

# Using Web Annotation as an Educational Tool in the Classroom

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# Presentation Outline

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# Background

- In 2015, over 20.2 million students are enrolled in college in the United States<sup>1</sup>
- Rising class sizes limit students' ability to interact with instructors and leads to lower grades<sup>2</sup>
- Web annotation tools such as Hypothes.is may offer a solution to this problem

<sup>1</sup>U.S. Department of Education, National Center for Education Statistics

<sup>2</sup>Angrist, J. D., & Lavy, V. (1997). *Using Maimonides' rule to estimate the effect of class size on student achievement* (No. w5888). National Bureau of Economic Research.



# Motivation

- Test an implementation of Hypothes.is for an online case briefing assignment
- Two goals:
  1. Test Hypothes.is as a way to increase opportunities for interaction with course faculty
  2. Evaluate Hypothes.is as a way to test comprehension within an online textbook



# Case Brief Assignment

- Required assignment for an introductory Internet law class (IST 432)
- Case brief – summary of a judicial opinion
- Students briefed *Soverain Software LLC v. Newegg Inc.*, 705 F.3d 1333 (Fed. Cir. 2013)
- Judicial opinion was made available at [internetlaw.ist.psu.edu](http://internetlaw.ist.psu.edu)



# Case Brief Assignment

- Hypothes.is was offered, but not required to use (extra credit offered for signing up)
- Students received a tutorial on joining Hypothes.is and joining a specific group for the assignment
- Qualtrics survey administered after assignment completed to assess student perceptions of the tool






# Case Brief Assignment

**mfriedenberg** 2 months ago

🔗 IST 432 SP 2016 on "Soverain Software v. Newegg – ..." (internetlaw.ist.psu.edu)

*Federal Circuit*

We learn below that the case originated in the United States District Court for the Eastern District of Texas. Why is the case being heard on appeal in the Federal Circuit, which is located in Washington, D.C.?

1 reply  Edit  Delete  Reply  Share

▼ **anthonypinter** 2 months ago

🔗 IST 432 SP 2016 on "Soverain Software v. Newegg – ..." (internetlaw.ist.psu.edu)

The case is being heard in Washington D.C. because all patent cases are heard in the Federal Circuit.


 Reply  Share

Figure 1 – Example optional comprehension check



# Results – Hypothes.is Use

- No annotations were made by students in the group
- No annotations were made publicly by students
- Survey indicated students used the tool to privately highlight important sections of the brief





# Results – Survey

- Sample size: n=13
- 66% completed prior case briefs only online
- 46% used Hypothes.is for more than just extra credit (n=6)
- 75% of that group found Hypothes.is useful
  - “It was useful to be able to keep track of important sections within the brief.”



# Results – Survey

- 100% who used the tool mainly used highlighting features
- All agreed that they would want to use the tool again
  - “Yes, because it saves my work across devices.”
  - “It served as a Word alternative... allowed us to highlight and comment on material that we could share with peers.”
- All agreed that they felt the tool made the assignment easier/less time-consuming



# Results – Survey

- 67% of students felt that Hypothes.is made the assignment easier, but did not increase what they learned
- Most students didn't use the tool to interact with faculty, but could see it being useful
  - “Although I didn't use it to comment, it seemed as though the professor was able to answer questions easily.”



# Discussion

- Students found the tool useful
  - Primarily for highlighting and cloud functionality
  - Students did not really use the group feature
- Students would use it again for other assignments
  - Made it easier to complete the assignment
  - Did not necessarily increase comprehension
- Faculty interaction may be possible with this tool



# Conclusion

## Limitations

- Small sample size
- Only used for one assignment
- Comprehension checks were optional

## Future Work

- Further evaluate comprehension checks, groups
- Full implementation of Hypothes.is textbook
- Make a pre-cursor assignment that's just highlighting



# Conclusion

- Students found Hypothes.is useful, albeit for different reasons than expected
- Students thought that it could be useful for interacting with faculty
- Individual use of Hypothes.is did not increase perceived comprehension of material, but group use was not tested



# Questions?

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