Product Lifecycle Management
Industrial Partners Meeting
June 27, 2007

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Mileta Tomovic
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PLM Center of Excellence

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Director of Engagement
Today’s Agenda

Welcome and Opening Comments
- 9:00-9:30  Prof. John Sullivan, Richard Couch

NSF and SME Project Updates
- 9:30-10:00  Prof. Nathan Hartman

Boeing PLM Training Project
- 10:00-10:15  Prof. Gary Bertoline

Break
- 10:15 – 10:30

Current Funded Project Presentations
- 10:30 - 10:50  Brendan Stolle - Examination of Data Exchange between Contemporary CAD Tools, Prof. Nathan Hartman
- 10:50 - 11:10  Prof. Lisa Ncube, Abe Walton – PLM Metrics, Prof. Cynthia Tomovic
- 11:10 - 11:30  Venkat Srinivasan – A Procedure of Analysis of Feasibility and Uncertainty in Distributed Product Development Environments, Prof. Ganesh Subbarayan
- 11:30 - 11:50  Jingfeng Yan - Exploratory Research in Database Systems Support for Product Lifecycle Management, Prof. Walid Aref
- 11:50 - 12:10  Noel Titus – Configuration Driven Design for Knowledge Reuse During Product Lifecycle, Prof. Karthik Ramani

Lunch
- 12:10 – 1:00

Industrial Advisory Board Members
- 1:00 – 1:15  Mr. Ed Shinouskis - EDS
- 1:15 – 1:30  Dr. Vijay Srinivasan and Kurt Kovacic, IBM
- 1:30 – 2:30  Opportunities and Challenges in PLM - Mr. Mark Burgess, Boeing

Open Forum – PLM Collaboration between Industry and Academia
- 2:30 – 3:30

Closing Remarks

Envision Center Tour for Guest Attendees
Product Lifecycle Management Center of Excellence

Mission

• Promote the advancement and implementation of the PLM vision through industry partnerships and public and private grants in Discovery, Engagement, and Learning.

• Provide the means where advanced technologies that allow for the implementation of PLM can be researched, applied, taught and disseminated.
  -- Research the technology
  -- Apply the research to real-world problem
  -- Teach those technologies to students
  -- Disseminate them as valuable business practices
Product Lifecycle Management Center of Excellence

Goal

- Create an environment and demonstration center where components of PLM can be researched, studied, implemented, and shared.

- Provide educational PLM experiences for undergraduate and graduate students who will understand the PLM vision, implementation strategies, and applications so they can help industry successfully integrate PLM as a business strategy.

- Provide industry practitioners PLM training materials for professional advancement.
PLM Center of Excellence
Characteristics

• Interdisciplinary Research Effort: Management, Engineering, Science, Technology, and Pharmacy
• 750K 3-year Purdue commitment
• Center Membership:
  • IBM
  • EDS
  • Boeing
• Other Support:
  • Procter & Gamble
  • Rolls Royce
  • Eli Lilly
  • General Motors (PACE Program)
  • Cummins
• Software:
  • Dassault Systemes
  • IBM
  • Unigraphics
  • PTC
  • Autodesk
Envision Center

1. Funded by Purdue, NSF, IBM and Intel

2. Interdisciplinary Research facility
   (14 departments)

3. Includes PLM showcase workstations donated through IBM SUR Grant
PLM Center of Excellence

• Upcoming Events
  
  • PLM Workshop ~ June 2007, Beihang University
  • PACE Forum ~ July 2007 – Darmstadt, Germany
  • PLM/SME Roundtable ~ August 2007
  • Purdue PLM Workshop ~ September 2008
1st Round PLM Projects

- PDM Investigation, Evaluation, Implementation, and Demonstration for PLM – Prof. Craig Miller
- Development of a Streamlined Methodology to Showcase the PLM Projects in Immersive Virtual Environments – Prof. Nathan Hartman
- Models to Support Auto-ID Based Process Control Systems in PLM – Prof. Edie Schmidt
- Integrated Sensing and Diagnostics for Product Life Cycle Health Management of Gas Turbine Engines: Application to Wire Harnesses and Connectors – Prof. Douglas Adams
Completed Proprietary Projects

- Rolls Royce Legacy Data Migration/KBE Project (Phases 1 & 2) – Prof. Nathan Hartman & Prof. Craig Miller
- Boeing 3dXML vs. CGR Analysis Project – Prof. Chris Hoffmann & Prof. Nathan Hartman
- Daimler Chrysler Digital Factory- Prof. Craig Miller
- Boeing Future of Flight – Prof. Craig Miller
Current Proprietary Projects

* Royce Rolls Phase III: Creation of tool libraries to facilitate digital simulation and evaluation for manufacturing planning. Create methodology for capturing 2D legacy manufacturing data in the creation of 3D manufacturing models. T/C Engineering and Community integration and Supplier Communication – Prof. Nathan Hartman

* Boeing: Development of PLM Training Modules in Catia, Enovia, and Delmia – Prof. Nathan Hartman & Prof. Pat Connolly

* Cummins: Virtual WorkCell Project – Prof. Vince Duffy & Prof. Nathan Hartman
Current Center Projects

- Prof. Cynthia Tomovic - PLM Metrics
- Prof. Karthik Ramani – Configuration Driven Design for Knowledge Reuse During Product Lifecycle
- Prof. Nathan Hartman - Examination of Data Exchange between Contemporary CAD Tools
- Prof. Ganesh Subbarayan – A procedure of Analysis of Feasibility and Uncertainty in Distributed Product Development Environments
- Prof. Walid Aref - Exploratory Research in Database Systems Support for Product Lifecycle Management
Proposed Proprietary Projects

- Autocar – Ergonomic Analysis of Cab Design
- Meade Johnson – Process Lifecycle Management
- Boeing – IML Geometry
- Follow the Sun
Other PLM Activities

- PLM & PACE Newsletters
- Over 1500 students/yr using Dassault, Pro-E, and UGS
- TeamCenter Community
- Boeing F-86 in Enovia
- CAM Annual Report
- PLM Short Course
- Prof. Dyrenfurth PACE Grant
SME and NSF PLM Grants

- $274,000 SME award to Dr. Mileta Tomovic for the development of Curriculum Modules in Product Lifecycle Management

- $1,500,000 Phase 2 NSF grant to Dr. Tomovic to establish Regional PLM Center of Excellence and coordinate distribution of PLM modules to leading Community Colleges.
Our Goals Today!

- Update Current Members on Project Progress.
- Inform our attendees of the PLM efforts at Purdue.
- Sign up new members!
Industrial Partners Membership

- **Annual Financial Commitment** $50,000

- **Joint projects developed between the** Partner and the PLM Center of Excellence
  - Cost dependent on scope of the project

- **Intellectual Property Agreement**
  - General PLM Center of Excellence agreement signed by all members
  - Specific IP agreements for company projects when required