

**MINNESOTA STATE  
UNIVERSITY**  
M A N K A T O

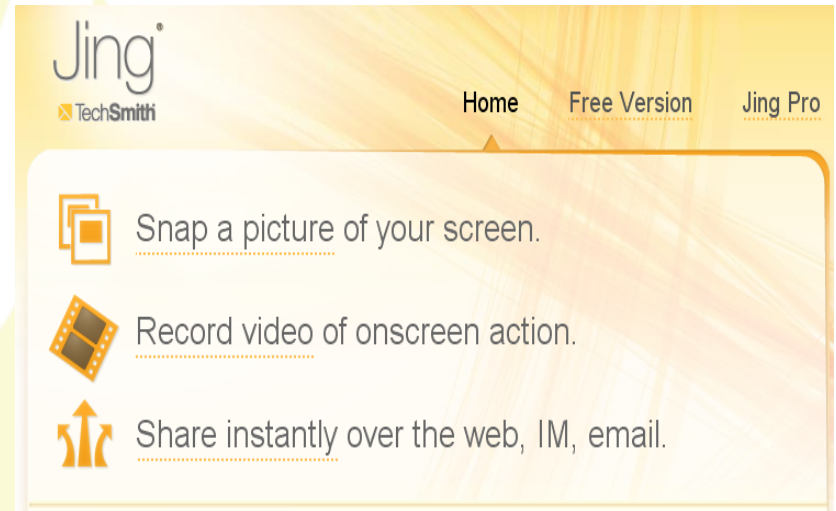


**CETL Teaching Workshop  
Project Presentation  
April 14, 2010**

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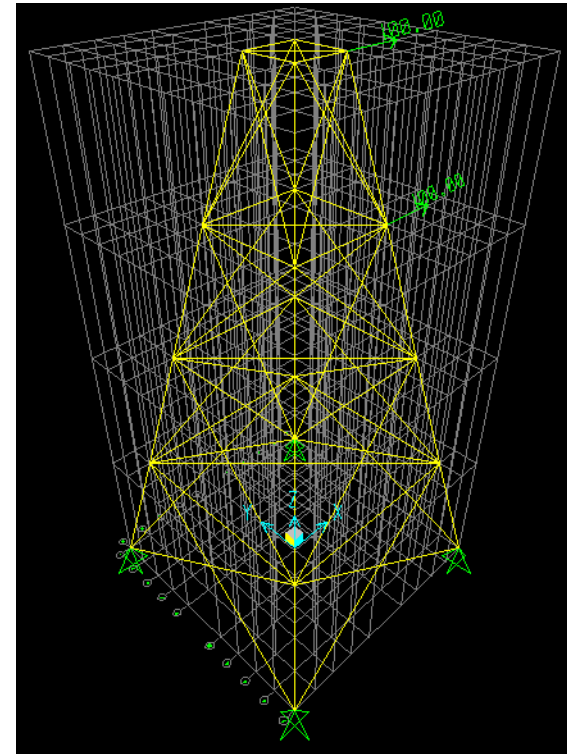
# Teaching with Technology

- ◆ Used the Jing Project as presented by Linda Jacoby in the fall.
- ◆ Studies suggest teaching with technology leads to many beneficial student outcomes:
  - ◆ Increases the preparation of students for most careers and vocations
  - ◆ Significantly improves student problem solving skills
  - ◆ Can increase opportunities for student-constructed learning
  - ◆ Provides instructional opportunities otherwise not available



# Structural Analysis Software

- ◆ **Structural analysis software is essential in the modern commercial world of engineering**
- ◆ **Significant time saving, ability to analyze complex structures, and consider multiple loading scenarios, improved accuracy**



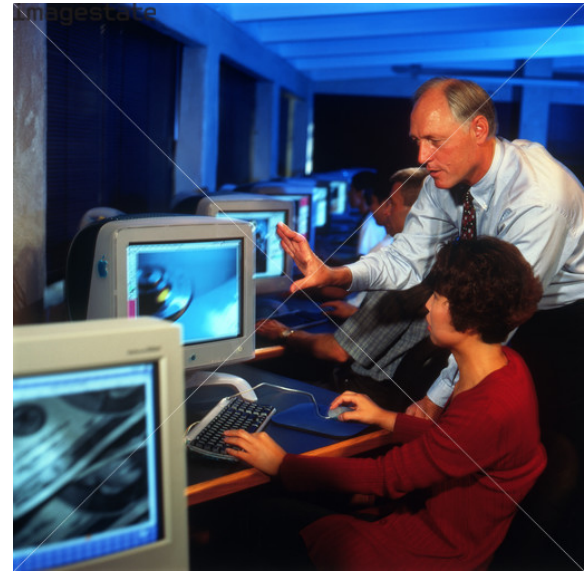
# CIVE 341/ME 415 Structural Analysis

- ◆ Junior level class taught in fall
- ◆ The class places emphasis on fundamental principles. The computer assignments are just a supplement.
- ◆ Six one-hour computer labs in the semester. Expectations – students are first walked through an example and then complete a problem on their own.
- ◆ Twenty students and only 15 licenses for SAP 2000.



# Experience

- ◆ Things did not go smoothly.
- ◆ Students had problems following written instructions.
- ◆ Difficult for instructor to assist multiple stations.
- ◆ Common problems – “where is this command?”, clicking the wrong thing.
- ◆ Assignments were seldom completed in the one hour block.



# Video/Audio Instructions with Jing

- ◆ SAP 2000 Problem 8.31 Part 1
- ◆ <http://www.screencast.com/users/rezaf/folders/Jing/media/02aa114f-2712-49db-9cbe-556573785868>
- ◆ SAP 2000 Problem 8.31 Part 2
- ◆ <http://www.screencast.com/users/rezaf/folders/Jing/media/97f1e182-f1a3-43c1-8dbd-ffb64e0858f4>
- ◆ SAP 2000 Problem 8.31 Part 3
- ◆ <http://www.screencast.com/users/rezaf/folders/Jing/media/241d4d5d-337b-4224-9f7d-fb691db1dd78>
- ◆ SAP 2000 Problem 8.31 Part 4
- ◆ <http://www.screencast.com/users/rezaf/folders/Jing/media/ceadd533-dd54-4d81-b530-fdf32e193d7f>



# Two Way Street

- ◆ **Students can also use Jing to communicate with me**
- ◆ **Previously I had to assign a blanket grade for wrong answers.**
- ◆ **Jing will allow me to provide better feedback e.g. one student drawing their model in inches instead of feet versus a student deliberately skipping time consuming steps.**



# Challenges

- ◆ Takes time to develop the videos.
- ◆ Increased time for grading.
- ◆ Computer freezes.
- ◆ Only 5 minute blocks for recording.

