ENSF 614
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, mangers, etc. In general, called stakeholder

  - Process: phases of activities to convert an idea to a product

  - Project: A planed 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!