AC 2009-1880: THE LIAISON ENGINEER'S GUIDE: A RESOURCE FOR CAPSTONE DESIGN PROJECT INDUSTRIAL SPONSORS AND FACULTY MENTORS

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Abstract

Industrially sponsored capstone design projects are rarely successful unless the sponsor company provides an engineering resource to support the project team. This liaison engineer serves as the primary advocate for the sponsor company's needs and helps to focus the development team's efforts on achieving the goals for the design project. These engineers play a crucial role in the successful completion of the project and more importantly in the education of new engineers.

The Integrated Product and Process Design program is an innovative educational initiative at the University of Florida. Over two semesters, (eight months), in weekly classes, students from various engineering and business disciplines are taught how to design products and processes. Then, working in small multidisciplinary teams under the guidance of faculty coaches and industrial liaison engineers, the students design and build authentic industrial products.

Over a thirteen-year period, spanning more than 300 industry-sponsored design projects, a wide variety of interaction patterns have been observed between project teams and liaison engineers. With help from the best liaisons and feedback from many faculty project mentors, a "how-to" guide was developed as a resource for liaison engineers. This guide includes an overview of the Integrated Product and Process Design program, roles and responsibilities for various stakeholders, a collection of best practices, and a frequently asked questions section.

A checklist for faculty project mentors was developed as a companion to the liaison engineer's guide. This checklist helps to build rapport between the faculty mentor and the liaison engineer, and informs the liaison engineer about the Integrated Product and Process Design program milestones, travel dates, and available resources.

1. Introduction

The Integrated Product and Process Design (IPPD) program[1-4] is an innovative educational initiative at the College of Engineering, University of Florida. Over two semesters, (eight months), in weekly classes, students from various engineering and business disciplines are taught how to design products and processes. Then, working in small multidisciplinary teams under the guidance of faculty coaches and industrial liaison engineers, the students design and build authentic industrial products.

The IPPD program is institutionalized at the University of Florida and since the program launch in 1995, over 300 industry-sponsored multidisciplinary projects have been completed, with over 1800 students, more than 50 faculty coaches, and hundreds of company sponsor liaison engineers participating. While the IPPD development process is well defined and 90% of the projects are deemed successful, there is wide variability in the quality of the interactions between the sponsoring companies and the student project teams.

Ideally, the liaison engineers are interested in working with the student teams, have a stake in the success of the project (i.e. project success is part of their performance objectives), and have support from their management. Our experiences indicate that most of the liaisons are engaged with the project teams, but many are unsure of their boundaries and what is expected of them. Feedback from industry representatives following the annual IPPD final design reviews, comments from the faculty coaches passed along to the IPPD Director, and post assessment survey results from student participants support these concerns. The IPPD Advisory Board suggested that providing additional resources to the industry liaison engineers could improve their interactions with the teams and lead to improved project and learning outcomes.

A faculty retreat was held in May 2008 to develop an outline for a "how-to" guide for IPPD liaison engineers. The faculty nominated exemplary liaison engineers and best practices were gathered from these engineers and consolidated into the "IPPD Liaison Engineer Guide Document[5]." To supplement the guide, a comprehensive set of university resources were identified and made available to the liaisons. These resources include library privileges, university e-mail accounts, and access to certain campus software licenses (note: football and basketball tickets were *not* available).

The "IPPD Liaison Engineer Guide Document" includes the following elements:

- welcome letter from the IPPD Director
- IPPD program overview
- roles of the various stakeholders (director, faculty coaches, students, and liaison engineers)
- stakeholders expectations
- tips, strategies, and best practices
- Frequently Asked Questions (FAQ)
- access to IPPD team resources

The guide was first made available to the IPPD liaison engineers in the fall of 2008. A companion checklist was distributed to the IPPD faculty to provide talking points for initial liaison engineer project discussions. The content of the liaison guide and the checklist are summarized in the following section.

2. IPPD Liaison Guide Elements

The liaison guide document organization was inspired by a booklet prepared by the University of Florida Foundation targeted at volunteer fundraisers[7]. Excerpts from the guide are provided in italics.

2.1 Welcome Letter

The welcome letter thanks the liaison for agreeing to participate and reinforces the crucial role the liaison plays in the education of the new engineers on the project team. The letter also invites the liaison to share any tips for success and encourages the liaison to contact the director with questions and concerns.

2.2 Overview of the Process

The process overview section describes what the IPPD program is and how it operates, the general philosophy of the approach, and the benefits of industry participation. The overview emphasizes the educational aspects of the IPPD program. It is important to reinforce that educational success is the primary mission and that project success is secondary.

The IPPD program provides both classroom and laboratory experience that show:

- *How fundamental engineering science is relevant to effective product and process design*
- *That design involves not just product function but also manufacturability, cost, schedule, reliability, quality, customer preferences and life cycle issues*
- *How to complete projects on time and within a budget*
- *That engineering is a multidisciplinary effort*

Working in small multidisciplinary project teams, students gain important practical experience in teamwork and communication and in developing their leadership, management and people skills.

Advantages for industry participation are included in this section. The executive sponsoring the project may have strategic reasons for participation, but these reasons may or may not be shared with the liaison. It could be that the company is looking for new ideas, access to new hires, philanthropic outlets, or simply to keep their brand active at the university.

Advantages of integrating product and process design are well recognized by industry. Concurrent design of products and processes improves product costs and quality and reduces time-to-market. Students who have worked on real-life projects and know how to work in teams are more valuable as employees. They also recognize the importance of communication among different engineering and business disciplines.

Industry participation in this program offers benefits such as:

- *Influencing the education of potential employees*
- *Completing an important project for your company by a multidisciplinary faculty-coached student design team at very competitive costs*
- *Providing your company valuable interaction with faculty who have interest and expertise in technical areas of your business*
- *Gaining visibility with our students and be able to identify and recruit the best graduates*

2.3 Overview of Roles

This section defines the roles of the key IPPD stakeholders—the coach, student team, liaison engineer, and Director. This section is included so that boundaries are established and the liaison has a clear idea of who is responsible for what aspects of the project. Expectations are much easier to manage if stakeholders and their roles are well defined.[5]

2.3.1 Coach

The coach is a University of Florida faculty member and will be the assisting the team as an experienced engineer to design and build real-life industrial projects. They will be the primary point of contact for their respective team and will assist the team of new engineers in understanding a structured design process and helping them to practice it in solving the customer's problem. The coach is responsible for insuring the student team meets the academic and project goals.

2.3.2 Student Team

The team is comprised of engineers from different disciplines working together to meet and satisfy their client's needs—on time and within budget. Meeting customer's project goals requires effective, regular interaction with the liaison engineer of the industrial customer. The team is required to develop a detailed project schedule and work diligently to produce project deliverables on time and of the highest quality. To stay within budget, the team will regularly monitor its spending. Each project is scoped at 600 to 800 hours for an experienced engineer. Assuming a team of six, each team member is expected to spend approximately 10 to 15 hours on the project per week. This time includes the weekly general lectures and the formally scheduled weekly project-specific workshops.

2.3.3 Liaison Engineer

Liaison engineers play a vital role in both the successful completion of the IPPD project and in the development of students into professionals ready for the workforce. The students will be looking to you as a role model. It is important that they learn how professionals get the job done. The liaison engineer keeps the team focused on the project goals, while the faculty coach has this and additional roles, such as helping the team meet the academic goals of the IPPD course.

2.3.4 Director

The Director is responsible for the academic, financial, and product development success of the IPPD program. These academic, fiscal, and technological goals are met through day-to-day management of the IPPD program and ensuring that the teams proceed with their projects through a structured development process. Administrative, purchasing and travel requests are approved by the director before processing. The Director represents the program and the University of Florida to industry customers and peer academic institutions. The liaison engineers and customers may approach the Director any time during the project period to discuss any issues or concerns they might have.

2.4 Expectations

Defining the roles helps to set up expectations for the stakeholders. The expectations provide specific actions that the project team expects from the liaison and in return, what the liaison can expect from the project team. Note that while many of the expectations are focused upon technical and coordination issues, others focus upon building rapport, such as learning the students' names. Others deal with logistics for team visits and the involvement of sponsor Human Resources when introducing the team to the company.

2.4.1 Liaison Expectations

- *Be prepared to devote up to two hours a week to the project; typically one hour per week is sufficient, but site visits and design reviews may consume four or more hours*
- *Learn the names of the project team members*
- *Treat the project team as professionals*
- *Be available for a weekly, regularly scheduled teleconference with the project team*
- *Identify a backup if you are unable to attend a teleconference*
- *Coordinate team visits to your facility*
- *Respond to team e-mails; note that the students should try to consolidate e-mail requests so that the liaison is not flooded with requests*
- *Review deliverables produced by the team and provide timely feedback*
- *Reinforce the importance of the project--if it is important to you, it will be important to project team*
- *Provide technical feedback; find the expertise in your organization for feedback if you don't personally have the knowledge*
- *Assist team in obtaining support items*
- *Facilitate the loan of equipment for the duration of the project or the use of the company's facilities for testing*
- *Direct team to preferred suppliers and provide assistance when suppliers are unresponsive to student requests (sometimes suppliers may "blow us off", while they are attentive to their regular customers)*
- *Critique and sanitize design review presentations as required prior to public design reviews*
- *Voice concerns with the coach privately, especially if you are not happy with the team's performance*
- *Provide feedback to coach regarding individuals and team performance*
- *Coordinate with HR for team/site visits*

2.4.2 Team/ Coach Expectations

- *Agendas will be provided 24h in advance of meeting*
- *Minutes will be published within 24h of the meeting*
- *Issues, actions, risks, bugs will be tracked and notified*
- *Clear communication on whether goal of project is alpha, beta prototype or final product*
- *Drafts will be provided in advance for review*
- *Coaches will be the next level of contact above the team.*
- *Coaches will inform them what the next steps are*
- *Clear and concise communication of problems and difficulties faced*
- *Copied on all communication*

- *Access to coach & director*
- *Opportunity for meeting with coach to discuss team issues and project status*
- *Coach will assign project grade with liaison feedback and input from other faculty reviewers*

2.5 Tips & Strategies

The section summarizes tips for achieving outstanding project results. The content was provided by exemplary liaison engineers and faculty project coaches. Many years of assessment feedback and ad hoc communications support these concepts. "What not to do" is also included.

2.5.1 Positive Experiences

When a liaison engineer…
(+) acts as a manager of student teams and sets clear expectations
(+) is enthusiastic and inspires productivity in the team
(+) knows students' names
(+) questions the team
(+) responds in a timely fashion to requests
(+) offers constructive criticism early in project
(+) treats team members like coworkers (honesty and respect)
(+) is aware of when to escalate issues within IPPD (when to talk to team coach or director)
(+) is aware of when to escalate issues to higher management
(+) involves administrative staff at sponsor company to promote communication and hasten response
(+) involves additional help (backup engineers) with unique knowledge and skills

2.5.2 Negative Experiences

Each of these experiences have been reported through personal experience of the author, e-mails or conversations with coaches and students, or recorded on assessment surveys.[a]

When a liaison engineer…
(-) does not communicate with team (does not answer emails, phone calls)
(-) has too high or too low expectations for team's abilities
(-) is not a champion of project (duty was imposed from above)
(-) is uninterested in project
(-) does not have clear description of his/her role
(-) does not know what time commitment is expected
(-) acts as dictator to team, especially over trivial points
(-) is not project owner
(-) misses teleconference without notice / explanation
(-) does not know about details of project
(-) does not give negative feedback ("everything is great" syndrome)

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[a] While this data has not been studied specifically, the author suspects a strong correlation between student dissatisfaction with the IPPD program/project and negative experiences the team had with their liaison.

(-) has additional layers of communication between team and him / her self (i.e. all communication must be routed through a superior)
(-) changes in midst of project (due to relocation, layoff, redirection by company)
(-) unable to have face-to-face meetings
(-) does not provide backup engineer if busy/unresponsive during critical time of project
(-) does not communicate with coach
(-) is assigned work by team instead of having team handle research or solve problems

2.6 Best Practices

This section provides a concise summary of best practices collected from faculty coaches and liaison engineers.

- *Get to know the team and learn all their names; take them out for a meal*
- *Request pictures and student bios from your team*
- *Express your interest in recruiting from the team*
- *Involve company executives and HR to prepare for your teams site visit*
- *Set clear expectations for team*
- *Stress importance of meeting the schedule*
- *Don't let important decisions be deferred until later*
- *Start with existing expectations document*
- *Organize schedule in the beginning of the first semester*
- *Show interest in project*
- *Provide student performance comments*
- *Escalate issues that need attention higher up in organization and use IPPD as lever for influence*
- *Include administrative staff in mailings and communications*
- *Insure that company-specific deliverables are included in the team's project plan*

2.7 Frequently Asked Questions (FAQ)

The FAQ is included in the Appendix. The FAQ addresses questions concerning items such as performance issues, time commitments, university facilities, project scope changes, getting to know the team, disaster recovery, liaison reassignment, communication problems, offering criticism, and learning more about the IPPD process.

Project scope change occurs frequently in the IPPD program. Often, the project is defined without knowledge of either key specifications or with an overly aggressive set of expectations. Once the project team is assembled and detailed specifications are uncovered, the required solution may become cost or time prohibitive. If the project team delays modifying the project scope, then the project may fail. The FAQ on project scope suggests that the liaison should address scope concerns with the project coach as soon as possible.

2.8 Coach – Liaison Engineer Project Discussion Checklist

The entire coach-liaison checklist is included in the Appendix. The purpose of this document is to provide the project coaches with a punch list of items to discuss privately with the liaison engineer prior to the first project team meeting. The checklist addresses the liaison guide, planning for company-specific and course-specific deliverables, setting schedules, how to give criticism, access to campus computing resources, verifying company hiring needs, and planning for the first site visit.

3. Conclusion

The first pass at the liaison guide was created and deployed in the span of a few months. It was decided that it was more critical to get the guide into the hands of the IPPD liaisons early than to perfect the document over more iterations. The content is based upon years of experience guiding the efforts of work teams. As a going forward strategy, the guide will be provided to the liaison prior to their agreement to serve[b].

Anecdotal feedback has been positive and about one third of the participating liaison engineers followed through to get university e-mail accounts established. A quick survey of the current year faculty coaches indicates that the guide had some positive effects on their teams; however, some coaches were not aware that the liaisons received the guide and therefore did not refer to it during their interactions. During the Spring 2009 Final Design Review Industry Feedback Session, the liaison engineers will be asked to provide additional feedback. This new feedback will be incorporated into subsequent versions of the document.

The liaison guide will be made available to any capstone educators for distribution to their industry partners. Program or University of Florida specific information should be removed. Suggestions for improvement are welcome. The guide can be requested from the author by e-mail: stanfill@ufl.edu.

The next how-to guide planned will address faculty coaches for capstone projects. The University of Florida IPPD program utilizes between 20 and 25 faculty coaches each year to lead the efforts of the project teams. There is wide variability among the performance of the coaches and this results in varying degrees of final results. The *Coach – Liaison Engineer Project Discussion Checklist* will be a key element of the IPPD coach guide.

Acknowledgments

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[b] We hope not to chase away our liaisons with this new knowledge!

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Bibliography

1. Stanfill, R.K., Wiens, G.J., Lear, W.E., Whitney, E D., "Institutionalized University and Industry Partnership in Multidisciplinary Design and Build: Product and Process Realization," *Proceedings of the 2001 ASME International Mechanical Engineering Congress and Exposition*, November 11-16, 2001, New York, NY, 11 pp. (CD-ROM, Book No. I00517).
2. Stanfill, R.K., Crisalle, O.D., "Recruiting Industry-Sponsored Multidisciplinary Projects for Capstone Design," *Proceedings of the American Society for Engineering Education Southeastern Section 2003 Annual Meeting*, Macon, GA, April 6-8, 2003, 12 pp. (CD-ROM).
3. Fitz-Coy, N., Mikolaitis, D.W., Stanfill, R.K., Vu-Quoc, L., "Maintaining Industry Partnerships in Integrated Product and Process Design Education," *Proceedings of the American Society for Engineering Education 2002 Annual Conference & Exposition*, Montreal, QC, June 16-19, 2002, 13 pp. (CD-ROM).
4. Stanfill, R.K., Wiens, G.J., Eisenstadt, W.R., Crisalle, O.D., "Lessons Learned in Integrated Product and Process Design Education," *Proceedings of the American Society for Engineering Education Southeastern Section 2002 Annual Meeting*, Gainesville, FL, April 7-9, 2002, 14 pp. (CD-ROM).
5. Rajkumar, T., Stanfill, R.K., "IPPD Liaison Engineer Document," The University of Florida, 2008.
6. Todd, R.H., Magleby, S.P., "Creating a Process to Design a Capstone Program that Considers Stakeholder Values," *Proceedings of the American Society for Engineering Education 2004 Annual Conference & Exposition*, Salt Lake City, UT, June 20-23, 2004, 17 pp. (CD-ROM).
7. The University of Florida Foundation, "Keys to Performance: The University of Florida Foundation Volunteer Guide," 2008.

Appendix

Frequently Asked Questions (FAQ)

Who do I contact if I am not satisfied with the performance of the project team?

In the early phases of the project, it may be advisable to contact your project coach prior to addressing the team regarding their performance. Once you have developed a rapport with the team you should feel free to address this issue directly with the team. Please, do not let this issue fester or grow into a bigger problem.

Who do I contact if I am not satisfied with the performance of the faculty coach?

Contact the IPPD Program Director R. Keith Stanfill at 352-846-3354 or by e-mail: stanfill@ufl.edu. Please, do not let this issue fester or grow into a bigger problem.

How involved should I be?

This is a judgment call. You need to be available for the weekly teleconferences and for occasional consultations with individuals on the team. You may find that your role changes as the project team becomes more competent in the required technical aspects of the project. Note that the team will lose ownership in the project if they perceive their role is simply to implement your own pet design. On the other hand, if the team believes that from your lack of involvement that the project is not important to you or company, then they will likely perform very poorly. This can have a very negative impact on your company's image amongst the students.

How much time commitment is involved?

The time commitment will depend upon the complexity of the project. The first semester of the IPPD program is devoted to planning which will require more liaison availability. The spring semester will likely involve lesser hours for the liaison engineer. Two hours a week would cover the weekly team teleconference and routine e-mail traffic. Visits to your facility (two to three times per project) will likely consume half a day. Design reviews on the UF campus will consume a day and may require an overnight stay.

I am not available to meet with the during their weekly team meeting. What can I do?

Sometimes student class schedules make it nearly impossible for the entire project team to meet during normal business hours. Coordinate this issue with the faculty coach. It may be necessary to schedule a regular teleconference that includes the coach and a subset of the team or at least with a subset of the team if the coach cannot make it. In the latter case, the liaison engineer and the coach can communicate with each other about the project. The team should prepare and e-mail to everyone (team members, coach and liaison engineer) the detailed minutes of each coach-team meeting and of each teleconference with the liaison engineer so that everyone should be on the same page regarding the progress of the project.

What facilities are available at the university to support the project team?

The project team has 24 hour access to the IPPD Design Stations. The Design Stations include conference rooms with computers, marker boards, speaker phones, and file cabinets; copiers, fax machines, and printers; and, two small assembly and prototype testing labs.

The students also have access to the Electrical and Computer Engineering Senior Design Lab where they can fabricate and assemble 2-layer printed circuit boards. Mechanical and Aerospace Engineering has two machine shops available to the students. Access to rapid prototyping equipment is limited.

The College of Engineering has numerous laboratories and centers of excellence. See www.eng.ufl.edu

The project scope seems to be too aggressive for the project team to complete. What can be done?

Frequently the project scope needs to be renegotiated during the execution of the project. This may be the result of new technical or resource challenges discovered by the project team, due to a mismatch between the team's skill set and the refined project goals, an underestimated original project scope, or other reasons.

Regardless of the root cause, your concern should be addressed as soon as possible with the project's faculty coach. The Preliminary Design Review, held in mid October, is an excellent opportunity to change the project scope--after this review it is generally only possible to narrow the scope.

How do I get to learn more about the individuals on my project team?

Prior to the first visit to your facility, it is recommended that you and the student project team exchange brief biographical sketches. You may also request resumes. You may wish to share your motivations for becoming an engineer in your biographical sketch.

The project appears to be headed for disaster. How should I step in?

If you feel the project is headed for disaster, then immediately contact the project faculty coach, the IPPD Director, and your management. If necessary, involve your superiors in the disaster recovery process. It may be possible to engage additional resources to help the team complete a challenging deliverable. The project team should be made aware of your concerns and should be involved in the replanning process. This activity should be treated as an important learning opportunity.

My job situation has changed or will soon change. What effect will this have on the team and what can be done?

Losing a liaison engineer in the middle of a project can lead to disaster. Identifying, educating, and integrating a new liaison engineer can take months. To minimize the effects of a liaison change, it is recommended that a back-up liaison be involved with the team throughout the project. Alert the project team as soon as you can publicly disclose your change in job status. If possible, it is helpful to be available to the new liaison engineer during a transition phase.

The team and I are having communication problems. What can be done?

Communication problems need to be fixed quickly or the project will be doomed. Work with the faculty coach and project team to establish communication norms. These norms may include the time for regularly scheduled meetings, advance notice timing for meeting announcements, agenda templates, action item/action register tips, timing for posting of meeting minutes, establishment of a team webpage, and use of collaboration tools. Persistence and adherence to established standards can make a big difference. Do not let this issue fester!

How should I offer criticism?

Constructive criticism is preferable, but do not sugarcoat your statements. As you develop a rapport with the project team, you should be able to treat them as you would a coworker or subordinate. Provided you treat the team as professionals and can share with them the technical or business justification for your criticisms, you should not hesitate.

One caution: allow the team freedom to develop ideas to accomplish project goals that may be contrary to how you would do it. If it fails, it can be turned into a learning experience.

How do I exchange computer data files with the project team?

Each liaison will be provided an email address and computer account on the IPPD network. Each team will have a secure area to collaborate. The two main tools will be a wiki (Trac) with the integrated Subversion source control management system and Microsoft SharePoint.

How do I learn more about the IPPD process the students are following?

1. New Engineer's training manual defines the deliverables.
2. Text: Product Design & Development by Ulrich and Eppinger.

1 Coach – Liaison Engineer Project Discussion Checklist

Item	Comments
❏ Provide the liaison with a copy of the liaison guide and an overview of the IPPD program	*The liaison guide is a work-in-progress collection of best practices from previous liaison engineers. The guide includes tips for interacting with the team and expectations/roles for the various project stakeholders. The IPPD overview is a PowerPoint presentation Available from https://resources.ippd.ufl.edu/faculty. You may wish to e-mail it to the liaison and review it over the phone or save this presentation for the first team visit.*
❏ Discuss company deliverables and course deliverables	*The sponsor company may have some deliverable requirements that are not part of the typical IPPD project. Be sure to determine what these are up front so the team can plan accordingly. For example, the company may require a process or product FMEA be completed before approving prototype purchases.*
❏ Weekly availability of liaison engineer	*Regular weekly contact with the liaison is a critical success factor. Emphasize the need to communicate even when the team does not feel there are any results to share.*
❏ Weekly course schedule	*The weekly schedule is available at http://www.ippd.ufl.edu/News/WS.pdf Be sure to point out the major design reviews—at the sponsor site in mid October and the two on-campus reviews in December and April. Emphasize the importance of company representation at the December and April reviews. Students are very disappointed when the sponsor is not represented.*
❏ Strategy for feedback/criticism	*Work with the liaison to develop a feedback mechanism for the project team. See the liaison guide.*

Item	Comments
❑ How to get a user account	*Liaison engineers will all be provided with GatorLink accounts. A form will be provided. The user accounts will allow access to the team's wiki, SharePoint, and e-mail resources.*
❑ How to login to IPPD resources and websites	*Liaison access to team resources will be accomplished via web resources.*
❑ Determine hiring needs for company	*One reason students select a particular project is that they wish to work for the sponsor after graduation. Try to determine up front if the company will be hiring and begin discussions with the liaison regarding how to engage HR and the students.*
❑ Request students to provide a statement of interest along with resume package	*Students interested in working for the company or at least exploring that opportunity should be identified early. Frequently we see hiring decisions made too late in the project timeline—after students have committed themselves to other opportunities.*
❑ Planning first site visit • Social meal planning • Timing • HR Involvement • Management Involvement	*More tips are available in the liaison guide document*