

Digital Evidence

Week 11 – Project Definition /Parameters and Presenting Evidence – Part 1

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ITMS X83 – Spring 2026

Slides contain original content from Davis, S.



Last Week - Review

- Kahoot Review – 15 questions
 - 30 seconds for multiple choice
 - 20 seconds for true and false

Section 1 (In-Class) Group Assignments

- Group 1:
 - Darren Tan
 - Andres Moncada
 - Henil Gandhi
 - Medard Anjeri Nyemb
 - Mayur Koli
 - Jesse Alegieuno
- Group 2:
 - Muhammad Mirza
 - Ana Rosiles
 - Rain Bartolo
 - Cedric Nartey
 - Karunesh Bamanjogi
 - Huzaifa Amar

Section 1 (In-Class) Group Assignments

- Group 3:

- Juan Perezchica
- Maks Dudek
- Kanika Capoor
- Jeevan Dhamala
- Akinyemi Aremu
- Jurema Martins

- Group 4:

- Priscilla Yamoah
- Esha Niyogi
- Shinjini Saha
- Riya George
- Saloni Bhosale
- Aryan Ramesh

Section 1 (In-Class) Group Assignments

- Group 5:
 - Alex Donald
 - Aryan Deshukh
 - Jacob Noel
 - Daniel Nunez Robinson
 - Bright Ntow

Section 2 (Online) Group Assignments

- Group 6:

- Darsh Kapadia
- Jenishkumar Patel
- Mohammed Ouannass
- Khyathi Raguri
- Noble Antwi
- Wendy Ocampo

- Group 7:

- Daniel Armia
- Amelie Yen
- Alexander Duong
- Kaleb Austgen
- Grace Maria
- Dakshitha Ayanambakkam

Section 2 (Online) Group Assignments

- Group 8:
 - Andrew Braden
 - Leen Mobarki
 - Erika Hernandez
 - Tarun Sara
 - Oluwafisayo Okunuga
 - Jeremiah Lizardi
- Group 9:
 - Shahd Yousef
 - Fernando Angel Casanova
 - Cesar Escoto
 - William Smith
 - Francis Torres
 - Max Kurchitskiy

Section 2 (Online) Group Assignments

- Group 10:
 - Rayyan Basathia
 - Sanjay Yadav
 - Hieu Do
 - Parth Kadiya
 - Mohithaa Ekambaram
- Group 11:
 - Ella Brady
 - Abdul Khan
 - Zufsha Khan
 - Vatsal Trivedi
 - Starla Cortes

Rules

- Groups are not allowed to work on the projects with members from a different group
 - Any unauthorized collaboration will result in a zero for both involved groups
 - This project is roughly a third of your semester grade

Evidence

- Every group will be working on the same fictional case
 - All evidence is fictional
 - I used the Excel random function to generate fake names, phone numbers, cities, etc.
 - Any random combination that is an actual real-life person is entirely coincidental

Case

- Sarah Michaelson v. ACME Corp
- The defendant (ACME Corp) allegedly sent text messages in violation of the TCPA to mobile phone numbers without consent
- One person that received messages is the plaintiff (Sarah Michaelson) whose phone number is:
 - 491-530-7881
- Each group's job is to analyze evidence and find other people that meet a single class definition

Groups

- Each group will use the same evidence and will play the role of an expert witness team for the Plaintiff
- Each group will be analyzing evidence that was produced by the Defendant
- The evidence can be viewed and downloaded from Everlaw from the “Group Project Files” Document Set

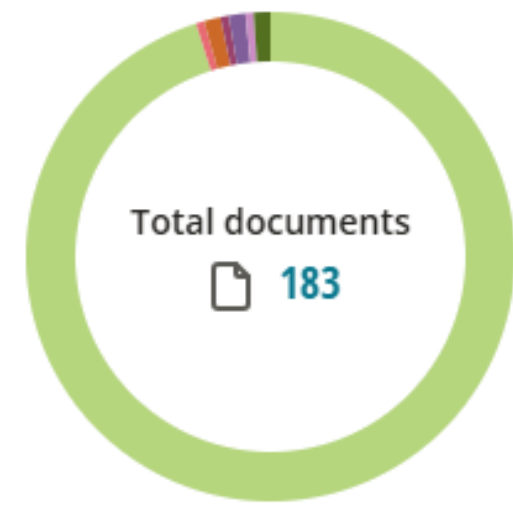
Note

- You can use Everlaw to look through the evidence
- However, since all groups are using Everlaw, please don't put any comments, highlights, codes, etc. on the Group Project documents as other teams would be able to see those items.

Group Project Files - Everlaw

Filetypes

Email	174	Compressed	1
PDF	1	Video	0
Calendar	0	Mailbox	2
Image	2	CAD	0
Document	1	Database	0
Spreadsheet	2	SupportTicket	0
Empty	0	ProjectManagement	0
HTML	0	Transcript	0
Text	0	Meeting	0
Binary	0	Profile	0
Chat	0	CRM ⓘ	0
Presentation	0	Other	0
Audio	0		



Overall Deliverables for Project

1. Evidence Analysis (Steps document and 2 output csvs)
2. Expert Declaration (1-3 page document)
3. Trial Presentation
 - The lecture next week will help with this part

1. Evidence Analysis

- You were provided two spreadsheets
 - `contactlist.csv`: This is a list of phone, first name, last name, age, and state for the individuals that ACME corp purchased for their database
 - `messagelist2.csv`: This is the output log of the texting software which has the following information:
 - Phone: the number texted
 - Date Message Sent: the date the text was sent via the system
 - Phone Number Added to DNC List Date:
 - Message: the body of the text message
 - Status: the status of the text message

1. Evidence Analysis Tasks

- First you need to fix some issues with the `messagelist2.csv`
 - Remove any non-numeric characters from the Phone column
 - Some awful person allowed commas in the Message column and then saved the file as a CSV!!
 - You need to figure out how to remove those commas in the messages to get rid of the overlap into other columns
 - See next slide for example:

1. Evidence Analysis Tasks

Excel:

	A	B	C	D	E	F
1	Phone	Date Message Sent	Phone Number Added to DNC List Date	Message	Status	
2	3397450247	1/2/2001	4/26/2001	How are you?	Failed	
3	3977186217	1/2/2001	8/14/2012	Hello	I am happy to help you.	Delivered
4	8295262615	1/2/2001	7/24/2016	How about 8pm?	Sent	
5	1005688927	1/3/2001	12/4/2011	Shall I make you an appointment?	Delivered	
6	1090709284	1/3/2001	2/25/2007	This message is about a party coming up!!!!;32@#\$()@#JSDRM#	234@#\$	Failed
7	2243897686	1/3/2001	2/6/2006	Shall I make you an appointment?	Failed	
8	3619508112	1/3/2001	3/16/2002	Shall I make you an appointment?	Delivered	
9	6414120492	1/3/2001	2/23/2006	Would you like to unsubscribe?	Queued	
10	6933993811	1/3/2001	5/28/2018	Hello there.	Queued	

Notepad++:

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1 Phone,Date·Message·Sent,Phone·Number·Added·to·DNC·List·Date,Message,Status,CRLF
2 3397450247,1/2/2001,4/26/2001,How·are·you?,Failed,CRLF
3 3977186217,1/2/2001,8/14/2012,Hello,I·am·happy·to·help·you.,DeliveredCRLF
4 8295262615,1/2/2001,7/24/2016,How·about·8pm?,Sent,CRLF
5 1005688927,1/3/2001,12/4/2011,Shall·I·make·you·an·appointment?,Delivered,CRLF
6 1090709284,1/3/2001,2/25/2007,This·message·is·about·a·party·coming·up!!!!;32@#$( )@#JSDRM#,234@#$,FailedCRLF
7 2243897686,1/3/2001,2/6/2006,Shall·I·make·you·an·appointment?,Failed,CRLF
8 3619508112,1/3/2001,3/16/2002,Shall·I·make·you·an·appointment?,Delivered,CRLF
9 6414120492,1/3/2001,2/23/2006,Would·you·like·to·unsubscribe?,Queued,CRLF
10 6933993811,1/3/2001,5/28/2018,Hello·there.,Queued,CRLF

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What is a Class Definition?

- A class definition is the parameters that apply to every person that was affected
- A lawsuit starts off with a named plaintiff and then there is a motion for class certification...which is approved allows the suit to become a class action
- Your analysis and declaration is in support of the motion for class certification

1. Evidence Analysis Tasks

- An attorney told you that the class definition is this:
 - Every person on the contactlist.csv that had a text message sent or delivered to them after being added to the DNC list
- You can accomplish your analysis however you want (database, python, excel, etc.)
 - The next few slides give tips for using a database which is one potential way to accomplish the analysis
 - No matter what method you choose for your analysis, make sure to write down all steps you take as you do them!!

1. Evidence Analysis Tasks

- Import both sheets as different tables into a MySQL database and fixing the comma issue
- Create a query or queries to create the following output (which I would like saved as a csv file called alltextsforclassdef.csv):
 - Select everything from the messagelist2.csv and the contactlist.csv where:
 - the phone number in the contactlist.csv is the same as the phone number in the messagelist2.csv
 - the status is only delivered or sent
 - the message sent date is later than the DNC added date

1. Evidence Analysis Tasks

- The prior operation's alltextsforclassdef.csv output should look like this (but obviously with many more results):

	A	B	C	D	E	F	G	H	I	J	
1	Phone	Date Message Sent	Phone Number Added to DNC List	Date Message	Status	Phone	First Name	Last Name	Age	State	
2	1000454830	8/7/2004		7/10/2002	Shall I make you an appointment?	Delivered	1000454830	Cynthia	Michaelson	66	Alaska
3	1000454830	12/14/2018		7/10/2002	Shall I make you an appointment?	Delivered	1000454830	Cynthia	Michaelson	66	Alaska

- Then, dedupe the alltextsforclassdef.csv by the phone number column and create a new csv called uniqueclassmembers.csv that contains only the phone, first name, last name, age, and state columns

1. Evidence Analysis Deliverables

- Deliverables to hand in:
 - alltextsforclassdef.csv that contains all of the text messages (with the contact list info included on each row) that meet the class definition
 - uniqueclassmembers.csv which contains the unique individuals that meet the definition (remove the messagelist2 columns)
 - A steps document listing every step and query, command, function, program, script, etc. that you used to create the two csvs listed above

1. Evidence Analysis Hints

- Learn how to use load data local infile to get the csvs into the database as two separate tables
- You could also try to use the import on MySQL workbench but that doesn't always work well
- Make sure to convert the line endings of the spreadsheets to linux line endings prior to import
 - Right now they are CRLF
 - Change to LF with notepad++ or dos2unix
 - You can view all line ending symbols in Notepad++

1. Evidence Analysis Hints

- Make sure you import the dates correctly into MySQL
 - <https://www.w3resource.com/mysql/date-and-time-functions/mysql-str-to-date-function.php>
 - <https://dev.mysql.com/doc/refman/5.6/en/date-and-time-functions.html#function-date-format>
- I would recommend creating non unique indexes on the phone number and date columns for speed

1. Evidence Analysis Hints

- You can dedupe in MySQL with group by or you can use the Remove Duplicates feature in Excel
- Be sure to spot check your two deliverable csvs against the data in the original contactlist and messagelist2 files to ensure you didn't modify the contents of the evidence

2. Expert Declaration

- You will write a 1-3 page expert declaration
- Download the Expert Declaration Template.docx from the Week 11 module in Canvas to use as a template for your declaration

3. Trial Presentation

- You will create a PowerPoint with slides showing the following 5 exhibits:
 - The defendant's communications admitting to texting people on the DNC list (1-3 slides)
 - Look at the rest of the evidence in the Group Project Files on Everlaw
 - The Twilio document (1 slide)
 - The bottom of your expert declaration which displays the totals of your two results (all texts and unique people) (1 slide)
 - The top 10 lines of your alltexts for classdef.csv (1 slide)
 - The top 10 lines of your unique classmembers.csv (1 slide)

3. Trial Presentation (Cont.)

- I will ask you direct examination questions to introduce each slide's evidence and cross examination questions about the evidence
- Each group member must be prepared to introduce and answer questions on all of the 5 exhibits
 - Online students must have your camera on during your entire group's presentation
 - Points will be deducted from the group score for any person that does not

Project Due Dates

- The 2 output csvs, steps document, declaration, and PowerPoint of the 5 exhibits are due **Saturday 4/18 by midnight** and should be turned in by a single group member as a zip file

Project Due Dates (Cont.)

- The 01 in-person section students will present in class on 4/20.
 - There will be no in-person class or recorded lecture for 4/27.
- The 02 online section students will present the evening of 4/27, and I will schedule times in the near future
 - If your online group cannot present on 4/27, please let me know as soon as possible.

Rest of Class

- Go ahead and take 15 minutes and meet with your group
 - Start by electing a group leader and that person should email me that they are the group leader
 - This slide deck is currently available in the week 11 module on Canvas
- You may use whatever web sharing platform you would like
- Please email Maria if you have any questions about the project

Presenting Evidence in Court

- We'll see how far we can get into the next lecture today and finish up next week

Week 12 Objectives

- Describe the various terms and concepts relating to testifying and presenting evidence in court
- Discuss ethical considerations of witness preparation
- Understand the best practices and differences between deposition and trial testimony

Overview

1. Terms & Concepts
2. Witness Preparation/Ethical Considerations
3. Deposition Testimony

Part I

Terms & Concepts

Types of Trials

- Bench Trial:
 - Judge decides outcome
- Jury Trial:
 - Jury decides outcome

Types of Examinations:

- Direct Examination:
 - Attorney directs open ended questions to their own witness that they called to testify
 - Can only ask cross examination style questions if attorney requests to treat their own witness as hostile (and the judge approves)
- Cross Examination:
 - Opposing attorney asks very pointed and specific questions which suggest a “yes” or “no” answer
 - Putting words in the mouth of the expert (“Isn’t it true that X?”)

Case Testimony

- Deposition Testimony:
 - Testimony under oath prior to trial
 - Usually outside of presence of a judge
 - Majority of questions by opposing counsel as cross examination
 - Rules of Evidence do not apply
 - Attorneys may ask questions to elicit information that would be inadmissible at trial

Case Testimony (Cont.)

- Trial Testimony:
 - Testimony before a judge or jury during a trial under oath
 - Direct and Cross examination amounts may be close to equal
 - Rules of Evidence apply

Types of Witnesses – Expert Witness

- Gives expert opinions based on expertise and scientific, technical, or other specialized knowledge in the subject matter area
- Testimony based on:
 - sufficient facts or data
 - the product of using reliable principles and methods
 - The principles and methods being reliably applied to the facts of the case
- Used in Civil and Criminal Courts

Daubert Standard

- Expert witnesses are subjected to a greater level of judicial scrutiny
- Opposing side could request Daubert hearing to consider:
 1. Whether the theory or technique in question can be and has been tested
 2. Whether it has been subjected to peer review and publication
 3. Its known or potential error rate
 4. The existence and maintenance of standards controlling its operation
 5. Whether it has attracted widespread acceptance within a relevant scientific community

Types of Witnesses – Lay (AKA Fact) Witness

- Has personal knowledge about the case and testifies about things they personally observed
- FRE Rule 701 says can only offer an opinion if:
 - it results from a process of reasoning familiar in everyday life
 - Ex: Lay witness could testify that substance appeared to be blood but could not testify that bruising around eyes is indicative of skull trauma (which would require expert testimony)
- Used in Civil and Criminal Courts

Note:

- It is possible for the same witness to provide expert and lay testimony in a single case

Types of Witnesses - Others

- Eyewitness:
 - Saw alleged crime or a facet of it
- Character witness:
 - Testifies under oath to the good reputation of another person
- Both of these witness types are generally used in criminal cases

Exhibits

- Physical or documentary evidence identified with a sticker containing a particular number and/or letter
- Exhibits must be provided to other parties in the case and filed with the court prior to trial
- Attorneys must authenticate exhibits to be able to show the judge its origin and that it has not been altered

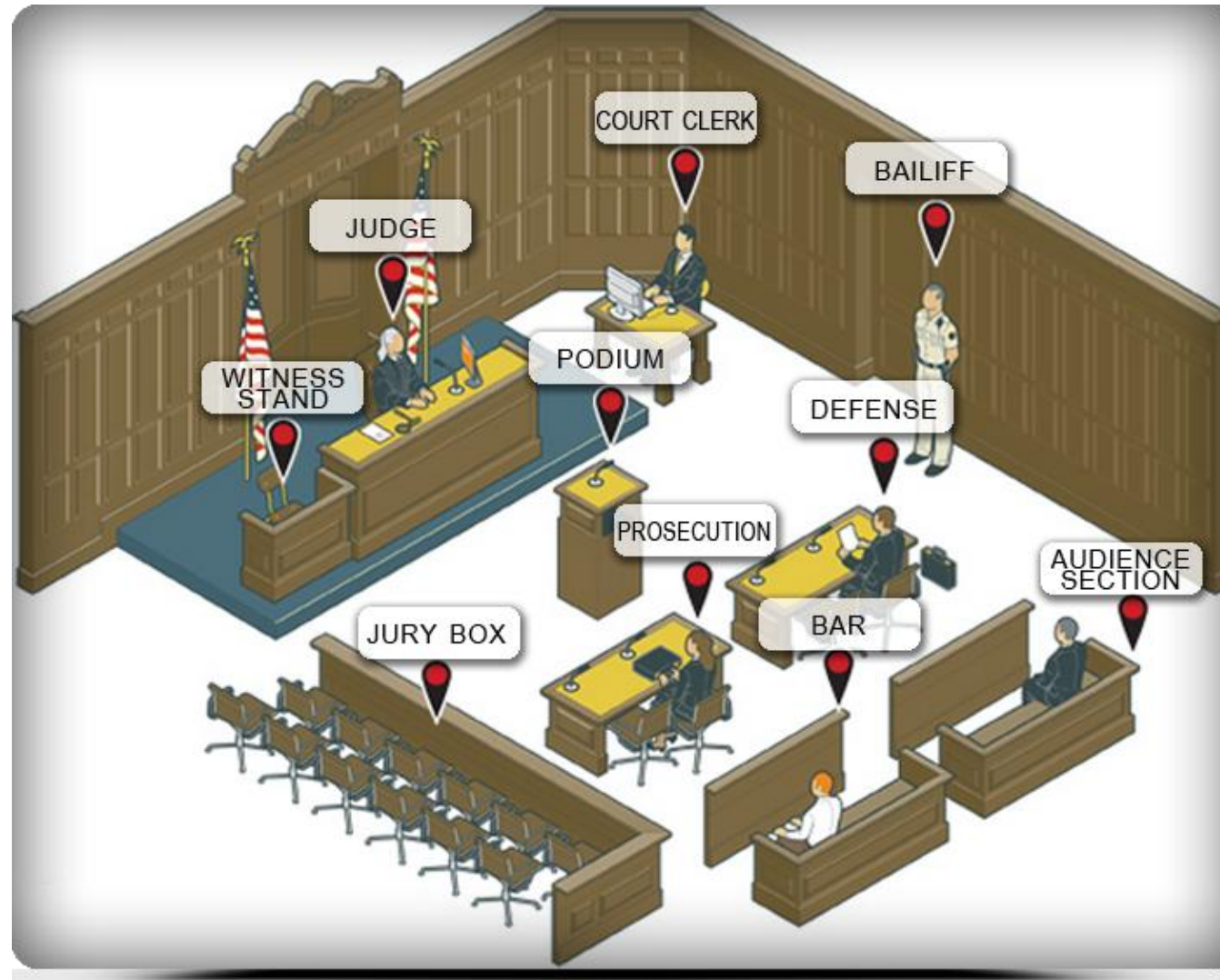
Exhibits (Cont.)

- Exhibits are presented to witnesses which can be used to lay the foundation for admission
- Attorney can then move that the exhibit be admitted into evidence (which can be used in the trial and shown to the jury)
 - Attorneys on both sides will argue points on whether to have evidence admitted or denied

Exhibits (Cont.)

- An expert or lay witness may have created an exhibit and will then testify about it if admitted
- They may also be shown and testify about other exhibits that they have previously reviewed or will review on the stand

Courtroom



Part II

Witness Preparation/Ethical Considerations

General Tips

- Wear a suit and get a haircut
 - Don't wear too flashy of clothing though
- Arrive early to give yourself enough time to get through security/metal detectors
- If you have an early morning out of town trial, your attorney may advise you to arrive the night before
- Many courts will not allow you to bring a cell inside
 - Wear a watch so that you can keep track of time

General Tips (Cont.)

- Don't enter the courtroom without your attorney
 - Sometimes you can watch the proceedings prior to your testimony but usually the other side will present a motion to bar you from watching the proceedings
 - You can generally watch the proceedings after your testimony if you would like as long as you will not be recalled later in the case for testimony
 - Ask your attorney about this

General Tips (Cont.)

- Be prepared to stand when the judge enters the courtroom and someone announces “all rise”
 - You will also need to stand when the judge leaves or when the jury enters or leaves
- Address the judge as “sir” or “your honor” if asked a question
- Court proceedings are generally recorded, even during recess
 - Be careful when whispering to your attorney
 - Passing a note may be better for discussion in the prep room

Ethical Considerations

- There is a fine line between witness preparation (allowed) and witness tampering (not allowed)
- An attorney must ensure their witness is prepared for a deposition or trial but cannot tamper with their testimony

Witness Tampering (Unethical)

- An attorney may **not**:
 - Tell a witness how to answer questions or the attorney drafting the witnesses' testimony
 - Encourage a witness to be dishonest, provide false testimony, or leave out critical details
 - Advise a witness to engage in behavior that is fraudulent
 - Threaten a witness or their family
 - Offer a bribe for testimony

Witness Preparation (Ethical)

- An attorney may:
 - Rehearse potential direct and cross examination questions to allow a witness to practice their answers and avoid anxiety
 - Build confidence in the witness to give accurate and honest answers
 - Make sure the witness knows to stick to honest facts and not alter facts to improve the case
 - Describe how the attorney plans on attacking the case and how the questions will be laid out

Law Governing Lawyers – Section 116

- Attorneys may do the following:
 - (1) discussing the role of the witness and effective courtroom demeanor;
 - (2) discussing the witness's recollection and probable testimony;
 - (3) revealing to the witness other testimony or evidence that will be presented and asking the witness to reconsider the witness's recollection or recounting of events in that light;
 - (4) discussing the applicability of law to the events in issue;

Law Governing Lawyers – Section 116 (Cont.)

- Attorneys may do the following:
 - (5) reviewing the factual context into which the witness's observations or opinions will fit;
 - (6) reviewing documents or other physical evidence that may be introduced;
 - (7) discussing probable lines of cross-examination that the witness should be prepared to meet; and
 - (8) practicing the witness' testimony and suggesting choice of words.

Trial vs Deposition Prep

- Witnesses should not be prepared the same for trial as for deposition as there are different goals
- We will cover more about this in the next two sections

Objective vs Subjective

- Make sure all testimony is **objective** and based on facts and not **subjective** and influenced by personal feelings

Part III

Deposition Testimony

Expert Disclosures

- Expert will generally have to provide a written expert report prior to depositions and trial

(2) Disclosure of Expert Testimony.

(A) *In General.* In addition to the disclosures required by [Rule 26\(a\)\(1\)](#), a party must disclose to the other parties the identity of any witness it may use at trial to present evidence under [Federal Rule of Evidence 702](#), [703](#), or [705](#).

(B) *Witnesses Who Must Provide a Written Report.* Unless otherwise stipulated or ordered by the court, this disclosure must be accompanied by a written report—prepared and signed by the witness—if the witness is one retained or specially employed to provide expert testimony in the case or one whose duties as the party's employee regularly involve giving expert testimony. The report must contain:

- (i) a complete statement of all opinions the witness will express and the basis and reasons for them;
- (ii) the facts or data considered by the witness in forming them;
- (iii) any exhibits that will be used to summarize or support them;
- (iv) the witness's qualifications, including a list of all publications authored in the previous 10 years;
- (v) a list of all other cases in which, during the previous 4 years, the witness testified as an expert at trial or by deposition; and
- (vi) a statement of the compensation to be paid for the study and testimony in the case.

Report Note

- Reports must be produced
- Drafts are protected and do not have to be produced

Depositions

- Allows the opposing attorney the opportunity to ask a witness questions
- The witness will have their attorney defending their deposition
- The deposition may be recorded
 - Stenographer, Audio, Visual, etc.
- A written transcript of everything that was said is generated after the deposition

Deposition Location

- Usually in a conference room at one of the attorney's law offices
- Could be at the witness's location
 - Be careful in allowing this as opposing side may try to catch you off guard or will scrutinize items (books, diplomas, etc.) in your office

Goal of a Deposition

- The other side's attorney wants to:
 - Gather as much information as possible about your side's case
 - Lock down your testimony at trial
 - Deposition transcripts can be used to impeach a witness that gives inconsistent testimony at trial
 - Size up the potential impact of your testimony on a jury by assessing your strengths and weaknesses as a witness
 - Probe witness for bias, arrogance, or hostility

Deposition Preparation

- Review the case with the attorney
- Meet with the attorney to practice answers for potential cross-examination questions
- Learn which documents to bring
 - Don't bring anything else into the deposition

Deposition Key Points

- Deposition questions are mainly cross examination from the opposing side
 - Can be direct or leading questions
- Depositions may be much more adversarial than a trial since it is not in front of a judge or jury
- Since there is no judge to moderate, the questions may be poor or unfair
- Opposing attorneys are mainly looking to get the witness to say one or two sound bites that are positive for their case (which the attorney will put into a brief or motion to the court)

Note

- We will continue this lecture next week

Homework

- Research paper due in two weeks on 4/6 **prior to the class start at 6:25pm**
 - Your Bibliography submissions have been graded
- Work on your project with your assigned group
 - Deliverables due **Saturday, 4/18 before midnight**
 - I will then look through these on Sunday 4/19. Late assignments are not accepted for this project.

Questions???

