

PUT YOURSELF IN MY SHOES: INTEGRATING VIRTUAL REALITY INTO NORTH DAKOTA COURTROOMS

ABSTRACT

As new and captivating technologies emerge, courts must weigh the advantages and disadvantages of implementation in the courtroom. Virtual reality (“VR”), which provides users with immersive environments, may significantly benefit North Dakota courts. Currently, countries outside the United States have started admitting VR evidence and holding court proceedings over VR. Since most state and federal courts allow computer-generated animations and simulations, VR evidence should be admissible under North Dakota’s Rules of Evidence for the same reasons. Further, reviewing case law within North Dakota and Eighth Circuit courts illustrates that these beneficial technologies should be integrated into courtrooms.

This Note asserts that North Dakota should embrace the use of VR technology within its courts. Research demonstrates VR evidence helps eliminate jurors’ implicit biases while helping them arrive at unanimous verdicts. By allowing jurors to experience the first-person perspective of a party during the actual sequence of events, jurors can immerse themselves in the event. Additionally, holding court hearings over VR could allow individuals in rural North Dakota greater accessibility to attorneys while reducing expenses.

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I. INTRODUCTION

Since the late 1980s, “[n]early every state and federal circuit has addressed the use of computer-generated animations and simulations” as evidence within the courtroom.¹ Now, VR technology can help jurors by creating an immersive environment that depicts the same sequence of events faced by a party. Studies have found that juries using VR have higher spatial recall accuracy, better narrative memory, and more consistent verdicts.² This Note explores whether the North Dakota Rules of Evidence allow VR evidence, how courts within the Eighth Circuit have allowed technology in the past, and the advantages and disadvantages of implementing VR evidence in North Dakota courtrooms.

II. BACKGROUND ON VIRTUAL REALITY AND COMPUTER-GENERATED EVIDENCE

A. COMPUTER-GENERATED 3D ANIMATIONS AND SIMULATIONS

Computer-generated evidence is evidence of an accident or incident that is reconstructed “using real-world data and environments.”³ The two types of computer-generated evidence are “animations” and “simulations.”⁴ Animations are “generally considered . . . demonstrative evidence . . . to help the jury understand a witness’s testimony,” whereas simulations are substantive evidence that rely on scientific principles and “form conclusions based on raw data.”⁵ These two kinds of computer-generated evidence also have different admissibility standards.⁶ Animations use the demonstrative evidence standard, meaning an “animation must be relevant, its probative value must outweigh its potential for unfair prejudice or confusion, and it is supported by testimony establishing that it accurately depicts that which it purports to depict.”⁷ In contrast, simulations follow the admissibility standards of scientific evidence, meaning an expert must establish the simulation is “based upon sufficient facts or data” that are “reasonably relied upon by experts in

1. Victoria Webster & Fred E. (Trey) Bourn III, *The Use of Computer-Generated Animations and Simulations at Trial*, 83 DEF. COUNS. J. 439, 459 (2016); *Forensic Animation for Legal Cases*, COURTROOM ANIMATION, <https://courtroomanimation.com/forensic-animation-legal-cases-guide/> (last visited Mar. 13, 2025).

2. See Carolin Reichherzer et al., *Bringing the Jury to the Scene of the Crime: Memory and Decision-Making in a Simulated Crime Scene*, in CHI ‘21: PROCEEDINGS OF THE CHI CONF. ON HUM. FACTORS IN COMPUTING SYS. 1, 7 (2021), <https://dl.acm.org/doi/10.1145/3411764.3445464> [<https://perma.cc/C2TB-K279>].

3. *Forensic Animation for Legal Cases*, *supra* note 1.

4. Webster & Bourn III, *supra* note 1, at 440.

5. *Id.*

6. *Id.* at 440-41.

7. *Id.* at 441.

the particular field,” that the expert “applied principles and methods reliably,” and the simulation is “the product of reliable principles and methods.”⁸

The first case allowing computer-generated animated evidence was *In re Air Crash at Dallas/Fort Worth Airport on August 2, 1985*; there, the plaintiff’s attorney showed a 45-minute video to present complex evidence involving the crash of Delta Airlines Flight 191.⁹ Since then, “[n]early every state and federal circuit has addressed the use of computer-generated animations and simulations” as evidence within the courtroom.¹⁰ One reason for the increased use of computer-generated evidence may stem from the statistic that “an average person’s attention span is about eight seconds.”¹¹ Studies have found jurors are 650% more likely to retain information when attorneys use visual evidence compared to oral presentation of evidence.¹² Further, beyond keeping the jury engaged, other benefits from computer-generated evidence include the ability to recreate events, clarify important evidence without extensive explanations, and help to explain complex cases.¹³

B. VIRTUAL REALITY TECHNOLOGY

VR refers to “a three-dimensional synthetic digital environment that allows users to interact with and engage in immersive experiences.”¹⁴ In contrast to computer-generated animations and simulations, VR goes one step further with its ability to create a sense of immersion, allowing users to “simulate real-world interactions” and experience an “ultra-realistic” environment that is “almost indistinguishable from [the] real world.”¹⁵ VR was first popularized in 2014 when Meta bought the company Oculus VR for two billion dollars, which led technology giants like Apple, Google, and Microsoft to develop VR headsets of their own.¹⁶

8. *Id.* (quoting FED. R. EVID. 702, 703).

9. *Forensic Animation for Legal Cases*, *supra* note 1; *see generally* *In re Air Crash at Dall./Fort Worth Airport on Aug. 2, 1985*, 919 F.2d 1079 (5th Cir. 1991).

10. Webster & Bourn III, *supra* note 1, at 459.

11. *Forensic Animation for Legal Cases*, *supra* note 1.

12. *Id.*

13. Kevin Ho, *What is Legal Animation? Understanding the Use of Animation in Legal Proceedings*, MED. & SCI. ANIMATION (Feb. 5, 2023), <https://khoanimation.com/what-is-legal-animation-understanding-the-use-of-animation-in-legal-proceedings/> [<https://perma.cc/S7FP-98QH>].

14. *Virtual Reality*, SCIENCEDIRECT, <https://www.sciencedirect.com/topics/social-sciences/virtual-reality#definition> (last visited Mar. 8, 2025).

15. *Id.*

16. *See* Dom Barnard, *History of VR – Timeline of Events and Tech Development*, VIRTUALSPEECH (Oct. 17, 2024), <https://virtualspeech.com/blog/history-of-vr> [<https://perma.cc/3D6X-JZKZ>].

Generally, VR is accomplished using a small headset placed on a user's head that integrates real-world and virtual-world information.¹⁷ These headsets use motion sensors and cameras for real-time position, gesture, and retina tracking.¹⁸ To enable users to interact with the 3D environment, VR uses a stereoscopic display to create the “perception of distance and spatial depth.”¹⁹ Stereoscopic displays work by showing each eye slightly different angles of the video; this allows the brain to create “a sense of 3D depth in 360 videos, with objects appearing nearer or further away.”²⁰ VR may use additional features like spatial audio, haptic feedback, and joysticks to target other senses.²¹ Through these features and sophisticated software, VR users become “emotionally, cognitively, and behaviorally engrossed in the environment,” similar to how they would in the real world.²²

III. TECHNOLOGY IN COURTROOMS

A. RELEVANT NORTH DAKOTA RULES OF EVIDENCE

For VR to be admissible under North Dakota's Rules of Evidence, it must satisfy several evidentiary rules.

1. Rule 401

North Dakota Rule of Evidence 401 provides the test for establishing relevance: “[e]vidence is relevant if: (a) it has any tendency to make a fact more or less probable than it would be without the evidence; and (b) the fact is of consequence in determining the action.”²³

Under Rule 401, VR can arguably be relevant evidence when used to recreate the scene of a crime, showing the perspectives of each party

17. *What Is Virtual Reality (VR) and How Does it Work?* TEAMVIEWER, <https://www.teamviewer.com/en/solutions/use-cases/virtual-reality-vr/> [https://perma.cc/6PG8-37R4] (last visited Mar. 8, 2025).

18. See Patrick R., *VR Trackers and Virtual Reality Tracking Explained - VR 101: Part III*, VIVE (Dec. 8, 2023), <https://blog.vive.com/us/tracking-in-virtual-reality-and-beyond-vr-101-part-iii/> [https://perma.cc/2662-CMJL].

19. See *What Is Virtual Reality (VR) and How Does it Work?*, *supra* note 17; *Monoscopic vs Stereoscopic 360 VR*, IMMERSION VR, <https://immersionvr.co.uk/blog/monoscopic-vs-stereoscopic-360-vr/> [https://perma.cc/67QW-9869] (last visited Mar. 8, 2025).

20. *Monoscopic vs Stereoscopic 360 VR*, *supra* note 19; *What is Spatial Audio*, INTERACTION DESIGN FOUND., <https://www.interaction-design.org/literature/topics/spatial-audio> (last visited Mar. 13, 2025).

21. See *What Is Virtual Reality (VR) and How Does it Work?*, *supra* note 17.

22. Richard Lamb, *Virtual Reality and Science, Technology, Engineering, and Mathematics Education*, in INT'L ENCYCLOPEDIA OF EDUC. 189, 189 (4th ed., vol. 11 2023).

23. N.D.R.Ev. 401 (The explanatory note states Rule 401 is “one best left to the wide discretion of the trial court” due to “the realization that stringent legal standards cannot be meaningfully applied to govern determinations of relevancy.”).

involved.²⁴ For example, if a defendant asserts self-defense in a claim for battery, the available camera footage could be combined to recreate a computer-generated animation of the exact sequence of events that led to the act of self-defense. With the scene of the crime recreated, VR headsets could allow jurors to observe the sequence of events from the first-person perspective. By allowing jurors to view the sequence of events from the perspective of each party, VR evidence may make the fact of whether a valid self-defense claim exists more or less probable.

2. Rule 402

North Dakota Rule of Evidence 402 provides for the general admissibility of relevant evidence: “[r]elevant evidence is admissible unless any of the following provides otherwise: (a) the United States Constitution; (b) the North Dakota Constitution; (c) a federal statute; (d) a North Dakota statute; (e) these rules; or (f) other rules prescribed by the Supreme Court of North Dakota.”²⁵ VR evidence is not explicitly excluded under Rule 402 since North Dakota currently has no specific rules regarding VR evidence.

3. Rule 403

North Dakota Rule of Evidence 403 establishes a balancing test: “[t]he court may exclude relevant evidence if its probative value is substantially outweighed by a danger of one or more of the following: (a) unfair prejudice; (b) confusing the issues; (c) misleading the jury; (d) undue delay; (e) wasting time; or (f) needlessly presenting cumulative evidence.”²⁶ Given VR’s ability to create an ultra-realistic environment and emotionally charge its users, Rule 403 is likely where VR will face one of its greatest hurdles for admissibility.²⁷

For example, in claims involving violent crimes, the probative value of giving the jury the perspective of the victim during a sequence of events is more likely to be prejudicial compared to a two dimensional video.²⁸ In those cases, it is easy to see why jurors, potentially having their own negative experiences, would be emotionally charged and inclined to side with the victim

24. See, e.g., Jesse Jenkins, *How an NJIT Forensic Team Helped Exonerate Two Men Wrongfully Imprisoned for Murder*, N.J. INST. OF TECH. (Sept. 27, 2023), <https://news.njit.edu/how-njit-forensic-team-helped-exonerate-two-men-wrongfully-imprisoned-murder> [<https://perma.cc/KY6P-B9S9>].

25. N.D.R.Ev. 402 (stating further that “[i]rrelevant evidence is not admissible”).

26. *Id.* 403 (The explanatory note for Rule 403 gives the trial court “wide discretion . . . to control the introduction of evidence.”).

27. See *Virtual Reality*, *supra* note 14; Feng Tian et al., *Emotional Arousal in 2D Versus 3D Virtual Reality Environments*, PLOS ONE, Sept. 9, 2021, at 1, 1.

28. See Tian et al., *supra* note 27, at 1; Jules Epstein & Suzanne Mannes, “Gruesome” Evidence, Science, and Rule 403, NAT’L JUD. COLL. (Mar. 17, 2016), <https://www.judges.org/news-and-info/gruesome-evidence-science-and-rule-403/> [<https://perma.cc/2XTZ-TSVR>].

through realistic VR technology. On the other hand, VR evidence would be exemplary for claims of negligence, where the main inquiry is whether an individual breached a reasonable standard of care during a specific sequence of events.²⁹ For negligence, the probative value is significant because there are few better ways to determine the reasonableness of a defendant's actions than allowing jurors to see first-hand the defendant's perspective during the sequence of events leading to the claim.³⁰

4. Rules 702-03

North Dakota Rule of Evidence 702 explains the standards for expert witnesses: “[a] witness who is qualified as an expert . . . may testify in the form of an opinion or otherwise if the expert’s scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue.”³¹ Rule 703 further states, “[a]n expert may base an opinion on facts or data in the case that the expert has been made aware of”³² Further, “[i]f experts in the particular field would reasonably rely on those kinds of facts or data in forming an opinion on the subject, they need not be admissible for the opinion to be admitted.”³³

Under Rules 702 and 703, the admissibility of VR evidence also depends on the type of computer-generated evidence, since animations and simulations have different admissibility standards.³⁴ Experts can use both VR simulations and animations since expert testimony does not have to be based on personal knowledge, and those types of evidence can help the jury determine a fact at issue.³⁵ However, to admit VR simulations as substantive evidence, experts must establish the perspective portrayed within the VR environment is supported by sufficient facts or data.³⁶ For example, in a claim for negligence involving a car accident, the more facts and data from the accident,

29. See *3D Trial Animation Showcases Damages in Personal Injury Case Awarded \$70.5 Million Verdict*, MOTION LIT (Sept. 14, 2021), <https://motionlit.com/case-study-daniel-rodriguez-record-setting-verdict/> [<https://perma.cc/EGN8-XH32>] (Use of VR in a case like this would likely be even more probative than the 3D visuals used, as VR adds a first-person perspective to the 3D scene.); *Reasonable Person*, LEGAL INFO. INST., https://www.law.cornell.edu/wex/reasonable_person [<https://perma.cc/LZ6R-ZVLS>] (last visited Mar. 28, 2025).

30. See *3D Trial Animation Showcases Damages in Personal Injury Case Awarded \$70.5 Million Verdict*, *supra* note 29; *Reasonable Person*, *supra* note 29.

31. N.D.R.Ev. 702.

32. *Id.* 703.

33. *Id.*

34. Webster & Bourn III, *supra* note 1, at 440-41.

35. See *id.*

36. See *id.* at 441.

like dash cam footage, GPS, and a police report, the more likely the VR simulation will be an accurate recreation of the accident.³⁷

In contrast, VR animations are demonstrative evidence based on the witness's perception of the events, so they do not require facts or data for scientific recreation because they are used to give the jury a visual demonstration of the witness's testimony.³⁸ However, VR animations likely cannot be admitted as substantive evidence under Rule 702-03; if animations are based on sufficient facts and data to qualify as substantive evidence, the evidence would then be considered a simulation.³⁹

5. Rule 901

North Dakota Rule of Evidence 901 governs authenticating or identifying evidence, stating “[t]o satisfy the requirement of authenticating or identifying an item of evidence, the proponent must produce evidence sufficient to support a finding that the item is what the proponent claims it is.”⁴⁰ Therefore, to authenticate a VR animation as demonstrative evidence, it can be “supported by testimony establishing that it accurately depicts that which it purports to depict,” like a witness's testimony.⁴¹ However, to authenticate VR simulations as substantive evidence, they must satisfy the requirements of Rules 702 and 703.⁴² Therefore, VR evidence is likely admissible for the same reasons state and federal courts have allowed computer-generated animations and simulations within their courtrooms.⁴³

B. CASE LAW APPLYING TECHNOLOGY AND EVIDENCE RULES

Although North Dakota state courts and the district courts within the Eighth Circuit have yet to rule on allowing VR evidence in courtrooms, they

37. See Todd King, *Best Investigative Practices Following a Truck Accident*, CRANFILL SUMNER LLP (Nov. 28, 2023), <https://www.cshlaw.com/resources/best-investigative-practices-following-a-truck-accident/> [<https://perma.cc/T8GY-YGXQ>]; Denney Scarola Barnhart & Shipley, *Virtual Reality in Accident Reconstruction: How High-Tech Tools Are Changing Florida's Legal Cases*, JD SUPRA (Jan. 8, 2025), <https://www.jdsupra.com/legalnews/virtual-reality-in-accident-6997626/> [<https://perma.cc/EQ8Z-HYGN>].

38. See Webster & Bourn III, *supra* note 1, at 441.

39. *Id.*

40. N.D.R.Ev. 901 (The explanatory note for Rule 901 states “[a]uthentication is merely a preliminary question of conditional relevancy and, as such, is to be determined according to the standards and requirements of N.D.R.Ev. Rule 104(b) (When the relevance of evidence depends on whether a fact exists, proof must be introduced sufficient to support a finding that the fact does exist. The court may admit the proposed evidence on the condition that the proof be introduced later).”).

41. *Id.*; Webster & Bourn III, *supra* note 1, at 441.

42. See N.D.R.Ev. 702-03.

43. See Webster & Bourn III, *supra* note 1, at 459; *Virtual Reality*, VENABLE LLP (June 30, 1994), <https://www.venable.com/insights/publications/1994/06/virtual-reality-full-article> [<https://perma.cc/DFP2-JUMG>].

have recognized technology's role in the courtroom multiple times.⁴⁴ After reviewing case law in these jurisdictions, the courts' outlook on adopting newer technologies indicates a potential future for VR evidence.

1. *Archambault v. State*

In *Archambault v. State*, an issue on appeal before the North Dakota Supreme Court was whether the district court properly allowed the jury to see and hear evidence on a laptop in the jury deliberation room after it had already been properly admitted.⁴⁵ The North Dakota Supreme Court held the district court did not err in allowing the jury to use technology in the jury room because the laptop "was free from all other programs and information[, i]t could not access the internet[, and] . . . 'the laptop was merely a mechanical device which allowed the jury to review evidence which had already been received.'"⁴⁶ Therefore, because North Dakota courts have allowed jurors to use technology to view evidence, provided the VR headset is free from all other programs and does not have access to the internet, it should be similarly admissible.⁴⁷

2. *United States v. Boyle*

In *United States v. Boyle*, the defendant appealed after the jury found him guilty of sexually exploiting a minor.⁴⁸ An issue on appeal before the Eighth Circuit Court of Appeals was whether the lower court violated the defendant's Sixth Amendment right to a public trial when the government played a videotape for the jury, but turned off the monitor facing the gallery so only the jurors could "see the images that formed the basis for the government's allegations."⁴⁹

The court held it was not an error to permit the prosecution to turn off the gallery monitor because "[t]he Constitution's 'requirement of a public trial is satisfied by the opportunity of members of the public and the press to attend the trial and to report what they have observed'"; the lower court's decision to "refrain from using the full measure of technology available for broadcasting the proceedings to the public thus did not obviously transgress

44. See, e.g., *Archambault v. State*, 2024 ND 38, 4 N.W.3d 212 (2024); *United States v. Boyle*, 700 F.3d 1138 (8th Cir. 2012); *Jo Ann Howard & Assocs., P.C. v. Cassity*, 146 F. Supp. 3d 1071 (E.D. Mo. 2015); *Blood v. Givaudan Flavors Corp.*, No. C07-0142-MWB, C04-0085-EJM, 2009 WL982022 (N.D. Iowa Apr. 10, 2009); *Braunberger v. Interstate Eng'g, Inc.*, 2000 ND 45, 607 N.W.2d 904.

45. 2024 ND 38, ¶ 16, 4 N.W.3d 212.

46. *Id.*

47. See *id.*

48. 700 F.3d 1138, 1140 (8th Cir. 2012).

49. *Id.* at 1140-44.

the Sixth Amendment.”⁵⁰ Therefore, jurors are likely not barred from using VR headsets under the Sixth Amendment, despite the public not being given the full measure of technology afforded to the jury.

3. *Jo Ann Howard & Associates, P.C. v. Cassity*

In *Joe Ann Howard & Associates, P.C. v. Cassity*, the issue before the Eastern District Court of Missouri was whether the plaintiffs could recover the costs associated with demonstrative exhibits and video editing under 28 U.S.C. § 1920.⁵¹ First, the court assessed the costs of demonstrative exhibits and interpreted a broad definition of “exemplification” to embrace “all . . . demonstrative evidence, such as models, charts, photographs, illustrations, and other graphic aids.”⁵² The court limited cost recovery by requiring “an exemplification be ‘necessarily obtained for use in the case,’” which excluded exhibits serving primarily as illustrations for counsel arguments and expert testimony.⁵³ Therefore, the court held that 28 U.S.C. § 1920(4) “only allows recovery for exemplifications that were ‘necessarily obtained for use in the case,’ not for those that merely make trial more efficient, convenient, or expeditious.”⁵⁴

Second, the court reviewed the costs of displaying trial exhibits to the jury and held costs from the plaintiff hiring a “‘litigation support specialist’ to ‘manipulate, highlight, and enlarge the exhibits throughout the course of the trial’” were not recoverable.⁵⁵ The court reasoned the analysis is similar to that of “demonstrative exhibits” because “[e]ven if the use of the specialist ‘furthered the illustrative purpose’ of the exhibits presented, it cannot be said the use of such a specialist was *necessary* to put on an intelligible case,” given “a cheaper, feasible alternative exists for the presentation of evidence to the finder of fact.”⁵⁶

50. *Id.* at 1144-45 (quoting *Nixon v. Warner Commc’ns, Inc.* 435 U.S. 589, 610 (1978)).

51. 146 F. Supp. 3d 1071, 1076, 1086-88 (E.D. Mo. 2015); FED. R. CIV. P. 54(d) (stating “[u]nless a federal statute, these rules, or a court order provides otherwise, costs—other than attorney’s fees—should be allowed to the prevailing party.”); 28 U.S.C. § 1920 (“A judge or clerk of any court of the United States may tax as costs the following: . . . [f]ees for exemplification and the costs of making copies of any materials where the copies are necessarily obtained for use in the case . . . [and] compensation of court appointed experts, compensation of interpreters, and salaries, fees, expenses, and costs of special interpretation services under section 1828 of this title.”).

52. *Jo Ann Howard & Assocs., P.C.*, 146 F. Supp. 3d at 1086 (quoting *Manildra Milling Corp. v. Ogilvie Mills, Inc.*, 878 F. Supp. 1417, 1428 n.10 (D. Kan. 1995)).

53. *Id.* at 1087 (quoting 28 U.S.C. § 1920(4)).

54. *Id.* (quoting 28 U.S.C. § 1920(4)) (reasoning “[t]his interpretation [was] necessary to avoid the allure of expending vast sums of money on elaborate, professionally prepared exhibits and electronic presentations that might have jury appeal, but such sensational expense should appropriately be borne at the peril of excessively imaginative counsel”).

55. *Id.*

56. *Id.* at 1087-88 (quoting *Behlman v. Century Sur. Co.*, No. 4:12-CV-1567 JAR, 2014 WL 2930658, at *1 (E.D. Miss. June 27, 2014)).

Lastly, the court examined the costs of video editing and held “the costs associated with the time [the plaintiff’s] in-house technology specialist spent editing video depositions used at trial” were not recoverable.⁵⁷ The court reasoned that although “it was necessary for Plaintiffs to have edited their video depositions so they may adhere to admissibility rulings, and consequently the service was ‘necessary’ within the meaning of § 1920, video editing does not constitute ‘exemplification’ under § 1920(4).”⁵⁸ Therefore, attorneys seeking to recover the costs associated with the use of VR evidence, such as the cost of professional preparation or the cost of the headsets themselves, will likely need to successfully argue the evidence was necessarily obtained for the case.

4. *Blood v. Givaudan Flavors Corp.*

In *Blood v. Givaudan Flavors Corp.*, the issue before the Northern District of Iowa was whether consolidation would lead to “inefficiency, inconvenience, or unfair prejudice” towards the defendants.⁵⁹ The defendants argued they would be unfairly prejudiced because the plaintiffs sustained different medical conditions, with distinct severities, while working for the defendant at separate times.⁶⁰

The court held consolidation was proper in part because “state-of-the-art technology in the courtroom . . . allows the parties . . . in every complicated civil case . . . to use demonstrative exhibits to simplify the case and to display to the jury every exhibit used.”⁶¹ Therefore, VR evidence could be used to simplify complicated cases by allowing the jury to explore the scene or view the sequence of events from a different perspective.

5. *Braunberger v. Interstate Engineering, Inc.*

In *Braunberger v. Interstate Engineering, Inc.*, the issue on appeal before the North Dakota Supreme Court was whether the lower court erred in granting the plaintiff’s costs associated with the use of a pre-trial computer animation, despite the animation being held inadmissible during trial.⁶² Looking at Section 28-26-06(2) of the North Dakota Century Code, which “allows costs for ‘procuring evidence necessarily used *or obtained for use on*

57. *Id.* at 1088.

58. *Id.*

59. No. C07-0142-MWB, C04-0085-EJM, 2009 WL 982022, at *2-3, *11 (N.D. Iowa Apr. 10, 2009) (quoting *EEOC v. HBE Corp.*, 135 F.3d 543, 551 (8th Cir. 1998)).

60. *Id.* at *1-6 (Plaintiff Stillmunkes was exposed to chemicals between 1997 to 2000, whereas Plaintiff Blood was exposed between 1993 to 2005. Further, while both Plaintiffs suffered from pulmonary conditions, Stillmunkes’ condition was more severe. Therefore, the defendants argued they would suffer unfair prejudice from consolidation because the jury would likely infer Blood’s pulmonary condition will follow the severity of Stillmunkes.).

61. *Id.* at *3, *8.

62. 2000 ND 45, ¶¶ 16-17, 607 N.W.2d 904.

the trial,” the court held there was no abuse of discretion in awarding those costs.⁶³ The court reasoned that the lower court allowed the “cost as the preparation of the animation was a necessary pretrial preparation,” but the defendant only argued the animation was inadmissible, not that it was unnecessarily obtained for trial.⁶⁴ Although the court did not discuss whether or not the computer animation was necessarily obtained for trial, if an opposing party fails to argue it was not necessarily obtained, the court may still grant the costs for its production.⁶⁵

Overall, implementing VR headsets in North Dakota could allow jurors to review previously admitted VR evidence during deliberations, and help jurors understand complicated cases. Allowing jurors to explore the scene of a crime in VR would reduce time and costs associated with transporting jurors to the actual crime scene. Lastly, for practitioners arguing the admissibility of VR evidence, contending the evidence was unnecessarily obtained for trial may help guard against clients’ exposure to paying the opposing parties’ costs of its preparation.⁶⁶

IV. COURTS OUTSIDE NORTH DAKOTA USING VR TECHNOLOGY

Outside North Dakota, other jurisdictions are beginning to implement VR technology within their courtrooms. On December 17, 2024, Judge Andrew Siegel was the first judge in the United States to watch a VR presentation during an evidentiary hearing to determine the admissibility of VR evidence in a stand-your-ground case in Florida.⁶⁷ Miguel Rodriguez Albisu, charged with “brandish[ing] a firearm in self-defense,” requested to use “as a demonstrative aid and publish to the factfinder a Forensic Computer Animation illustrating witnesses’ testimony and expert opinion.”⁶⁸ In the motion to allow forensic animation, some of Rodriguez Albisu’s arguments for allowing VR evidence included: (1) “[t]he forensic animation offered by the defendant is helpful to the trier of fact because it offers a uniquely vivid and cohesive rendition of the testimony about the circumstances leading up to, during, and subsequent to the alleged incident”; (2) “[b]y immersing the jurors in a three-dimensional animation of the scene, VR will help them better

63. *Id.* ¶ 18 (emphasis in original) (quoting N.D. CENT. CODE § 28-26-06(2) (2001)).

64. *Id.* ¶ 19 (The North Dakota Supreme Court did not address why the lower court held the computer animation was inadmissible during trial.).

65. *Id.* ¶¶ 18-19.

66. *See id.*

67. Lisa Wills, *Virtual Reality Debuts in Florida Courtroom*, ALM (Dec. 19, 2024, 11:36 AM), <https://www.law.com/dailybusinessreview/2024/12/19/virtual-reality-debuts-in-florida-courtroom/> [https://perma.cc/6R6K-AFCZ]; Def.’s Mot. to Allow Forensic Animation at 1, *State v. Rodriguez Albisu*, No. 23002405CF10A (Fla. Cir. Ct. Aug. 21, 2024).

68. Wills, *supra* note 67; Def.’s Mot. to Allow Forensic Animation, *supra* note 67, at 1.

understand the spatial dynamics, the proximity of threats, and the timing of action taken in self defense”; and (3) “[t]his immersive experience will provide a more nuanced and accurate interpretation of the events, helping the factfinder to make informed decisions based on a deeper understanding of the context in which the self-defense actions occurred.”⁶⁹

Although Judge Siegel has yet to determine whether to allow the defendant to present the VR evidence to the jury, other courts around the world have begun utilizing VR technology.⁷⁰ On February 15, 2023, a court in Columbia held a two and a half hour hearing in Meta’s Metaverse against the Colombian Ministry of Defense and the National Police.⁷¹ The Magistrate Judge that granted the plaintiff’s request to hold the hearing in the Metaverse stated “[t]he use of information technology in the development of judicial proceedings has the essential purpose of facilitating and expediting these processes” because they bring “people in the same virtual space, even when they were physically elsewhere—all without leaving aside the procedural guarantees and the principles of digital justice.”⁷² Additionally, a court in China held a trial in the Metaverse, where the court heard cross-examinations and oral arguments related to traffic accidents.⁷³

69. Def.’s Mot. to Allow Forensic Animation, *supra* note 67, at 3–4 (citing *Com. v. Serge*, 837 A.2d 1255 (Pa. Super. 2003)) (“finding the computer-generated animation illustrating expert opinions was not outweighed by unfair prejudice and aided jury comprehension of the numerous testimonies that, collectively, described the government’s theory of the case”).

70. *See, e.g.*, Aishah Hussain, *Court Case Held in the Metaverse*, LEGAL CHEEK (Feb. 21, 2023, 9:54 AM), <https://www.legalcheek.com/2023/02/court-case-held-in-the-metaverse/> [<https://perma.cc/2JXE-TXD8>].

71. *Id.*; Camille Bello, *Future of Justice: Colombia Makes History by Hosting its First-Ever Court Hearing in the Metaverse*, EURONEWS (Jan. 3, 2023, 10:58 AM), <https://www.euronews.com/next/2023/03/01/future-of-justice-colombia-makes-history-by-hosting-its-first-ever-court-hearing-in-the-me> [<https://perma.cc/M5DB-6NF2>]; *see also* *What Is the Metaverse?* MCKINSEY & CO. (Aug. 17, 2022), <https://www.mckinsey.com/featured-insights/mckinsey-explainers/what-is-the-metaverse> [<https://perma.cc/69HN-T3TN>] (The Metaverse is “3-D-enabled digital space that uses virtual reality” to allow people to have lifelike and real-time interactivity for “personal and business experiences online.”).

72. *See* Mathew Di Salvo, *Colombia Just Held a Court Hearing in the Metaverse—Cartoon Avatars and All*, YAHOO!FINANCE (Feb. 23, 2023), <https://finance.yahoo.com/news/colombia-just-held-court-hearing-222549928.html>; Bello, *supra* note 71.

73. *See* *A Chinese Local Court Recently Opened a Hearing in Metaverse, Saying It Helps Drive the Digitization of the Judicial System*, PINGWEST, <https://en.pingwest.com/w/10840> [<https://perma.cc/EE9G-VJBD>] (last visited Mar. 9, 2025); Teah Zdanowicz, *Digital Justice: The Metaverse Is Now Being Used to Hold Virtual Court Hearings*, OPEN UNIV., <https://university.open.ac.uk/open-justice/blog/digital-justice-metaverse-now-being-used-hold-virtual-court-hearings> [<https://perma.cc/WLL7-28BC>] (last visited Mar. 9, 2025).

V. WHY NORTH DAKOTA SHOULD EMBRACE VR TECHNOLOGY IN ITS COURTROOMS

To determine whether North Dakota should adopt VR within its courtrooms, a balancing test is necessary to determine whether the advantages outweigh the disadvantages.

A. ADVANTAGES

The reasonable person standard is a fundamental principle in negligence; individuals owe each other a duty of care, and the determination as to whether a person breached that duty of care hinges on whether they acted as a reasonable person would in light of the circumstances surrounding the incident.⁷⁴ Whether someone acted as a reasonable person under specific circumstances “is often a question of fact for the jury” to decide.⁷⁵

In a study titled *The Attribution of Attitudes*, cognitive psychologists demonstrated “The Fundamental Attribution Error,” which refers to “an individual’s tendency to attribute another’s actions to their character or personality, while attributing their own behavior to external situational factors outside of their control.”⁷⁶ In other words, “you tend to cut yourself a break while holding others 100 percent accountable for their actions.”⁷⁷ Applying this principle to the courtroom, jurors likely have some implicit belief that a defendant’s character is the reason they are being sued, but had the juror been placed in that same situation, they would have attributed it to factors outside their control.

A juror may even argue there is no way that outcome could have occurred if they were placed in those same circumstances. However, psychologists have repeatedly demonstrated how specific circumstances can have a significant impact on an individual’s decision-making, like studies

74. See *Reasonable Person*, *supra* note 29; *Negligence*, LEGAL INFO INST., <https://www.law.cornell.edu/wex/negligence> [<https://perma.cc/4QHD-XRTG>] (last visited Mar. 14, 2025).

75. *Reasonable Person*, *supra* note 29.

76. Patrick Healy, *The Fundamental Attribution Error: What It Is & How to Avoid It*, HARVARD BUS. SCH. ONLINE (June 8, 2017), <https://online.hbs.edu/blog/post/the-fundamental-attribution-error> [<https://perma.cc/69MY-CPL8>]; Edward E. Jones & Victor A. Harris, *The Attribution of Attitudes*, 3 J. EXPERIMENTAL SOC. PSYCH. 1, 1 (1967), <https://crowdcognition.net/wp-content/uploads/2020/11/attributionOfAttitudes.pdf> [<https://perma.cc/9WLV-9RTK>] (“[S]ubjects were instructed to estimate the ‘true’ attitude of a target person after having either read or listened to a speech by him expressing opinions on a controversial topic. . . . The major hypothesis (which was confirmed with varying strength in all three experiments) was that choice would make a greater difference when there was a low prior probability of someone taking the position expressed in the speech.”).

77. Healy, *supra* note 76.

examining The Good Samaritan Effect,⁷⁸ Obedience to Authority,⁷⁹ Authority vs Powerlessness,⁸⁰ and The Bystander Effect.⁸¹

The common saying that two dimensional video evidence “speaks for itself” is not as accurate as people believe because a growing body of studies show that changing a person’s perspective—i.e., changing the camera angle—can have a profound impact on how the situation is interpreted.⁸² For example, a study examined the effects of manipulating a camera’s perspective for videotapes of a mock police interrogation.⁸³ Researchers found that a confession viewed from a camera solely focusing on the “suspect” was viewed as less coercive, whereas the confession viewed from a camera focusing solely on the “detective” elicited a large degree of coercion.⁸⁴

78. John M. Darley & C. Daniel Batson, “From Jerusalem to Jericho”: A Study of Situational and Dispositional Variables in Helping Behavior, 27 J. PERSONALITY & SOC. PSYCH. 100, 100 (1973), <https://greatergood.berkeley.edu/images/uploads/Darley-JersusalemJericho.pdf> [https://perma.cc/N3XV-63YS] (“People going between two buildings encountered a shabbily dressed person slumped by the side of the road. Subjects in a hurry to reach their destination were more likely to pass by without stopping.”).

79. Stanley Milgram, *Behavioral Study of Obedience*, 67 J. ABNORMAL & SOC. PSYCH. 371, 371 (1963) <https://www.columbia.edu/cu/psychology/terrace/w1001/readings/milgram.pdf> [https://perma.cc/RCY5-MXAW] (Studying destructive obedience, participants were told to punish a confederate by shocking them. With the shock ranging from slight shock to danger, the results found “26 Ss obeyed the experimental commands fully, and administered the highest shock on the generator. 14 Ss broke off the experiment at some point after the victim protested and refused to provide further answers.”).

80. Craig Haney et al., *Interpersonal Dynamics in a Simulated Prison*, 1 INT’L J. CRIMINOLOGY & PENOLOGY 69, 69 (1973) <http://pdf.prisonexp.org/ijcp1973.pdf> [https://perma.cc/BX7T-S5VS] (“Interpersonal dynamics in a prison environment were studied experimentally by designing a functional simulation of a prison in which subjects role-played prisoners and guards for an extended period of time.” The result found “[t]he prisoners experienced a loss of personal identity and the arbitrary control of their behaviour [sic] . . . [whereas] the guards (with rare exceptions) experienced a marked gain in social power, status, and group identification.”).

81. John M. Darley & Bibb Latane, *Bystander Intervention in Emergencies: Diffusion of Responsibility*, 8 J. PERSONALITY & SOC. PSYCH. 377, 377 (1968) <https://psycnet.apa.org/record/1968-08862-001> [https://perma.cc/UZV3-YMBH] (“Ss overheard an epileptic seizure. They believed either that they alone heard the emergency, or that 1 or 4 unseen others were also present. As predicted[,] the presence of other bystanders reduced the individual’s feelings of personal responsibility and lowered his speed of reporting.”).

82. See G. Daniel Lassiter & Audrey A. Irvine, *Videotaped Confessions: The Impact of Camera Point of View on Judgments of Coercion*, 16 J. APPLIED SOC. PSYCH. 268, 268 (1986); C. David Navarrete et al., *Virtual Morality: Emotion and Action in a Simulated Three-Dimensional “Trolley Problem,”* 12 EMOTION 364, 364 (2012), <https://www.researchgate.net/publication/51818452> [https://perma.cc/R5TK-XDGA].

83. Lassiter & Irvine, *supra* note 82, at 268 (“Twenty-four college students viewed one of three videotapes of a mock police interrogation that ended in a confession. In one videotape[,] the camera was focused primarily on the ‘suspect’; in the second[,] the camera was focused primarily on the ‘detective’; and in the third[,] the camera was focused on the suspect and detective equally.” Findings indicated that “[s]ubjects in the suspect-focus condition subsequently judged that the confession was elicited by means of a small degree of coercion; subjects in the equal-focus condition judged that it was elicited by means of a moderate degree of coercion; and subjects in the detective-focus condition judged that it was elicited by means of a large degree of coercion.”).

84. *Id.*

Researchers also conducted a VR experiment considering the link between moral judgment and moral behavior using the classic “Trolley Problem.”⁸⁵ In the Trolley Problem, participants are faced with a moral dilemma of “either (a) acting to cause the death of one individual in order to save the lives of five others, or (b) abstaining from action, when that action would have caused five deaths versus one.”⁸⁶ The study found participants given an action condition displayed different moral decisions than those given an in-action condition.⁸⁷

Studies have already demonstrated that when compared to using two-dimensional screens, juries using VR exhibited (1) a higher accuracy in spatial recall, (2) better narrative memory, and (3) verdict consistency.⁸⁸ Since VR environments can also recreate specific conditions, such as timing, weather, visibility, and sounds, jurors could better understand the spatial dynamics, timing, and factors affecting decision-making.⁸⁹ Similar to the benefits of “3D crime scene reconstructions go[ing] beyond traditional 2D photographs and videos,” VR technology goes one step further by allowing jurors to immerse themselves into a 3D environment and have those advantages over two-dimensional screens.⁹⁰ When previous studies were recreated within a VR environment, cognitive psychologists found results similar to those found within laboratory settings, meaning VR may have those advantages while also producing results similar to the real world.⁹¹ To reduce expenses, VR can be used in the deliberation room to reexamine the evidence or allow jurors to explore the scene of the crime without having to leave the courthouse. By not having to transport jurors to and from the scene and

85. Navarrete et al., *supra* note 82, at 364.

86. *Id.*

87. *See id.* at 367.

88. Reichherzer et al., *supra* note 2, at 7 (Investigating immersive VR reconstructions for jurors during trial, this study had participants listen to opening statements, then a hit-run-death scenario was either simulated in VR or in still images. The results showed “1) Participants in VR showed higher accuracy in Spatial Recall, 2) Narrative Memory was partially better in VR, 3) Verdict decision differed significantly between conditions, and 4) VR led to a more consistent verdict decision compared to screen viewing.”).

89. *See* Def.’s Mot. to Allow Forensic Animation, *supra* note 67, at 4.

90. *See id.*; David Notowitz, *Using 3D Scans and Modeling as Evidence in Court*, ABA (Nov. 8, 2023), https://www.americanbar.org/groups/law_practice/resources/law-technology-today/2023/using-3d-scans-and-modeling-as-evidence-in-court/?login; Reichherzer et al., *supra* note 2, at 7.

91. Mel Slater et al., *A Virtual Reprise of the Stanley Milgram Obedience Experiments*, PLOS ONE, Dec. 20, 2006, at 1, 1 <https://pmc.ncbi.nlm.nih.gov/articles/PMC1762398/pdf/pone.0000039.pdf> [<https://perma.cc/2MV6-7LGJ>] (This study recreated the Milgram experiment within VR to study the extent to which “participants would respond to such an extreme social situation as if it were real in spite of their knowledge that no real events were taking place.” The results showed that despite “all participants [knowing] for sure that neither the stranger nor the shocks were real, the participants who saw and heard her tended to respond to the situation at the subjective, behavioural [sic] and physiological levels as if it were real.”).

further arranging court personnel and transportation, use of VR could save court resources.

Lastly, given the low number of lawyers within North Dakota, holding proceedings over VR could give rural areas greater accessibility to attorneys.⁹² Given the push towards Zoom court and other countries' successful integration of VR technology within their courts, VR could act as an extension of Zoom court where all participants are immersed in a realistic virtual courtroom.

B. DISADVANTAGES

With the scale tipped towards North Dakota's courts allowing VR, it is important to acknowledge the disadvantages of VR and why safeguards must be in place to preserve the integrity of the judiciary. North Dakota's Rule of Evidence 403 prevents admitting evidence where the prejudicial effect outweighs its probative value.⁹³ Empirical research shows that when compared to a 2D video, VR elicits greater emotional arousal and increased empathy.⁹⁴ This closely relates to the Golden Rule—"an argument made by a lawyer during a jury trial to ask the jurors to put themselves in the place of the victim or the injured person and deliver the verdict that they would wish to receive if they were in that person's position."⁹⁵ Thus, by using VR to place jurors in the defendant position, courts may be approaching the Golden Rule by allowing jurors to "depart from neutrality and to decide the case on the basis of personal interest and bias rather than on the evidence."⁹⁶

Although VR can eliminate many of the biases previously mentioned, without proper safeguards, lawyers can find new ways of making their arguments more persuasive. For example, the admissibility of VR evidence may

92. See MIKE LEFOR, REPORT OF HCR3023 LAWYER LICENSING TASK FORCE, H.R. Con. Res. 3023, 68th Leg. Assemb., at 1 (N.D. Oct. 2024), <https://ndlegis.gov/sites/default/files/statutorily-mandated-reports/lawyer-licensing-task-force-october-2024.pdf> [<https://perma.cc/HNQ5-P4KN>].

93. *Golden Rule Argument*, LEGAL INFO. INST., https://www.law.cornell.edu/wex/golden_rule_argument [<https://perma.cc/DG75-XL9W>] (Jan. 2022); see discussion *supra* Section III.A.3.

94. Tian et al., *supra* note 27, at 1 ("Forty volunteers . . . were asked to watch a series of positive, neutral and negative short VR videos in 2D and 3D. . . . The results indicated that emotional stimulation was more intense in the 3D environment due to the improved perception of the environment; greater emotional arousal was generated; and higher beta (21–30 Hz) EEG power was identified in 3D than in 2D."); Alison Jane Martingano et al., *Virtual Reality Improves Emotional but Not Cognitive Empathy: A Meta-Analysis*, TECH., MIND, & BEHAV., June 17, 2021, at 1, 1 (Studying the different "mechanisms underl[y]ing cognitive versus emotional empathy" this study found "emotional empathy can be aroused automatically when witnessing evocative stimuli in VR, but cognitive empathy may require more effortful engagement, such as using one's own imagination to construct others' experiences." The researcher further emphasised these "results have important practical implications for nonprofits, policymakers, and practitioners who are considering using VR for prosocial purposes.").

95. *Golden Rule Argument*, *supra* note 93.

96. *Id.* (citing *United States v. Palma*, 473 F.3d 899, 902 (8th Cir. 2007)).

be determined during a pre-trial proceeding, and both parties may agree on the accuracy of the VR recreation.⁹⁷ However, cognitive psychologists have found that simply manipulating colors can affect people's emotions and decision-making.⁹⁸ For example, studies have demonstrated that people "assume[] immoral acts [are] committed by people with darker skin tones, regardless of the racial background of those immoral actors."⁹⁹ A popular example of this happened in 1994, when Time Magazine seemingly darkened O.J. Simpson's mugshot, "mak[ing] him seem menacing, and therefore more likely to be guilty of his accused crimes."¹⁰⁰

To prevent bias, North Dakota courts must establish higher standards for ensuring the authenticity of computer-generated evidence.¹⁰¹ For example, these standards could include the amount of video footage from the actual incident needed, the camera's resolution, the number of cameras, and the minimum angle between various cameras. These standards are important not only for minimizing implicit biases but also to ensure the VR environment is recreated accurately since it could easily give the jury an illusion of accuracy.

Another argument against implementing VR evidence may be privacy and data security.¹⁰² However, the counterargument is that VR could be stored with the same security measures as other data involved in legal proceedings.¹⁰³ Further, if a crime happens within an individual's home, the homeowner may have a privacy concern regarding jurors walking around

97. Proponents of VR evidence may address its admissibility through a motion in limine. See *State v. Schmidt*, 2012 ND 120, ¶ 20, 817 N.W.2d 332 (citing *Williston Farm Equip., Inc. v. Steiger Tractor, Inc.*, 504 N.W.2d 545, 550 (N.D. 1993)) ("A pre-trial motion in limine is a procedural tool to ensure that unfairly prejudicial evidentiary matters are not discussed in the presence of the jury."); see also N.D.R.Ct. 3.2(a)(3) ("If any party who has timely served and filed a brief requests a hearing, the request must be granted.").

98. Xing Xie et al., *Effects of Colored Lights on an Individual's Affective Impressions in the Observation Process*, *FRONTIERS IN PSYCH.*, Nov. 30, 2022, at 1, 1; Mario Silic & Dianne Cyr, *Colour Arousal Effect on Users' Decision-Making Processes in the Warning Message Context*, in *INT'L CONF. ON HCI BUS., GOV'T, & ORGS 1* (2016).

99. Adam L. Alter et al., *The "Bad Is Black" Effect: Why People Believe Evildoers Have Darker Skin Than Do-Gooders*, 42(12) *PERSONALITY & SOC. PSYCH. BULL.* 1653, 1653 (2016).

100. Daisy Grewal, *The "Bad Is Black" Effect*, *SCI. AM.* (Jan. 17, 2017), <https://www.scientificamerican.com/article/the-bad-is-black-effect/> [<https://perma.cc/4C4S-RRD7>]; see also James R. Gaines, *To Our Readers: Jul. 4, 1994*, *TIME MAG.* (July 4, 1994 12:00 AM), <https://time.com/archive/6725622/to-our-readers-jul-4-1994/> [<https://perma.cc/C28C-WY3T>].

101. See e.g., Bridget Grathwohl, Note, *Preserving Truth on The Prairie: Navigating Deepfake Challenges to Self-Authenticating Evidence in North Dakota Courts*, 99 N.D. L. REV. 657, 657 (2024) (addressing "[d]eepfakes, deceptive digital manipulations created by Artificial Intelligence ("AI"), [that] pose a significant risk to the integrity of courtroom evidence. Like many jurisdictions, North Dakota faces growing threats from artificial intelligence and deepfakes.").

102. See Nefra-Ann MacDonald, *Virtual Reality in the Courtroom: The Future of Justice*, *JD SUPRA* (Jan. 24, 2025), <https://www.jdsupra.com/legalnews/virtual-reality-in-the-courtroom-the-3814685/> [<https://perma.cc/P6KC-Y2WQ>].

103. See Laura Bednar, *Storing Digital Evidence for Court Cases Using Secure Drives*, *DATA SECURE*, <https://www.securedata.com/blog/store-digital-evidence-using-securedrives> [<https://perma.cc/JPV6-56Y9>] (Jan. 16, 2025).

their home in VR. However, under North Dakota's Rule of Evidence 401, evidence must be relevant.¹⁰⁴ Therefore, only aspects of the home that are relevant would be recreated in VR, which would also be addressed during the evidentiary hearing and before jurors can explore the entirety of someone's home recreated in VR.¹⁰⁵

The last argument against implementing VR is the cost of recreating the VR environment. First, if VR evidence proves effective but there is a large cost barrier associated with implementing it, perhaps only those with larger resources would be able to use VR.¹⁰⁶ On its face, that may present an issue of inequality; however, whether those resources are utilized for VR or for paying numerous associates to evaluate case law, the cost barrier argument does not appear persuasive enough to bar VR's implementation in the legal system.¹⁰⁷ For concerns about paying court awarded attorney's fees, it depends on whether the VR environment is built on animation under Rule 901 or simulation under Rules 702 and 703; courts would need to look under 28 U.S.C. § 1920 to determine whether the VR evidence was "necessarily obtained for use in the case."¹⁰⁸

104. See discussion *supra* Section III.A.1.

105. See discussion *supra* Section III.A.1; Jonathan Strickland, *How Virtual Crime Scenes Work*, HOW STUFF WORKS, <https://people.howstuffworks.com/vr-csi.htm> [<https://perma.cc/Q3JM-26FY>] (last visited Mar. 14, 2025).

106. See MacDonald, *supra* note 102 ("Cost is another hurdle, with VR setups costing anywhere from several thousand dollars to hundreds of thousands of dollars, potentially limiting access for smaller courts and underfunded jurisdictions.").

107. See generally Arash Homampour, *Virtual Reality in the Courtroom: The Barriers Are Not Insurmountable*, ALM (Feb. 5, 2018, 10:00 AM), <https://www.law.com/legaltech-news/2018/02/05/virtual-reality-in-the-courtroom-the-barriers-are-not-insurmountable/> [<https://perma.cc/QZ3E-2WC8>].

108. See discussion *supra* Sections II.A, III.A, III.B.

VI. CONCLUSION

“The Matrix is a system, Neo . . . when you’re inside, you look around, what do you see? Businessmen, teachers, lawyers, carpenters.”¹⁰⁹ Although VR is a new tool being integrated into courts outside the United States, does that mean North Dakota should as well? The answer is yes. After establishing safeguards for VR’s admissibility, allowing jurors to experience the first-person perspective of a victim or defendant during the actual sequence of events provides a more accurate demonstration of the circumstances. In addition to having significant probative value, VR helps eliminate implicit juror biases associated with not having experienced the specific circumstances. Further, holding proceedings over VR may give rural areas greater accessibility to attorneys while also reducing expenses.

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109. THE MATRIX at 0:56:39 (Warner Bros. 1999).

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