CSSE 372 Software Project Management: Software Risk Management

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Plan for the Day

- Early Plus/Delta for course
- Risk Management

Help Me Help You

- Early Plus/Delta course evaluation on ANGEL
- Been doing some things that are new and want your impressions
- Please take 10 minutes to help me improve the course

Recall: Risk Identification & Analysis

- Risk → F(Impact * Exposure)
  - Lack of Information, time, and/ or control
  - Uncertainty
- Prioritize, since not all risks created equal
  - Red, Amber, Green indicators or risk profiles
  - Focus on priority (urgent and important)

Learning Outcomes: Risks

Identify, analyze, and manage software project risks

- Planning to avoid software risks
- Monitoring identified software risks
- Controlling risky software situations
- Manage software risk for better value

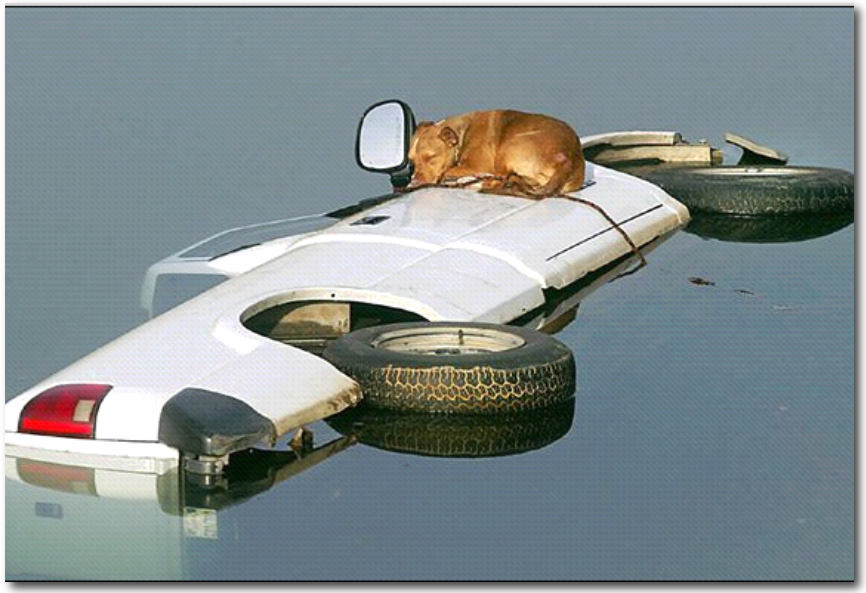
What is Risk Mitigation?

- Think for 14.333 seconds…
- Turn to a neighbor and discuss it for a minute
- Then let's talk…

Dogbert's Entrance to Risk

The Dog may be Driving the Project if:

- Lack necessary skills to do project
- Not talking about the "elephant in the room"
- Management support is lukewarm or sporadic



Don't let the dog drive!

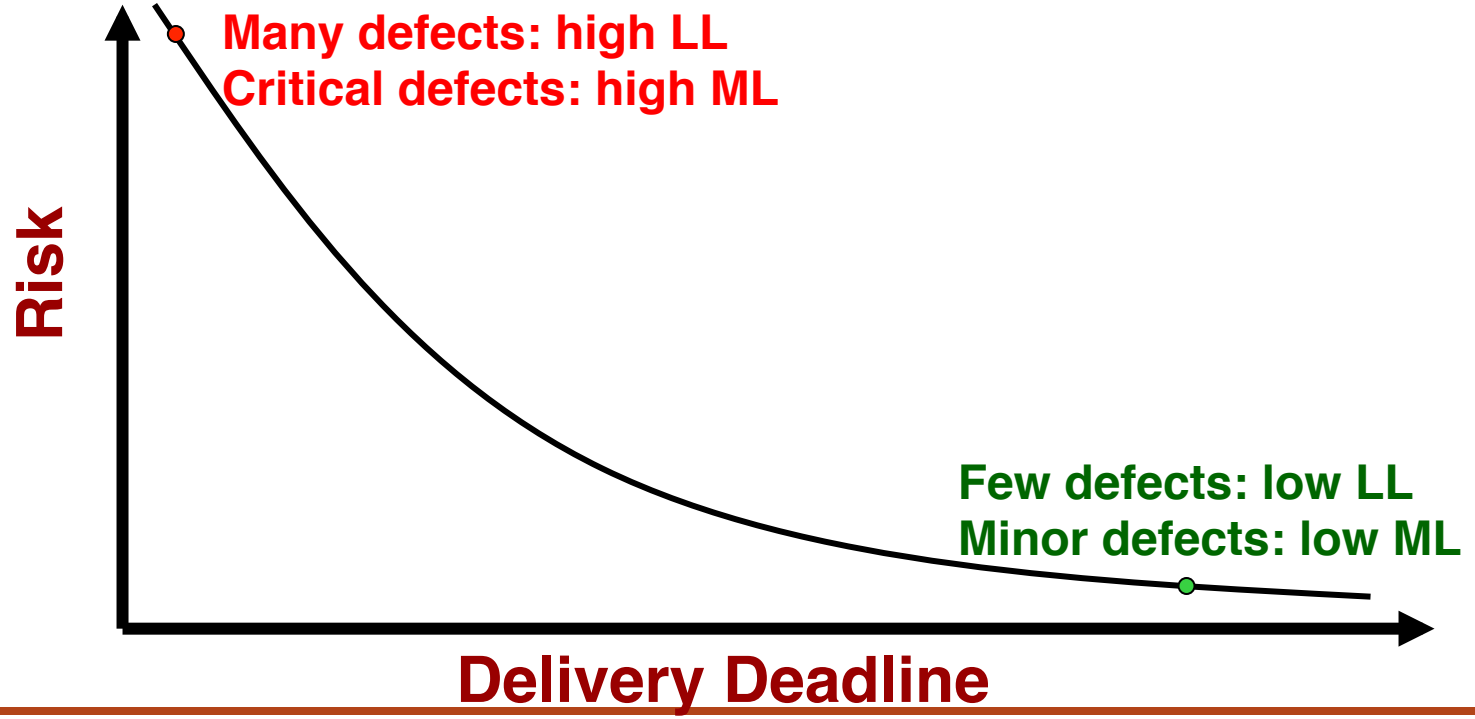
- Not sure what success will look like
- Can't scrap project because everybody will look bad

Example: Delivery Risks

- Good-Fast-Cheap: *Pick Good and Fast!*
- Delivery Risk is a function of

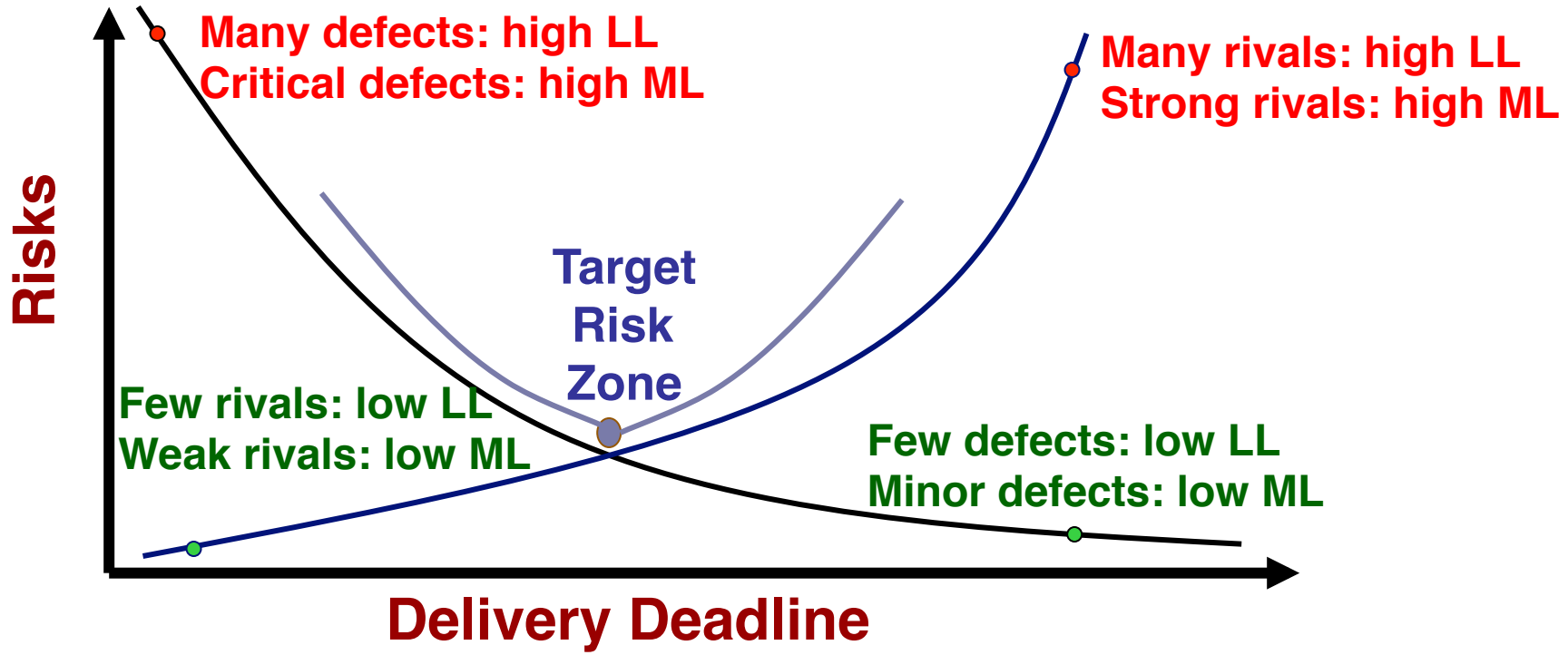
  Likelihood of Loss (LL) and Magnitude of Loss (ML)

Example: Operational Dependability



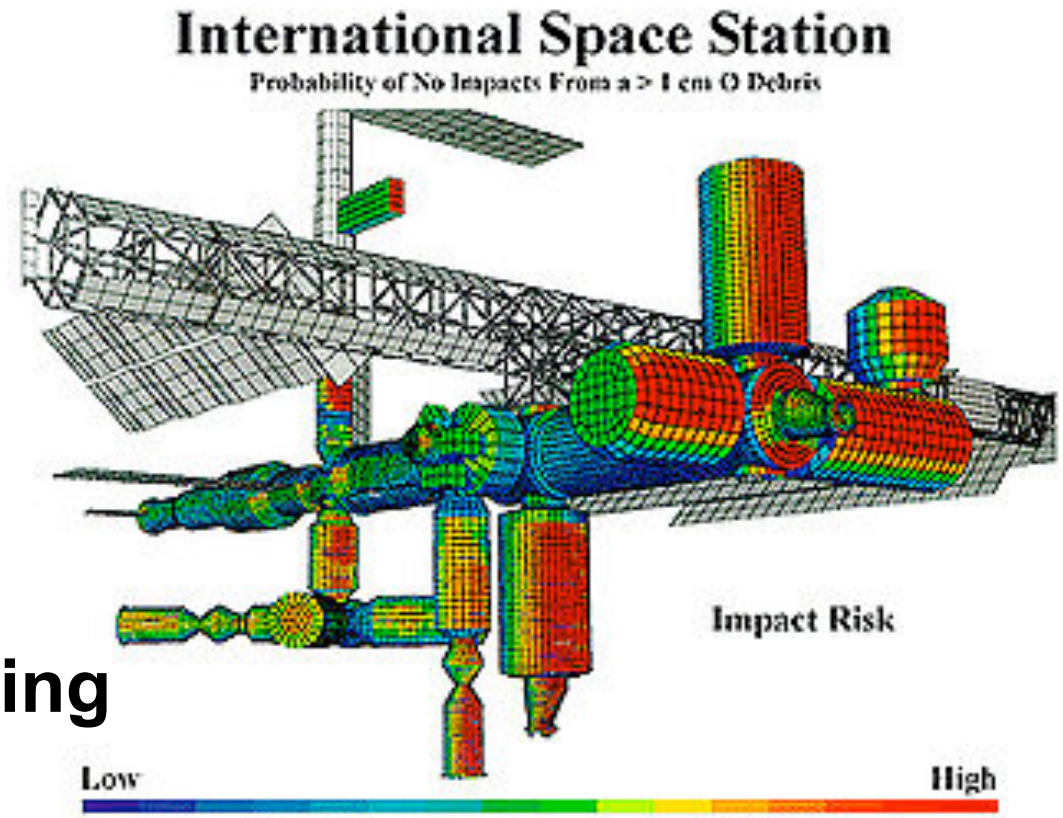
Example: Delivery Risks (continued)

Now Overlay "Fast" -- Aggressive Schedule associated with Delivery in Internet Time



What are Basic Responses to Risk?

- Accept
- Avoid
- Transfer
- Mitigate
- Contingency planning



What are some elements of Managing Risk?

- Think for 15.1212 seconds…
- Turn to a neighbor and discuss it for a minute
- Then let's talk…

Basic Risk Management

Dilbert Deals with Management Risk

Building the Risk Table

- Estimate exposure
- Estimate the on project success on a scale of 1 to 5, where
  - 1 = low impact …
  - 5 = catastrophic impact
- Sort the table by exposure and impact

Risk	Exposure	Impact	Rationale
			Risk Mitigation Monitoring & Management

Recording Risk Information

Project Embedded software for XYZ system
Risk type schedule risk
Priority 4
Risk factor Project completion will depend on tests which require hardware component under development. Hardware component delivery may be delayed
Probability 60 %
Impact Project completion will be delayed for each day that hardware is unavailable for use in software testing
Monitoring approach
Scheduled milestone reviews with hardware group
Contingency plan
Modification of testing strategy to accommodate delay using software simulation
Estimated resources 6 additional person months beginning 7-1-96

IEEE Risk Management Plan

I. Overview
   - A. Date of Issue and Status
   - B. Issuing Organization
   - C. Approval Authority
   - D. Updates

II. Scope

III. Reference Documents

IV. Glossary

V. Risk Management Overview – The specifics of risk management for this project/situation

VI. Risk Management Policies – Guidelines on conducting Risk Management

VII. Risk Management Process Overview

VIII. Risk Management Responsibilities

Source: IEEE Risk Management Standard

Risk Management Plan (continued)

IX. Risk Management Organization – the function of the organization assign with risk management

X. Risk Management Orientation and Training

XI. Risk Management Costs and Schedules

XII. Risk Management Process Description

- A. RM Context
- B. Risk Analysis
- C. Risk Monitoring
- D. Risk Treatment

XIII. Risk Management Process Evaluation

XIV. Risk Communication

- A. Process Documentation
- B. Coordinating RM with Stakeholders
- C. Coordinating RM with Interested Parties

XV. Risk Management Plan Change Procedures

Source: IEEE Risk Management Standard

Monitoring/Controlling

- Risk log
- ID number
- Risk description
- Risk owner
- Action to be taken
- Outcome

- Include Probability/Impact

Some Project Management Observations

- With over 40 years of software project management lessons learned, the software industry still fails or under-delivers in 65% of its attempts
- Always more blame to go around than good ideas to alleviate the situation
- Either manage the project or the project manages you!
- So, how does a project get to be a year late?
  …One Day at a Time
- If you are not managing risk, you are probably managing the wrong thing!

Homework and Reading Reminders

- Read Chapter 4 of Text

- Complete Homework 3 – Software Estimate Using COCOMO-II or Costar.
  - Due by 5pm, Tomorrow, Tuesday, September 25th, 2012