

An HCI Application Towards a More
Interactive Classroom Experience

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(BS '09)

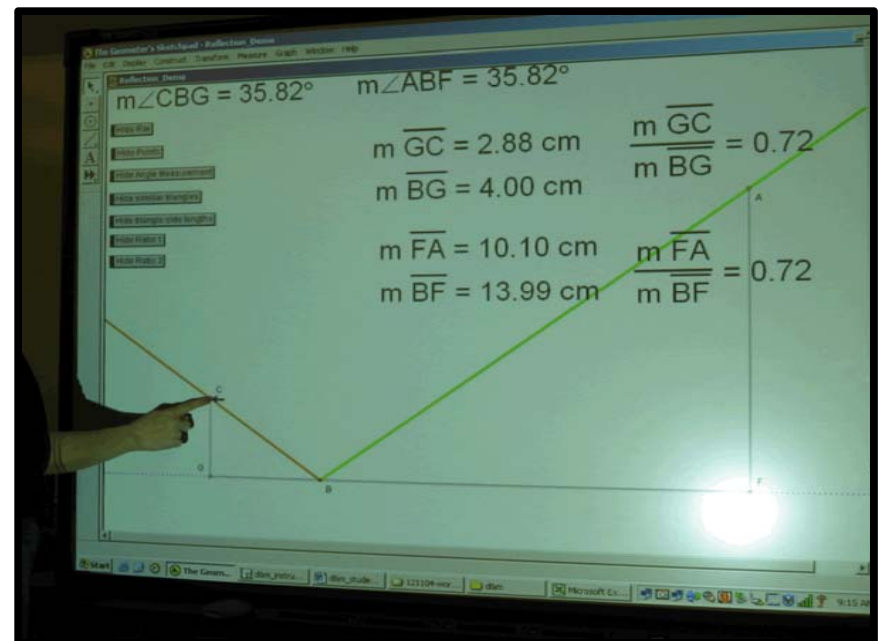
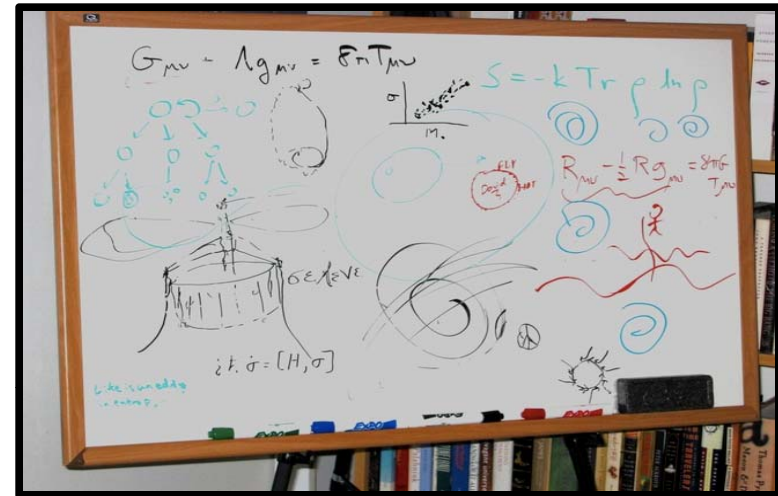


HOOD
COLLEGE

Agenda

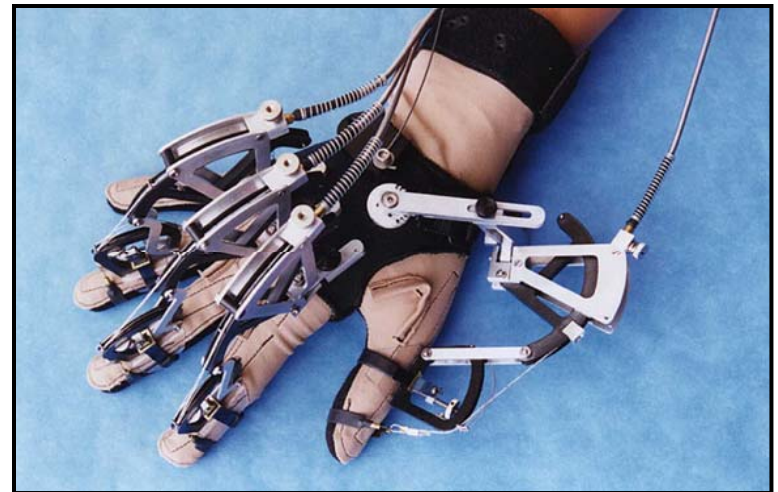
- Motivation and Problem Statement
- Related Work
- Approach
- Conclusion and Future Work

Motivation



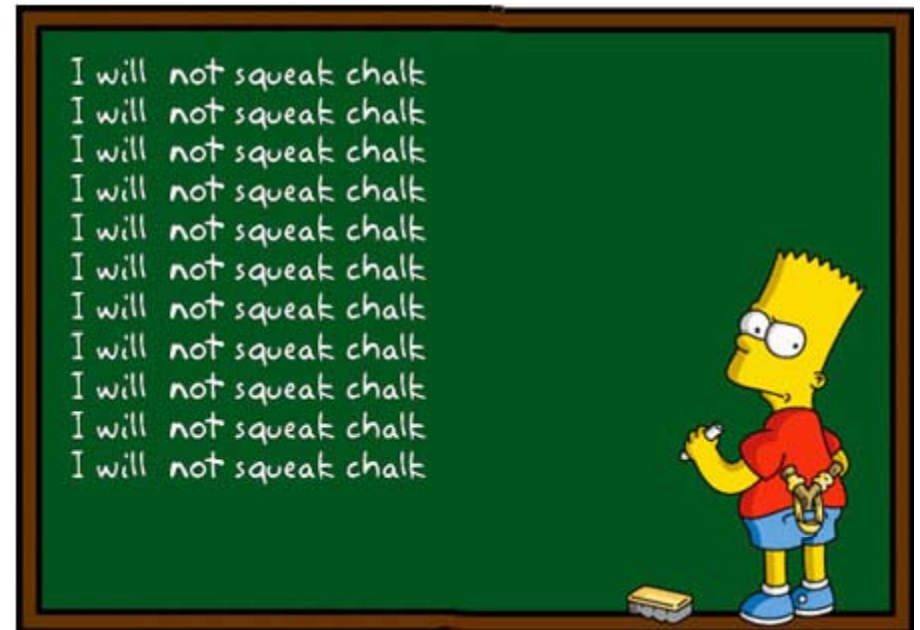
Related Work

- **HCI**
 - Mice, keyboards
 - Haptic hardware
- **HCI and Smartboards**
 - Hardware for screen touch
 - “graspable” objects for interaction (hand, stylus, etc...)
 - ease of use



Problem Statement

- **Chalkboards**
 - Cannot distribute what is on the board
 - Few color selections
 - Messy
- **Whiteboards**
 - Cannot distribute what is on the board
- **Printboards**
 - Not digital
- **Smartboards**
 - Hardware driven
 - Bulky
 - Expensive



Solution Approach

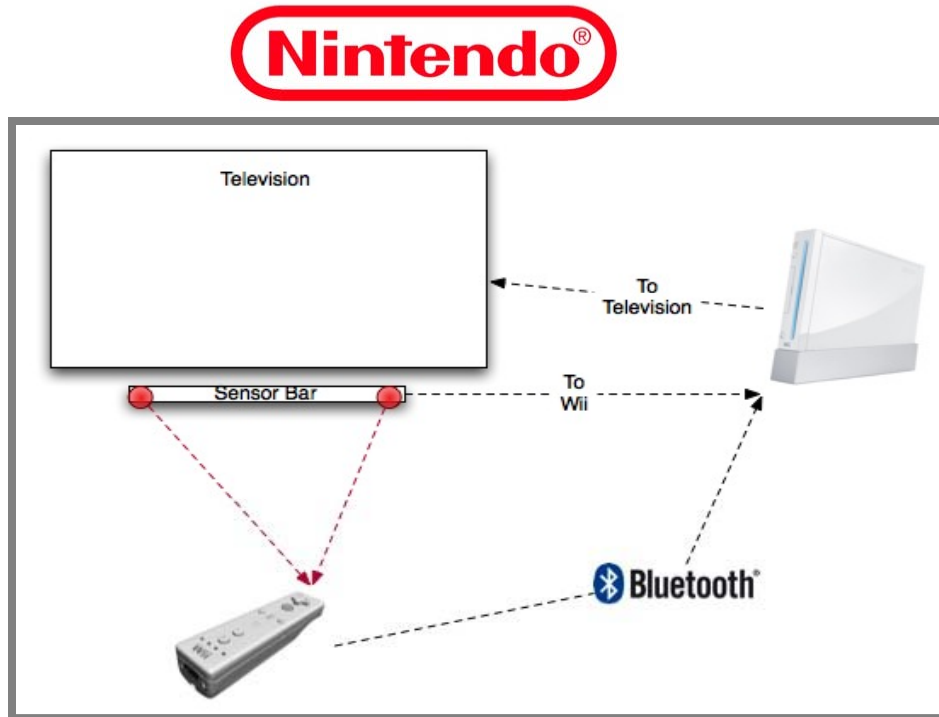
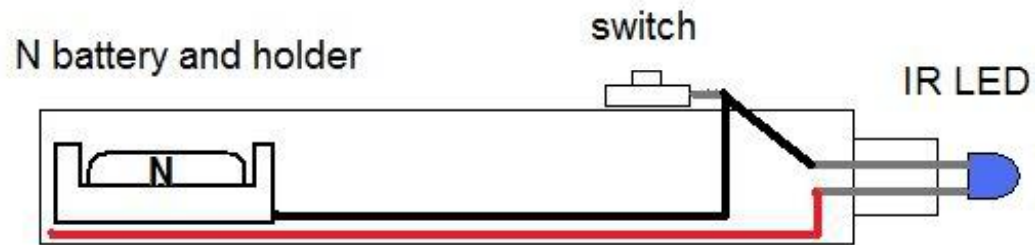


Fig. Example system setup for the Nintendo Wii

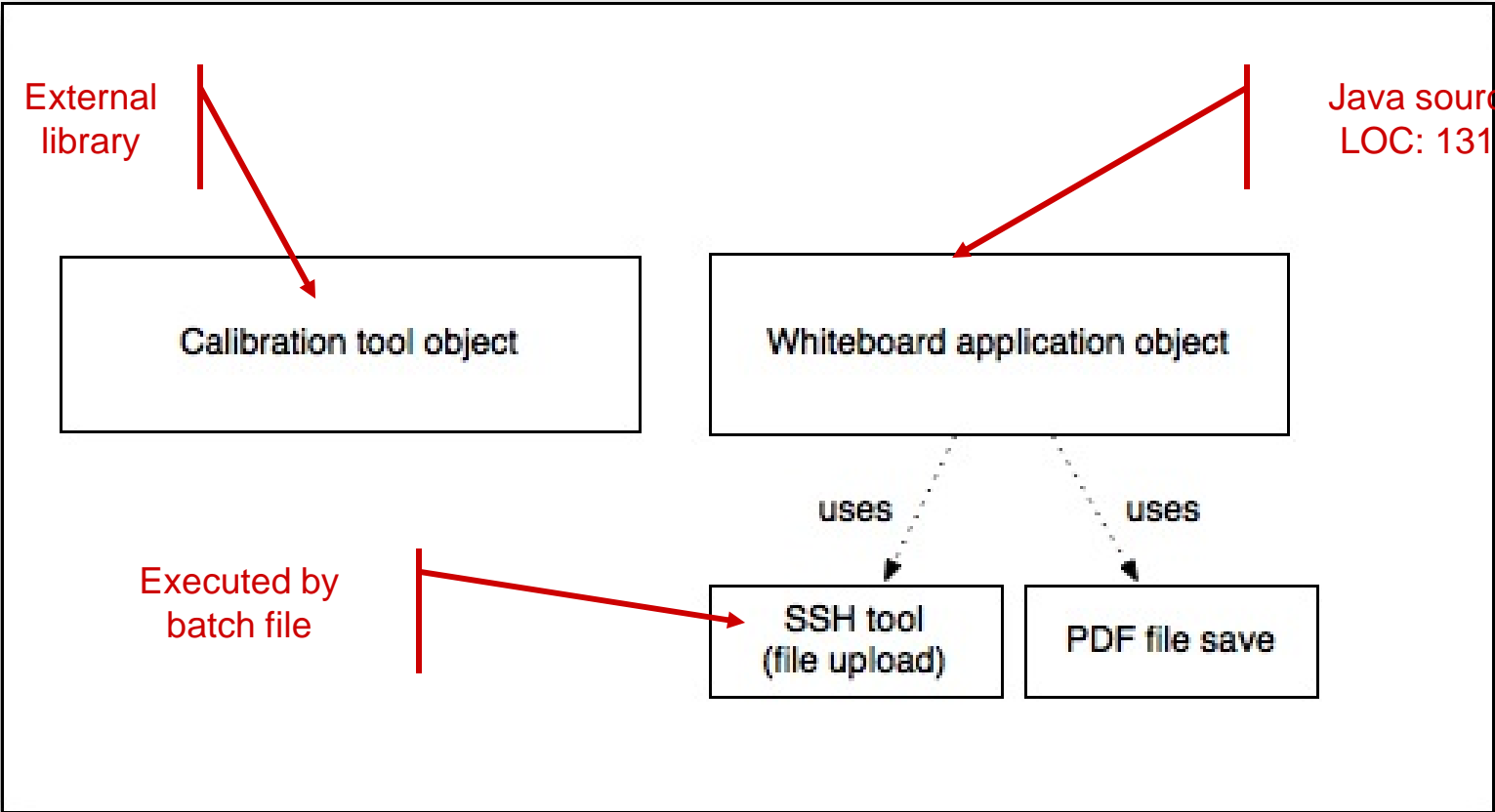
- **Software-driven** solution
- **Paradigm:** Nintendo Wii
- **Hardware parts**
 - commodity
 - low cost



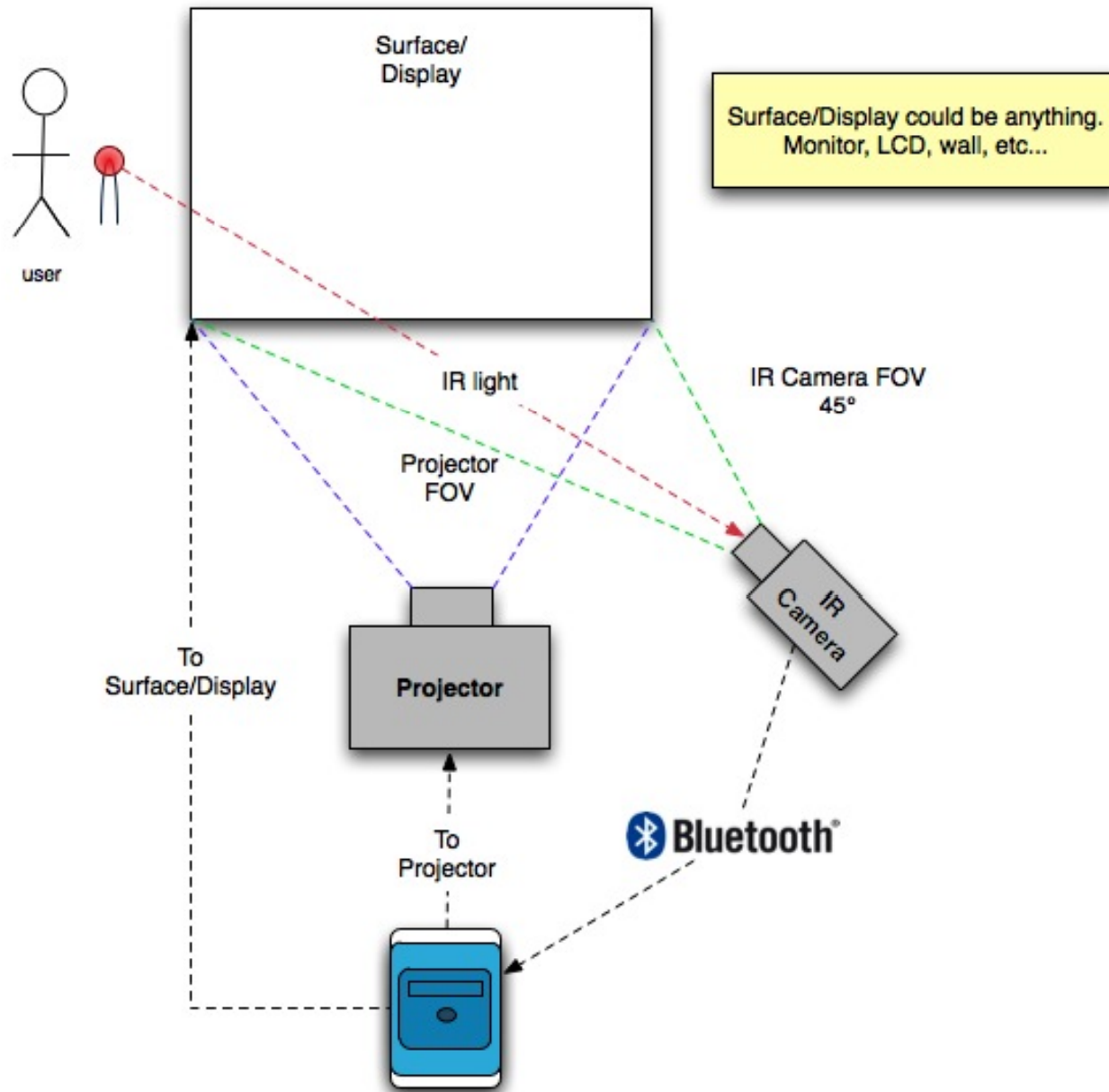
The Infrared (IR) Pen



Software Architecture



System Architecture



Conclusion & Future Work

- **Addressed Limitations**
 - Software vs hardware driven
 - Less bulky (transportable)
 - Lower-cost
- **New ...Limitations**
 - IR pen to IR camera Line of sight
 - Less precision
- **Future Work**
 - Software precision
 - Smoother drawing

Questions

References

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