

# PROJECT MANAGEMENT

CSC404 Tutorial Slides

## Context for Game Design

- Game development is an agile development process.
  - Incremental development
    - Demonstrable product
    - Product milestones
  - Small groups
  - Changing requirements
  - Unexpected developments

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## Recommended approach

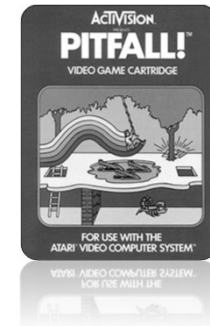
- Constant communication
- Working build
- Shared workspace
- Team development
- Prioritize features
- Playtesting Playtesting Playtesting!

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## Biggest pitfalls

- Lack of communication
  - Between group members
  - With presentation audience
  - With player
- Last-minute assembly
- Navel gazing
- Time management
- Feature management



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## Key notes on scrum development

The infographic features a central circle with three stylized human figures and the text "SCRUM VALUES". Five lines radiate from this center to five icons, each representing a value:
 

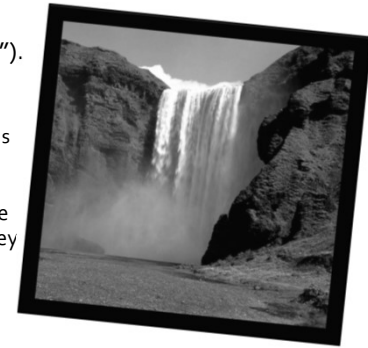
- COURAGE**: Scrum Team members have courage to do the right thing even when no one else is doing it.
- FOCUS**: Everyone focuses on the work of the Sprint and the goals of the Scrum Team.
- COMMITMENT**: People personally commit to achieving the goals of the Scrum Team.
- RESPECT**: Scrum Team members respect each other's individuality and capabilities.
- OPENNESS**: The Scrum Team and its stakeholders agree to be open about all the work and the challenges with performing the work.

 The Scrum.org logo is at the bottom right of the infographic.

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## Sturdy Methodologies

- "Sturdy" (also known as "traditional" or "non-agile").
  - Underlying philosophy: Measure twice, cut once.
    - Or: The cheapest bug to fix is one that doesn't exist.
  - Inspired by traditional engineering methods, where planning and budgeting is key to winning contracts, and where late changes are expensive and unpopular.
- **Not for game design.**

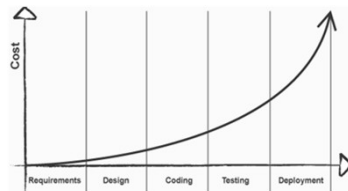


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## Sturdy vs Agile

- Differences in practice are much less than differences in rhetoric.
- Example: Boehm's Curve.



- Need a methodology that responds to this issue.

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## Agile Methodologies

- "Agile" is a relative term.
  - Lots of small steps, with continuous testing and refactoring.
  - Underlying philosophy: Change is inevitable, so plan for it.
    - Or: "No battle plan ever survives contact with the enemy"
      - Helmuth von Moltke
  - Refers to the sturdy camp (unflatteringly) as BDUF ("Big Design Up Front")
  - Inspired by open source and 1990s web development.



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## Agile Motivation

- Agile home ground:
  - Low criticality
  - Senior developers
  - Requirements change often
  - Small number of developers
  - Culture that thrives on chaos



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## Sturdy vs Agile

- "Reality is that which, when you stop believing in it, doesn't go away." -- Philip K. Dick
- It's hard to get customers to sign off on "we'll make it up as we go along" and "trust me".
  - The waterfall method feels familiar and credible.
  - On the other hand, most scientific research is agile.
  - The second agile project is easier to sign off on than the first.
- "Adapting to change" is good, but "constant change" seems sloppy.
  - Is "continuous refactoring" the same thing as "better late than never", or a sign of "code first, ask questions later"?

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## Implications for you

- So what does this mean for you (individual), you (group) and your project?
  - Your system is *always* buildable and releasable.
    - Easy for us to loop over your commits and check this ☺
  - Regular meetings *with minutes*.
    - Both with client and within group.
  - Issue tracking and prioritization.
  - Comprehensive testing.
  - Refactoring.
  - Collective code ownership.
    - We reserve the right to quiz you on *your team's code* as a part of any exercise.

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## Scrum Methodology

- All about *iterative, incremental* development.
- Roles in scrum:
  - Scrum Master
    - Maintains the scrum process
  - Product Owner
    - Who this program is for, or who's paying for it.
  - Team
    - A group of about 7 people who do the actual work.

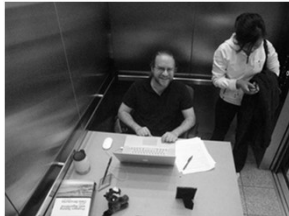


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## Before You Can Scrum

- Selling your product (sometimes before it's been made).
  - The vision statement, aka the "elevator pitch".
  - Helps to keep everybody headed in the same direction.
  - A good way for project members to introduce themselves, or to define their (self-)importance at conferences.



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## Scrum at a Glance



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## Elements of Scrum

- Product Backlog:
  - A list of things the team hasn't yet implemented
  - Stays forever there until project is done
  - Each item has a priority
  - Visible by client
- Sprint Backlog:
  - Basically, a "to do" list
  - Smaller list of things needed to be done
  - Property of the team
  - Due by next sprint

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## More Elements of Scrum

- Sprint:
  - Typically 2-4 weeks long (hence the 30 days)
  - During this time the team gets to finish the sprint backlog items
  - No one is allowed to change the sprint backlog during a sprint
  - Ideally, a team should every 24 hours discuss where they are at in the development



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## Justification for Scrum

- Scrum takes into account:
  - Things will fall apart because humans are involved.
    - Accept that this problem can't be solved.
    - Work to instead get as much done as possible.
  - Tools
    - Does not discriminate (backlog can be in Excel)
  - Organization
    - Lots of communication is required (lots of meetings/updates)
    - Everybody needs to know how the project is doing.

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## Scrum Example: Thanksgiving Dinner

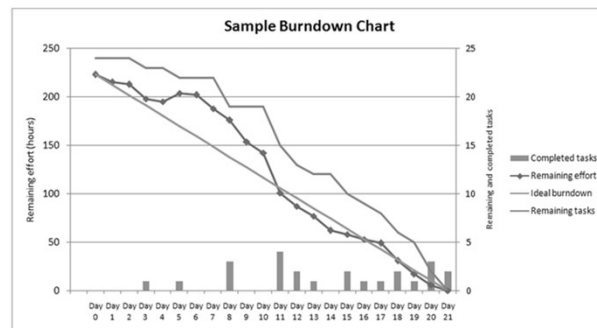
- Roles
- User stories
  - No technical details.
  - When complete, no further consultation with user necessary.
- Product backlog
  - User-side requirements.
  - User sets priority of each item.
- Sprint goals, backlog
  - Developer-side items.
  - Team sets priority of items (prioritization chart).
- Burn down chart
  - Chart of work remaining in sprint backlog.



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## Burn Down Chart



- If Steve was more diligent, this would be filled with dinner items. Oh well.

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