

2 Essential Cross Examination Questions

The cross examination of an expert can be a difficult task, regardless of the field, without a good core understanding of the fundamentals behind their discipline. Without this, it can be very easy for an expert to avoid answering a question or use technical terms to fool a judge and jury. This paper details the 2 most essential questions which should be asked of a media forensic expert witness.

“Can you talk us through your qualifications and what qualifies you to be an expert?”

Why ask?

Although it may appear from the outset that an individual is qualified to give an opinion, it must be remembered that the area of forensics is a world away from such fields as sound engineering, broadcasting and photography. Some of the concepts may be similar but there is more that sets the disciplines apart than is similar. If we take sound engineering as an example, sound engineers are dealing with the highest quality recordings, created in conditions that can be controlled, with expensive studio grade equipment. They therefore enhance a recording that has been optimised at every stage. Forensic audio experts deal with the lowest quality recordings, created in uncontrollable conditions, often with devices that are not suitable for audio recordings, and are therefore dealing with the poorest quality recordings imaginable. Then there is understanding through experience and education how manipulations can be detected at a computer language level, not just simple cut and splices that anybody could identify. The clerical side is also completely different. Where sound engineers have little need for documentation and guidelines, forensics relies on these practices to preserve integrity and maintain the chain of custody.

Related Questions

Are you aware of “insert relevant guidelines here” guidelines on expert witnesses?

Have you contributed to the field academically?

When did you last attend a course or conference to improve your knowledge?

Have your tools been validated?

Did you follow Standard Operating Procedures to produce reproducible and replicable evidence?

Are you familiar with the scientific method?

Would you consider yourself better qualified than “insert your expert witness here”?

What process do you have in place to mitigate against bias?

If they have strayed from guidelines, why do they think it’s acceptable to do so?

“Can you talk us through the chain of custody of the evidence?”

Why ask?

As the chain of custody should be documented throughout, and the original evidence should be preserved at all times, there are various instances when this chain could be broken during the handling of evidence, deeming the evidence inadmissible. If a working copy was not created and the original evidence was worked upon and therefore edited irreversibly, then there is a big problem with preservation. If a working copy was made, then were hash sums calculated for both the original and working copy to ensure that it was an exact copy? If hash sums were calculated, they can only be compared against the evidence that was received so does the expert know the if the evidence has changed from its original form since being captured? Although the expert can only account for the evidence’s chain of custody while in their possession, they should still attempt to obtain hash values from the original capture and processing of evidence to ensure the evidence hasn’t become corrupted before they even start work.

Related Questions

How do you know the chain of custody hasn’t been broken if you don’t know where the evidence was before you received it?

Are you aware of the ACPO Good Practice Guide for Digital Evidence? If so, can you tell me the 4 principles?

Did you create a working copy? If so, did you authenticate it against the original?

If Hashing was applied, which algorithm? (MD5 algorithm has been compromised in lab conditions)

Do you have documentation to support the handling of evidence?

References

[1] ACPO, “Good Practice Guide for Digital Evidence.” 2012.

[2] SWGDE, “Focused Collection and Examination of Digital Evidence.” 2014.

[3] Anthony T.S Ho and Shujun Li, *Handbook of Digital Forensics and Multimedia Data Devices*. UK: John Wiley & Sons, Ltd, 2015.

About the Author

Education includes a Masters Degree in Media Forensics from the National Centre of Media Forensics at the University of Colorado, Denver, and a 1st Class Bachelors Degree in Audio Engineering. Holds FTK ACE Examiner Certification in Computer Forensics and a member of both the Audio Engineering Society and American Academy of Forensic Science.

Research includes work on image authentication for The US Pentagon’s Defense & Advanced Research Project Agency (DARPA) and peer-reviewed publications on subjects including forensic acoustics and audio authentication. Articles on the various topics including 'Audio Forensics in 2017' and 'The CSI Effect: Expectations Vs Limitations' have appeared in popular publications Digital Forensic Magazine and Forensic Focus.