A Needs Analysis for Instructional Support in LegSim

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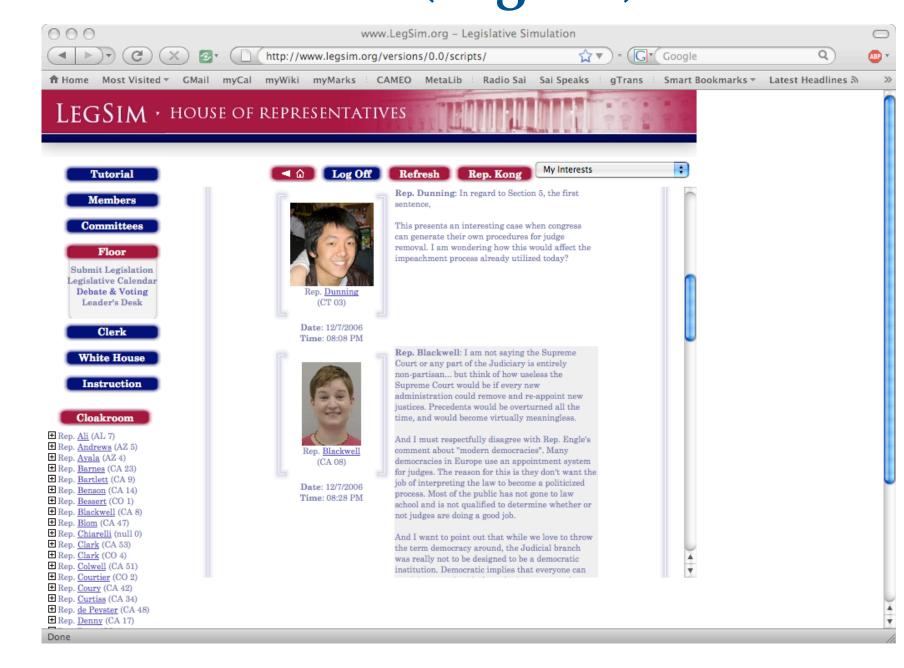




1. Problem Domain

- ♦ Argumentation in Political Science
 - ◆ Crucial skill for future policy makers

2. Legislative Simulation (LegSim)



- ♦ Multi-player web-based game-like environment
- ♦ Designed to teach legislative procedures & strategies
- ♦ Students play roles of Congressional Senators
- ♦ Form caucuses, legislative committees etc.
- ◆ Propose legislations (bills), debate and vote for them

Sample Floor Debate

An expansive outreach program that provides quality teachers to low-income communities is a viable solution to curbing this socioeconomic achievement gap. Therefore, the Congress finds that the annual budget for Teach for America and the jurisdiction should be expanded to reach a greater number of Americans.

Extract from Bill

I think that increasing the pool of quality teachers, especially in low income communities, is vitally important. Studies show that TFA teachers are very effective in improving student performance, so I support this bill ... a better education and a brighter future.

Sentiment: Positive **Argument Quality**: High

I think the increase in teacher amounts might not be realistic? Overall I think it's a really good bill, but maybe amending the numbers a bit would be more effective....

Sentiment: Positive
Argument Quality: Medium

The program teach for america is great, but most of the people that do teach for america do not end up becoming school teachers. ... The only reason they are doing it is to get into grad school. ... Are we sure this is where we want to put a lot of funding in?

Sentiment: Negative **Argument Quality**: High

3. Data

- ♦ Comments from 71 Students
- ♦ 304 bills proposed, 99 promoted to floor for debate,48 actually debated on floor and got voted on
- ♦ 479 floor debate comments in total

4. Opportunities for Learning Argumentation Skills

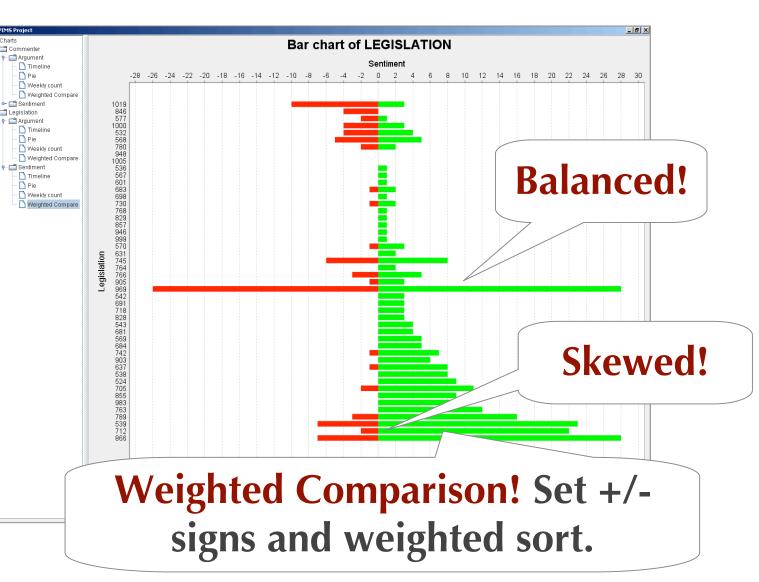
- ◆ Passing or failing of a bill after vote
 - ◆ Popular outcome contrary to one's opinion is evidence of failure
- Swaying someone's opinion prior to vote
 - Provides positive reinforcement

5. Data Statistics and Visualizations

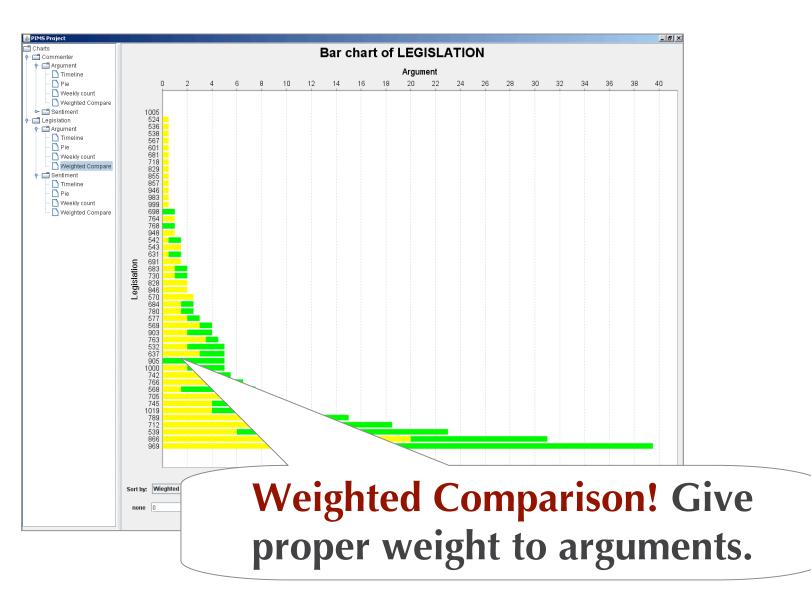
Distribution of comments

Dimension	Values		
Arg. Quality	High	Medium	Low
	115 (24.00%)	247 (51.5 %)	117 (24.43%)
Sentiment	Positive	Negative	Neutral
	281(58.66%)	93(19.42%)	105 (21.92%)

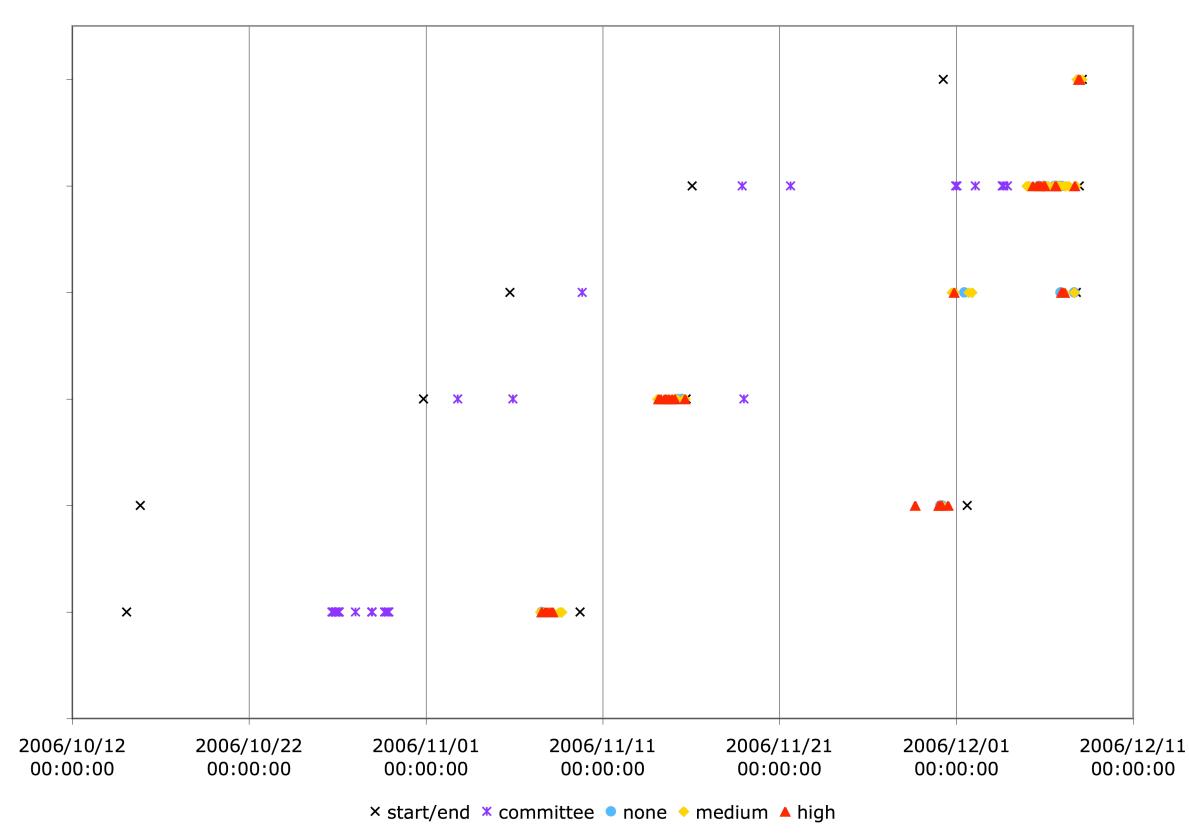
Intervention Scenario 1: Probe poorly argued dissent



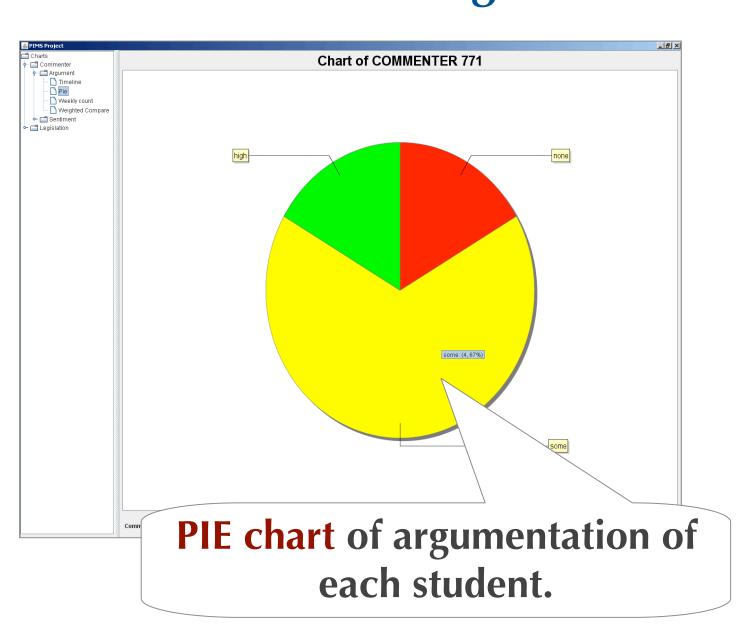
Intervention Scenario 2: Challenge Consensus



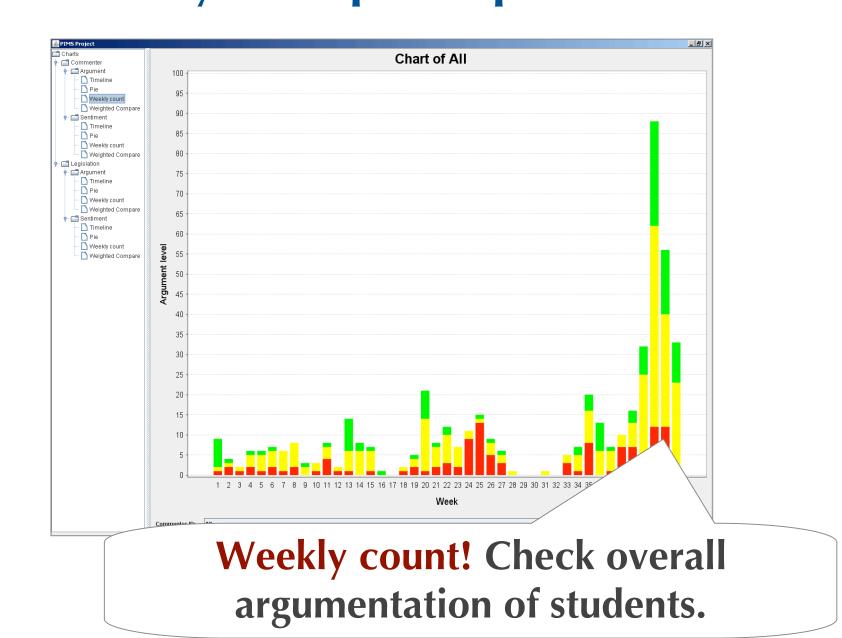
Timeline for 6 different bills



Evaluation Scenario 1: Individual student argumentation



Evaluation Scenario 2: Weekly class participation



6. Salient Results

- ♦ Only 40% (15%) bills came up for vote before last 10 (20) days
- ♦ Only 1 change of opinion evident from comments
- ♦ Only 8 cases of final vote opposing sentiment
- ♦ Students who voted yes/no more likely to comment
- ♦ No evidence of increase in argumentation quality

7. Conclusions

- ♦ Game-based environments alone don't promote learning
- ♦ Instructional support is needed to actively steer students towards opportunities to learn argumentation
- ♦ Technology can be used to prompt students to voice conflicts that have not yet been articulated or to encourage students to elaborate bald claims with warrants, data, and qualifiers