

# *Global Product Design in Engineering Education*

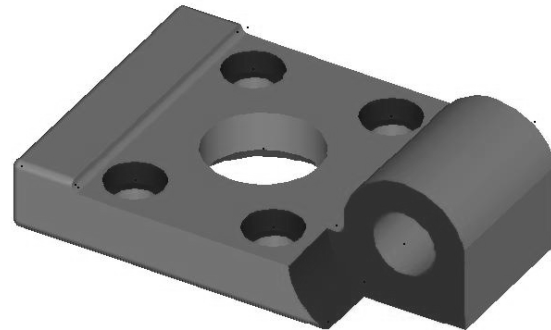


**Dr. Paul H. Zang, P.E.  
Tord Dennis, GaTech**

**A Presentation to the Faculty of  
Michigan Technological University  
March 20, 2003**

# *Introduction*

- Professor of Mechanical Engineering
- PACE Program Administrator
- EDS PLM Solutions Education SIG Leader (I-DEAS)



# *Today's Situation ...*



- ◆ Multiple communication platforms
- ◆ Minimal course integration
- ◆ Minimal written or presentation team projects



# *What is Global Product Design in Engineering Education (GPDEE)?*

- Design Process as a component of an Enterprise Process in Engineering Education
- 24/7 Product Design
- Knowledge & Data Management
- Enterprise Data Management
- Metaphase, Windchill, I-MAN, ...

# *What is GPDEE? (continued)*

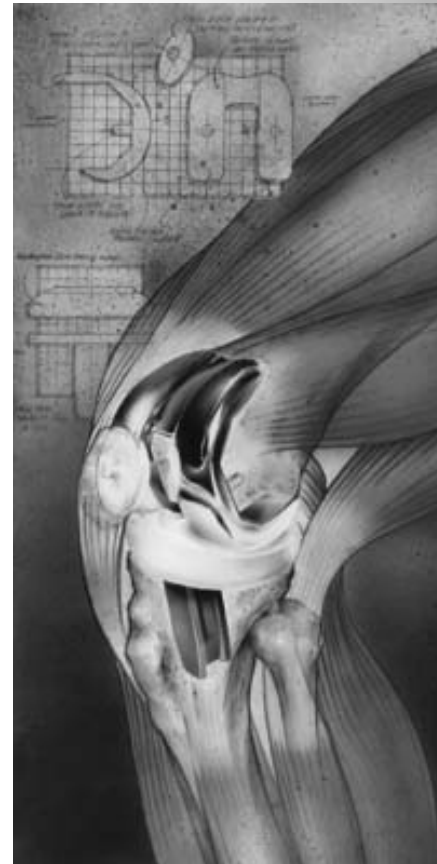
- Technology based  
(less than 5 years old!)
- Flexible
- Simple to Implement
- Enterprise Wide  
unifying data model
- Universal  
Connectivity Globally



# *Why is GPDEE necessary?*

- Getting Product to Market Faster
- 80% of a products costs are embedded by the time that product is tossed over-the-wall to manufacturing
- Partner, Supplier and Customer Collaboration
- Tying together the multitude of geographically dispersed computing systems in universities

# *What is GPDEE (continued)?*



## Files

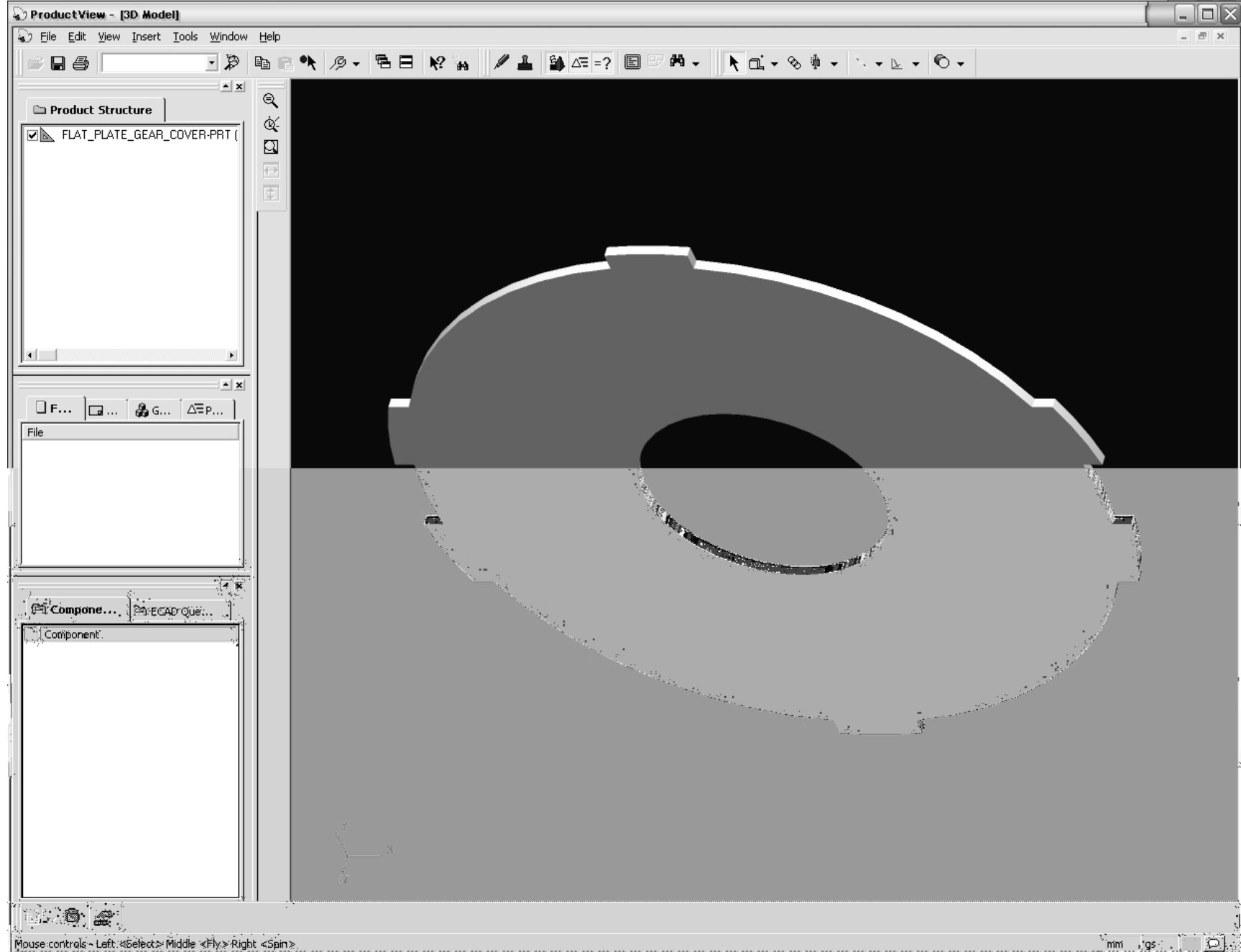


Expand All Collapse All



Name	Actions	Last Modified	Modified By
Designs	- Pick an Action -	Feb 17, 2003, 12:23 PM	
General	- Pick an Action -	Feb 17, 2003, 12:23 PM	
Cordless description	- Pick an Action -	Feb 17, 2003, 9:00 PM	Tord Dennis
DEMO	- Pick an Action -	Feb 17, 2003, 12:50 PM	Tord Dennis
gear assembly	- Pick an Action -	Feb 21, 2003, 11:32 AM	Tord Dennis
milastures	- Pick an Action -	Mar 14, 2003, 11:24 AM	Tord Dennis
Bottom View Configuration	- Pick an Action -	Mar 7, 2003, 11:07 AM	Tord Dennis
Inventory Item in Assembly	- Pick an Action -	Feb 17, 2003, 12:34 PM	Tord Dennis
Parts - GT	- Pick an Action -	Feb 27, 2003, 1:28 PM	
BASE PLATE	- Pick an Action -	Feb 28, 2003, 12:51 PM	Carman Chang
FLAT PLATE GEAR BOXES	- Pick an Action -	Feb 28, 2003, 12:51 PM	Carman Chang
GEAR	- Pick an Action -	Feb 28, 2003, 11:50 AM	Carman Chang
GEAR SHAFT	- Pick an Action -	Mar 13, 2003, 2:15 AM	Carman Chang
LOWER GEAR CONN PROTECTOR	- Pick an Action -	Mar 14, 2003, 4:05 PM	Carman Chang
LOWER GEAR CONNECTOR	- Pick an Action -	Mar 13, 2003, 12:39 AM	Carman Chang
SILVER BARREL	- Pick an Action -	Feb 28, 2003, 12:51 PM	Carman Chang
UPPER TOWN GEAR CONNECTOR	- Pick an Action -	Mar 14, 2003, 10:47 AM	Carman Chang
Parts - UND	- Pick an Action -	Feb 27, 2003, 1:28 PM	
60 BLUES KEYHOLE	- Pick an Action -	Mar 5, 2003, 3:23 PM	YiHanna Pham
BLACK GEAR	- Pick an Action -	Mar 10, 2003, 2:47 PM	Carman Chang
MOTOR CASE	- Pick an Action -	Feb 28, 2003, 11:53 AM	Lyle Velazquez
ORANGE GEAR	- Pick an Action -	Mar 7, 2003, 10:19 AM	YiHanna Pham
UPPER SHAFT	- Pick an Action -	Feb 28, 2003, 11:47 AM	YiHanna Pham
Prototypes	- Pick an Action -	Feb 17, 2003, 12:23 PM	





# *Who are the Potential Constituent “Sponsors”?*

- Automotive Groups
- Aerospace Industries
- Any Global Based  
Manufacturing  
Industry



# *What do our “Sponsors” Use?*

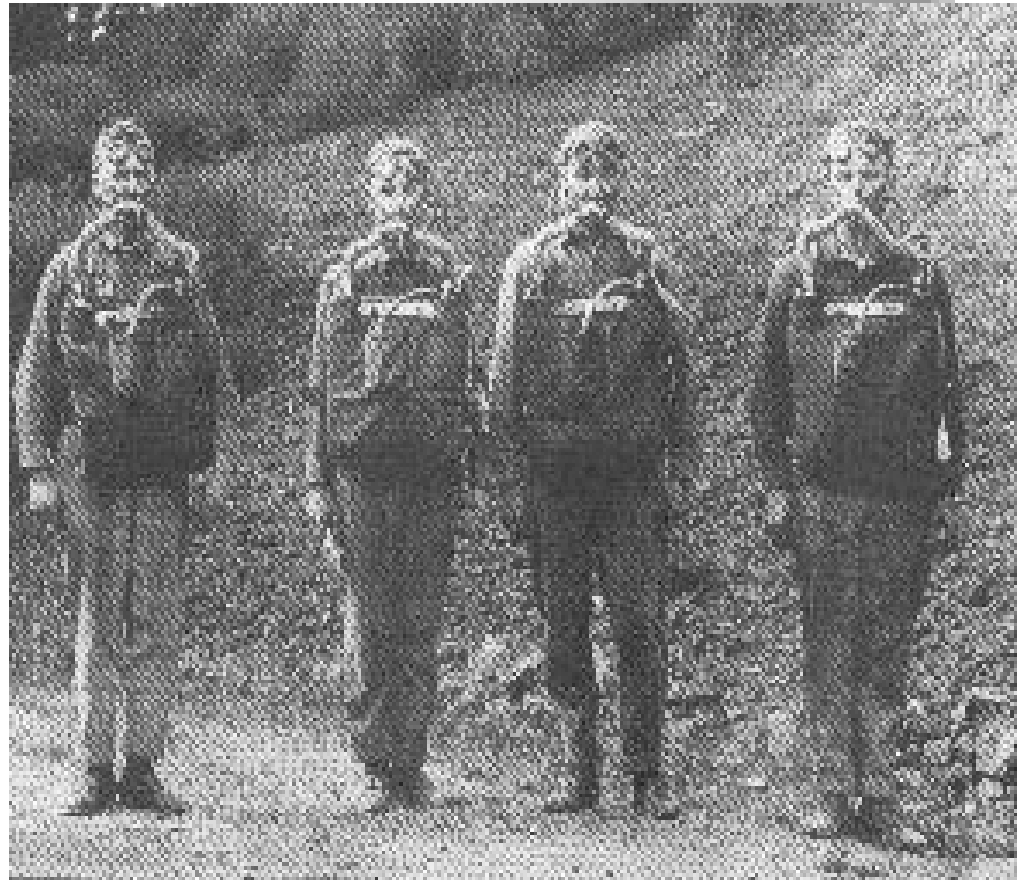
Some survey results:

- Sketching Ability
- Report Writing
- Oral Presentation Ability
- Solids Modeling
- GD&T
- PDM Skills



# *How Much Can We Afford?*

- Who will manage the data structure?
- What about the PIM?



# *Team/Resources*

- Strong commitment from “da Boss guy”
- Equipment
  - Central Server
  - Workstations & PC’s
- Support
  - UNIX & NT



# *Should this an Mandate?*

- Yes, we are GPDEE, resistance is futile, prepare to be assimilated!
- Global companies are accelerating in this direction.



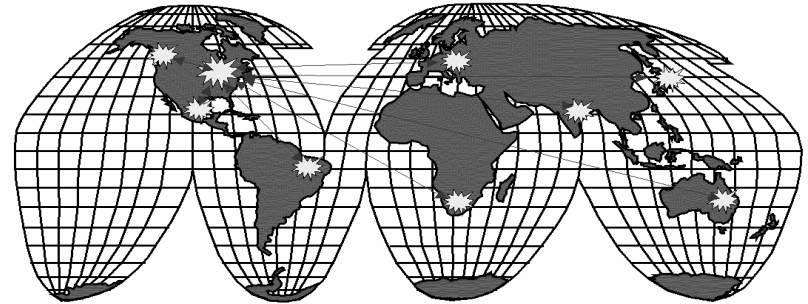
# *How do we get GPDEE?*

- Concurrent Capstone Design Engineering Consortium using a Global Production System
- GM, SUN, UGS PLM Solutions, PACE
- GaTech Grand Experiment



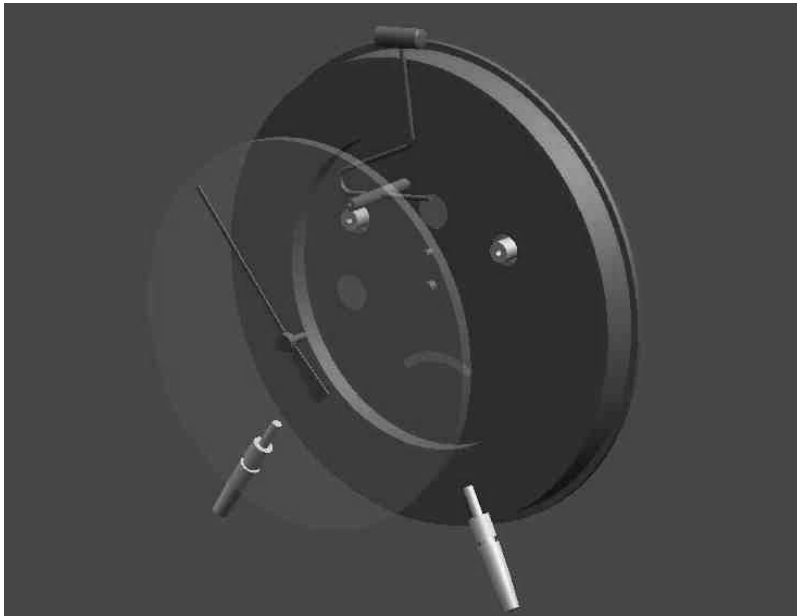
# *We can do this NOW!!*

- GaTech/Kettering  
Demo Project
- GaTech/PTC Grand  
Experiment
- Teamcenter  
Community (PACE)  
Portal





# *Future Work*



- Metaphase or I-MAN Cross University Project (Intra-U)
- TcC or PTC Windchill Portal
- Cross-University Concurrent Engineering (Extra-U)
- TIME for Questions??

