

ENSF 480

Principles of Teamwork

Software is a Teamwork Product

- One of the factors that differentiates a software engineer from other conventional engineering careers is that the duties is not limited to technical skill in design and building.
- An equally important portion of software engineers duties relates to:
 - Analytical skill
 - Communication skill
 - Process and product management
 - People management
- In other words: Software development relies on management or dealing with 4 P's:
 - People: customers, developers, users, managers, etc. In general, called stakeholder
 - Process: phases of activities to convert an idea to a product
 - Project: A planned undertaking that must be delivered at a deadline to achieve a goal
 - Product: An article or substance that is manufactured, build, or refined, normally for sale.

What is Software Team

- Development teams work together to build a software product. Key to the success of the team is to be self-organized and cross-functional.
- Team members should make a collaborative effort when comes to communication and conducting shared responsibilities.
- Every person on the team should play a part and be held accountable in making the production happen.

Team Synergy

- Successful start up techs look for a self-managed technical team who are heartedly dedicated to their work.
- In summary, to achieve team's synergy:
 - Each team member should believe in the fact that productivity depends on collective contribution.
 - It is a wrong thinking: "this is a trivial task and my contribution/efforts is not important"
 - Teams have all necessary skills to progress to different phases of development:
 - Analytical skill: System thinking
 - Technical skill
 - Communication skill
 - Presentation skill
 - Marketing skill
 - Teamwork skill
 - In addition to different specialized skills, as whole, accountability must be a top mission for every member.

Group Constitution

Team/Group Constitution

- The constitution deals with:
 - the rights, powers and obligations of all people involved in the group.
 - Sets out clear guidelines as to what conduct and behavior is acceptable and what is unacceptable.
- The constitution cannot extend the legal capacity, rights, powers and privileges that the group would otherwise have.

Difficulties When Working as a Team

- The biggest problem hindering group progress is misunderstanding and miscommunication. E.g.:
 - What are the goals and objectives?
 - What is required?
 - Who is responsible?
 - What do we do in given situations?
 - When should I do act?
- Another problem is conflicting expectations.
 - What do we expect to accomplish as the project proceeds?
 - Some members' understanding of the project might not be in harmony with others.

Group Constitution Contents

- Establish common goals and standards for the project team.
 - A brief statement of the goals of the group.
 - What do we wish to accomplish? Example (As a university student): To work industrious and diligent to accomplish the requirements of the course
 - Similar to "Statement of Purpose," but for group not project.
 - What is the format of documents? Normally companies and enterprises try to use a uniform format for technical documents. In SENG 471, we recommend to use:
 - text font size should be at least 12 points.
 - All margins must not exceed one inch.
 - All reports must have a cover page
 - What tools will be used?
 - Example: StarUML, MS Word, Excel, Visio, etc.
 - Documents, assignments, working disks:
 - Where will they be stored ?
 - Who will have access?
 - Back up procedures?
 - How do we contact each other?
 - phone numbers, email addresses, etc.
 - Discussions with instructors and clients should always be done as a group.

Project Coordinator

- Each group should assign one of the members as "Project Coordinator", responsible for:
 - Getting assignments posted on the D2L.
 - Breaks a deadlock (when voting).
 - Responsible for smooth flow of meetings.
 - Not a dictator!