CSCI 1108

Project Management
How well do You Manage your Project?

• The first project is beginning!
• Do you have enough time for the labs?
• Will you be able to get everything done within a short time period?
• How can you make effective use of your resources?
• What do you do if things go wrong?

Project Management & Team Working
The Goal of Project Management

• Complete a project on time and on budget
• Identify and schedule tasks
• Allocate resources
• Anticipate and manage risks
# Gantt Charts

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- **Task 1** is assigned to Resource 3 in Period 2.
- **Task 2** is assigned to Resource 5 in Period 4.
- **Task 3** is assigned to Resource 3 in Period 3.
Agile and Scrum

Agile is a highly values project management methodology in industry that emphasizes collaborations and flexible goal directed development

• **Individuals and Interactions** over processes and tools

• **Working Software** over comprehensive documentation

• **Customer Collaboration** over contract negotiation

• **Responding to Change** over following a plan

Scrum is a specific implementation of the Agile framework, popular for software development. It emphasizes teamwork of short development cycles called Sprints.
Agile software development principles

1. Customer satisfaction by early and continuous delivery of valuable software

2. Welcome changing requirements, even in late development

3. Working software is delivered frequently (weeks rather than months)

4. Close, daily cooperation between business people and developers

5. Projects are built around motivated individuals, who should be trusted

6. Face-to-face conversation is the best form of communication (co-location)

7. Working software is the primary measure of progress

8. Sustainable development, able to maintain a constant pace

9. Continuous attention to technical excellence and good design

10. Simplicity—the art of maximizing the amount of work not done—is essential

11. Best architectures, requirements, and designs emerge from self-organizing teams

12. Regularly, the team reflects on how to become more effective, and adjusts accordingly
Scrum Workflow: Sprint

Sprint Planning → Daily Scrum → Sprint Review → Sprint Retrospective

Sprint Planning

• Select product backlog
• Prepare a sprint backlog
• First half agree on scope, second part elaborate specific work
• Team decides who is working on what

https://en.wikipedia.org/wiki/Scrum_(software_development)
Daily Scrum

- starts precisely on time even if some development team members are missing
- should happen at the same time and place every day
- is limited to fifteen minutes

Each team member typically answers three questions:

- What did I complete yesterday that contributed to the team meeting our sprint goal?
- What do I plan to complete today to contribute to the team meeting our sprint goal?
- Do I see any impediment that could prevent me or the team from meeting our sprint goal?
Sprint review

Presents the completed work to the stakeholders

Sprint retrospective

Reflects on the past sprint

• What went well during the sprint?
• What could be improved in the next sprint?
Risk Management

• Things will take longer than you think!
  – What happens to our schedule if we cannot find a solution for software bugs?

• How do we accommodate this fact of life?

• Solutions:
  – Schedule tasks as early as possible to provide time to deal with unforeseen events
  – Schedule extra time for each task
    • 10% to 15% extra time per task is not uncommon