INF 151: Cost Management

Week 5: Thursday

Today's Agenda

Announcements:

- Finish Assignment 5 (Due 10/27)
- Start Assignment 6 (Due 11/01)
- Midterm: **Thursday 11/03**

Today:

- Project Cost Management
- Project Quality Management
- QUIZZES!

Project Cost Management (continued from Tuesday)

Cost Management

Types of estimates

Usage varies by project

Rough Order of Magnitude

- ➔ Very early, before project completion
- ➔ Aids selection
- ➔ Estimates range -50% to +100%

Budgetary

- ➔ Early, before project completion
- ➔ Assign actual amounts to budget
- ➔ Range -10% to +25%

Definitive

- ➔ During project
- ➔ Includes purchases, estimates of actual costs
- ➔ Range -5% to + 10%

Cost Management

Estimating Costs

Analogous or top-down estimates apply what is already known

Bottom-up estimates calculate upward from the smallest work items

Probabilistic or three-point use a PERT-like weighted average formula

Parametric estimates rely on analogous data paired with quantifiable parameters like expertise, environment and tools. E.g., cost per line of code.

Cost Management

Importance of accurate estimates

Whoever holds the purse strings will always remember the initial estimate!

1. It is natural to underestimate
2. Accurate estimation comes with experience
3. Track and manage project data to build better estimates
4. Know the abilities of your project team

Cost Management

Earned Value Management

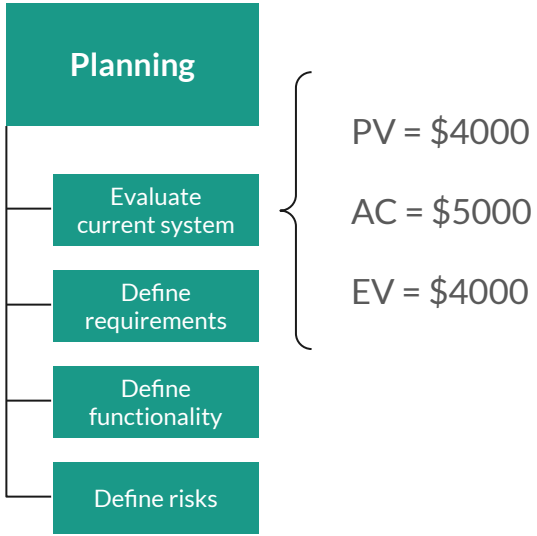
Reviewed currently *and* cumulatively

PV = Planned Value

AC = Actual Cost

EV = Earned Value

Combine scope, time, and cost data to measure project performance



Cost Management

Activity: *Evaluate Current System*

PV = $4000

AC = $5000

EV = $4000

What can we learn?

Cost variance (CV) = EV-AC

4000-5000 = -$1000

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Cost Management

Activity: *Evaluate Current System*

PV = $4000

AC = $5000

EV = $4000

What can we learn?

Schedule variance (SV) = EV-PV

4000-4000 = $0

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Cost Management

What can we learn?

Activity: *Evaluate Current System*

PV = $4000

AC = $5000

EV = $4000

Cost performance index (CPI) = EV/AC

4000/5000 = 0.8 or 80%

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Cost Management

Activity: *Evaluate Current System*

PV = $4000

AC = $5000

EV = $4000

What can we learn?

Schedule performance index (SPI) = EV/PV

4000/4000 = 1 or 100%

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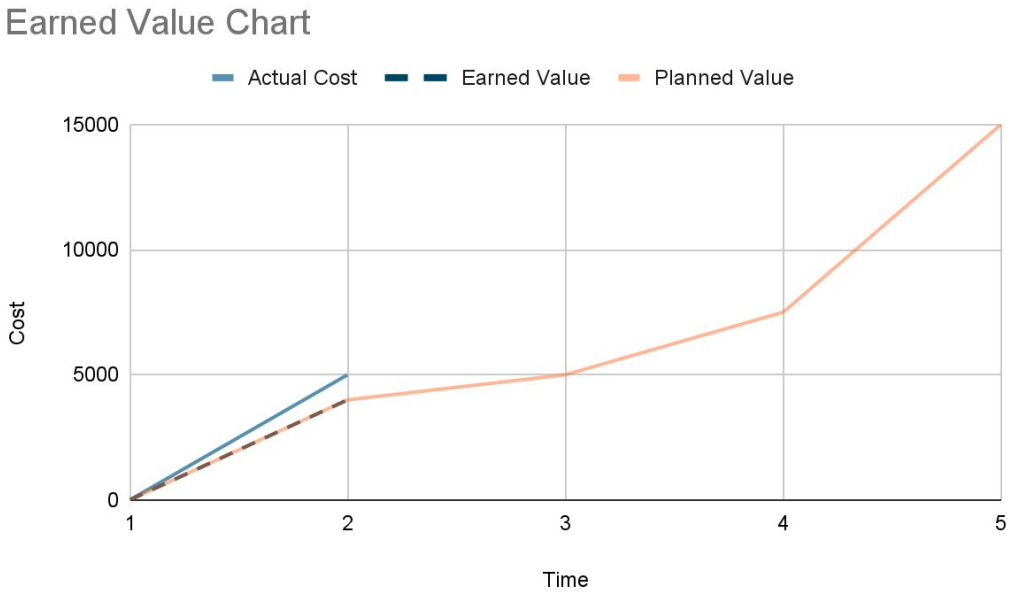
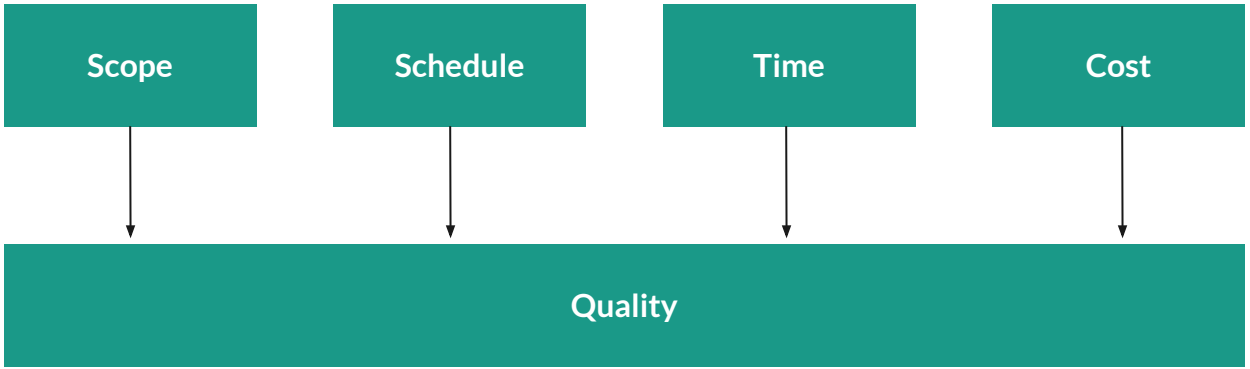
Cost Management

What can we learn?



Project Quality Management

Quality Management



The totality of characteristics of an entity that bear on its ability to satisfy stated or implied needs.

The degree to which a set of inherent characteristics fulfils requirements.

ISO

Quality Management

Fitness for Use

Generally…

- ➔ Ensure that a product can be used as intended.
- ➔ Ensure that a project satisfies the needs for which it was undertaken.

To Achieve…

Sound familiar?

Quality Management

Plan

Quality Management Plan

- ➔ Review materials generated through scope statement and WBS
- ➔ What aspects of scope *could* affect quality?
  - ◆ Functions and features
  - ◆ System outputs
  - ◆ System performance
  - ◆ Reliability and maintainability

Quality Management

Manage

Ensuring Project Quality

- ➔ Quality Assurance (QA)
- ➔ Benchmarking
- ➔ Quality Audit

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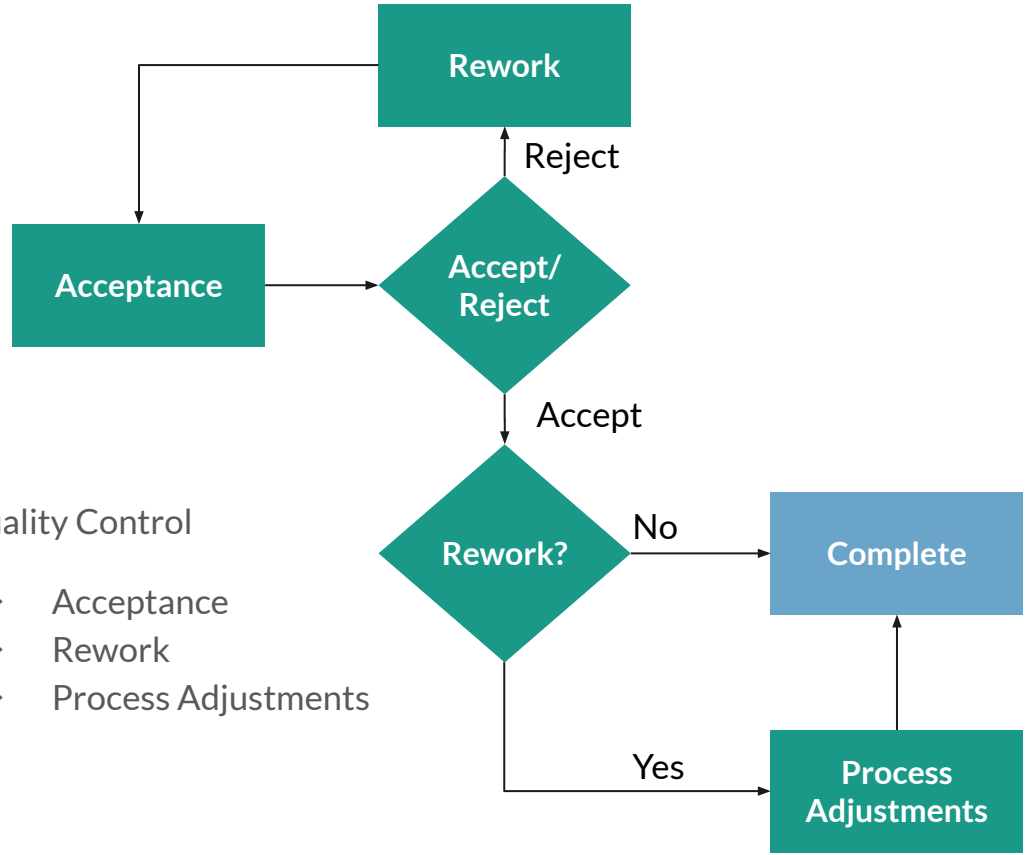
Quality Management

Control

Quality Control

- ➔ Acceptance
- ➔ Rework
- ➔ Process Adjustments



Quality Management

Measuring, Monitoring, and Managing Quality

Cause and Effect

- What is the problem?
- Why could this happen?
  - Why?
    - Why?
      - Why?
        - Why?
- What is the solution?
- How do we prevent?

Quality Management

Measuring, Monitoring, and Managing Quality

Decision Making

- ➔ What is the problem?
- ➔ What is the source?
- ➔ When did it occur?
- ➔ What is the frequency of occurrence?

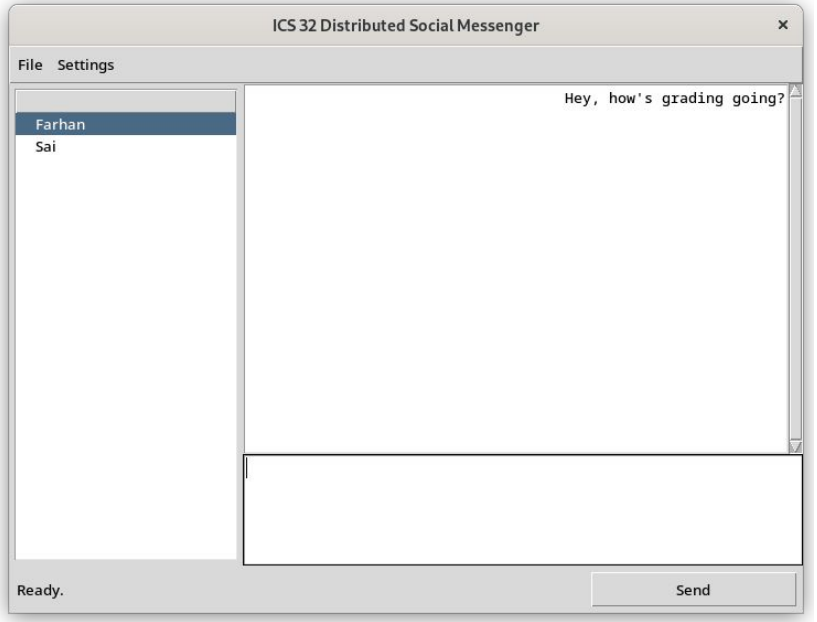
Collect data and use various tools for visualization:

- Tables
- Scatter chart
- Histogram

Case Study

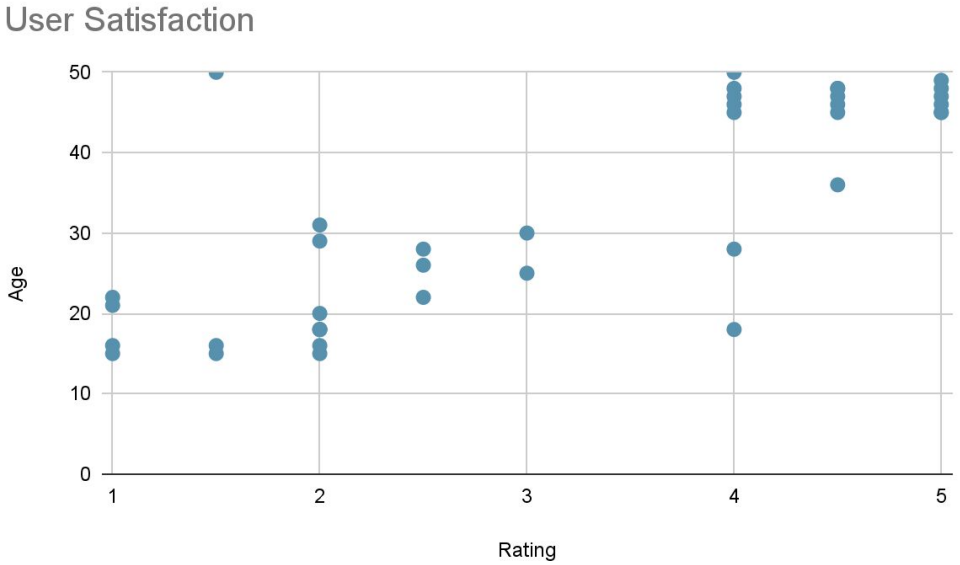
The ICS 32 Distributed Social Messenger

A simple instant messaging tool for communicating with friends and family



Case Study

User Complaints

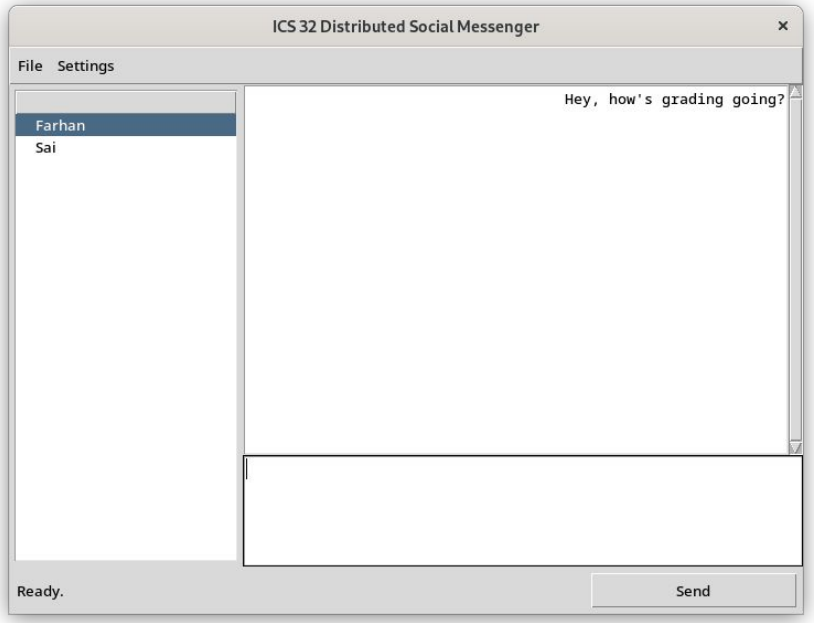


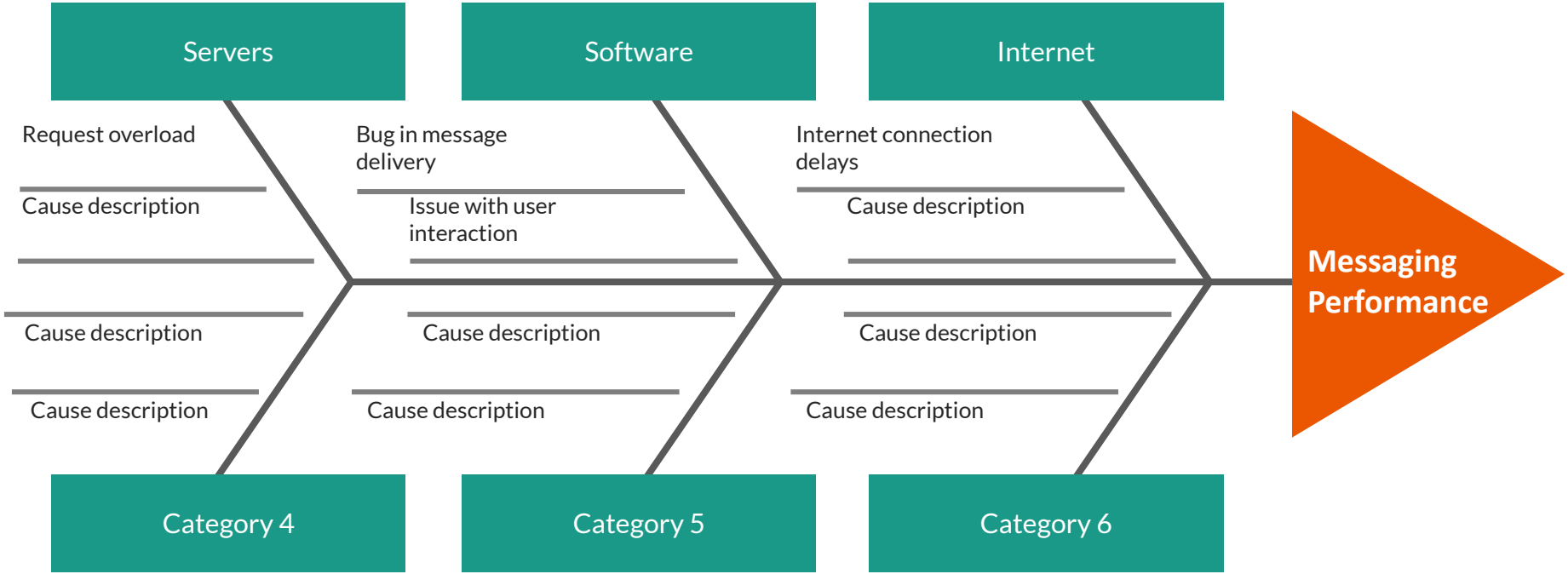
Source	M	T	W	Th	F	S	S	Total
Email	1	0	0	0	4	10	15	30
Website	2	0	0	0	5	12	8	27

Case Study

User Complaints

- Messages are frequently delayed, slow
- Users report that sent messages are often never received or ‘skipped’ during a conversation





Fishbone Diagram

Next Class

Tuesday 11/1

- Readings will be assigned tomorrow!
- A6 will be posted tomorrow.

People Management

Group Time

Quiz

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“Enter your name” = ***@uci.edu**