

## ***Working in Teams; Individual Roles***

### **➤ Introduction to the Team Software Process**

by Watts Humphrey  
Addison-Wesley, 1999  
Chapters 3, 16, 17, 11-15

Summarized in your Yellow Book under “Plan-driven Processes”

## ***Accepting and fulfilling a role***

### **➤ Why define roles?**

- Most projects include activities other than software development. e.g.,
  - » Documenting requirements
  - » Documenting test plans
  - » Documenting designs
  
- If no one takes these responsibilities, they'll never get done
  
- It is important to distribute responsibilities
  
- Note: EVERYONE is a development engineer PLUS a role.

## ***Roles***

- **Team leader**
- **Development leader**
- **Planning leader**
- **Quality assurance leader**

## ***Team Leader***

- **Main goal**

To provide guidance for the team; to make sure that all team members report all process data and finish their work as planned

## ***Team Leader's Characteristics***

- **Enjoys being a leader and takes the role naturally**
- **Is capable of identifying key problems and makes objective decisions**
- **Does not worry too much about making unpopular decisions from time to time to keep the team going**
- **Respects other team members and is willing to listen to points of view and to help**

## ***Team Leader's Goals***

- **G1 Build and maintain an effective team**
- **G2 Motivate all team members to work aggressively and enthusiastically on the project**
- **G3 Resolve team-related issues**
- **G4 Keep the instructor/teaching assistant fully informed about the team's progress by communicating with the instructor via e-mail or verbally when required**
- **G5 Perform effectively as a team's meeting facilitator**

## ***Leader's Main Activities***

### **1. Motivate the team members to perform their task.**

#### **You will likely face:**

- Some team members do not follow the process
- Some team members do make a reasonable effort
- It is hard to hold to the project schedule

If you can't deal with these problems, take the problem to the instructor and ask for help

### **2. Run the Weekly team meeting**

- Track progress against the task for the previous week
- Set team and engineer goals for the next week
- Discuss risks
- Identify any new problems that need to be addressed

## ***Leader's Main Activities***

### **3. Help the team to allocate tasks**

### **4. Act as facilitator and timekeeper for team meetings**

- Each meeting should have an agenda
- Focus the discussion on the agenda topics
- Restrict the meeting to a single discussion
- Do not let anyone dominate the meeting
- Make sure that everyone is heard and participates
- Close the discussion

### **5. Act as a development engineer**

## Effective Team Meetings

- Run by Team Leader
- Have an agenda
  - What you need to accomplish
  - How long the discussion should take
  - Who will lead the discussion
- Send out agenda to team members before the meeting
  - Ask for suggestions and/or additions to subjects
- Allow time for “Dynamic Content”
  - When a discussion runs over time team leader should note that you are off schedule and defer the discussion to “dynamic meeting time”
  - Any unplanned subjects that come up should be deferred to “dynamic meeting time”
  - Keep these deferred subjects on “yellow stickies” or a list

## Structure of a Meeting Agenda

<i>Header information identifying the meeting and audience§</i>	<b>When and Where}</b> <b>Date:</b> 1/30} <b>Start:</b> 4:30pm} <b>End:</b> 5:30pm} <b>Building:</b> Wean Hall § <b>Room:</b> 3420§	<b>Role{</b> <b>Primary Facilitator:</b> Peter{ <b>Timekeeper:</b> Dave{ <b>Minute Taker:</b> Ed{
<i>Desired outcome of the meeting§</i>	<b>1. Objective{</b> Resolve any requirements issues that prevent us from starting prototyping§	
<i>Action items to be reported out§</i>	<b>2. Status [Allocated Time: 15 minutes]{</b> Dave: State of command parsing code§	
<i>Issues scheduled to be discussed (and resolved) during the meeting§</i>	<b>3. Discussion items [Allocated Time: 35 minutes]{</b> 3.1 How to deal with arbitrarily formatted input data sets?{ 3.2 How to deal with output data?{ 3.3 Command parsing code (modifiability, backward compatibility)§	
<i>The wrap-up period is the same for all meetings§</i>	<b>4. Wrap up [Allocated Time: 5 minutes]{</b> 4.1 Review and assign new action items{ 4.2 Meeting critique§	

## ***Roles***

- **Team leader**
- **Development leader**
- **Planning leader**
- **Quality assurance leader**

## ***Development Leader***

- **Main goal**
  - To lead the team through the system definition and design processes
  - To guide the team through the testing definition process

## ***Development Leader's Characteristics***

- 1. You enjoy building artifacts**
- 2. You wish to be a software engineer and want to gain experience leading software developments**
- 3. You are a competent designer and feel you could guide this system's development**
- 4. You are familiar with design methodologies**
- 5. You are willing to listen to other's design ideas and can objectively and logically compare them against yours**

## ***Development Leader's Goals***

- G1 Produce a superior product**
- G2 Fully use the team member's skills and abilities in designing and developing products**

## ***Development Leader's Main Activities***

- 1. Lead the team in producing the development strategy**
- 2. Lead the team in producing the preliminary size and time estimates for the product to be produced**
- 3. Lead the development of the requirements specification / use cases / user stories**
- 4. Lead the team in producing the high-level design / class diagram**

## ***Development Leader's Main Activities***

- 5. Lead the team in implementing the product**
- 6. Lead the team in developing the integration and system test plans**
- 7. Act as a development engineer**

## ***Roles***

- **Team leader**
- **Development leader**
- **Planning leader**
- **Quality assurance leader**

## ***Planning Leader***

- **Main Goal**
  - To guide the team in producing a detailed plan and precisely track progress against that plan

## ***Planning Leader's Characteristics***

- 1. You have a logical mind and you feel most comfortable when following a plan for doing your work**
- 2. Although you may not always be able to produce a plan, you tend to plan your work when given an opportunity**
- 3. You are willing to encourage people to track and measure their work**

## ***Planning Leader's Goals***

- G1 Produce a complete, precise, and accurate plan for the team and every team member**
- G2 Accurately report team status every week**

## ***Planning Leader's Main Activities***

- 1. Lead the team in producing the task plan for the development cycle**
- 2. Lead the team in producing the schedule for the development cycle**

## ***Planning Leader's Main Activities (3)***

- 3. Lead the team in producing the balanced team plan**
  - Obtain detailed plans for each engineer
  - Identify workload imbalances among team members
  - Lead the team in adjusting workload to achieve balance
  - Generate the consolidated team plan
  - Obtain personal plans from each engineer

## ***Planning Leader's Main Activities (3)***

- 4. Lead the team in producing the balanced team plan**
  - Get the team member's weekly data
  - Generate the weekly Risk Analysis Form
  - Produce a weekly analysis of the team's actual performance against the plan
  - Report personal and consolidated team status to the instructor
- 5. Act as a development engineer**

## ***Roles***

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- **Planning leader**
- **Quality assurance leader**

## ***Quality Assurance Leader***

### **➤ Main Goal**

- Supports the team in defining the process needs, in making the quality plan, and in tracking the process and product qualities
- Guarantee the integrity, consistency, and completeness of all testing documents
- Make sure that the system test plan is carried to completion prior to system delivery

## ***Quality Assurance Leader's Characteristics***

- 1. You are concerned about software quality**
- 2. You are interested in process and process measurements**
- 3. You have some experience with and awareness of inspection and review methods**
- 4. You are willing and able to constructively review and comment on other people's work without antagonizing them**

## ***Quality Assurance Leader's Goals***

- **G1 All team members accurately report all process information**
- **G2 Team follows the process and obtains a quality product**
- **G3 All team inspections are properly moderated and reported**
- **G4 All team meetings are accurately reported**

## ***Quality Assurance Leader's Main Activities***

- 1. Lead the team in producing and tracking the quality plan**
- 2. Alert the team and the instructor to quality problems**
- 3. Establish and maintain the team's development standards**

## ***Quality Assurance Leader's Main Activities (2)***

- 5. Review and approve all products before submission to version control**
- 6. Act as a team's inspection moderator**
- 7. Act as a recorder in all team's meetings**
- 8. Participate in producing the development cycle report**
- 9. Act as a developer engineer**