IT 7993 – How to have the Best Capstone Project Experience

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Overview

- Project features
  - Difference from other class project
- Tips
- Success factors
- Challenges
- Team work
  - Leadership, management
  - Individual contribution and involvement
  - Knowledge sharing (peer learning)
  - Collaboration systems

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General Project Features

- Involve IT related design, development, implementation, or analysis/research.
- Have real world context, requirements, and challenges.
- May require students to learn and practice new knowledge and skills.
- Long term group project: 3 months, by a team of 3 to 5 people (about 400 to 500 man hours).
- Include both technical components and soft skill components (such as collaboration, communication, planning, researching, problem definition, project management, writing, documentation, etc.).
- Self managed

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How Different from Other Courses

- "I liked the fact that there was no real "instruction" involved. It was up to us to find and solve the problems. We were given a starting point and an ending point, and everything in between was our responsibility to handle. That is the essence of real-world experience, and I believe that, especially for the younger students, it is an experience that cannot have a value placed on it."

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Take This Course Seriously

- "This course should be taken with a mindset that this is your new job and you want to impress your new co-workers and boss."

- "This class really pushed me to my limits when it comes to learning and working. This class is no joke and should be taken with only one other class not two other classes and two jobs."

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Soft Skills

- The course values your technical skills as well as your soft skills (as challenging as you can think)
  - Communication: students are required to communicate effectively with all stakeholders, especially the project owner. This includes but is not limited to proper emailing, meeting and discussion efficiency, mutual understanding in discussion, regular status report. Students need to learn to use virtual communication tools as well.
  - Presentation: this includes a formal group presentation and a poster session to the department faculty, project owner, and IAB members, and three informal milestone presentations to the project owner.
  - Planning: students are required to write project plans, estimate workloads, break down work structure, and other tasks needed in the planning stage.
  - Teamwork: a group consists of three to five people, with one designated team leader. The team works together to achieve the goals and will receive the same grade for the project performance (except for the peer evaluation part).
  - Time management: milestones and various deadlines are set to facilitate the project progress. Failure to meet deadlines will impact grades, and it requires detailed explanation and specific plan on follow-up actions.
  - Dealing with challenges: all projects are in real-world contexts, and with real-world challenges besides just technical difficulties, for example, time conflict among members, lack of timely response from project owners, requirements change, etc.
  - Independent learning: students may need to learn new skills and knowledge on their own to complete the project.
  - Writing/Documentation: every project has a writing component including documentation, report, and other technical documents.
- Read more at https://www.researchgate.net/publication/281806496_Practicing_and_Evaluating_Soft_Skills_in_IT_Capstone_Projects

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Success Factors as A Group And n Individual

- Communication with the project owner
  – Actively keep the project owner updated about the project
  – Always seeking for clarification and ask for feedback, so you don't get surprise!
- Time management
  – Commit and allocate time to this project! No delays! This is your top priority at KSU!
- Be active in the group and talk to your team
- Planning
  – Make plans and follow the plan!
- Solve the problem and deal with the challenge. Think and act. You are professionals. No waiting and whining.

Common Challenges

- What kind of participation is valued?

- Why can't we have clear instructions and just tell us what to do?

- Why the project owner say this is not what he/she wanted?

- We got no response from the project owner (or some members or other stakeholders). What should we do? Should we wait?

- Why are there some many challenges?

Participation

- "I am kind of lost about the contribution part because I do everything they assign to me."

- "This really does not make sense. I have been participating. When I am assigned something I do it. I did the template and all as well."

- "You are right professor and I apologize for that. It's just if I don't see anything to chime in or if it looks okay already then I don't bother to say anything. I will speak up more."

Ambiguity, Chaos, Confusion

- I liked the fact that there was no real "instruction" involved. It was up to us to find and solve the problems. We were given a starting point and an ending point, and everything in between was our responsibility to handle. That is the essence of real-world experience, and I believe that, especially for the younger students, it is an experience that cannot have a value placed on it.

- Directions and instructions of milestones project should have been more specific and straightforward.

Communication Tips

- Team emailing. Copy the team? Reply all?
  - When?
    - Make a submission to the project owner
    - Update project owner on project progress
    - Confirm you will be in the meeting or not.

Team Work

- The group as a whole; know each other.

- Avoid hub and spoke communication (where the team leader is the hub).

- Have smaller sub-groups instead of working individually – best learning experience

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Collaboration Systems

- Recommended collaboration tool
    - Google Drive: documents sharing, and collaborative editing
    - Google Hangout: video conferencing
    - Google sites/blogger: project site
- The Microsoft tools work too

Something to think about

- Why some had great experience and why bad experience from the same project/course?

Final Note

- The instructor does not directly involve in every project.
- But students are always welcome to meet with the instructor at any time to discuss or seek guidance for their projects.