Lecture 2: Teamwork

COMP2913 SOFTWARE ENGINEERING PROJECT

Today’s session

- Becoming a team
- Working as a team
- Challenges
- Summary

Becoming a team

Tuckman & Jenson's Five stages:

1. Group members get to know each other and try to set group rules about behaviour

2. Conflicts arise as various members try to assert leadership and methods of operation are established

3. Conflicts are largely settled, and a feeling of group identity emerges

4. Emphasis is on tasks at hand

5. Group disbands

Belbin

Meredith Belbin studied performance of top executives doing group-work at Hendon Management Centre

When the most able people were put into a single team, this team almost always did badly

Successful teams need a balanced mixture of different skills

Belbin team roles

Completer-finisher

Chair

Company worker

Monitor-evaluator

Plant

Resource investigator

Shaper

Teamworker

Belbin team roles and teams

- Most people identify with more than one role
- Covering all roles does not guarantee success
- Exposes strengths and weaknesses of your team

Your roles and your team

In your team consider the range of roles you exhibit

What are your teams strengths and weaknesses?

Consider this in more detail as part of your first team meeting

Inactive team members

- May not respond to communications
- May be absent from most, or all, meetings
- May not deliver on tasks allocated to them
- Will not make any meaningful contributions to the work
- Will receive a grade of 0 for the project

Social loafing

Social loafing

A tendency to coast and let others do the work when working in a group, or to avoid assisting other team members who have problems

Dealing with problems

How can you deal with inactive team members in a professional manner?

How can you deal with social loafing in your project?

Team size

Is it a problem if people drop out of your group?

Would increasing team size speed up your project?

Decision-making

Should involve the whole team

- To ensure that different points of view are considered
- So that decisions are more likely to be accepted and followed

Dangers?

- Time-consuming
- Dominant personalities
- Conflict

Mutual respect is very important

Heedfulness

A characteristic of successful teams

- Members are aware of the activities of other members that contribute to overall team success
- Members can identify ways of supporting that contribution
- Impression given of a ‘collective mind’
- Encouraged by ‘egoless programming’, XP, Scrum, etc.

Egoless programming

- Natural tendency is for programmers to be protective of their own code and resist perceived criticisms of it
- Can deal with this by encouraging programmers to read each others' code
- Principle: software should be communal, not personal, property - hence programming is 'egoless'

Heedfulness in XP

- Core value of communication: ideally face-to-face
- Core value of responsibility: developers themselves are ultimately responsible for quality of the product
- Core practice of pair programming, encouraging collective ownership of code

Daily stand-up / Daily scrum

Brief (15 min) meeting of team, every morning

Everyone stands up, to discourage long discussions

Each person reports:

- What was accomplished yesterday / any issues to mention
- What will be attempted today
- What problems are causing delays (if any)
- Does anyone need help / support

Communicates project status and issues efficiently

Promotes team focus and heedfulness

Summary

We have:

- Seen that teams need time to form and become productive
- Noted the value of balanced teams, in which a range of Belbin roles are represented
- Discussed problems that can arise with team members: inactivity and social loafing
- Noted the benefits of team heedfulness and seen how good practices can help with this

Tasks for you to do

- Belbin analysis – There is a questionnaire on Minerva for you to fill in to find the role that you align to
- At the end of next week once you meet your team you can combine your results to see what roles have been covered, and potential gaps.
- Make a plan to mitigate the risk if there is a gap – for instance if no one is a finisher, will the project reach an end point in time?

- This will contribute to the interim deliverable! (due 3rd March) so please fill in the questionnaire, then when you meet your group during the first meeting you will:
  - Find the potential strengths of your team
  - Find the potential weaknesses of your team
  - Understand the risks and plan a mitigation for them.

Group/Exercise

Part 1:
1. Write down the name of a real-life project you have worked on, along with a brief description of the project.

2. identify the following elements:
- Who was the customer for the project?
- What was the goal of the project?
- Who were the team members involved in the project?
- What was the timeline for the project?
- How was the project organised and managed?

Part 2
Identify the Scrum roles and artifacts that would be relevant to your project, such as:

1. Product Owner
2. Scrum Master
3. Development Team
4. Sprint
5. Sprint Backlog
6. Increment

Part 3

How would you organise your project using Scrum, including:

- How you would prioritise the work
- How you would organise your team
- How you would track progress
- How you would manage changes and risks

Further reading

- Software Project Management by Hughes & Cotterell
- The Mythical Man-Month by Brooks
- The Psychology of Computer Programming by Weinberg