Leading A Group
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• A group needs a leader
  – A leader is responsible for making final decisions
  – The leader is responsible for assigning tasks
  – The leader is responsible for making sure tasks are completed on time
  – Sample Tasks
    • Designing
    • Coding
    • Quality Assurance including testing and reviews
    • Documentation including Javadocs and UML diagrams
    • Management – usually done by leader

• The leader can change over the semester if that is what the group wants
Leadership Styles

• Dictator – not desirable
  – They come up with all the ideas and unilaterally make all of the assignments and decisions
  – Everyone else serves the dictator and does what ever he/she asks

• Democracy -- slow
  – Ideas can come from anyone
  – Decisions and assignments are made by consensus

• Benevolent Dictator – often best but should be an egoless dictator
  – Listens to all ideas makes final decisions
  – Listens to suggestions or volunteers but makes final assignments
Simple Project Management Tool

• The Pert/Gantt Chart
  – An example of free software
    • http://www.ganttproject.biz/

• Concepts
  – Work breakdown structure – divide each phase into a set of tasks, each of 1 to a few days duration
  – Order the tasks into a directed acyclic graph where the edges represent task dependencies
  – Assign start dates, due dates, and expected duration (measured in hours) for each task
    • These can be adjusted as needed
  – Assign each person or persons to a task
  – Identify critical paths
The Leader

• On a frequent basis, monitors progress of all tasks, especially those on the critical path or a path that has just become critical
  – Frequent can be every day or every other day

• Adjust resources and estimates as necessary
Expected Weekly Report from Leader

- List of All Tasks with assigned people, start dates, expected end dates, expected duration, and actual duration so far
- For all finished tasks, mark as finished – color coding is useful
- For all unstarted tasks, mark as not started – color coding is useful
- For all started but not completed tasks indicate % complete
  - The actual duration / expected duration should yield the % complete
- Indicate the number of hours worked for every team member, if this does not match the “Pert/Gannt” chart information then add or delete tasks and modify expected and/or actual durations for tasks as needed.
- This report should be reviewed by all team members
- A final report should be generated for every phase
  - The final version is typically the weekly report for the last week of a phase
  - The phase is not complete until the final report is turned in
- Spread sheets make this somewhat painless