The Mythical Man-Month

CSC180, Fall 2014
Michael Guerzhoy

- Graphics/text from:
  http://www.pmhut.com/a-project-management-primer-basic-principles-the-mythical-man-month/

Yuriy Arbitman, “The Mythical Man-Month”, a presentation
Man-Month

- The amount of work one person accomplishes in one month
  - Two people working for three months: 6 person-months
  - Makes sense to managers: that's what costs a one month's salary
  - But not otherwise
The Mythical Man-Month

• Most software projects are late
  – Optimism bias
  – Effort != progress
  – Project schedules are made to make managers happy
  – Poor monitoring of project progress
  – Natural response to schedule slippage: add more personnel to the project
    • Often makes things worse
The Mythical Man-Month (2)

- Optimism bias:
  - All programmers are optimists
  - Tasks are usually chained end-to-end. If the probability that a task is successful is $p$, the probability that a chain of 10 tasks successful is $p^{10}$. (Note: $(9/10)^{10} \approx 1/3$)
The Mythical Man-Month (3)

- Man-month
  - Costs vary as a product: persons x months
  - Communication time grows nonlinearly with the number of people
  - Overhead: intercommunication and training
The Mythical Man-Month (4)
Brooks's Law

- Adding manpower to a late software project makes it later
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![Diagram showing the relationship between people and interfaces](image)

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<th>People</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>6</th>
<th>6</th>
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<tbody>
<tr>
<td>Interfaces</td>
<td>1</td>
<td>3</td>
<td>6</td>
<td>10</td>
<td>15</td>
</tr>
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\[
\frac{n^2 - n}{2}
\]
The Mythical Man-Month (4)
Brooks's Law

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