

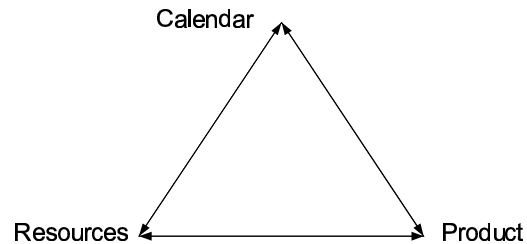
## 2

### *The Mythical Man-Month*

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- Optimism
- The Man-Month
- Gutless Estimating
- Regenerative Schedule Disaster

### *The project management trio*



- *Or, . . .*  
You can have it good, fast or cheap.  
Pick any two.

### *Calendar time*

- “More software projects have gone awry for lack of calendar time than for all other causes combined.”
- Which factors of the trio can we control?
  - Calendar time
  - Resources
  - Product
- So, which gets the blame when things go wrong?

### *Brooks' factors*

1. Estimates typically assume that all will go well
2. Estimates commonly confuse effort with progress  
i.e., “men and months are interchangeable”
3. Outside pressures often influence estimators
4. Schedule progress is often poorly monitored
5. Many managers respond to delays by adding human resources (Recall factor #2, above)

### *Optimism*

- Other disciplines are subject to the inherent constraints of physical media
  - e.g., lumber, paint, electrical circuits
- Programs are “pure thought stuff”
- Pride distracts us from failures in our thinking
- Errors so not become evident until forced
- Probability of all components in a sequence being error-free is vanishingly small

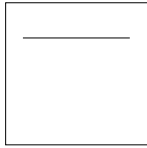
### *The Man-Month*

- Cost varies with product of men and months
- Progress does not
- Men and months can be interchanged only when the task partitions with no communication
- Partitionable: Reaping wheat
- Non-partitionable: Giving birth

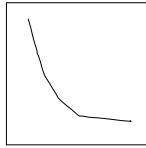
### *Communication costs*

- Cost varies with product of men and months
- Progress does not
- Men and months can be interchanged only when the task partitions with no communication
- Partitionable: Reaping wheat
- Non-partitionable: Giving birth

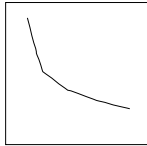
### *Partitioning tasks*



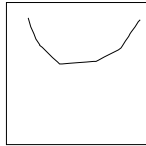
Non-partitionable



Perfectly partitionable



With communication



With complex interactions

### *Regenerative schedule disaster*

#### Original schedule

- 3 persons x
- 4 months =
- 12 person-months
- Milestones A, B, C, D

