In the second year, Courtroom 21 staff members give hands-on training to every second-year student acting as a senior associate, showing how to use the McGlathlin Courtroom's evidence presentation technology. The students are then required to use that technology during their mandatory bench trial. The project's court record manager then arranges for verbatim records (the

courtroom has every method of record making, including voice recognition technology), which are used by student counsel in their appeals. In short, the legal skills program supplies us with approximately fifty bench trials and fifty appeals each year in which to evaluate the impact of our technology.

For jury trials, we have both the law school's traditional trial advocacy courses, in which technology instruction is included, and the school's new Courtroom 21-supported Technology-Augmented Trial Advocacy course. In "Tech-Trial Ad" students must learn

both traditional methods and "bleeding-edge" technology-assisted methods as well. Students first learn how to conduct traditional depositions, for example, and then how to conduct remote depositions and how to create multimedia depositions, including real time transcription, electronic exhibits, and digital video of the deponent, for later court use. After this, they must try a high-tech jury trial. In last spring's course some students tried a technology-augmented intellectual property case before a U.S. magistrate judge. Four other students, all armed forces

officers, tried the most technologically advanced court-martial in world history, presided over by the Army's chief trial judge.

Annual Laboratory Trial

The best-known element of the courtroom's experimental program is its annual laboratory trial. Developed as part of our legal technology seminar, the "lab trial" is a one-day simulated case, traditionally presided over by a federal district judge and decided by a community jury, during which we

Courtroom 21 Court Affiliates

Recognizing that courts are increasingly interested in adopting courtroom technology, we created the Courtroom 21 Court Affiliates, an organization of state, federal, and non-U.S. courts interested in the efficient, economical, and sound use of courtroom and related technology. In return for an annual subscription fee, court affiliates receive a variety of services, including one day's free consulting by courtroom technology designer Martin Gruen and access to the annual Court Affiliates Conference. Affiliates also assist with our experimental work. Our founding affiliates, the U.S. District Court for the District of Oregon and the Ninth Judicial Circuit of Florida, field-tested during actual cases our protocol for technology-assisted jury room deliberations.

Conferences: The project conducts an increasing number of conferences. In addition to the annual Court Affiliates Conference, we conduct, with the support of the Administrative Office of the U.S. Courts (AOUSC), an annual Working Conference on the Privacy Implications of Electronically Accessible Court Records, one or more annual Courthouse Construction Conferences (for judges and administrators involved in major renovations or new courthouse construction), and as appropriate, topical conferences. We also host or assist with conferences from other organizations. In early 2003, for example, we hosted a joint National Institute of Justice/Department of Justice (DOJ) conference and training session on technology-augmented case presentation, the NII/CCIPS Digital Evidence Mock Trial, and a few months later an AOUSC Defender Services Branch multiday training program for federal panel defense attorneys.

In February 2003 we will conduct the Courtroom 21 International Conference on the Legal and Policy Implications of Courtroom Technology, articles from which will be published in the *William & Mary Bill of Rights Journal*. Judges interested in attending should contact the Courtroom 21 Project as soon as possible to reserve space at 757/221-2494 or ctrm21@wm.edu.

The project also regularly welcomes seminar attendees and groups of all types for courtroom demonstrations incident to meetings in Williamsburg. For example, the Federal

Administrative Law Judges Conference attended a demonstration as part of its 2003 annual meeting.

Education and training: Judges and lawyers have expressed an increasing interest in both general legal technology education and specific technology-augmented trial practice training. We provide both on request. We have been fortunate to have Mollie Nichols join us to help provide that training. Mollie, a former assistant U.S. attorney, assistant director of the DOJ's Attorney General's Advocacy Institute, private firm litigator, and most recently director of litigation training for the Office of the Attorney General of Texas, serves as associate director for research and professional education. We will be expanding later this academic year to include Web-based education and training.

Courtroom Information Project: The Courtroom Information Project is a free, online visual database of the courtrooms of participating courts. A lawyer who is unfamiliar with a particular courtroom or has a witness or client who needs instruction about where to sit or testify can call up six different views of each courtroom, accompanied by details of available technology for that court. As of early fall 2003, eighty federal district or bankruptcy and 166 state courts participate in this privately funded effort. Our goal is total participation by every court in the United States. Courts interested in joining the Courtroom Information Project should contact Assistant Director Janel Foss at jnfoss@wm.edu. The Courtroom Information Project is supported financially by a number of major companies and an increasing number of law firms.



conduct a wide variety of experiments. In recent years Dr. Beth Wiggins of the FJC has assisted us in creating and carrying out our experimental program. We also partner with other organizations as appropriate.

The last three years of lab trials have been especially interesting. In April 2001, we tried an experimental capital terrorist case in which the defendant was part of a cell that planted a bomb in a U.S. aircraft, blowing it up over London. That case was created to test some of the fundamental concepts that were then planned for the Michigan CyberCourt.⁵ One technology innovation was that we had a lawyer in the United Kingdom examining a witness appearing from Canberra, Australia (we have affiliated programs in both countries).

In 2002 we tried a case in which the critical issue was whether a patient died as a result of the design of a cholesterol-removing stent or because the surgeon implanted it upside down. To the best of our knowledge, it was the first courtroom use of holographic evidence and of immersive virtual reality. With the help of scientists at the University of California at Santa Barbara and assistance from the FJC, our operating room witnesses put on special headsets that put them in a virtual operating room; each then demonstrated to the judge and jury what he or she saw, turning, leaning, bending over, and observing from where each stood during the key minutes of surgery. The witnesses' experience was projected onto a large screen in the courtroom. As it happened, the critical defense witness was entirely discredited when it became apparent that she could not have seen the doctor's hands and wrists at all.

In the 2003 lab trial, we had the assistance of the Counterterrorism Section of the DOJ to try a defendant for attempting to finance an al Qaeda strike in the United States. We needed to compel the testimony of an Australian lawyer who asserted the attorney-client privilege under Australian, British, and U.S. law;

Adjunctive Programs

The Courtroom 21 Project assists courts in a number of ways.

Courtroom design and consulting: Courts interested in adopting courtroom technology often benefit from an impartial evaluation of their facility. Courtroom 21 Project personnel are available to meet with both judges and court staff to discuss their needs, goals, and physical and budgetary constraints. The project can also supply design assistance.

Special masters: Modern litigation is increasingly based on computer-created and -stored information, and the project has dealt with issues concerning such information since its inception. The most recent development in the project's ongoing efforts to assist the courts is our decision to create a special panel of experts available to federal and state courts, who will serve as special masters in discovery disputes involving computer-produced or -stored electronic information. The panel is composed of expert academics, experienced litigators, retired federal and state jurists, and computer forensic experts, all administratively supported by the Courtroom 21 Project and its staff.

Fellows: The project encourages research of all types related to courts, law firms, lawyers, and the legal system. Accordingly, we welcome applications from jurists wishing to spend a semester or year in residence as a Courtroom 21 Research Fellow. Unfortunately, we

currently cannot offer financial support for such fellowships; at this time, our limited fellowship funds are dedicated to students.

Resources: The Courtroom 21 Project is a self-supporting autonomous part of William & Mary Law School. Project administration consists of approximately ten full- or part-time staff, five "named" Courtroom 21 Fellows funded by outside contributions, twelve Graduate Fellows, and a large number of volunteers from around the world. All courtroom technology has been loaned to the project by many companies from around the world. Key staff support comes from a number of sources. The project's court record manager position is funded, for example, primarily by the National Court Reporters Foundation, with support from the National Verbatim Court Reporters Association and the American Association of Electronic Recorders and Transcribers.



accordingly, we created what we believe to be the first-ever three-court concurrent hearing, with the judges of each of the remote courts in the U.K. and Australia visually present in our Williamsburg courtroom. Our prosecutor argued to all three, obtained sequential rulings from each jurisdiction, then examined the witness in Australia. In the process of preparing for the case, we were forced to come to grips with the evidentiary burdens faced by counsel in terrorism cases for which much of the evidence comes from abroad. The case was unusually thought-provoking.

At present, the Courtroom 21 Project is emphasizing research of terrorism-related cases and of technology-augmented alternative dispute resolution. We continue work in a number of other areas, including the use of assistive technology for judges, lawyers, witnesses, and jurors. Because the project also has a strong interest in technology-augmented appeals, we have a continuing experimental interest in appellate matters. In January 2004, we will welcome the U.S. Court of Appeals for the Armed Forces for the third appeal to be heard at William & Mary. Past cases

heard by this court in the McGlothlin Courtroom were the most technologically sophisticated ever held. We anticipate that the 2004 appeal will equal or exceed the prior cases.

Ultimately, even in the area of courtroom technology, everything becomes or remains a human question. We discovered last year, for example, that the highly efficient practice of using electronically presented documents, especially when coupled with "call-outs"—enlarged renderings of key language—can upset jurors. Jurors may become convinced that the lawyers intentionally hide otherwise adverse evidence by showing the documents too quickly to be read, and by obscuring the text with the call-outs. Simple solutions to such concerns exist, but the problem is symptomatic of our greatest single conclusion: far more questions must be answered and far more work must be done before we will fully understand the implications of the technology that is changing our legal worlds.

Accordingly, it is fitting to end this review of the Courtroom 21 Project as it began, with a reference to George Wythe, lawyer, professor, judge, and patron jurist of the Courtroom 21 Project. Having helped create the American Revolution, he then helped Virginia and the nation to grow and prosper despite immense change. He did so in large part by emphasizing the dignity of men and women and the need for as perfect an administration of justice as imperfect people may provide. We should do no less. Courtroom technology means change, but technology is only a tool, not a goal. Our goal is the administration of justice, as it should be. So long as we keep *that* goal in mind, we can be confident that technology will be our useful servant.

Additional information about the Courtroom 21 Project, its installed technology, or any of the programs discussed in this article is available on our Web site, www.courtroom21.net, by phoning 757/221-2494, or by e-mailing ctrm21@wm.edu.

Endnotes

1. A signer of the Declaration of Independence, George Wythe was an extraordinary lawyer, professor, and judge who revolutionized legal teaching not only by teaching law in the university context but also by introducing moot courts and moot legislatures for students. Because of his innovative perspective, he is the "patron jurist" of the Courtroom 21 Project.
2. ELIZABETH C. WIGGINS, MEGHAN A. DUNN, AND GEORGE CORT, FEDERAL JUDICIAL CENTER SURVEY ON COURTROOM TECHNOLOGY 8 (Federal Judicial Center, draft ed., Aug. 2003).
3. Available at www.courtroom21.net.
4. In two experiments by students working under Professor Shaver's supervision, we learned that in a personal injury trial dependent upon conflicting testimony by medical experts, there is no statistically significant difference in award whether the experts testify in person in the courtroom or remotely—at least so long as the witnesses appear life-size on a screen behind the witness stand and are subject to cross-examination under oath.
5. Created in 2002, the Michigan Cyber Court is a nonjury court with civil jurisdiction that potentially could try a case by video conferencing and electronic evidence, without human beings physically present in the courtroom. The cybercourt is based on Courtroom 21's McGlothlin Courtroom. The 2001 lab trial was created to test the concept in its most difficult possible use, a case in which the prosecution used all of the technology against a capital case defendant.

Criminal Jurisdiction in Indian Country

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jurisdiction over all Indians." *Id.* § 1301(2). This action by Congress is popularly known as the "Duro Fix." The question whether the Duro Fix is a recognition of a tribe's inherent powers or a delegation of federal power currently is in litigation and scheduled for hearing by the Supreme Court on January 21, 2004. See *United States v. Lara*, 324 F.3d 635 (8th Cir. 2003), *cert. granted*, 124 S. Ct. 46, 2003 U.S. LEXIS 5434 (2003).

13. *Oliphant*, 435 U.S. 191 (stripping tribes of criminal jurisdiction over non-Indians).

14. *Id.* This rule may be changing due to significant domestic violence issues in Indian Country. Debate exists over whether the federal Violence Against Women Act grants tribal courts criminal jurisdiction in a limited number of cases involving enforcement of domestic violence protective orders. For a complete discussion of this issue, see Melissa Tatum, *A Jurisdictional Quandary*, 90 Ky. L.J. 123 (2001-02).

15. 18 U.S.C. § 1152 (aka Federal Enclaves Act).

16. 18 U.S.C. § 1153.

17. 18 U.S.C. § 13.

18. For a complete discussion of the General Crimes Act, see WILLIAM C. CANBY JR., *AMERICAN INDIAN LAW IN A NUTSHELL* (2d ed. 1988).

19. 109 U.S. 556 (1883).

20. The list: murder, manslaughter, kidnapping, felony sexual abuse, incest, assault with intent to commit murder, assault with a dangerous weapon, assault resulting in serious bodily injury, assault against an individual under sixteen years of age, arson, burglary, robbery, and felony theft.

21. As a sovereign nation, a tribe can enter into a government-to-government agreement regarding jurisdiction over specific crimes committed within its territory. This might be advisable under certain circumstances, such as domestic violence cases perpetrated by a non-Indian on an Indian, as a way of protecting tribal members while preserving and recognizing tribal sovereignty via the government-to-government agreement.

22. See *Oliphant*, 435 U.S. 191; *Wheeler*, 435 U.S. 313. *But see* note 23, *infra*.

23. However, the future of a tribe's jurisdiction over nonmember Indians is uncertain because it is not settled whether the Duro Fix is a delegation of federal power or recognition of an inherent sovereign right. See note 12, *infra*. This is also an issue when tribal status is terminated and then restored by the federal government. See *United States v. Long*, 324 F.3d 475 (7th Cir. 2003), *cert. denied*, 124 S. Ct. 151, 2003 U.S. LEXIS 6049 (Oct. 6, 2003). See also Kenneth M. Murchison, *Dual Sovereignty Exception to Double Jeopardy*, 14 N.Y.U. REV. L. & SOC. CHANGE 383 (1986).

24. A crime is unlikely to be prosecuted by the federal government unless it falls under the Major Crimes Act. The Bureau of Indian Affairs, charged with investigating federal crimes (or crimes assimilated from state law as if they were federal) committed on reservations, and U.S. Attorney's offices charged with the same prosecution, have limited resources and tend to concentrate their efforts on only the most serious offenses.

25. The federal government may have jurisdiction over certain crimes specifically enumerated by federal statute, such as federal drug crimes, however.

26. *Oliphant*, 435 U.S. 191.