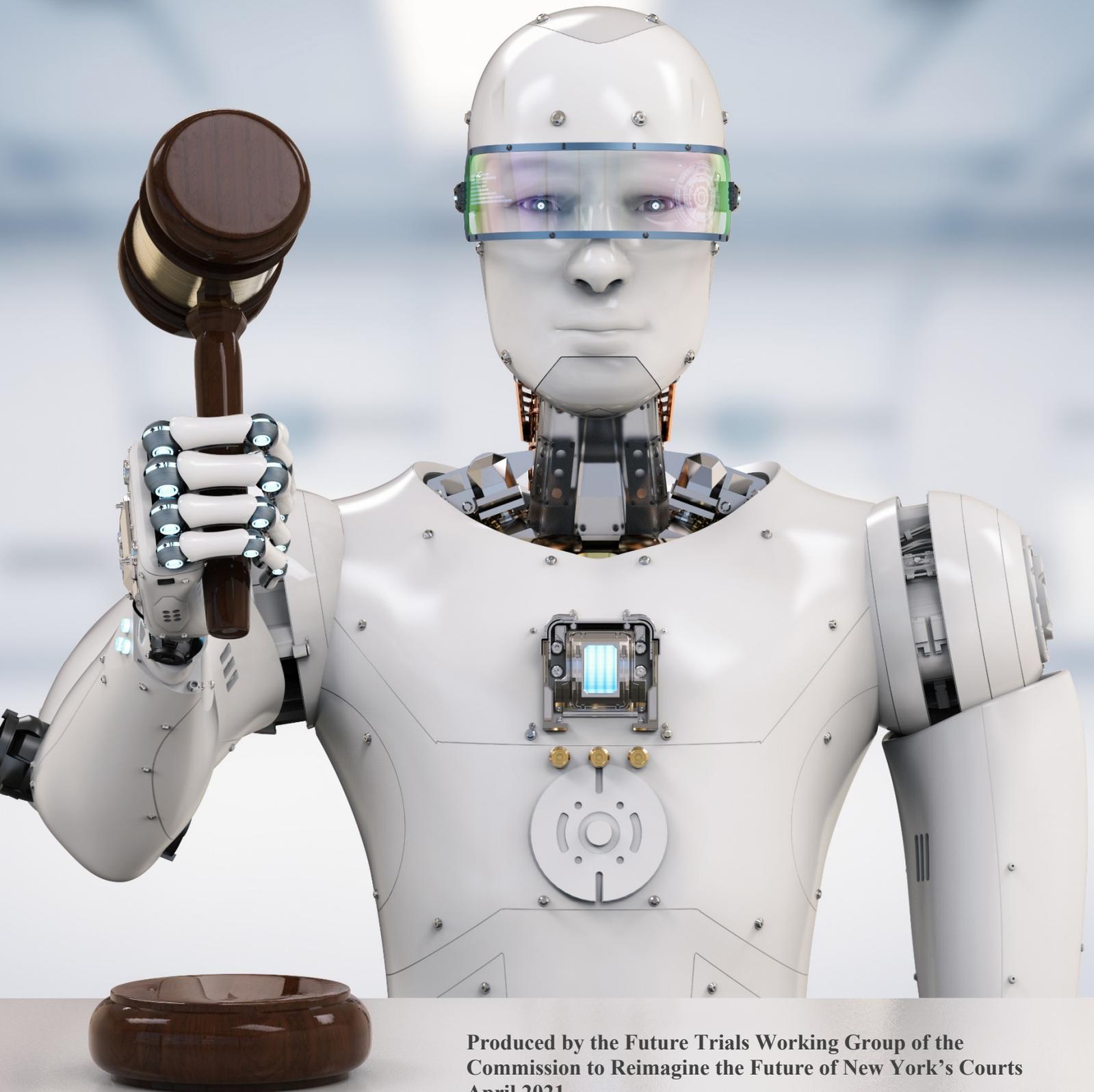


Report and Recommendations of the Future Trials Working Group



Produced by the Future Trials Working Group of the
Commission to Reimagine the Future of New York's Courts
April 2021

Table of Contents

Executive Summary	3
PART I: Guiding Principles for the Evaluation of Emerging Technologies	5
1. Fairness/Equal Access to Justice	5
2. Efficiency	5
3. Reliability of New Technologies	6
4. Ease of Use	7
5. Financial Cost	8
PART II: Aspects of Trial Practice Likely to be Impacted by Evolving Technology	10
1. Courthouse and Courtroom Technology.....	10
2. Remote and/or Automated Transcription and Translation Services	13
A. <i>Realtime In-Person Transcription</i>	13
B. <i>Fully Automated Transcription</i>	13
C. <i>Remote Transcription Services</i>	14
D. <i>Remote Translation Services</i>	14
3. Streaming of Trial (and Other Trial-Level) Proceedings.....	14
4. New Forms of Evidence and Admissibility Disputes	16
5. Demonstrative Evidence	17
A. <i>3D Printing and Scanning</i>	17
B. <i>Holographic Evidence and Virtual Reality</i>	18
6. Artificial Intelligence-Assisted Decision-Making	19
PART III: Trials by Remote Videoconferencing Technology	
<i>Constitutional Issues and Lessons from the Pandemic</i>	22
1. Overview of Challenges Presented by Remote Trials	22
2. Remote Jury Trials in Practice During the Pandemic	24

A. <i>Texas</i>	24
B. <i>Florida</i>	25
C. <i>California</i>	26
3. Precedent Addressing Constitutional Issues Posed by Remote Trials/Testimony.....	28
A. <i>Civil Cases—Due Process Issues</i>	28
B. <i>Criminal Cases—Sixth Amendment Issues</i>	29
PART IV: Training and Ethics	33
Summary of Recommendations and Next Steps.....	34
Future Trials Working Group Membership	34

Executive Summary

The Commission to Reimagine the Future of New York’s Courts (the “Commission”) was created on June 17, 2020, by Chief Judge Janet DiFiore. The Commission is charged with making recommendations to improve the delivery and quality of justice services, facilitate access to justice, and better equip the New York State Unified Court System (“UCS”) to keep pace with society’s rapidly evolving changes and challenges. The Commission is comprised of judges, lawyers, academics, and technology experts.¹

This Report has been prepared by the Commission’s Future Trials Working Group, one of six working groups or subsets of the Commission (the “Working Group”).² The Working Group has been tasked with evaluating the ways in which evolving technologies and other developments may be applied to improve future trial practice in New York State, to identify any threats posed by such technologies, and to make recommendations as to how USC may best prepare for, benefit from, and handle issues posed by such technologies.

In imagining what a trial in New York State might look like ten or twenty years in the future, it is useful to consider how trial practice has evolved over the past two decades. While many familiar and well-tested aspects of trial practice (*e.g.*, opening statements, cross-examination, *voir dire* in jury trials) largely have remained stable over this period, advances in technology have provided trial attorneys and courts with a plethora of new tools to craft ever-more forceful and sophisticated arguments and decisions.

In particular, the advent and proliferation of devices and technologies like laptops, smart phones, tablets, wireless technology, and Bluetooth have forever changed trial practice by enabling attorneys to communicate with a diverse range of support staff, colleagues and experts, and to access entire case files and case law databases, during trial. Realtime transcripts have enabled counsel to engage in more targeted and effective cross-examination and assisted judges in keeping track of evidentiary rulings by means of simple and fast word searches. Additional advances have allowed attorneys to display and annotate evidence for fact-finders with increasing clarity, and to visualize and synthesize data in powerful demonstrative presentations.

Most recently—in what fairly could be labelled one of the most significant changes to litigation practice in centuries—the COVID-19 pandemic has forced New York judges to migrate essentially their entire appearance calendars to remote conferencing platforms. Although this forced transition from physical to remote proceedings has not been without its issues, as recently as ten years ago, it may have been technologically impossible (notably, the Zoom platform only launched in 2013). The bar and public’s widespread access to such technology has greatly advanced the administration of justice (and likely saved lives) by allowing New York courts to continue to supervise their dockets and adjudicate disputes safely during long months of shutdowns and other restrictions.

Although the speed and scale of changes over the past year is (hopefully) a historical anomaly, it would be naïve to expect that the next twenty years will not present their own extraordinary changes and challenges to trial practice. This Report aims to lay the groundwork for UCS to prepare New York’s courts for such future developments.

Part I proposes a series of broad, general principles to guide UCS in its evaluation of emerging technologies with the potential to impact trial practice in New York State. **Part II** provides an overview of the areas of trial practice legal scholars and experts agree are the most likely to be transformed by advances in technology in the near future. **Part III** discusses trial by remote videoconference, including an overview of pre-pandemic case law concerning the constitutionality of remote testimony in civil and criminal trials, as well as discussion of the handful of remote jury trials which have been conducted over the past year. **Part IV** discusses the need for increased training for judges and court staff related to technological issues.

Consistent with its mandate from the Commission, the Working Group also has prepared recommendations and proposed next steps for UCS's consideration with respect to each topic discussed in this Report. Among other things, the Working Group recommends that UCS:

- ❖ Seek to partner with major internet service and/or other technology providers to supply all courtrooms in New York State with secure and reliable high-speed wireless internet;
- ❖ Develop uniform rules to clarify when, and in what matter, parties may supply their own portable courtroom technology for trial or other court proceedings;
- ❖ Commission an expert analysis of the cost, reliability, and security of services offered by private vendors for automated and/or remote transcription and translation services;
- ❖ Create a pilot program for the streaming of trial-level court proceedings;
- ❖ Establish a committee of judges and permanent law clerks to periodically review and summarize for other judges and staff the most recent precedent and developments in the handling of new forms of evidence and demonstrative presentations at trial, or partner with outside firms or organizations to provide periodic reports on those subjects;
- ❖ Commission an expert analysis of the ways in which currently available artificial intelligence technology may be applied to improve court efficiency;
- ❖ Implement the *Virtual Bench Trial Protocols and Procedures* manual of best practices for remote bench trials, and develop a similar manual for remote jury trials for experimentation and application on a voluntary basis;
- ❖ Create mandatory training programs for judges on new developments in technology and the legal issues presented by new forms of evidence.

Finally, the Working Group is cognizant that portions of this Report—particularly its overview of certain technologies of the future (holograms, virtual reality, robot judges!)—may strike some readers as fantastical, inaccessible, or even out of touch given the multiple serious and pressing challenges facing the court system at *this very moment*. None of the more long-term recommendations expressed herein will or should be implemented until UCS fully has addressed the current crisis. But if the present crisis demonstrates anything, it is that developing technologies can temper even once-in-a-century crises, if they adequately are understood and if court systems are prepared and otherwise equipped to take advantage of them and anticipate concerns. This Report aims humbly to begin that process.

PART I: Guiding Principles for the Evaluation of Emerging Technologies

The Working Group respectfully proposes that the following principles guide UCS’s evaluation of emerging technologies with the potential to impact future trial practice in New York State (as well as litigation in general).

These guiding principles are consistent with, and intentionally build upon, those identified in prior reports from our sister working groups within the Commission.³

1. Fairness/Equal Access to Justice

Emerging technologies should be employed by courts to promote fairness and to diminish inequalities in the justice system, never to accentuate them.

As the Commission has previously recognized, “[o]ne of the fundamental principles of the rule of law is access to justice, or the ‘ability of individuals to seek and obtain a remedy through formal or informal institutions of justice for grievances.’”⁴ For the New York court system to remain a strong and trusted institution well into the future—and for parties of all backgrounds to continue to view it as an attractive forum to try cases—UCS must strive constantly to reaffirm such trust. This includes, at minimum, ensuring that all litigants are afforded an equal opportunity to be heard and to present their cases before informed and unbiased fact-finders for resolution.

The Working Group thus agrees with its sister groups that great care must be taken to ensure that any efforts by UCS to address emerging technologies account for the needs of *all* stakeholders, particularly those who have been historically underserved by the justice system.⁵

2. Efficiency

Emerging technologies should be employed by courts to reduce judicial backlogs and make all litigation more efficient.

As the old saying goes, “time is money.” Not all litigants can afford to wait years for their disputes to be resolved, to take off work for drawn out in-person conferences, or to spend hours learning how to operate complex e-file systems. Increased efficiency in the litigation process promotes access to justice by limiting the sacrifices of time and money litigants must expend simply to reach the point at which their disputes can finally be resolved, by trial or otherwise. The public is also more likely to trust courts they perceive as adequately balancing fairness and efficiency.

In February 2016, Chief Judge DiFiore announced an “Excellence Initiative” focused on improving the courts’ ability to ensure the just and timely resolution of all matters.⁶ Although this initiative led to major improvements in its first few years,⁷ the pandemic has given rise to challenging backlogs in certain courts, particularly in New York’s high-volume courts, such as criminal and housing court.

The seriousness of this problem should not be understated. According to a recent New York Times report, there were only nine criminal trials in New York City between March and December 2020,

compared to over 800 such trials in 2019.⁸ The Mayor’s office has reported that more than 400 criminal defendants have been waiting in jail for over two years for their cases to be resolved.⁹ Meanwhile, the backlog in New York City’s housing courts reportedly numbers in the hundreds of thousands of cases.¹⁰

One foreseeable consequence of these increased backlogs will be a continuation of the trend of vanishing trials. To even make it to trial, parties in civil cases must first litigate through the pleading stage, an increasingly expansive discovery process (given the many and ever-increasing new forms of discoverable data), and summary judgment. In recent years, the vast majority of litigants who have made it to this last stage have chosen the predictability of settlement over the uncertainty and additional expense of trial. Indeed, the percentage of New York civil case dispositions culminating in jury verdicts in recent years appears to have hovered around 1%—and New York has generally had one of the *highest* such rates of all states.¹¹

Current and future technological developments will likely create opportunities to make litigation—including trials—more efficient. If improperly implemented, however, technological innovations only will add to the complexity and expense of the litigation process. Trials that rely heavily on equipment like monitors or projectors, or internet or Bluetooth connectivity, can be delayed if and when those technologies malfunction, or if litigants and court staff are not properly trained to operate them. Incorporation of new forms of evidence and new methods of delivering testimony may lead to drawn out disputes over due process and other constitutional issues, greatly adding to the expense of legal proceedings.

Thus, in developing policies and other responses to emerging technologies and other future developments impacting trial practice, UCS should aim to promote efficiency. USC also should ensure that extensive data is being collected and periodically reviewed for the purpose of assessing the success or failure of any efforts to reduce judicial backlog.

3. Reliability of New Technologies

Emerging technologies should be employed by courts only after careful evaluation by experts of their reliability and suitability for their intended purpose.

Any attempt to address or incorporate new technologies impacting future trial practice must also include a careful assessment of the reliability of such technologies for their intended purpose. Unreliable physical equipment and networks can derail proceedings and undermine trust in the court system. Remote conferencing platforms must not only be reliable, but also permit secure, private conferencing where necessary and appropriate (*e.g.*, for private communications between clients and counsel or counsel and the court, sensitive *voir dire* issues, and jury deliberations).

New methods of proof will also need to be assessed for reliability. As an illustrative example, some commentators have predicted that future trials will increasingly feature the use of technology to detect deception and assist the fact-finder in making credibility determinations. Such technology may include “the use of stylometric techniques (the examination of measurable features of style, such as word forms, word lengths, etc.) to identify deceptive statements, an infrared camera to record eye movement and pupil dilation, a high-definition video camera to capture body language and fidgeting, a microphone to collect data concerning changes in vocal

pitch, a weight-sensing platform to measure various body shifts, and even a 3-D camera to track movements of the person’s entire body.”¹²

Another technology that has been discussed as a useful tool for deception detection is functional magnetic resonance imaging (“fMRI”), which “measures small and variable changes in the ratio of oxygenated to deoxygenated blood in the brain when a particular task is performed or stimulus presented.”¹³ It has been suggested that fMRI effectively can be used to measure whether someone is lying:

[Using fMRI,] a person can be shown pictures or asked questions while electrodes are attached to their head to measure reactions. By looking at which areas of the brain ‘light up’ due to a higher presence of oxygenated blood, scientists may hypothesize whether the subject was previously familiar with a certain picture or words and whether or not the subject is lying when they make certain statements.¹⁴

Until the science on these technologies is settled, courts should be reluctant to admit such evidence at trial, much less permit such tools to be used *during* testimony (as has ambitiously been suggested by some authorities). Notably, the accuracy of the polygraph—a well-known and in some ways similar detection-deception device—remains controversial a full century after its invention, and the results of polygraph tests are frequently precluded at trial.¹⁵ Courts should also be conscious of the unfortunate misuse of novel “scientific” testimony and theories over the past few decades, particularly in criminal proceedings, which have led in some cases to wrongful convictions.

Accounting for reliability will require UCS and judges to closely monitor emerging technologies and to partner with technological and other experts to understand and assess the processes by which such technologies work before they are put in practice in New York courtrooms. The Working Group has crafted this Report and its recommendations with reliability considerations in mind.

4. Ease of Use

Emerging technologies should be employed by courts only if they are sufficiently easy for the bar and general public to understand and apply in the course of litigation.

In addition to being reliable, new technologies also must be sufficiently understandable and usable by lay persons to meaningfully increase access to justice and court efficiency. In this regard, it is important to recognize that no matter how pervasive new technologies become among consumers, there always will be people and demographic groups who will have unequal access to or familiarity with such technologies.

Inequalities in access to and familiarity with technology are a particular concern in the present environment. As discussed at length in this Report, courts are placing heavy reliance on remote conferencing technology to continue to supervise and adjudicate cases during the COVID-19 pandemic. Although not ideal, the temporary substitution of remote appearances for in-person conferences has been possible because large percentages of the bar and public have access to the devices and platforms necessary to use such technology.

Yet, significant gaps in accessibility remain. As noted in the report recently published by the Commission’s Online Courts Working Group:

According to a recent survey by the National Center for State Courts, 85% of potential jurors report having some form of internet service at home, with 79% saying they have high-speed broadband service. However, 2% say they have no internet service at all. There are also significant differences in access to the internet across ages. Only 70% of those over age 65 have internet access in their home, and only 64% have broadband.

The pandemic has also increased many people’s comfort with video conferencing services, but, here too, there are large demographic gaps. According to the survey, 70% of respondents said they have used services such as Zoom, WebEx, Skype, or Google Hangouts at least once during the pandemic, and 52% reported using such services regularly during this period. However, regular usage rates were much lower for men over age 50 (38%), non-college educated men (31%), and seniors (30%).¹⁶

As might be expected, some of the largest gaps are between lower- and high-income households. According to 2019 data from Pew Research, rough 29% of adults with household incomes below \$30,000 a year do not own a smartphone, and more than four-in-ten do not have home broadband services (44%) or a traditional computer (46%). In comparison, these technologies are “nearly ubiquitous” among adults in households earning \$100,000 or more per year.¹⁷

Similar inequalities will exist with respect to every emerging technology. Any efforts by UCS to incorporate and/or respond to such technologies must account for these inequalities of access and familiarity and ensure that all technology employed by the court system is easy for the vast majority of the bar and public to use.

5. Financial Cost

Emerging technology should be employed by courts only to the extent the cost of such technology is merited by its benefits in enhancing access to justice, efficiency, and/or other public interests.

The Working Group recognizes that New York courts’ efforts to incorporate and respond to emerging technologies—particularly physical equipment and systems—are likely to be expensive. The benefits such technologies theoretically may provide in the form of enhanced access to justice and increased court efficiency thus must be balanced against the financial cost of implementing such technologies.

Since at least the 2008-09 recession, New York’s judicial system has operated under significant fiscal constraints. These constraints have limited UCS’s ability to renovate courtrooms, increase judicial and administrative staff, and take other substantial measures to prepare New York’s courts for the future.

The pandemic has only exacerbated these issues. Budget shortfalls caused by the pandemic and an expected decline in tax revenues have forced New York's Governor and UCS to contemplate a \$300 million cut to the judicial system's funding.¹⁸ Absent significant help from the federal government, the non-profit or private sectors, and/or a quick financial recovery, it is likely that these fiscal issues will continue to burden UCS's ability to take full advantage of current and future technological developments. Creativity and private-sector partnerships will likely be required to help fill some of these gaps.

PART II: Aspects of Trial Practice Likely to be Impacted by Evolving Technology

In preparing this Report, the Working Group conducted an in-depth review and analysis of legal scholarship to assess the ways in which experts and leaders in the industry are predicting that technology (extant and emerging) will change trial practice in the near future. The sections below proceed topically, summarizing the Working Group’s findings and recommendations based on its research and discussions with stakeholders.

1. Courthouse and Courtroom Technology

Until relatively recently, parties had to rely primarily on their own or their counsel’s oral advocacy skills to tie together trial evidence into a compelling and persuasive narrative for the fact-finder. Modern technological advancements have given rise to new tools and expanded methods for storytelling and persuasion, which are increasingly being deployed at trial. It can be expected, for example, that counsel will continue to place increasing emphasis on the visual display of evidence and argument at trial in the form of timelines, calendars, maps, charts, diagrams, and animations. The presentation of evidence visually during trial has been shown to increase expediency, decrease trial costs, and improve jury retention.¹⁹

Utilization of such displays, however, requires physical courtroom technology. In particular, the below-mentioned technologies have been described as both “basic” and essential to any modern court, whether as built-in features or those that can be easily transported between courtrooms or imported by litigants for use during trial and other proceedings:

- ❖ Multiple video display monitors, such that each trial participant, including the judge, jury, witnesses, and counsel, may look toward the monitor that provides the best personal viewing perspective.
- ❖ Monitors and/or tablet-type devices with annotation and saving capabilities for use by counsel and witnesses, so that exhibits and other documents and presentations can be marked-up and saved for inclusion in the court record.
- ❖ A computer program and integrated controller to control the source of images and sound to the courtroom’s video and audio systems, which must be capable of limiting the specific monitors on which certain images are displayed (so that, for example, a witness can authenticate an exhibit and it can be viewed by the court before it is shown to jurors).
- ❖ An “evidence camera” with zoom and other pertinent controls, so that visuals of hard-copy exhibits can be broadcast live on the courtroom’s monitors.
- ❖ High-speed broadband (and ideally wireless installation) to connect the above devices and enable counsel to connect with remote support staff and access case files, the docket, and legal databases during trial.

- ❖ The ability to connect laptops and tablets to the courtroom’s audio and video display systems through hardwiring in convenient locations (*e.g.*, on both counsels’ tables, the speaker’s lectern, and the judge’s bench), with input adaptors for common types of devices.
- ❖ Courtroom printing and electronic storage of exhibits, with a laptop or kiosk for the jury’s use.
- ❖ Capability for remote witness testimony and videoconferencing.
- ❖ Judicial clerks or other support staff adequately trained to operate and/or assist with the above-described devices and systems.²⁰

The biggest question with respect to courtroom technology, with which court systems must grapple, is not whether it is actually of assistance to litigants and fact-finders (it unquestionably is), rather, it is a question of practicality and expense: to what extent should court systems undertake the significant expense and burden of acquiring and installing such technology—such that it is available for use by all litigants—as opposed to simply permitting litigants with the interest and financial wherewithal to supply and install their own preferred equipment in particular cases?

It has been suggested that “the installation of new technology into courtrooms serves to equalize what would otherwise be a ‘digital divide’ if the parties provided their own systems.”²¹ Yet, few court systems to date appear to have invested the funds necessary to permanently outfit their courtrooms with the above-mentioned technologies on any wide-scale basis.

In federal court, the Administrative Office of the United States Courts has consistently aimed to update its courtroom infrastructure to reflect the latest technological developments.²² A number of state courts also have created so-called “technology-enhanced” courtrooms, albeit often in limited number/scale.²³ New York historically has been a pioneer in this space. The Courtroom 2000 project, initiated in December 1997, resulted in the creation of several technology-enhanced courtrooms in New York Supreme Court. These courtrooms’ features include realtime court reporting and streaming, wireless internet access, remote streaming of witness testimony, videoconferencing capability, advanced 17-inch LCD monitors and a 40-inch plasma monitor for the public, an interactive “whiteboard” for the presentation of drawings or writings, a touch screen monitor in the witness box for the annotation of evidence, personal computer docking stations at various locations throughout the courtroom, and a customized integrated electronic podium allowing for control over various other equipment.²⁴ Similar technology-enhanced courtrooms, known as Integrated Courtroom Technology (“ICT”) parts, opened in Westchester County in 2016 and 2017 to hear family court and commercial cases.²⁵

That said, the vast majority of New York courtrooms today offer few such features. Built-in display monitors are rare (and to the extent they exist, likely outdated), and internet access in many courtrooms either is nonexistent or unreliable. Likely not coincidentally, most pre-pandemic trials were conducted in much the same fashion as trials have for decades, through the presentation of oral argument and witness testimony and the physical exchange of exhibits between counsel, witnesses, and the fact-finder.

As noted, the primary holdback to the greater incorporation of technology into courtrooms has not been lack of interest or concern over such technologies' usefulness, but cost. Outfitting every courtroom in New York state with even just the basic technologies discussed at the outset of this section would undoubtedly be a monumental financial and logistical undertaking. The age of many court buildings across the state also raises special installation problems and costs, insofar as many New York court buildings are old and may prove difficult to rewire or set up for wireless internet. As previously discussed, New York courts have operated under fiscal constraints more or less since the 2008-09 financial recession, and a \$300 million cut to the court system's budget may be looming. There also are questions as to whether large investments into particular types of courtroom technology (e.g., monitors, hard-wiring, etc.) are prudent, given the speed at which new technologies and consoles are being developed, rendering even recent innovations and models quickly obsolete.

Unable to purchase and install advanced courtroom technologies themselves, many New York judges have permitted parties and their counsel to supply and install their own technology for trial. However, there is no uniform UCS policy concerning litigants' ability to bring in and set up such portable technology. Members of this Working Group themselves have had difficulty coordinating with court staff to arrange for such equipment to be brought into the courthouse and courtroom for installation, or to answer questions about compatibility and other issues.

Recommendations and Next Steps:

Seek Partnerships with Private Vendors/Internet Service Providers: The most important step UCS can take to expand technological options in courtrooms and prepare for future trial practice is to supply all courtrooms with secure and reliable high-speed wireless internet. To accomplish this objective notwithstanding current fiscal restraints, the Working Group recommends that UCS seek to partner with major internet service and/or other technology providers with an interest in community building in New York State and a commitment to access to justice.

The unfortunate fact is that meaningful advancements in courtroom technology over the next few years will not be possible without encouraging private vendors and suppliers to donate equipment and expertise. The Working Group is cognizant that a partnership between UCS and one or more private, for-profit technology providers may give rise to a concern among some members of the public that such entities will receive special treatment if they become parties to litigation in New York. However, it is the Working Group's belief that transparency and careful separation between judicial staff and the administrators involved in such partnerships can alleviate much of that concern. The negotiation and issuance of any vendor contracts should be handled statewide, by UCS.

Develop Uniform Rules for the Provision of Portable Courtroom Technology: Once the pandemic has abated and the occupancy and social distancing restrictions that have prevented most in-person trials are lifted, UCS should consider developing a policy or set of rules to clarify when, and in what manner, parties may supply their own portable courtroom technology for trial or other court proceedings. Such policy/rules should be developed in consultation with judges, court staff (including IT and security personnel), technology experts, attorneys, and vendors. The rules should aim to ensure that any technology brought into New York courtrooms (a) is secure and

reliable, (b) does not unduly disrupt other court proceedings, and (c) will not give any party an unfair advantage as a result of its greater financial resources or technological expertise.

Study Cost-Effective Ways to Make Courtrooms More Adaptable to External Technology: In addition to developing the partnerships and policies discussed above, UCS should seek the opinions of technological experts on additional, cost-effective ways to make New York courtrooms more adaptable to varying technologies supplied by litigants.

Create Training Programs for Court Staff: To the extent any renovations or updates are made to courtroom technology, or policies are enacted with respect thereto, UCS will need to create training programs for court staff so that they fully are apprised and knowledgeable of applicable rules, and can assist litigants with existing and future courtroom technology.

The Working Group will confer with its sister working groups, such as the Technology and Structural Innovations working groups, to determine whether additional, specific recommendations can be made on the subject of courtroom and courthouse technology and trial practice.

2. Remote and/or Automated Transcription and Translation Services

The way in which arguments, testimony, and rulings are transcribed and/or translated for trial participants and the court record is evolving.

A. Realtime In-Person Transcription

Most court reporting services already offer realtime transcription for trials and other proceedings. To create a realtime transcript, a highly-trained reporter types stenography shorthand or other input corresponding to live testimony or argument into a computer as it happens. That input is then processed by computer algorithms to create a near-instantaneous, readable and searchable record of the ongoing testimony or argument. In some trials, an additional professional is employed to proofread or “scope” the feed as it is being produced, giving the resulting live transcript an even greater degree of readability.²⁶ Realtime transcription has been successfully employed in countless New York trials, particularly in the Supreme Court’s Commercial Division.

B. Fully Automated Transcription

As with numerous services across many industries, the most foreseeable endgame in the evolution of trial transcription likely is full automation. Technology in fact already exists that is capable of converting the spoken word into written text, near-instantaneously and without any human assistance. Indeed, many consumers already experience and benefit from such technology in their daily lives—some phones, for example, are capable of automatically transcribing voicemails so that they can be read, rather than listened to.²⁷

For the moment, at least, such technologies remain insufficiently reliable for use at trial, at least without significant, contemporaneous human proof-reading and/or audio recording for backup. The arcane and unusual jargon attorneys often employ at trial, and the tendency of trial participants to talk over each other, will present significant obstacles to the use of such technology on a fully or even predominantly automated basis for the foreseeable future. In addition, automated

transcription programs appear to have greater difficulty transcribing testimony from speakers with accents, which means that automated transcription—at least at its current stage—could threaten access to justice if widely employed.²⁸

C. Remote Transcription Services

While automated transcription technology continues to develop, courts can be expected to rely increasingly on remote transcription services. Experience during the pandemic has shown that remote transcription is feasible—albeit highly dependent on the quality of litigants’ internet and connection devices and the privacy and quiet of the environments from which they connect. As with other applications of remote conferencing technology, remote transcription has the potential to make court proceedings more efficient by enabling reporters to transcribe proceedings from their offices or homes, rather than having to cart cumbersome machines from courtroom to courtroom.

D. Remote Translation Services

Remote conferencing technology also gives courts new options to provide translation services to litigants and others for whom English is not a first or primary language. As UCS has recognized, New York is a diverse community of 62 counties with unique linguistic challenges.²⁹ While parties with the financial wherewithal to do so likely will always want to carefully select and vet their own translators, the court system is both morally and constitutionally required to provide translation services to litigants where necessary to ensure their voices are heard. Indeed, New York courts already provide free translation services to court users in both criminal and civil matters with limited English proficiency, regardless of their level of ability to communicate in the spoken English language and regardless of their role in the litigation process (*e.g.*, whether they are defendants, parties, witnesses, victims, or those who utilize non-courtroom services provided by the court).³⁰ Automated translation can enhance access to justice to marginalized communities by expanding the number, quality, and expertise of available translators.³¹

Recommendations and Next Steps:

Study Outside Vendor Offerings for Automated/Remote Transcription and Translation: The Working Group recommends that UCS commission an expert analysis of the services offered by private vendors for automated and/or remote transcription and translation services, with the goal of assessing their cost, reliability, and security.

Create Pilot Programs: After the above study has been conducted and examined, UCS should consider establishing a pilot program or programs to test such technologies on a voluntary basis in appropriate courts, or by means of mock trials.

3. Streaming of Trial (and Other Trial-Level) Proceedings

Streaming is the delivery of media content such as video over the internet in realtime. New York’s appellate courts offer live online streaming of most proceedings before them.³² In contrast, the online streaming of trials and trial-level court proceedings in New York and elsewhere has

historically been rare. To observe such proceedings, members of the press and general public generally have had to travel to court and attend in person.

The COVID-19 pandemic has shuttered courtrooms across the country and, with them, ordinary forms of public access to trial-level court proceedings. This is a problem of constitutional magnitude—the Sixth Amendment guarantees the right to a “public trial” in criminal cases, and the First Amendment requires public access in most civil cases.

In an effort to satisfy these legal obligations in the current environment, a number of courts across the country have begun to stream trial-level court proceedings. For example, the court administration in Texas has encouraged judges to create YouTube channels for the purpose of streaming proceedings and collected them in an online directory.³³ The Working Group anticipates that the availability of such streaming will continue to expand even after physical courtrooms reopen.

Online streaming of trial-level court proceedings does raise a number of important potential issues. While the recording of such broadcasts can be prohibited by rule or statute and otherwise discouraged (*e.g.*, by adding watermarks to stream feeds), there is no certain way to guarantee that observers are not able to record proceedings.³⁴ Clips of such recordings—stripped of context or even misleadingly edited—might then go “viral” in high-profile cases, potentially undermining the administration of justice.

Moreover, it is doubtful that the benefit to the public of streaming will outweigh the interests of litigants in every case. Trials and evidentiary hearings will generally be more important to the public than scheduling and discovery conferences. Meanwhile, privacy may be required in certain types of disputes, such as domestic violence and child protection cases,³⁵ or cases involving trade secret or commercially sensitive issues. The task of balancing these various interests will fall upon judges, who will require both the discretion and technical capability to decide on a case-by-case basis—and even in the midst of ongoing proceedings—what should and should not be streamed. If such a system is put in place, there will likely also need to be an emergency procedure to challenge judicial determinations to stream proceedings, to protect against abuses of discretion.

Recommendations and Next Steps:

Creation of a Pandemic Pilot Program for Trial-Level Streaming: The Working Group recommends that UCS establish a pilot program for the streaming of trial-level court proceedings during the pandemic, using Texas’s online streaming platform as a model. UCS should consider and identify, in consultation with judges, the types of proceedings that may be particularly well- or ill-suited for online streaming, but as an initial matter, Commercial Division cases and criminal proceedings (given Sixth Amendment requirements) should be prioritized for the program.

Should UCS decide to establish such a pilot program, this Working Group will work with UCS to develop standards for judges in exercising their discretion to order online streaming in particular cases.

4. New Forms of Evidence and Admissibility Disputes

In recent years, courts in New York and across the country have begun to grapple with admissibility issues posed by an ever-expanding array of new forms of evidence created by emerging technologies. Since the scope of discovery under New York law is broad, and the pace at which new technologies are coming to market is unlikely to slow anytime soon, trial judges need to be competent to address novel forms of evidence and evidentiary disputes.

The following types of evidence have been cited by legal commentators as likely to be increasingly featured in evidentiary presentations in the future:

- ❖ Geolocational data, *i.e.*, information that can be used to identify the physical location of an electronic device (and therefore potentially its holder) at a particular time. Such data is increasingly available from cellphones, tablets, cameras, wearable computer devices (*e.g.*, Apple Watch, and perhaps next-generation eyewear or headsets along the lines of Google Glass), and vehicle GPS and other location systems.³⁶
- ❖ Video recordings and photographic evidence from any number of existing and future sources and devices, including cellphone cameras, commercial and home surveillance cameras, vehicle cameras, drones, and existing and forthcoming wearable recording devices, such as those worn by police officers to document arrests or by physicians when performing medical procedures.³⁷
- ❖ Facial recognition evidence, which will be used to identify or verify the identity of individuals whose images have been captured on video or by photograph.³⁸
- ❖ Social media evidence, which can be used to demonstrate a person's location, appearance, or even mood at a particular time.³⁹
- ❖ Neuroimaging evidence, which among other things can be used to argue that a criminal defendant lacked the cognitive capability to form the requisite *mens rea*, or suffered from an affliction that might mitigate culpability, or to prove pain, posttraumatic stress disorder, recidivism, or lack of credibility.⁴⁰
- ❖ Genetics evidence, which might be used in personal injury and toxic tort cases to disprove causation.⁴¹
- ❖ "Internet of things" evidence, *i.e.*, data from chips placed into ordinary devices to connect them to the internet and allow them to interact with other devices, including machines and systems responsible for "smart" homes such as home security systems, home speakers, garage doors, heating and air-conditioning systems, refrigerators, ovens, ranges, washers and dryers, televisions and other home entertainment, lighting, outlets, and switches. All of these devices can act as sensors and collect and store data which may be important to a party in a legal dispute.⁴²

As an increasing variety of technological data is collected and exchanged in discovery, courts should expect that motions *in limine* and other evidentiary disputes will become increasingly technical, complex, and common. Longstanding evidentiary rules, such as hearsay rules, the best

evidence rule, and rules governing authentication, may need to be amended as concepts of “original” documents, “speakers” (*e.g.*, for purposes of the “present sense impression” exception to the hearsay rule), and authorship become more complicated.⁴³ Requests for metadata or blockchain data (used to determine who made edits to documents, and when) will likely become routine.⁴⁴ Sanctions, spoliation, and/or preclusion motions for failure to preserve or produce various digital forms of data may also increase in frequency.

Finally, courts may increasingly be asked to resolve claims that documents have been manipulated or fabricated. “Deep fakes”—meaning media that has been technologically manipulated to make it appear that someone is saying or doing something that they did not—are increasingly a subject of discussion in the media and may soon appear with increasing frequency in courtrooms.⁴⁵ This concern has been heightened by recent revelations and reports that even metadata and blockchain data—information which until recently was considered unalterable—may in fact be editable like other forms of data.⁴⁶ Judges need to be prepared to address these and other highly technical evidentiary disputes competently and efficiently.

Recommendations and Next Steps:

Establish a Committee/Partnerships to Engage in Ongoing Study of Legal Developments: The Working Group recommends that UCS establish a committee of judges and permanent law clerks within the New York court system, whose task will be to periodically review and summarize for other judges and staff the most recent precedent and developments in the handling of new forms of evidence at trial. Alternatively, UCS should consider partnering with law firms and/or bar organizations or non-profit institutions to provide periodic training on these subjects.

5. Demonstrative Evidence

In addition to new forms of technological recordings and data being proffered as evidence at trial, technology will also be used to create increasingly sophisticated and vivid demonstrative aids and displays to streamline and visualize important information for the jury. The following are only a few examples of the types of demonstratives likely to become much more commonplace in trials of the future.

A. 3D Printing and Scanning

3D printing is a quickly advancing technology and manufacturing process in which a three-dimensional object is constructed by depositing materials (*e.g.*, metals, composites, and even living cells) layer by layer under computer control in accordance with a 3D model.

Although 3D printing appears to have been discussed within the legal community primarily with respect to the new types of legal claims it will generate (*e.g.*, patent infringement suits arising from the printing of drugs and other patented products), attorneys also are likely to use 3D printers to create visual and physical aids for trial. For example, 3D printing can be used to provide fact-finders with a model of a murder weapon or another important object in a case.⁴⁷ Judges will need to assess and ensure that particular 3D-printed models sufficiently are reliable and accurate to be shown to jurors, to avoid prejudice to the opposing party.

Relatedly, 3D laser scanners also have been developed and employed by police departments to scan crime scenes. These devices have been said to allow law enforcement to “retain nearly every detail of a crime scene, permanently.”⁴⁸ The State’s use of such technologies will no doubt give rise to new evidentiary and constitutional challenges as criminal defendants attempt to investigate and question the process by which such evidence was generated.

B. *Holographic Evidence and Virtual Reality*

If the 3D printing of objects gains acceptance, the next step may be virtual reproductions of entire rooms, locations, or sequences of events. For example, attorneys may attempt to introduce holographic representations of objects, people, or places of interest as demonstrative exhibits at trial.

Virtual reality evidence has also been the subject of significant academic discussion. Immersive virtual environments (“IVEs”) already are proliferating in industries from video gaming to job training; accordingly, many commentators predict that lawyers will soon seek to employ such technology in the courtroom.⁴⁹ As one commentator has put it, “both VR [virtual reality] and AR [augmented reality] will become part of the litigation process. The only question is when.”⁵⁰ VR technologies have in fact already been used in courts in China, and courtroom applications are currently in development by a number of U.S. companies.⁵¹

The idea of virtual reality demonstrative presentations is not completely new. Indeed, IVE technology successfully was showcased in a mock trial conducted in 2002 by National Center for State Courts as part of its “Courtroom 21 Project.” The case—a mock manslaughter trial—centered around the allegation that a stent manufactured by the defendant had caused a man’s death. In arguing that the surgeon was responsible for implanting the stent in the wrong location, and therefore responsible for the patient’s death, the defense presented testimony from a nurse wearing a virtual reality headset and specialized goggles. “With a three-dimensional view of the operating room, the nurse described the surgery and the stent’s placement.... The jurors observed the virtual reenactment on laptops and were able to decide for themselves, given what appeared on their screens, what the nurse observed, ultimately ruling in favor of the defendants.”⁵² In the future, jurors themselves may be asked to wear virtual reality headsets to experience disputed events firsthand.

The use of IVEs as demonstratives at trial is likely to lead to numerous evidentiary and constitutional challenges. Among other things, courts will need to develop standards for determining whether an IVE presentation accurately represents the facts of a given case. The potential prejudice from unrepresentative IVE is considered greater than that posed by computer animations and other visual aids already commonly proffered at trial. As explained by one source:

Computer animations have proven to be a useful tool of persuasion in the courtroom because people have a natural tendency to accept what they see as true. Further, jurors are significantly more likely to remember information presented visually rather than orally. IVE re-creations also harness this persuasive visual power, but go an additional step further by engaging all of a juror’s senses and completely immersing the juror in an alternate environment. This complete immersion, or sense of presence, allows jurors to directly *experience* a party’s version of the

events, rather than merely seeing it on a two-dimensional display. Since direct experience is shown to be more persuasive than mediated experience—such as observing a two-dimensional computer animation—IVEs are significantly more likely to persuade jurors that the events actually occurred as depicted, or rather, as they experienced them in the IVE.

While the sense of presence and direct experience felt in an IVE makes the technology extremely persuasive, these characteristics also greatly increase the risk of unfair prejudice to the non-introducing party. First, jurors completely immersed within an IVE will be less aware of contradictory real-world facts and will be more reluctant to critically question the facts and assumptions presented in the IVE. Second, there is a high probability that jurors will commit inferential error by giving too much weight to the vivid evidence, finding it more probative than it actually is.⁵³

This potential for unfair prejudice may be alleviated where both sides are able to present IVE evidence of similar quality, but in many cases one party's resources will exceed those of his or her opponent. And in criminal trials, the prosecution's use of IVE almost certainly implicates a defendant's right of cross-examination, and could influence his or her decision whether to testify at trial.⁵⁴

Another concern with respect to IVEs is that they cause some people to experience dizziness and motion sickness. Others may find the technology traumatic—particularly in cases where the VR consists of the re-enactment of an accident or violent crime. Were such persons to be excluded from juries in cases in which such IVE presentations are anticipated, it could implicate those persons' rights to participate.⁵⁵ Courts will have to weigh and consider these and many other issues in deciding whether to permit such evidence at trial.

Recommendations and Next Steps

Establish a Committee/Partnerships to Engage in Ongoing Study of Legal Developments: Consistent with its recommendation in Part II-4 of this Report, the Working Group recommends that UCS establish a committee of judges and permanent law clerks within the New York court system, whose task will be to periodically review and summarize for other judges and staff the most recent precedent and developments in the handling of new forms of demonstrative aids at trial. Alternatively, UCS might partner with law firms and/or bar associations or non-profit institutions to provide periodic training on these subjects.

Create Pilot Programs: Once the COVID-19 pandemic has receded and court operations have returned to normal, UCS should consider partnering with law firms or bar groups to organize mock trials or pilot programs to test such technologies.

6. Artificial Intelligence-Assisted Decision-Making

Thanks to science fiction entertainment like *Terminator* and *2001: A Space Odyssey*, when people think of artificial intelligence (“AI”), many imagine sentient robots or supercomputers with the capacity and intent to destroy the human race. In reality, discrete applications of AI are already

impacting our everyday lives by “completing our words as we type them, providing driving directions when we ask, vacuuming our floors, and recommending what we should buy or binge-watch next.”⁵⁶

There is no uniformly accepted definition of “AI,” but the term generally refers to the ability of computers “to mimic the capabilities of the human mind—learning from examples and experience, recognizing objects, understanding and responding to language, making decisions, solving problems—and combining these and other capabilities to perform functions a human might perform, such as greeting a hotel guest or driving a car.”⁵⁷ Computers perform these tasks through a combination of data collection and complex algorithms which process, analyze, and draw conclusions from that data.

Over the next two decades, it can be expected that AI will be employed to perform increasingly complex tasks across many industries—potentially even including some tasks presently performed by law clerks and judges. Among the most foreseeable future applications in the judicial context include the use of AI to (a) create fully-automated realtime transcripts of trial argument and testimony; (b) draft routine court documents (*e.g.*, compliance conference orders); (c) help identify and narrow the authorities a judge must review to decide a particular issue; and (d) ensure that the result reached by the judge or fact-finder is consistent with the results of similar cases.⁵⁸

Such applications have the capacity to dramatically reduce litigation costs, improve judicial efficiency, and ensure consistency between cases and litigants. Accordingly, once such technologies are determined to have reached a stage of sufficient reliability, they should be welcomed into court practice

A more difficult question is whether governments and court systems should support the development of AI technology which can be used to actually *decide* disputes with little or no human involvement.

Theoretically, at least, AI programs might be developed capable of collecting all of the various undisputed facts of a case, comparing them to those of millions of other cases stored in vast electronic databases, and generating a binding decision consistent with prior precedent. Indeed, there already are reports of judges in other countries using AI to assist with decision-making. In Argentina, for example, a software program called Prometea has been used to draft opinions in public housing and taxi license disputes, overseen by a (human) judge. More radically, certain “routine and small cases” in China have reportedly been decided by “an artificially intelligent female judge, with a body, facial expressions, voice, and actions all modeled off a living, breathing human (one of the court’s actual female judges, to be exact).”⁵⁹ When U.S. Supreme Court Chief Justice John Roberts was asked whether he could foresee a day when smart machines, driven by AI, would assist with courtroom fact-finding or judicial decision-making, he replied “[i]t’s a day that’s here....”⁶⁰

From an efficiency standpoint, the benefits of “robot” judges are self-evident.⁶¹ However, courts must exercise extreme caution when considering the implementation of technology that diminishes the human aspects of the adjudication process. Public faith in the judicial system is founded on the belief that when litigants come to court, they will be adjudged by human beings capable of understanding and empathy and able not only to process raw data but also to assess character and

credibility. Relying on impersonal and mysterious algorithms and external data to decide dispute poses a significant threat to the trust that currently exists between the public and the courts, and would also raise serious constitutional concerns.

On the other hand, there is little apparent harm in courts making AI decision-making technologies available to litigants to inform their litigation strategy. A program like the one described above could be offered to parties as a mediation tool, for example. Instead of generating a decision, the program might instead produce an analysis of the litigant's likelihood of success at trial, and/or a recommended amount for settlement. Awareness of what an AI program believes is the most statistically likely endgame of a particular case could certainly influence many parties' decisions and trial strategy, while leaving undisturbed the rights of all litigants to a trial by a human judge or jury of their peers.

In addition, none of the above cautionary discussion should discourage UCS from exploring more clerical applications of AI both in court administration and by judges and litigants. AI has potential labor savings for filing and scheduling efficiency, as well as public communication and transparency benefits.

Recommendations and Next Steps:

Study Ways in Which AI Technology Can Currently be Applied to Improve Court Practice: The Working Group recommends that UCS commission an expert analysis of the ways in which currently available AI technology might be applied to improve court efficiency and enhance access to justice.

PART III: Trials by Remote Videoconferencing Technology

Constitutional Issues and Lessons from the Pandemic

While many scholars and stakeholders have for years anticipated that courts—like essentially all industries—would eventually begin to make greater use of remote conferencing technology in their daily practice, the use of such technology was generally expected to develop in stages. First, courts would experiment with remote status conferences and oral arguments on motions (which generally do not require the examination of witnesses or documentary evidence). If the inevitable kinks in the procedures for presenting testimony and documentary evidence remotely could be worked out, *eventually* courts might permit evidentiary hearings—and *perhaps* even some very straightforward trials—to be conducted remotely.⁶²

The pandemic has forced many courts across the country to skip over most of these interim steps and transition directly to fully remote proceedings, including remote bench and possibly even jury trials. As discussed further below, this transition presents both serious risks to the administration of justice and tremendous learning opportunities for future remote practice.

1. Overview of Challenges Presented by Remote Trials

The various opportunities and challenges presented by the use of remote conferencing technology by courts have already been discussed at length in the *Initial Report on the Goals and Recommendations for New York State’s Online Court System*, published on November 9, 2020, by the Commission’s Online Courts Working Group.⁶³ This Working Group fully agrees with the findings and recommendations set forth in that report.

As the Online Courts group has explained, the opportunities presented by judicial use of remote conferencing technology include enhanced access to the courts by those who lack the flexibility in their work or caregiving arrangements to easily secure time to travel, or who live far from their nearest courthouse. The challenges include access to justice problems created by significant variations in the abilities of different people and groups to access and use the technology required for virtual hearings, as well as privacy and security concerns and the expense associated with the investments in technology, training, staffing, and public outreach necessary for effective and equitable expansion of remote proceedings.

All of these observations are equally true in the specific context of remote trials. However, the use of remote videoconferencing as a means to conduct trials—particularly *jury* trials, and even more particularly *criminal* jury trials—raises a number of unique and very serious practical, moral, social, and constitutional issues which merit special attention by judges and UCS.

Such concerns include:

- ❖ Serious access to justice and constitutional issues created by the public’s unequal access to the computer devices, internet connections, and private spaces necessary to participate in jury trials, if widely conducted remotely.
- ❖ The increased potential for prejudicial disruptions to trial proceedings caused by technical malfunctions (*e.g.*, muting/static problems and internet connectivity issues causing time

lags, screen freezes, or jurors accidentally being booted from remote conferencing platforms).

- ❖ The diminished ability of counsel to observe contemporaneously the full body language and reactions of each prospective juror during *voir dire*.
- ❖ The diminished ability of courts to provide confidential and secure break-out rooms for prospective jurors to discuss sensitive issues during *voir dire*.
- ❖ The diminished ability of counsel to observe contemporaneously the full body language and reactions of each juror to argument and evidence during trial, which can influence counsel's trial strategy and effectiveness.
- ❖ The diminished ability of courts and counsel to appropriately supervise jurors during trial to ensure they are present, paying attention, and/or not conducting outside research.
- ❖ The diminished ability of courts to seclude jurors from outside distractions while evidence is being presented, in the way jurors can be shielded from such distraction in a physical courthouse.
- ❖ Practical difficulties in the presentation and examination of documentary evidence remotely.
- ❖ Potential infringement of the right to cross-examination and the Sixth Amendment rights of criminal defendants to be present and to confront accusers (*see* Part III-2, *infra*).
- ❖ Diminished opportunities for “bonding” and other “human connection” between jurors, jurors and counsel, and jurors and the court.
- ❖ Privacy issues during jury deliberations (*e.g.*, the risk that a family member might wander into the virtual deliberation room while jurors are discussing the case).⁶⁴

Even more limited applications of remote conferencing technology can pose significant issues, particularly in the criminal context. For example, during the pandemic, UCS created and tested a virtual arraignment process using videoconferencing technology.⁶⁵ At the beginning of this year, Governor Cuomo announced that he intends to propose legislation that would permit virtual arraignments statewide and further intends to work with UCS to permanently establish virtual arraignment protocols, with the goal ultimately to “eliminate obsolete ... in-person arraignments.”⁶⁶ In contrast, the Chief Defendants Association of New York (“CDANY”) has expressed concern that virtual arraignments (i) deprive the accused of effective assistance of counsel, (ii) impede judges’ ability to gauge a defendant’s mental status and understanding of legal proceedings, and (iii) exacerbate the divide between wealthy and poor defendants. CDANY notes that a “televised arraignment protocol” was implemented in Cook County, Illinois in 1999, which was correlated with a 51% increase in bail amounts and ultimately was determined to be unconstitutional.⁶⁷ The Working Group shares many of these concerns.

On the other hand, there are some likely categories of proceedings and testimony for which remote conferencing is appropriate, at least in some circumstances. Certain types of witnesses, for

example, ordinarily may not need to testify in person, at least in civil cases (e.g., witnesses responsible for authenticating documents or explaining how evidence was collected). The choice for courts is not simply between all in-person and all-remote trials and other proceedings—numerous hybrid options are available and deserve consideration.

Determining the extent to which these and other issues can be resolved, creating best practices to handle and avoid problems, and potentially proposing new legislation to allow for remote conferencing even after the pandemic, will take significant time and require constant reevaluation and careful scrutiny as New York and other courts experiment with remote trials and other proceedings over the coming months.

2. Remote Jury Trials in Practice during the Pandemic

Even as the U.S. marks one year from its first statewide stay-at-home order due to COVID-19, there have been only scattered reports of courts experimenting with remote jury trials. Although discernment of national trends is difficult—given that most court systems’ policies and procedures are in flux as they struggle to adapt to changing circumstances on the ground⁶⁸—most courts appear to have either fully suspended jury trials, or are focusing on restarting in-person trials with appropriate capacity limits, social distancing, and other health and safety precautions.

That said, remote jury trials have been conducted in at least three states to date. The experiences of courts, litigants, and jurors in these groundbreaking trials are worthy of examination as UCS considers both the next steps in New York’s efforts to reduce trial backlog caused by the pandemic and ways to prepare its courts for a brighter post-pandemic future.

A. *Texas*

In May 2020, a court in Collin County, Texas conducted a one-day, nonbinding, virtual jury trial in “a mundane civil case involving an insurance firm and a McKinney IT business.”⁶⁹ The trial was conducted by means of a “summary jury proceeding”—a statutorily authorized procedure in Texas which allows real litigants to test arguments in front of real jurors before a case is tried to a binding verdict. The trial, which was conducted by two judges, appears to be the first example anywhere in the U.S. of a case in which real jurors “were selected, heard evidence, deliberated and delivered a verdict all through a video call.”⁷⁰

Based on reporting at the time of the trial, the overall experience appears to have been positive. There were some reported glitches, however, such as jurors forgetting to take themselves off mute and not responding when called upon. One juror reportedly “spent the first few minutes of the trial switching digital backgrounds from an underwater scene to a peaceful harbor before settling on a beige conference room...”⁷¹ Another juror failed to return to the videoconference following a break, requiring the judge to shout through the virtual connection for attention: “[i]f you can hear us, please return to your chair, we’re ready to get started.”⁷² Nonetheless, jurors reported that they were satisfied with the process, describing it as efficient, and affirming that they were able to easily view the parties’ documentary evidence.

B. *Florida*

In June 2020, five trial-circuit courts across the State of Florida, covering the cities of Jacksonville, Daytona Beach, Orlando, Miami-Dade, and Fort Myers, were chosen to test the feasibility of remote trials and other proceedings during the pandemic.

In August 2020, Florida's first virtual, binding civil jury trial was held in a Duval County court. The case, *Cayla Griffin v. Albanese Enterprises, Inc. D/B/A Paradise*, involved a Jacksonville woman who was struck and injured by two nightclub bouncers. Commencement of the trial was preceded by substantial forethought and planning, reportedly including the following:

- ❖ Mock trials were conducted.
- ❖ A virtual courtroom background was designed to “len[d] dignity to the proceedings.”
- ❖ A screen saver with a countdown clock was created to keep jurors engaged during recesses and sidebars.
- ❖ PowerPoint presentations were generated to familiarize jurors with Zoom.
- ❖ An electronic questionnaire was created to streamline the jury selection process and make *voir dire* more efficient.
- ❖ Existing programs were repurposed to give jurors the ability to examine documents placed into evidence and communicate with the court.
- ❖ Court IT workers were trained to serve as “remote bailiffs.”
- ❖ A magistrate was appointed to help the presiding judge observe jurors.
- ❖ Court View Network was chosen to stream most of the proceedings so that they would be available for public view.

According to one source, describing the juror selection process, prospective jurors mostly were attentive throughout the proceeding. When one admitted to working on a school project during questioning, the issue was quickly and smoothly addressed.⁷³

A second virtual jury trial, *K.B. Mathis P.A. v. Agatha Argyros*, was held in late September 2020 in a fee dispute between an attorney and his former client. Jury summonses were issued with a letter from the judge explaining the court's remote jury pilot program and instructing jurors to log in to the clerk's website and answer qualification questions. Notably, the response rate of jurors to these remote summonses was *higher* than the equivalent rate for in-person jury summonses prior to the pandemic.⁷⁴

Following these two trials, Judge Bruce Anderson of the Fourth Judicial Circuit—in which both were held—issued a report to the Florida Supreme Court.⁷⁵ The report's conclusion is that fully virtual jury trials are too resource-intensive to be scalable for wholesale implementation across Florida, and therefore cannot serve as a practical solution for that state's approximately 990,000

case backlog. However, Judge Anderson opined that “when balancing the benefits of the remote process with the logistical impediments of scalability, ... a *hybrid jury trial process* is a realistic and feasible option for conducting civil jury trials if the restrictions of the pandemic persist.” As proposed, such a hybrid process would consist “of a remote jury selection and an in-person jury trial.”⁷⁶

Meanwhile, the Eleventh Judicial Circuit of Florida issued a separate report following a pilot virtual jury selection proceeding in a case in Miami (the trial of which was held in-person). The report’s conclusion is that the Zoom jury selection process “[s]urprisingly” did not have “nearly as many challenges as envisioned.” Of the 39 jurors who responded to a survey distributed by the court following the proceeding, only five indicated that they experienced any technical issues during their jury service (a particularly notable statistic, given that 13 jurors reportedly had never used the Zoom platform before). Notably, the report found a “strong correlation” between these technical issues and the jurors’ use of smartphones rather than computers to participate.⁷⁷

While Florida’s pilot program thus appears to have been a success from the perspective of jurors, its courts reportedly have had difficulty finding litigants willing to participate. As of October 2020, Florida was not considering making participation in its virtual jury trial pilot program mandatory.⁷⁸ The hesitation among litigants likely is attributable to the special concerns posed by remote jury trials. Notably, anonymous surveys conducted earlier in 2020 suggested that most Florida Bar members favored conducting “at least some proceedings” remotely on a permanent basis moving forward.⁷⁹

In the fall of 2020, Florida established a COVID-19 Pandemic Recovery Task Force, which is planning a “major survey” to determine the most appropriate legal proceedings to continue conducting remotely during the pandemic.⁸⁰

C. *California*

California has held at least two remote binding jury trials in asbestos cases. In both cases, defense counsel objected to and appealed challenges to the remote proceedings.

In *Honeywell International, Inc. v. Superior Court for the County of Alameda*, the trial court **required** the parties to participate in a virtual trial. The defendant, Honeywell, filed an emergency appeal, noting that no other court in California had at that time yet attempted an entirely remote trial, much less a lengthy, expert-intensive, and scientifically complex asbestos trial.⁸¹ Additional concerns noted in its appellate papers were:

- ❖ The trial judge purportedly had expressed the view that jurors could participate on smartphones rather than computers and thus would not require internet connections.
- ❖ The judge purportedly had declined to excuse a juror who said “[m]y Chromebook frequently overheats using Zoom, & my apartment is not conducive to a focused environment.”
- ❖ Either “[t]he jurors *or* the witnesses *or* the counsel *or* the court could have technical problems,” creating a risk that not all jurors would hear all evidence at the same time; that

some jurors might hear evidence twice in slightly different versions; or that entire testimony might be lost.

- ❖ The judge would not be able to seclude jurors from countless possible distractions (*e.g.*, “the crying baby, the barking dog, the front door deliveries, the pinging text messages”).
- ❖ Jurors might take screenshots of proceedings that would “skew the totality of the juror’s recollection later, during deliberations.”
- ❖ The judge purportedly might be so “consumed” by the responsibility to oversee the technological aspects of the trial that he would be unable to “attend also to the conduct of the people and the substance of the evidence that is introduced.”
- ❖ Remote *voir dire* would not permit counsel to observe “subtle cues of demeanor” necessary to assess potential concealed biases.⁸²

The California appellate court denied Honeywell’s petition without prejudice, reasoning in a brief decision that “[a]lthough petitioner raises serious concerns, at this point they are speculative rather than concrete.”⁸³

Subsequently, during the trial proceedings, Honeywell filed a “notice of irregularities” identifying a number of more concrete problems, including “problems with the Livestream audio feed and jurors walking around, lying on a bed or working on other devices during trial.” Ultimately, however, these objections were mooted when the jury returned a defense verdict after deliberating remotely for about two days.⁸⁴

California’s second virtual jury trial, in the Alameda County case *Wilgenbusch v. American Biltrite*, likewise involved challenges to the remote proceedings. In July 2020, one of the defendants moved for a mistrial. According to the movant, “for at least half an hour” during *voir dire*, “the attorneys were put on mute by the moderator and were unable to unmute themselves to object. Thus, [defendant’s] objections were neither noted on the record, nor ruled upon, thereby irrevocably tainting the fairness of the jury selection process.”⁸⁵ The defendant further argued that the Court “was unable to fulfill its role of controlling the proceedings before it, including juror conduct,” noting that “during portions of *voir dire*, [one juror] was laying in what appeared to be a bed, curled up, and possibly asleep.... [Another] was working out on an elliptical machine.... Yet another juror ... had a child that was in and out of the room, and the juror appeared to leave the room at times with the child.... Furthermore, multiple jurors appeared to be using computers while having the Zoom meeting playing on another device.”⁸⁶

The motion for a mistrial was denied, and the claims against the moving defendant were ultimately settled. Subsequently, however, a different defendant in the same case brought two further motions for mistrial, including one focused on a purported “serious, prejudicial incident” in which the plaintiff chatted about his “virtual background” feature on Zoom with two jurors while counsel and the judge were in a breakout room. These later motions were also denied, and the jury ultimately awarded a \$2.5 million verdict in favor of the plaintiff.⁸⁷

3. Precedent Addressing Constitutional Issues Posed by Remote Trials/Testimony

Whether remote jury trials like those discussed above will be deemed to satisfy constitutional requirements in contested cases is an open question. Due to the virtually unprecedented nature of such trials prior to the pandemic, there is very little precedent addressing constitutional challenges to such proceedings.⁸⁸ The sections below provide a brief overview of the primary issues and legal standards that have been applied to remote trial testimony pre-pandemic.

A. *Civil Cases—Due Process Issues*

In federal civil cases, Rule 43 of the Federal Rules of Civil Procedure explicitly authorizes the presentation of contemporaneous, remote video testimony at trial “[f]or good cause in compelling circumstances and with appropriate safeguards.”

The issue occasionally has arisen, however, whether a party has a due process right to be physically present in court while a case is tried. In *Thornton v. Snyder*, for example, the Seventh Circuit held that a court did not violate a prisoner’s due process rights by limiting his participation in the trial of his civil rights claim to appearance by remote videoconferencing technology. But the court also noted that the civil rather than criminal nature of the proceeding was “important,” and expressly acknowledged that remote conferencing technology has “shortcomings” that may give rise to constitutional violations in certain circumstances. As explained by the court:

Virtual reality is rarely a substitute for actual presence and even in an age of advancing technology, watching an event on the screen remains less than the complete equivalent of actually attending it.... Video conferencing is not the same as actual presence, and it is to be expected that the ability to observe demeanor, central to the fact-finding process, may be lessened in a particular case by video conferencing. This may be particularly detrimental where it is a party to the case who is participating by video conferencing, since personal impression may be a crucial factor in persuasion.⁸⁹

In *Rusu v. INS*, the Fourth Circuit similarly held that the hearing of an asylum petition by videoconference did not deprive an asylum-seeker of due process, despite its acknowledgment that such technology can create problems in proceedings where credibility is central to the resolution of the claim. Although there had been “several instances” during Rusu’s hearing in which he had experienced difficulty communicating with and/or seeing other hearing participants, the court determined that Rusu nonetheless had been provided a full and fair opportunity to present his asylum claim, noting that “throughout the hearing, the IJ made a sincere effort to understand his testimony, and she provided him with numerous opportunities to elaborate and clarify it.”⁹⁰

And in *United States v. Baker*, the Fourth Circuit rejected a claim that a civil commitment hearing conducted over videoconference violated due process. The court noted that the use of such technology in civil commitment proceedings “does not preclude the respondent from confronting and conducting relevant cross-examination of the witnesses” and “allows for the respondent’s ‘presence,’ at least in some sense, at the commitment hearing.” The court further suggested that videoconferencing is acceptable for civil commitment proceedings because “the district judge’s

impression of the respondent is not generally the factor upon which a commitment decision turns,” but rather, “the judge is more likely to be swayed by documentary and testimonial evidence of the respondent’s mental competency.”⁹¹

The decisions in this realm appear to be highly context- and fact-specific. Given the novelty of and variety of things that can go wrong during remote bench and jury trials, it is difficult at this time to enumerate or predict the circumstances or issues which might rise to the level of due process violations during fully remote civil trials.

B. *Criminal Cases—Sixth Amendment Issues*

In criminal cases, the Confrontation Clause of the Sixth Amendment mandates that “the accused shall enjoy the right . . . to be confronted with the witness against him.” The New York Constitution affords criminal defendants a similar right.⁹²

In recognition of these restraints, the New York Criminal Procedure Law only permits “electronic appearances” in limited circumstances. Under CPL 182.20(1), for example, courts may conduct electronic appearances “except an appearance at a hearing or trial” in certain counties, “provided that the chief administrator of the courts has authorized the use of electronic appearance and the defendant, after consultation with counsel, consents on the record.” CPLR 182.30 further limits the availability of such appearances by providing that an electronically appearing defendant may not, among other things, plead guilty to a felony or be committed to the department of mental hygiene. Meanwhile, CPL 660.20 limits the circumstances in which witnesses may be permitted to testify remotely in a criminal trial—generally speaking, the witness must not be amenable or responsive to legal process or available as a witness at the time when the witness’s testimony will be sought, either because the witness is about to leave the state and not return for a substantial period of time, or is physically ill or incapacitated.

In *Maryland v. Craig*, the U.S. Supreme Court explained that “[t]he central concern of the Confrontation Clause is to ensure the reliability of the evidence against a criminal defendant by subjecting it to rigorous testing in the context of an adversary proceeding before the trier of fact.”⁹³ The clause is “generally satisfied” when the defense is given a full and fair opportunity to probe and expose testimonial infirmities (e.g., forgetfulness, confusion, or evasion) through cross-examination, “thereby calling to the attention of the factfinder the reasons for giving scant weight to the witness’ testimony.”⁹⁴

Federal courts in criminal cases have recognized that “[t]he optimal way of conducting a trial is for the witness to appear in person in court to face the defendant, and to be subject to cross-examination in their presence. . . .”⁹⁵ However, “American criminal procedure . . . is pragmatic.”⁹⁶ “Although face-to-face confrontation forms the core of the values furthered by the Confrontation Clause,” the Supreme Court has “nevertheless recognized that it is not the *sine qua non* of the confrontation right,” and has “never insisted on an actual face-to-face encounter at trial in *every* instance in which testimony is admitted against a defendant.”⁹⁷ Rather, Sixth Amendment precedents “establish that the Confrontation Clause reflects a *preference* for face-to-face confrontation at trial . . . a preference that must occasionally give way to considerations of public policy.”⁹⁸

Thus, in *Craig*, the Supreme Court held that one-way closed-circuit video transmission of a child's testimony did not violate the Sixth Amendment where such transmission was necessary to further the important public policy purpose of protecting the child from the trauma of having to testify in the physical presence of the defendant, and where the reliability of the child's testimony was assured by the facts that she (a) testified under oath, (b) was subject to full cross-examination, and (c) was able to be observed by the judge, jury, and defendant as she testified.⁹⁹

Although *Craig* involved one-way, closed-circuit video transmission rather than the type of multi-way interactions possible through modern remote videoconferencing technology, it has been treated by the vast majority of courts as establishing a standard for the latter types of remote testimony as well. Moreover, despite some of the permissive-sounding language quoted above, courts have defined the public policies that justify the admission of remote witness testimony under *Craig* very narrowly. In addition to child-witness cases, courts have permitted the use of remote videoconferencing technology in criminal trials “when the witness is essential to the case and the witness is located in another country outside the subpoena authority of the State,” in which case “the State’s interest in a just and expeditious resolution of the prosecution trumps face-to-face confrontation.”¹⁰⁰

More relevantly for present purposes, courts also have permitted the use of videoconferencing technology when a witness is too ill to travel, on the theory that “[t]he State has a legitimate interest in protecting the witness from physical danger and suffering.”¹⁰¹ The New York Court of Appeals has followed this trend.¹⁰² The current threat of infection and serious illness as a result of the COVID-19 pandemic should witnesses be forced to travel and attend in-person trial proceedings arguably presents an equivalent circumstance and may presently permit the use of remote videoconference technology consistent with the Sixth Amendment.¹⁰³

In contrast, the State’s mere need for videoconference testimony to prove or “efficiently present its case” is not an interest that outweighs an accused’s right to confront his/her accuser face-to-face. Convenience, cost savings, and a witness’s general unwillingness to travel similarly are insufficient reasons to permit such videoconference testimony.¹⁰⁴ These precedents will pose a substantial legal obstacle to any attempts by courts to utilize remote videoconferencing technology to reduce criminal trial backlogs after the public health crisis has abated.

The courts’ hesitance to authorize remote videoconferencing during criminal trials stems from the majority view that such conferencing is not an adequate substitute for face-to-face cross-examination. In *United States v. Bordeaux*, for example, the Eighth Circuit held that a district court had violated the defendant’s Sixth Amendment rights by allowing a child witness to testify via two-way closed-circuit television without a finding that the child’s fear was the “dominant” reason she could not testify in open court. In so holding, the court rejected the government’s assertion that “confrontation” through such virtual means was constitutionally equivalent to face-to-face confrontation:

The virtual “confrontations” offered by closed-circuit television systems fall short of the face-to-face standard because they do not provide the same truth-inducing effect. The Constitution favors face-to-face confrontations to reduce the likelihood that a witness will lie.... [A] defendant watching a witness through a monitor will not have the same truth-inducing effect as an unmediated gaze across the

courtroom.... [T]he touchstone for deciding whether a “confrontation” satisfies the Constitution is whether it is likely to lead a witness to tell the truth to the same degree that a face-to-face confrontation does, and in this respect two-way systems ... both fall short.... [There are] intangible but crucial differences between a face-to-face confrontation and a “confrontation” that is electronically created by cameras, cables, and monitors.¹⁰⁵

The minority view, represented primarily by the Second Circuit, is more open-minded with respect to the potential for remote videoconferencing technology to satisfy the Sixth Amendment. In *United States v. Gigante*, for example, the Second Circuit adopted the more lenient standard provided by Rule 15 of the Federal Rules of Criminal Procedure for the admission of testimony via two-way remote videoconferencing, on the theory that such technology “preserve[s] the face-to-face confrontation” required by the Sixth Amendment. Indeed, the court noted that contemporaneous remote video testimony provides “greater protection” for an accused’s confrontation rights than Rule 15, under which the “bare transcript” of a witness’s deposition testimony can be admitted at trial, precluding “any visual assessment of his demeanor” by the jury. Under the Rule 15 standard adopted in *Gigante*, testimony via two-way remote videoconferencing is permissible “[u]pon a finding of exceptional circumstances” and when it “furthers the interests of justice”—a showing considered less burdensome than required by *Craig*.¹⁰⁶

However, in 2002, the U.S. Supreme Court rejected a proposed amendment to Rule 26 of the Federal Rules of Criminal Procedure that would have permitted unavailable witnesses to testify via two-way videoconference. In a concurrence accompanying the court’s order, the late Justice Scalia wrote that the proposed rule was “of dubious validity” under the Sixth Amendment, reasoning:

As we made clear in *Craig*, a purpose of the Confrontation Clause is ordinarily to compel accusers to make their accusations *in the defendant’s presence*—which is not equivalent to making them in a room that contains a television set beaming electrons that portray the defendant’s image. Virtual confrontation might be sufficient to protect virtual constitutional rights; I doubt whether it is sufficient to protect real ones.¹⁰⁷

How these issues will play out in the wake of the pandemic remains to be seen.¹⁰⁸ At minimum, courts should take care to ensure that their trial records adequately preserve details about how the remote conferencing technology functioned and any problems encountered, for review on appeal. As helpfully recently instructed by the Washington Supreme Court:

[W]e encourage the trial court or the State, with the court’s concurrence, to verify on the record the structure and the mechanics of the video conference presentation. Such details should include the number and location of the video screens in the courtroom, the technology present at the location of the witness, the dimensions of the respective screens, and what sections of the witness’s body that the jury can see on the screen. The record should confirm that the jury and the defendant see the witness and the witness’s body language, and that they hear the witness. The record should also verify that the witness sees the jury and the defendant. Finally, at the conclusion of the testimony, the trial court or the State should substantiate that no

errors in the transmission occurred. We do not hold, however, that any of these suggestions must necessarily be followed to fulfill the strictures of the confrontation clause.¹⁰⁹

Recommendations and Next Steps:

Implement Best Practices With Respect to Remote Bench Trials: On February 11, 2021, the Hon. Norman St. George, in collaboration with other judges throughout the state, issued on behalf of UCS *Virtual Bench Trial Protocols and Procedures*, a manual of best practices for remote bench trials for use by New York judges statewide.¹¹⁰ UCS should act as expeditiously as possible to publicize and familiarize judges and the public with these best practices, so that courts and litigants have a common baseline understanding of the issues that may arise in remote bench trials and how they can best be dealt with or avoided.

Develop Best Practices for Remote Jury Trials: This Working Group recommends that UCS consider creating a manual of best practices for remote jury trials, for experimentation and application on a voluntary basis in the event that current vaccination efforts do not permit in-person jury trials to recommence over the next few months. The Working Group will consult with UCS on the creation of any such manual. As part of this task, the Working Group will continue to monitor and evaluate the efforts of other court systems across the country to conduct remote jury trials during the pandemic.

PART IV: Training and Ethics

In light of the coming advancements and issues discussed above, ethics experts “have predicted for some time that we w[ill] soon reach the point where failure to properly address technology and to employ available technology will constitute an ethical breach by an attorney.”¹¹¹ As clients themselves gain familiarity and comfortability with the use of technology, they “will come to expect their attorneys to use it in interacting with them and in interacting with other attorneys, as well as with the judge and jury in a trial.”¹¹²

While the burden to adapt to advancements in technology may fall heaviest on counsel, judges also will need to stay abreast of technological developments in order to fulfill their duties and maintain public trust. As one commentator has noted:

[C]ourts do not have the luxury that the other branches of government usually have of postponing decisions when issues relating to new technologies appear on their docket. Courts are already being, and will even more in the near future be, called upon to adjudicate complex and unprecedented issues raised by emerging technologies. So like it or not, judges will have to get used to being on the front line of new technologies, and to have a basic understanding of both the technical and legal dimensions of these technologies.¹¹³

The Working Group thus agrees that “just as lawyers are now required to demonstrate a minimum level of technological competency by the ABA (and most state bar associations) in its Model Rules of Professional Responsibility, so too judges will need to have a basic level of scientific and technical knowledge and understanding to perform their jobs competently in the new era of emerging technologies.”¹¹⁴

Recommendations and Next Steps:

Create Mandatory Training Programs for Judges Regarding Technological Issues: Part 17 of the Rules of the Chief Judge state that UCS “shall provide training and education for its judges and justices,” including “annual seminars, special seminars for new judges, and such other courses, classes and presentations as the Chief Administrator of the Courts deems appropriate.”¹¹⁵ Judges and justices are required to attend at least twenty-four hours of such training every two calendar years, which may include (with the approval of the Chief Administrator) courses provided outside UCS.

UCS should consider establishing a mandatory requirement that at least two hours of the above-described training requirements for judges and justices consist of training on new developments in technology and the legal issues presented by new forms of evidence, to ensure they have a baseline understanding of how such technologies work. Such training could be provided by the Judicial Institute, the organization which already provides statewide education and training for judges and justices of UCS.¹¹⁶ Alternatively, UCS could partner with law firms and local bar organizations to develop such training programs for judges on both basic and emerging technologies.

Summary of Recommendations and Next Steps

The recommendations and proposed next steps discussed in the preceding Parts of this Report are collected below for ease of reference.

Courthouse and Courtroom Technology (Part II-1):

Seek Partnerships with Private Vendors/Internet Service Providers: The Working Group recommends that UCS seek to partner with major internet service and/or other technology providers with an interest in community building in New York State and a commitment to access to justice to supply all courtrooms in New York state with secure and reliable high-speed wireless internet.

Develop Uniform Rules for the Provision of Portable Courtroom Technology: Once the pandemic has abated and the occupancy and social distancing restrictions that have prevented most in-person trials are lifted, UCS should consider developing a policy or set of rules to clarify when, and in what manner, parties may supply their own portable courtroom technology for trial or other court proceedings. Such policy/rules should be developed in consultation with judges, court staff (including IT and security personnel), technology experts, attorneys, and vendors. The rules should aim to ensure that any technology brought into New York courtrooms (a) is secure and reliable, (b) does not unduly disrupt other court proceedings, and (c) will not give any party an unfair advantage as a result of its greater financial resources or technological expertise.

Study Cost-Effective Ways to Make Courtrooms More Adaptable to External Technology: In addition to developing the partnerships and policies discussed above, UCS should seek the opinions of technological experts on additional, cost-effective ways to make New York courtrooms more adaptable to varying technologies supplied by litigants.

Create Training Programs for Court Staff: To the extent any renovations or updates are made to courtroom technology, or policies are enacted with respect thereto, UCS will need to create training programs for court staff so that they fully are apprised and knowledgeable of applicable rules, and can assist litigants with existing and future courtroom technology.

Remote and/or Automated Transcription and Translation Services (Part II-2)

Study Outside Vendor Offerings for Automated/Remote Transcription and Translation: The Working Group recommends that UCS commission an expert analysis of the services offered by private vendors for automated and/or remote transcription and translation services, with the goal of assessing their cost, reliability, and security.

Create Pilot Programs: After the above study has been conducted and examined, UCS should consider establishing a pilot program or programs to test such technologies on a voluntary basis in appropriate courts, or by means of mock trials.

Streaming of Trial (and Other Trial-Level) Proceedings (Part II-3)

Creation of a Pandemic Pilot Program for Trial-Level Streaming: The Working Group recommends that UCS establish a pilot program for the streaming of trial-level court proceedings during the pandemic, using Texas’s online streaming platform (described above) as a model. UCS should consider and identify, in consultation with judges, the types of proceedings that may be particularly well- or ill-suited for online streaming, but as an initial matter, Commercial Division cases and criminal proceedings (given Sixth Amendment requirements) should be prioritized for the program.

New Forms of Evidence and Admissibility Disputes (Part II-4)

Establish a Committee/Partnerships to Engage in Ongoing Study of Legal Developments: The Working Group recommends that UCS establish a committee of judges and permanent law clerks within the New York court system, whose task will be to periodically review and summarize for other judges and staff the most recent precedent and developments in the handling of new forms of evidence at trial. Alternatively, UCS should consider partnering with law firms and/or bar organizations or non-profit institutions to provide periodic training on these subjects.

Demonstrative Evidence (Part II-5)

Establish a Committee/Partnerships to Engage in Ongoing Study of Legal Developments: Consistent with its recommendation in Part II-4 of this Report, the Working Group recommends that UCS establish a committee of judges and permanent law clerks within the New York court system, whose task will be to periodically review and summarize for other judges and staff the most recent precedent and developments in the handling of new forms of demonstrative aids at trial. Alternatively, UCS might partner with law firms and/or bar associations or non-profit institutions to provide periodic training on these subjects.

Create Pilot Programs: Once the COVID-19 pandemic has receded and court operations have returned to normal, UCS should consider partnering with law firms or bar groups to organize mock trials or pilot programs to test such technologies.

Artificial Intelligence-Assisted Decision-Making (Part II-6)

Study Ways in Which AI Technology Can Currently be Applied to Improve Court Practice: The Working Group recommends that UCS commission an expert analysis of the ways in which currently available AI technology might be applied to improve court efficiency and enhance access to justice.

Trials by Remote Videoconferencing Technology (Part III)

Implement Best Practices With Respect to Remote Bench Trials: The Working Group recommends that UCS act as expeditiously as possible to publicize and familiarize judges with the newly-issued *Virtual Bench Trial Protocols and Procedures*, so that courts and litigants have a common baseline understanding of the issues that may arise in remote bench trials and how they can best be dealt with or avoided.

Develop Best Practices for Remote Jury Trials: This Working Group recommends that UCS consider creating a manual of best practices for remote jury trials, for experimentation and application on a voluntary basis in the event that current vaccination efforts do not permit in-person jury trials to recommence over the next few months.

Training and Ethics (Part IV)

Create Mandatory Training Programs for Judges Regarding Technological Issues: UCS should consider establishing a mandatory requirement that at least two of the twenty-four hours of training New York judges and justices must undergo pursuant to Part 17 of the Rules of the Chief Judge consist of training on new developments in technology and the legal issues presented by new forms of evidence, to ensure that the judiciary has a baseline understanding of how such technologies work. Such training could be provided by the Judicial Institute, the organization which already provides statewide education and training for judges and justices of UCS. Alternatively, UCS could partner with law firms and local bar organizations to develop such training programs for judges on both basic and emerging technologies.

Future Trials Working Group Membership

Richard A. Edlin (chair), *Greenberg Traurig, LLP*

Hon. Anthony Cannataro, *Citywide Administrative Judge of the Civil Court of the City of New York and Justice of the New York State Supreme Court*

Hon. Michael Coccoma, *former Deputy Chief Administrative Judge for Courts Outside New York City*

Hon. Craig J. Doran, *Administrative Judge for New York's Seventh Judicial District and Justice of the New York State Supreme Court*

Andrew J. Finn, *Sullivan & Cromwell LLP*

Hon. Michael J. Garcia, *Associate Judge of the New York Court of Appeals*

Robert J. Giuffra, Jr., *Sullivan & Cromwell LLP*

Seymour James, *Barket Epstein Kearon Aldea & Loturco, LLP*

Hon. Sergio Jimenez, *Judge for the New York City Housing Court in Queens County*

Laurette D. Mulry, *Attorney in Charge of the Legal Aid Society of Suffolk County and President of the Chief Defendants Association of New York*

Paul Shechtman, *Bracewell LLP*

Hon. Madeline Singas, *Nassau County District Attorney*

Edward A. Steinberg, *Leav & Steinberg LLP*

Jennifer A. Surprenant (*ad hoc*), *Greenberg Traurig, LLP*

Keith Hammeran (*ad hoc*), *Greenberg Traurig, LLP*

¹ The Commission is chaired by former New York State Bar Association President, Hank Greenberg. Press Release, *Chief Judge DiFiore Names Commission to Develop Comprehensive Vision for the Court System of the Future* (June 17, 2020), http://www.nycourts.gov/LegacyPDFS/press/PDFs/PR20_28.pdf.

² The Future Trials Working Group is chaired by Richard A. Edlin, Vice Chair of Greenberg Traurig, LLP. The Working Group also wishes to express its great appreciation to Jennifer A. Surprenant and Keith Hammeran of Greenberg Traurig, LLP, for their work and support in furtherance of this Report.

³ See Online Courts Working Group, *Initial Report on the Goals and Recommendations for New York State's Online Court System* (Nov. 9, 2020) (“Online Courts Report”); Technology Working Group, *Remote Judging Survey: Access and Use of Technology* (Jan. 2021); Structural Innovations Working Group, *The Expansion of Electronic Filing* (Jan. 2021); Appellate Practice Working Group, *Initial Report of the Working Group on Appellate Practice* (Dec. 2020); Regulatory Innovation Working Group, *Report and Recommendations of the Working Group on Regulatory Innovation* (Dec. 2020); see also *Goals and Checklist for Restarting In-Person Grand Juries, Jury Trials and Related Proceedings* (July 2020).

⁴ See Online Courts Report, *supra* n.3, at 4 n.4 (quoting Leonard Wills, *Access to Justice: Mitigating the Justice Gap*, AMERICAN BAR ASSOCIATION (Dec. 3, 2017), <https://www.americanbar.org/groups/litigation/committees/minority-trial-lawyer/practice/2017/access-to-justice-mitigating-justice-gap/>).

⁵ See, e.g., *id.* at 4.

⁶ See *The State of Our Judiciary 2017, Excellence Initiative: Year One*, UCS (Feb. 2017), <http://ww2.nycourts.gov/sites/default/files/document/files/2018-11/SOJ-2017.pdf>.

⁷ Dan M. Clark, *NY Sees Progress on Court Backlog as 'Excellence Initiative' Enters Fourth Year*, LAW.COM (Mar. 11, 2019 at 5:30 PM), <https://www.law.com/newyorklawjournal/2019/03/11/ny-sees-progress-on-court-backlog-as-excellence-initiative-enters-fourth-year/>.

⁸ Nicole Hong *et al.*, *9 Trials in 9 Months: Virus Wreaks Havoc on New York's Courts*, N.Y. TIMES, Section A, pg. 1 (Dec. 2, 2020), <https://www.nytimes.com/2020/12/02/nyregion/courts-covid.html>.

⁹ *Id.*

¹⁰ Online Courts Report, *supra* n.3, at 5.

¹¹ See, e.g., Jeffrey Q. Smith *et al.*, *Going, Going, But Not Quite Gone*, JUDICATURE, Vol. 101, No. 4 at 32-34 (Winter 2017), <https://www.phillipsnizer.com/siteFiles/24092/Article-Judicature-GoingGoingGone-JQSmith-Winter2017.pdf>; New York State Unified Court System, 2019 Annual Report, https://www.nycourts.gov/legacypdfs/19_UCS-Annual_Report.pdf; Benjamin Weiser, *Trial by Jury, a Hallowed American Right, Is Vanishing*, N.Y. TIMES, Section A, pg. 1 (Aug. 8, 2016), <https://www.nytimes.com/2016/08/08/nyregion/jury-trials-vanish-and-justice-is-served-behind-closed-doors.html>; *Interactive Caseload Data Displays*, COURT STATISTICS PROJECT, <http://www.courtstatistics.org/court-statistics/interactive-caseload-data-displays>.

¹² See Hon. Herbert B. Dixon, Jr., *et al.*, *Technology, the Courts, and Nostradamus: Predictions for the Future*, 25 EXPERIENCE 8, 13 (2015) (“Nostradamus”).

¹³ Jean R. Sternlight, *Justice in a Brave New World*, 52 CONN. L. REV. 213, 233 (Apr. 2020), <https://scholars.law.unlv.edu/cgi/viewcontent.cgi?article=2331&context=facpub>.

¹⁴ *Id.*

¹⁵ Some authorities have argued that fMRI, at least, will be more reliable than polygraph evidence because “brain waves and cerebral blood flow are arguably less subject to control than blood pressure and heart rate.” *Id.* at 233.

¹⁶ Online Courts Report, *supra* n.3, at 4 n.7 (quoting GBAO to National Center for State Courts, *Jury Trials in a (Post) Pandemic World – National Survey Analysis* (June 22, 2020), https://www.ncsc.org/_data/assets/pdf_file/0006/41001/NCSC-Juries-Post-Pandemic-World-Survey-Analysis.pdf).

¹⁷ Monica Anderson *et al.*, *Digital Divide Persists Even as Lower-Income Americans Make Gains in Tech Adoption*, PEW RESEARCH (May 7, 2019), <https://www.pewresearch.org/fact-tank/2019/05/07/digital-divide-persists-even-as-lower-income-americans-make-gains-in-tech-adoption/>.

¹⁸ Emily Lever, *NY Judges, Court Staff Say Budget Cuts Will Hurt Access*, LAW360 (Nov. 12, 2020 at 5:11 PM EST), <https://www.law360.com/articles/1328185/ny-judges-court-staff-say-budget-cuts-will-hurt-access>.

¹⁹ Jessica Moyeda, *Courtroom Technology*, CORNELL LAW SCHOOL GRADUATE PAPERS, Paper 30, at 1-3 (2014), http://scholarship.law.cornell.edu/lps_papers/30.

²⁰ *See, e.g.*, Hon. Herbert B. Dixon, Jr., *The Basics of a Technology-Enhanced Courtroom*, 56 JUDGES J. 36 (2017), https://www.americanbar.org/groups/judicial/publications/judges_journal/2017/fall/basics-technologyenhanced-courtroom/; Hon. Herbert B. Dixon, Jr., *The Evolution of a High-Technology Courtroom*, FUTURE TRENDS IN STATE COURTS (2011), <https://ncsc.contentdm.oclc.org/digital/collection/tech/id/769/>; Fredric I. Lederer, *Judging in the Age of Technology*, 53 JUDGES J. 6, 7-8 (2014), https://scholarship.law.wm.edu/cgi/viewcontent.cgi?article=1319&context=popular_media; Michael E. Heintz, *The Digital Divide and Courtroom Technology: Can David Keep Up With Goliath?*, 54 FED. COMM'NS L.J. 567, 570 (2002), <https://www.repository.law.indiana.edu/fclj/vol54/iss3/8>.

²¹ Fredric I. Lederer, *Courtroom Technology: A Status Report*, ELECTRONIC JUDICIAL RESOURCE MANAGEMENT 179, 180 (Kamlesh N. Agarwala & Marli D. Tiwari eds., 2005).

²² Moyeda, *supra* n.19, at 1 (citing Judicial Conference of the United States, Admin. Office for U.S. Courts, *Long Range Plan for Information Technology in the Federal Judiciary* (2013)).

²³ *See, e.g.*, The Judicial Branch of Arizona, Maricopa County, *E-Courtrooms*, <https://superiorcourt.maricopa.gov/e-courtrooms/>.

²⁴ *Courtroom 2000*, NYCOURTS, http://ww2.nycourts.gov/courts/1jd/supctmanh/courtroom_2000.shtml; *Courtroom 2000 Trial Showcases Technology*, TRIAL TOOLS (July 1998), <https://nys-fjc.ca2.uscourts.gov/programs/10-23-19%20-%20Courtroom%202000%20-%20Article.pdf>.

²⁵ Press Release, *High-Tech Courtroom Opens in Westchester County Supreme Court*, UCS (Dec. 13, 2017), http://ww2.nycourts.gov/sites/default/files/document/files/2018-05/PR17_19.pdf.

²⁶ *What is Realtime?*, NCRA, https://www.ncra.org/home/professionals_resources/professional-advantage/Captioning/realtime.

²⁷ *See, e.g.*, Marissa Perino, *How to Use Voicemail Transcription on Your iPhone, So You Can Read Your Voicemail Instead of Listening to Them*, BUSINESS INSIDER (Jan. 14, 2020), <https://www.businessinsider.com/how-to-turn-on-voicemail-transcription-on-iphone>.

²⁸ *See* Joseph Darius Jaafari, *In Court, Where Are Siri and Alexa?*, THE MARSHALL PROJECT (Feb. 14, 2019), <https://www.themarshallproject.org/2019/02/14/in-court-where-are-siri-and-alexa>; Roxanne Khamsi, *Say What? A Non-Scientific Comparison of Automated Transcription Services*, THE OPEN NOTEBOOK (Dec. 17, 2019), <https://www.theopennotebook.com/2019/12/17/say-what-a-non-scientific-comparison-of-automated-transcription-services/>.

²⁹ *Language Access and Court Interpreters*, NYCOURTS, <http://ww2.nycourts.gov/COURTINTERPRETER/index.shtml>.

³⁰ *Id.*

³¹ See Lederer, *supra* n.20, 53 JUDGES J. at 7.

³² See Court of Appeals, <https://www.nycourts.gov/ctappS/live.html>; Appellate Division, First Department, <http://www.courts.state.ny.us/courts/ad1/>; Appellate Division, Second Department, <http://wowza.nycourts.gov/ad2/ad2.php>; Appellate Division, Third Department, <http://wowza.nycourts.gov/ad3/ad3.php>; Appellate Division, Fourth Department, <https://ad4.nycourts.gov/go/live/>.

³³ Mia Armstrong, *Justice, Livestreamed*, SLATE (Aug. 14, 2020 at 12:09 PM), <https://slate.com/technology/2020/08/zoom-courts-livestream-youtube.html>; *Texas Court Live Streams*, TXCOURTS, <http://streams.txcourts.gov/>; see also *Trial Court Remote Video Hearings*, INDIANA COURTS, <https://public.courts.in.gov/INCS#/>; *Ohio Virtual Courtroom Directory*, SUPREME COURT OF OHIO, <http://supremecourtofohio.gov/virtualcourtstreamingdirectory/#/streams>.

³⁴ Armstrong, *supra* n.33.

³⁵ *But see id.* (quoting a Texas Judge as opining that sensitive cases are those which most need public oversight: “I hear child protection cases where kids are removed from their parents by the government. We want those online most of all.... We want the public watching what judges are doing in situations where we’re tearing kids away from families.”).

³⁶ Gary E. Marchant, *Emerging Technologies and the Courts*, 55 COURT REVIEW 146, 148-49 (2019); *Nostradamus*, *supra* n.12, 25 EXPERIENCE at 12.

³⁷ Marchant, *supra* n.36, at 147; Kristin Bergman, *Cyborgs in the Courtroom: the Use of Google Glass Recordings in Litigation*, 20 RICH. J.L. & TECH. 1 (2014), <https://jolt.richmond.edu/2014/06/23/cyborgs-in-the-courtroom-the-use-of-google-glass-recordings-in-litigation/>.

³⁸ Marchant, *supra* n.36, at 147.

³⁹ *Id.*

⁴⁰ *Id.* at 148.

⁴¹ *Id.*

⁴² *Id.*

⁴³ See, e.g., Bergman, *supra* n.37, 20 RICH. J.L. & TECH. at 21; Jeffrey Bellin, *Facebook, Twitter, and the Uncertain Future of Present Sense Impressions*, 160 U. PA. L. REV. 331 (Jan. 2012) (discussing application of “present sense impression” hearsay exception to Facebook posts and Twitter tweets), <https://scholarship.law.wm.edu/facpubs/1249/>; see also Lederer, *supra* n.20, 53 JUDGES J. at 8-9.

⁴⁴ See Marchant, *supra* n.36, 55 COURT REVIEW at 150 (noting that blockchain is becoming an issue due to hearsay issues and the “quasi-anonymity of the owners of the encrypted data and assets”); J. Collin Spring, Comment, *The Blockchain Paradox: Almost Always Reliable, Almost Never Admissible*, 72 SMU L. REV. 925 (Fall 2019).

⁴⁵ See, e.g., Marchant, *supra* n.36, at 150-51; *When Seeing is No Longer Believing: Inside the Pentagon’s Race Against Deepfake Videos*, CNN, <https://www.cnn.com/interactive/2019/01/business/pentagons-race-against-deepfakes/>; James Vincent, *I Learned to Make a Lip-Syncing Deepfake in Just a Few Hours (and You Can, Too)*, THE VERGE (Sept. 9, 2020), <https://www.theverge.com/21428653/lip-sync-ai-deepfake-wav2lip-code-how-to>.

⁴⁶ William Joel, *How to Hide Faces and Scrub Metadata When You Photograph a Protest*, THE VERGE (June 5, 2020 at 5:15 PM EDT), <https://www.theverge.com/21281897/how-to-hide-faces-scrub-metadata-photograph-video-protest>; William Worrall, *How to Remove Personal Information From an Image’s Metadata*, HACKED (June 22, 2020), <https://hacked.com/how-to-remove-personal-information-from-an-image-metadata/>; Jeff John Roberts, *Why*

Accenture's Plan to 'Edit' the Blockchain Is a Big Deal, FORTUNE (Sept. 20, 2016 at 2:04 PM EDT), <https://fortune.com/2016/09/20/accenture-blockchain/https://fortune.com/2016/09/20/accenture-blockchain/>.

⁴⁷ See Marchant, *supra* n.36, 55 COURT REVIEW at 149-50.

⁴⁸ See Bridget O'Neal, *Today's 3D Virtual Reality Scanners by FARO Can Be Used to Understand and Make or Break a Courtroom Case*, 3DPRINT.COM (Jan. 15, 2016), <https://3dprint.com/115609/faro-virtual-reality-scanners/>.

⁴⁹ See, e.g., Caitlin O. Young, *Employing Virtual Reality Technology at Trial: New Issues Posed by Rapid Technological Advances and Their Effects on Jurors' Search for the Truth*, 93 TEX. L. REV. 257, 257 (2014).

⁵⁰ Arash Homampour, *VR in the Courtroom*, LEGALTECHNEWS, at L11 (Feb. 2018).

⁵¹ See Marchant, *supra* n.36, 55 COURT REVIEW at 151.

⁵² See Young, *supra* n.49, 93 TEX. L. REV. at 259-60.

⁵³ *Id.* at 261-62 (citations omitted, emphasis in original).

⁵⁴ *Id.* at 271-73; see also Khirin Bunker, *From Presentation to Presence: Immersive Virtual Environments and Unfair Prejudice in the Courtroom*, 92 S. CAL. L. REV. 411 (2019), <https://southern.california.lawreview.com/2019/01/02/from-presentation-to-presence-immersive-virtual-environments-and-unfair-prejudice-in-the-courtroom-note-by-khirin-bunker/>; Ron Vaughn, *Is Virtual Reality the Future of Courtroom?*, THE OKLA. BAR J., TECHNOLOGY (May 2019), <https://www.okbar.org/barjournal/may2019/obj9005vaughn/#:~:text=%E2%80%9CVirtual%20reality%20can%20do%20more,in%20the%20opposing%20team's%20arguments>; *The Next Frontier for Virtual Reality: Courtrooms*, BLOOMBERG LAW (Nov. 18, 2017 7:39PM), <https://news.bloomberglaw.com/business-and-practice/the-next-frontier-for-virtual-reality-courtrooms/>.

⁵⁵ See Marchant, *supra* n.36, 55 COURT REVIEW at 151.

⁵⁶ *Artificial Intelligence (AI)*, IBM, <https://www.ibm.com/cloud/learn/what-is-artificial-intelligence>.

⁵⁷ *Id.*; Darrell M. West, *What is Artificial Intelligence?*, BROOKINGS (Oct. 4, 2018), <https://www.brookings.edu/research/what-is-artificial-intelligence/>.

⁵⁸ See Ray Worthy Campbell, *Artificial Intelligence in the Courtroom: The Delivery of Justice in the Age of Machine Learning*, 18 COLO. TECH. L.J. 323 (2020), https://ctlj.colorado.edu/wp-content/uploads/2020/08/2-Campbell_06.25.20.pdf.

⁵⁹ Marchant, *supra* n.36, 55 COURT REVIEW at 152.

⁶⁰ *Id.*

⁶¹ See Eugene Volokh, *Chief Justice Robots*, 68 DUKE L.J. 1135, 1142-50 (March 2019), <https://dlj.law.duke.edu/article/chief-justice-robots-volokh-vol68-iss6/>.

⁶² See *Nostradamus*, *supra* n.12, 25 EXPERIENCE at 10.

⁶³ Online Courts Report, *supra* n.3, <http://www.nycourts.gov/whatsnew/pdf/OCWG-Report.pdf>.

⁶⁴ See Quentin Brogdon, *Mandatory Online Jury Trials: An Idea Whose Time Has Not Come*, TEXAS LAWYER (Aug. 30, 2020), <https://www.law.com/texaslawyer/2020/08/30/mandatory-online-jury-trials-an-idea-whose-time-has-not-come/>; *Nostradamus*, *supra* n.12, 25 EXPERIENCE at 10-11.

⁶⁵ Andrew M. Cuomo, *State of the State* (2021), https://www.governor.ny.gov/sites/governor.ny.gov/files/atoms/files/SOTS2021Book_Final.pdf.

⁶⁶ *Id.*

⁶⁷ Chief Defendants Association of New York, *Memorandum in Opposition to Permanent Virtual Arraignments*.

⁶⁸ A number of organizations are attempting to keep track of each state's evolving policies with respect to virtual and in-person trials, but it is frequently unclear how recently or comprehensively such databases are being updated. *See, e.g., How Every State's Legal System is Responding to COVID-19*, NOLO, <https://www.nolo.com/legal-encyclopedia/how-every-states-legal-system-is-responding-to-covid-19.html> (last updated Feb. 5, 2021); *Court Operations During COVID-19: 50-State Resources*, JUSTIA, <https://www.justia.com/covid-19/50-state-covid-19-resources/court-operations-during-covid-19-50-state-resources/>; *Courts' Responses to the Covid-19 Crisis*, THE BRENNAN CENTER, <https://www.brennancenter.org/our-work/research-reports/courts-responses-covid-19-crisis> (last updated Sept. 10, 2020).

⁶⁹ Charles Scudder, *In a test case, Collin County Jury Renders Verdict on Zoom for the First Time; Too Risky for a Full Trial?*, THE DALLAS MORNING NEWS (May 22, 2020), <https://www.dallasnews.com/news/courts/2020/05/22/in-a-test-case-collin-county-jury-meets-on-zoom-for-the-first-time-but-some-lawyers-say-its-too-risky-for-real-trial/>.

⁷⁰ *Id.*

⁷¹ *Id.*

⁷² *Id.*

⁷³ Jim Ash, *Report Finds a 'Hybrid' Approach to Jury Trials 'Is a Realistic and Feasible Option*, THE FLORIDA BAR (Oct. 30, 2020), <https://www.floridabar.org/the-florida-bar-news/report-finds-a-hybrid-approach-jury-trials-is-a-realistic-and-feasible-option/>.

⁷⁴ *Id.*

⁷⁵ *See Remote Civil Jury Trial Pilot Project Fourth Judicial Circuit, A Report to Chief Justice Charles T. Canady Florida Supreme Court* (Oct. 2, 2020), <https://www.jud4.org/Top-Navigation/Court-Administration/Fourth-Judicial-Circuit-Remote-Civil-Jury-Trial>

⁷⁶ *Id.* at xviii.

⁷⁷ *See Eleventh Judicial Circuit of Florida, Miami, Remote Civil Jury Trial Pilot Program Report*, at 18-19, <https://www.jud11.flcourts.org/coronavirus/ArtMID/2392/ArticleID/3522/Final-Report-on-the-Eleventh-Circuit-Remote-Civil-Jury-Trial-Pilot-Now-Available>.

⁷⁸ Jim Ash, *Remote Hearings for Civil Cases May Be The Norm Going Forward*, THE FLORIDA BAR (Oct. 21, 2020), <https://www.floridabar.org/the-florida-bar-news/remote-hearings-for-civil-cases-may-be-the-norm-going-forward/>

⁷⁹ Jim Ash, *COVID-19 Pandemic Recovery Task Force Studies Remote Proceedings*, THE FLORIDA BAR (Nov. 19, 2020), <https://www.floridabar.org/the-florida-bar-news/covid-19-pandemic-recovery-task-force-studies-remote-proceedings/>.

⁸⁰ *Id.*

⁸¹ *See* Petition for Writ of Mandate, *Honeywell Intl. Inc. v. Super. Court for the Cnty. of Alameda*, at 10-12 (July 13, 2020), <https://s3.amazonaws.com/jnswire/jns-media/76/fe/11450238/honeywellpetition.pdf>.

⁸² *See id.* at 16-17, 22-29, 39-40.

⁸³ See Juliette Fairley, *Appellate Court Denies Honeywell's Appeal to Stay Asbestos Trial by Zoom: Opening Arguments Monday*, SOUTHERN CALIFORNIA RECORD (July 27, 2020), <https://socalrecord.com/stories/543842157-appellate-court-denies-honeywell-s-appeal-to-stay-asbestos-trial-by-zoom-opening-arguments-monday>.

⁸⁴ Amanda Bronstad, *First Virtual Asbestos Trial Ends in Defense Verdict*, LAW.COM (Sept. 3, 2020), <https://www.law.com/therecorder/2020/09/03/first-virtual-asbestos-trial-ends-in-defense-verdict/>.

⁸⁵ Motion for Mistrial, *Wilgenbusch v. American Biltrite*, at 1, <https://images.law.com/contrib/content/uploads/documents/292/70974/Asbestos-trial-folo-up-mtn-for-mistrial.pdf>.

⁸⁶ *Id.* at 3-4.

⁸⁷ Amanda Bronstad, *Jury in Second Virtual Asbestos Trial Awards \$2.5 Million*, LAW.COM (Sept. 28, 2020), <https://www.law.com/therecorder/2020/09/28/jury-in-second-virtual-asbestos-trial-awards-2-5m/>; Daniel Siegal, *Calif. Jurors' Zoom Chat Not Grounds For Mistrial, Judge Says*, LAW360 (Aug. 19, 2020), <https://www.law360.com/articles/1302843/calif-jurors-zoom-chat-not-grounds-for-mistrial-judge-says>.

⁸⁸ See Meredith Dearborn, *Civil Jury Trials in a Pandemic*, THOMSON REUTERS PRACTICAL LAW (Dec. 2020/Jan. 2021), https://www.paulweiss.com/media/3980655/lit_dec20jan21_spotlighton.pdf.

⁸⁹ *Thornton v. Snyder*, 428 F.3d 690, 697 (7th Cir. 2005) (internal quotation marks, ellipses, and citations omitted).

⁹⁰ *Rusu v. INS*, 296 F.3d 316, 322-24 (4th Cir. 2002).

⁹¹ *United States v. Baker*, 45 F.3d 837, 843-45 (4th Cir. 1995).

⁹² N.Y. CONST. Art. I, § 6.

⁹³ *Maryland v. Craig*, 497 U.S. 836, 845 (1990).

⁹⁴ *Delaware v. Fensterer*, 474 U.S. 15, 22 (1985) (*per curiam*).

⁹⁵ *United States v. Beaman*, 322 F. Supp. 2d 1033, 1034 (D.N.D. 2004)

⁹⁶ *United States v. Gigante*, 971 F. Supp. 755, 756-57 (E.D.N.Y. 1997), *aff'd* 166 F.3d 75 (2d Cir. 1999).

⁹⁷ *Craig*, 497 U.S. at 847 (internal citations and quotations omitted, emphasis in original).

⁹⁸ *Id.* at 849 (internal citations and quotations omitted, emphasis in original)

⁹⁹ *Id.* at 857.

¹⁰⁰ *State v. Sweidan*, 461 P.3d 378, 387 (Wash. 2020).

¹⁰¹ *Id.*

¹⁰² See generally *People v. Wrotten*, 14 N.Y.3d 33 (2009).

¹⁰³ See *United States v. Trimarco*, No. 17-CR-583, 2020 U.S. Dist. LEXIS 159180, at *18-19 (E.D.N.Y. Sep. 1, 2020).

¹⁰⁴ *Sweidan*, 461 P.3d at 387-88; see also *United States v. Yates*, 438 F.3d 1307 (11th Cir. 2006).

¹⁰⁵ *United States v. Bordeaux*, 400 F.3d 548, 554-55 (8th Cir. 2005).

¹⁰⁶ *United States v. Gigante*, 166 F.3d 75, 81 (2d Cir. 1999); *see also United States v. Trimarco*, No. 17-CR-583 (JMA), 2020 U.S. Dist. LEXIS 159180, at *18-19 (E.D.N.Y. Sep. 1, 2020); *United States v. Donziger*, No. 19-CR-561 (LAP), 2020 U.S. Dist. LEXIS 157797, at *4-5 (S.D.N.Y. Aug. 31, 2020).

¹⁰⁷ *Order of the Supreme Court*, 207 F.R.D. 89, 94 (2002).

¹⁰⁸ Notably, members of this Working Group have expressed concern that the availability of remote testimony will be expanded in the future beyond cases involving sensitive witnesses or subjects (*e.g.*, children or sexual offenses) and the other limited circumstances in which remote testimony has traditionally been permitted. Under this view, if a person is unavailable to give in-person testimony on a particular date, due to a temporary illness or absence from the jurisdiction, courts should grant adjournments rather than resort to remote testimony. These concerns will need to be balanced against the obvious efficiency and potential cost benefits of remote testimony. For more detailed discussion of New York authority for holding virtual/remote evidentiary hearings, in both criminal and civil cases, *see* Trials Subgroup on Improving and Streamlining the Presentation of Evidence, *Improving and Streamlining the Presentation of Evidence: Court Hearings* (March 2021).

¹⁰⁹ *Sweidan*, 461 P.3d at 390-91.

¹¹⁰ Hon. Norman St. George, *Virtual Bench Trial Protocols and Procedures* (Feb. 11, 2021), <http://www.nycourts.gov/whatsnew/pdf/VirtualBenchTrial-Protocols-2112021.pdf>.

¹¹¹ *Nostradamus*, *supra* n.12, 25 EXPERIENCE at 11.

¹¹² *Id.*

¹¹³ *Marchant*, *supra* n.36, 55 COURT REVIEW at 146.

¹¹⁴ *Id.* at 153; *see also* John G. Browning, *Should Judges Have a Duty of Tech Competence?*, 10 ST. MARY'S J. LEGAL MAL. & ETHICS 176, 178 (2020) (noting that “[a] judge’s role demands tech competence in a wide range of matters from overseeing technology used in courtroom presentations, ruling on discovery and evidentiary issues involving digital sources, to their ethical use of technology like social media”), <https://commons.stmarytx.edu/lmej/vol10/iss2/1/>.

¹¹⁵ *Rules of the Chief Judge*, NYCOURTS, <http://ww2.nycourts.gov/rules/chiefjudge/01.shtml>.

¹¹⁶ *The New York State Judicial Institute*, NYCOURTS, <http://www.nycourts.gov/ip/judicialinstitute/index.shtml>.