INSIGHT

Anticipating the Future... Assessing the Impact

IPRO 341 – Midterm Report
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IPRO 341 Fall 2006

INSIGHT

Anticipating the Future... Assessing the Impact

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Outline

- Background
- Collaboration
- Process
- Technical issues
- Societal issues
- Recommendations
- Next steps
- Insight
- Questions

History of Insight

- Fall 2005
  - Researched emerging technologies
    - AI, RFID, Video Games, Internet, Optical Drives, Cell Phones
- Spring 2006
  - Focused on nanotechnology
  - Perceptions of Society
    - Stakeholder Bias
  - Major products currently at market

Objective of IPRO 341

- Collaboration through a distance setting
- Identify technical issues
- Identify and define nanotechnology through self-directed learning
- Understand process involved with emerging technology
- Technical and societal aspects

Fall 2006

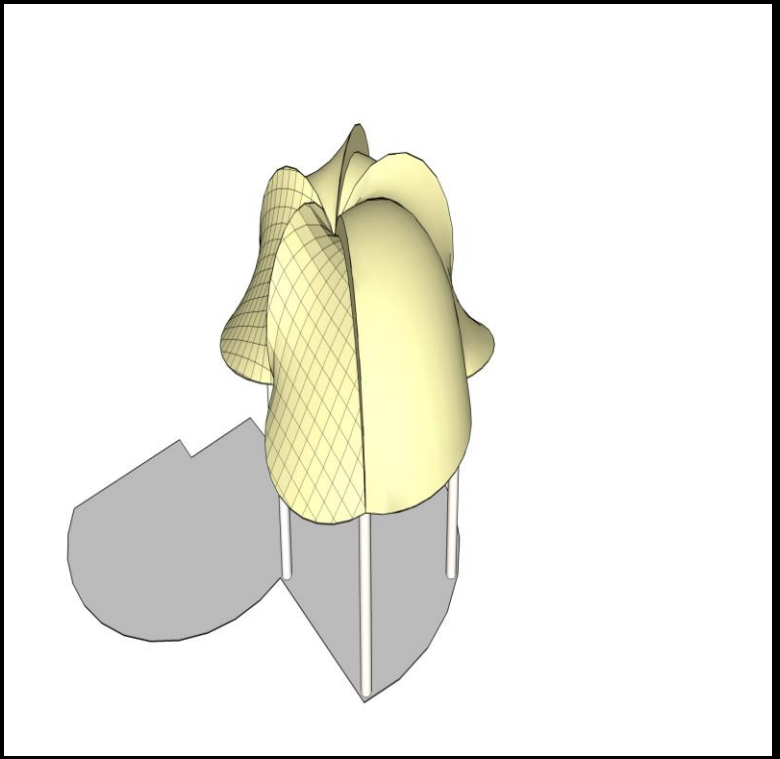
- Working with Ball State University
  - Architecture – “Nanostudio” (mix of actors)
  - Process of evaluation with technical and social implications
    - Aesthetics vs. Functionality
- Initially began researching nanotechnology
  - General overview, then specific materials
  - Evaluated individual designs

Individual Groups

- 3-4 people per group
- Each individual group has different materials
- Groups also have different designs and sites
- Materials not necessarily applicable today, but within 25 years
  - However materials must be proved to work in the lab setting
- Communication with BSU (long distance collaboration)

Natural Umbrella House

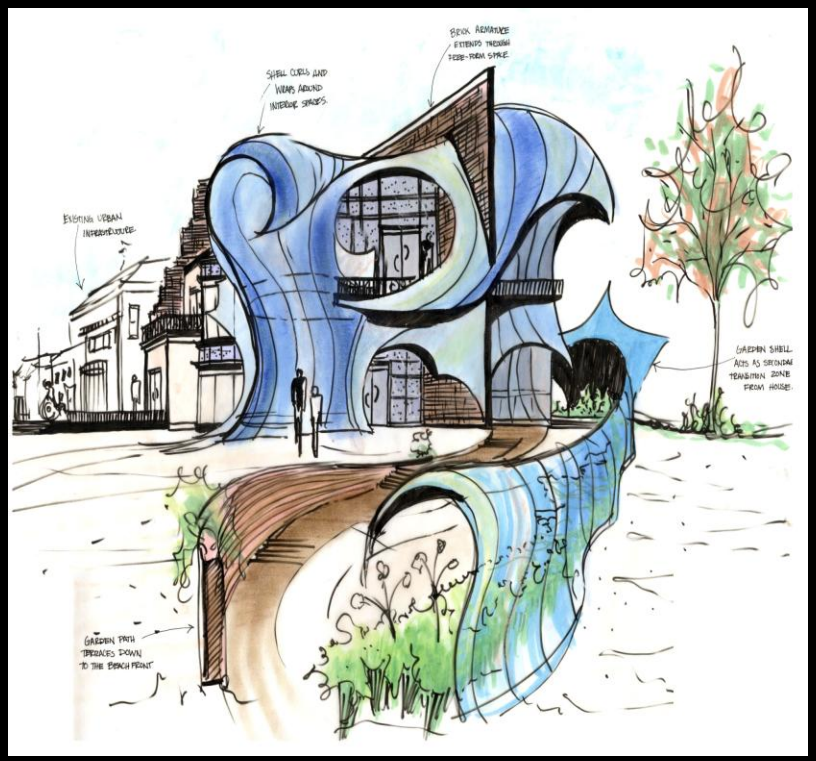
- Nanowire paper, Quantum Dots and Nano-sensors

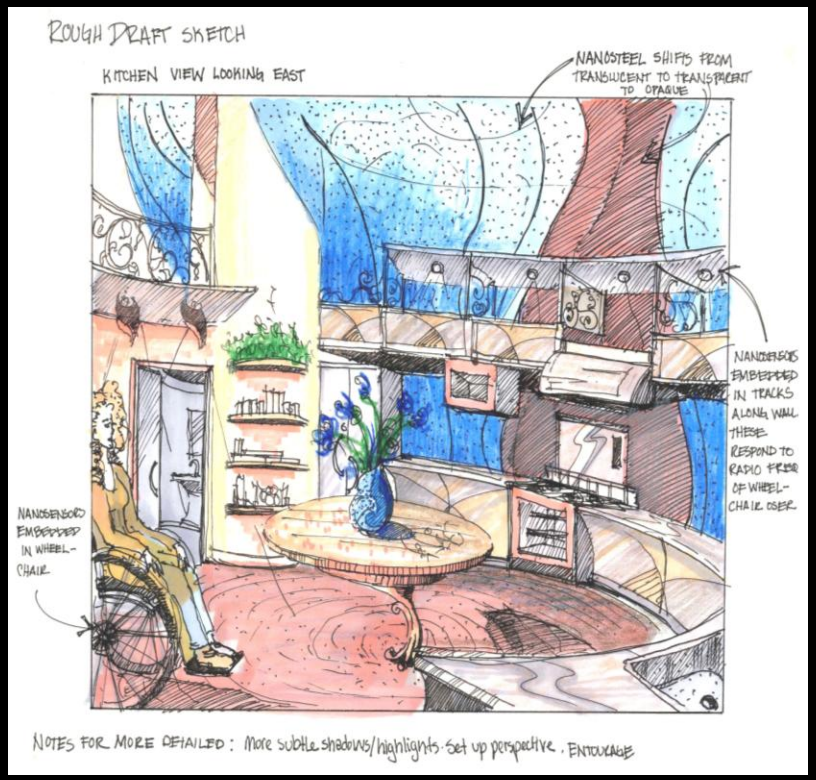


- Pro: Movable walls, Responsive Skeleton
- Con: Roof may melt after it rains

Nanoshell House

- Translucent Nanosteel, Carbon nanotube sensors

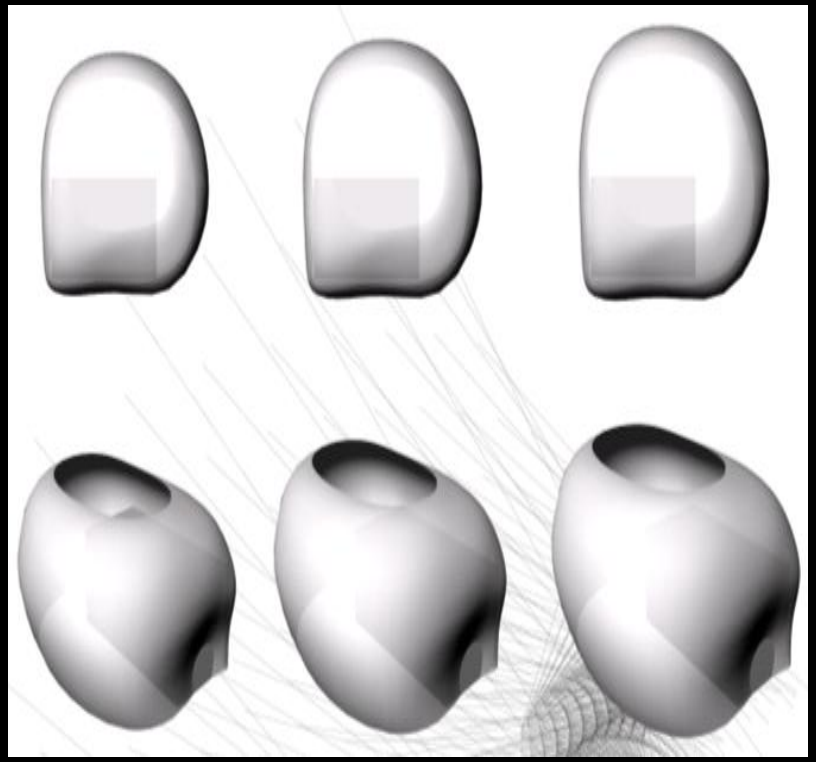




- Pro: Technology already exists
- Con: Electromagnetic effects

Stretch Building

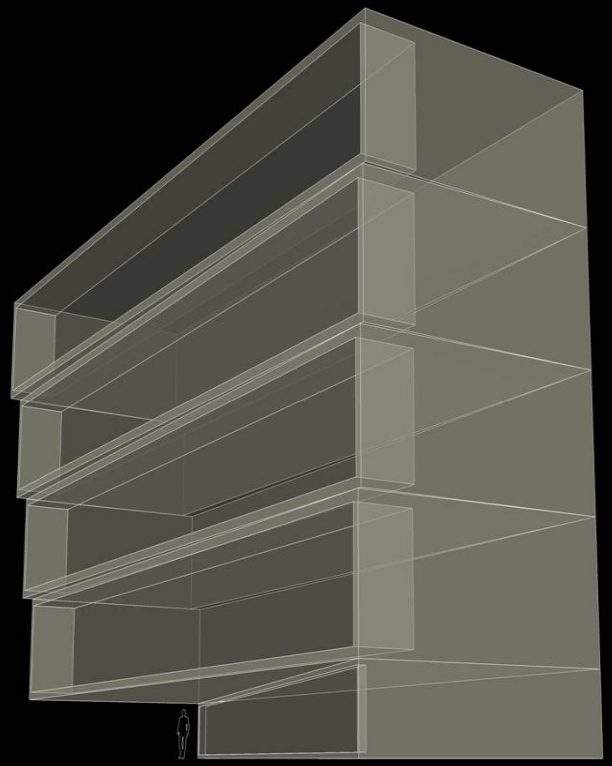
- Carbon Nanotube envelope, CNT Liquid Crystal Displays

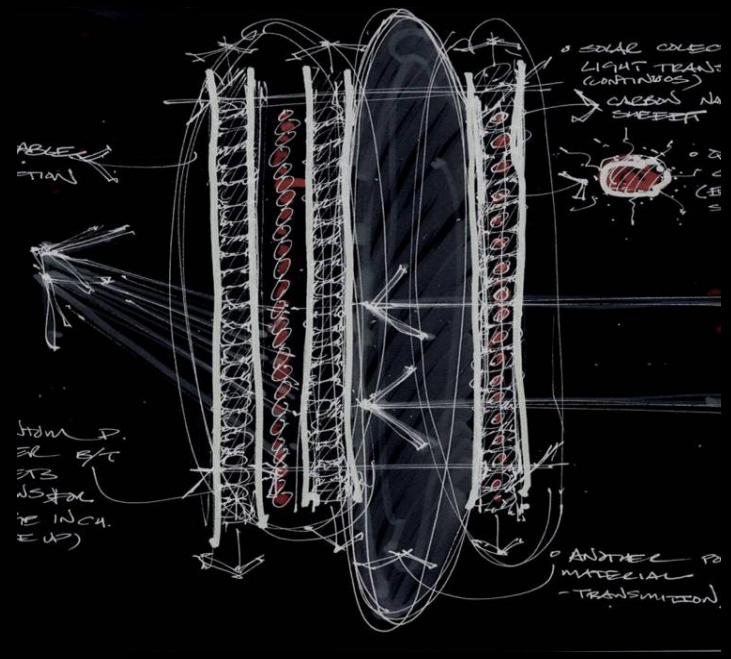


- Pro: Immersive environment
- Con: Taking too many “design liberties”

Stack Building

- Carbon Nanotube Sheets, Quantum Dots

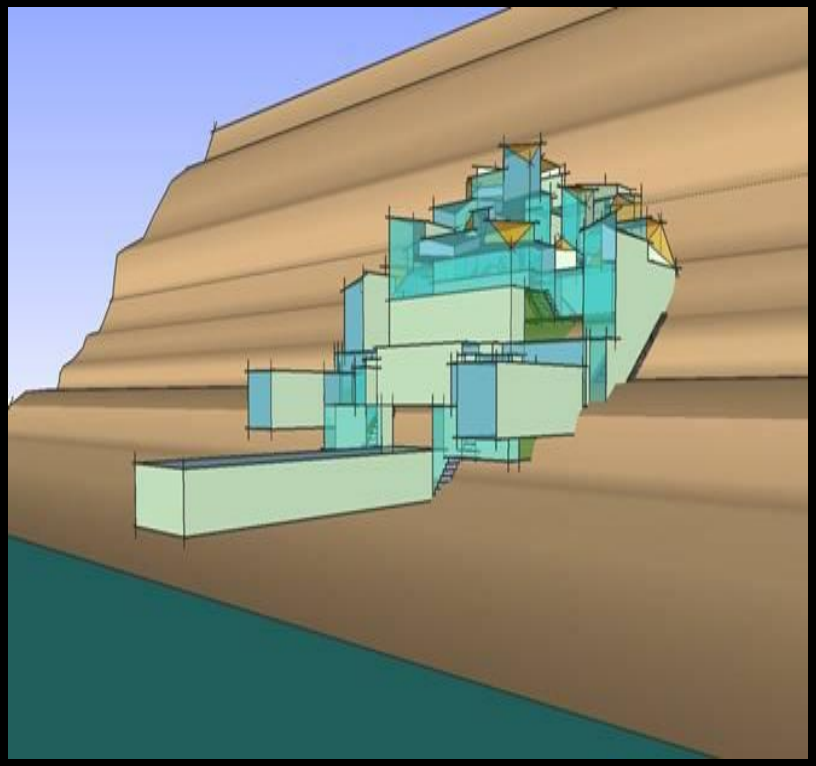




- Pro: Feasibility
- Con: Scientific limitations

Fleischman House

- Carbon nanotubes, Organic Light-emitting Diodes



- Pro: Adaptability to environment
- Con: Structural integrity

Conclusion

- BSU overall designs have questionable feasibility
- Full potential of nanotechnology is yet to be determined
- Further evaluation of Social implications
- Collaboration of tech and non-tech fields

But There Is More…

- Social implications research
  - 5 different categories

Material	Education	Society	Construction Market	Other
• Recyclable • Cost-efficiency • Toxicity • Compatibility • Resourcefulness • Survivability • Life-expectancy • Radioactivity • Sustainability	• User • Insurance agents • Workers • Designers / Engineers • Governing body • Requirements	• Privacy – hacking • Sabotage / attacks • Religious reactions • Malfunctions • Responsible parties • Governing bodies	• Construction time • Material delivery • Job force / market • New hardware / machines needed • Insurance • Test efficiency	• How other nations deal with / what regulations do they have?

Next Steps

- Website plans
- Possible use of case studies
  - Viva Gel, Diamonds, Building issues, Weapons

Insights

- Personal experiences

QUESTIONS?

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