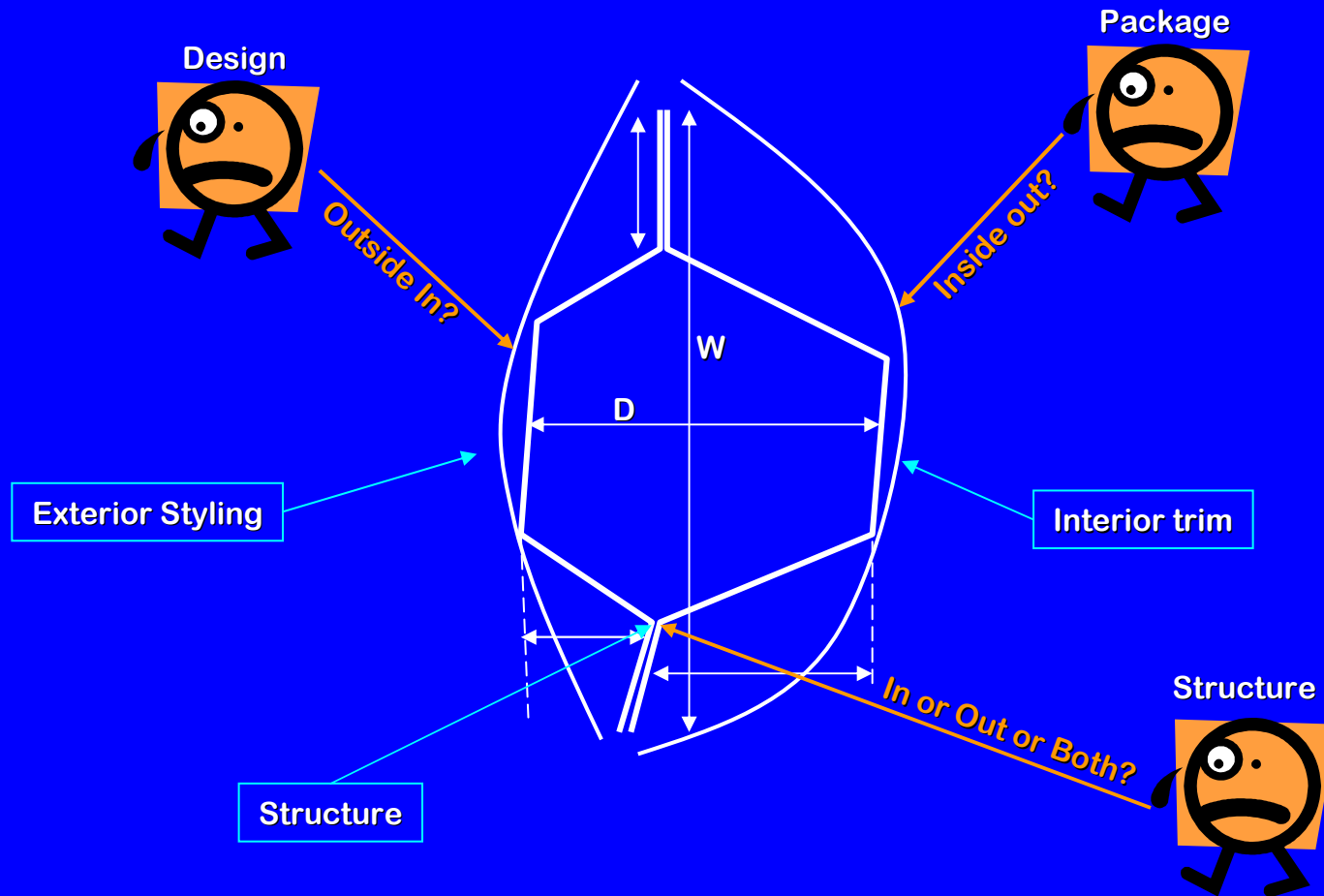


# **Current Status and Future Needs in Vehicle Packaging and Ergonomics**

*Nancy Wang*  
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September 12, 2006

# Problem Statement



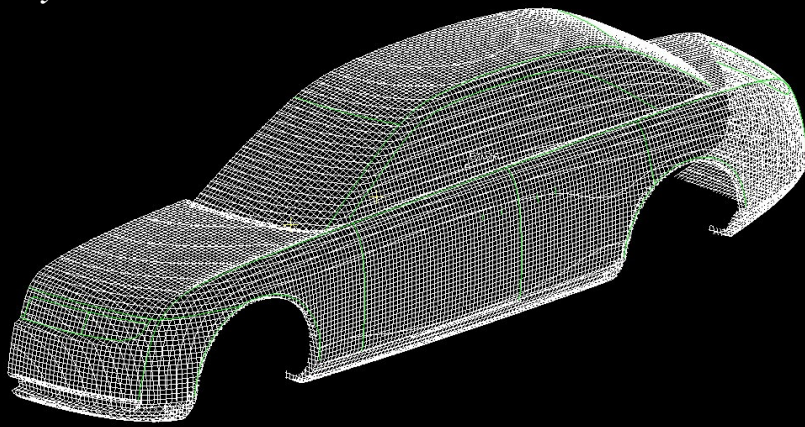
*Challenge: Space Management*

# Areas of Interests

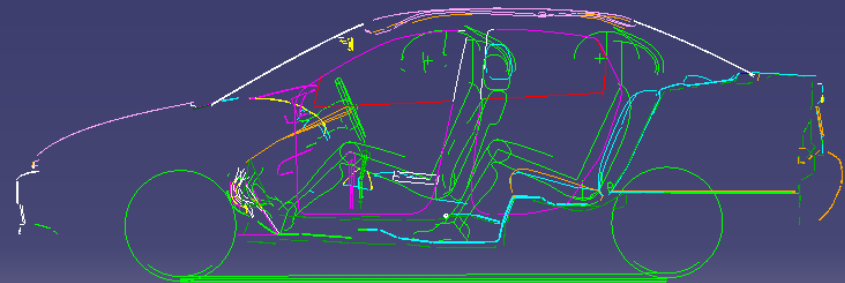
- Vehicle packaging
  - Design trade-offs with Styling & Structure: vehicle architecture development (vehicle proportion)
- Ergonomics
  - Ingress/Egress
  - Digital bio-mechanical model

# Vehicle Design Input

*Style*



*Package*



# Early Design Appraisal



*WorldCarFans.com*

# What's Available & What's Not

- Design (geometrical design)
  - Commercial CAD systems with parametric, rules, etc.
  - Robustness for automatic design change is not there
- Analysis/testing (functional design)
  - Commercial solvers that needs mesh models
  - Concept CAE (ex SFE): very few
  - Morphing: limited
- Missing Links
  - Design to Analysis (CAD to CAE)
  - Analysis to Design (CAE to CAD)