Quality & Risk Management

Chapter 14
Are you sure this is going to work?
If you don’t have the time to do it right, when do you think you are going to get the time to do it over?

“Good enough” never is.
Question

- How many of you have tasks in your project plan which allocate time, money, and other resources towards monitoring quality and rework?

- Quality doesn’t “just happen”!
What Went Wrong?

- In 1986, two hospital patients died after receiving fatal doses of radiation from a Therac-25 machine after a software problem caused the machine to ignore calibration data.

- In one of the biggest software errors in banking history, Chemical Bank mistakenly deducted about $15 million from more than 100,000 customer accounts.

- In August 2008, the Privacy Rights Clearinghouse stated that more than 236 million data records of U.S. residents have been exposed due to security breaches since January 2005.
Question

What is the purpose of and who performs:

- Unit testing
- Integration testing
- System testing
- User acceptance testing
Testing Tasks in the Software Development Life Cycle
What is “Project Risk Management” and why do we do it?

When do we start to practice good project risk management?
Question

0 Why do I have...
  0 Life insurance, I’m not planning on dying?
  0 Disability insurance, I’m not planning on becoming disabled?
  0 Auto insurance, I’m not planning on getting in an accident?

0 Why do I pay all of this money every year when I probably won’t need it?

0 What additional costs should I include in my project plans just in case?
Question

0 What is the difference between “known risks” and “unknown risks”?

0 Two identical projects
   0 One being lead by a typical project manager
   0 The other lead by an alpha project manager?
0 Which has a longer list of “known risks”? Why?
0 Who is less likely to be surprised by a problem?
What are “contingencies/fallback plans”?

What are “contingency/management reserves”? 
Where are most of the risks associated with IT projects (come up with top 3)?

What should you do about this?
# Information Technology Success Potential Scoring Sheet

<table>
<thead>
<tr>
<th>Success Criterion</th>
<th>Relative Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Involvement</td>
<td>19</td>
</tr>
<tr>
<td>Executive Management support</td>
<td>16</td>
</tr>
<tr>
<td>Clear Statement of Requirements</td>
<td>15</td>
</tr>
<tr>
<td>Proper Planning</td>
<td>11</td>
</tr>
<tr>
<td>Realistic Expectations</td>
<td>10</td>
</tr>
<tr>
<td>Smaller Project Milestones</td>
<td>9</td>
</tr>
<tr>
<td>Competent Staff</td>
<td>8</td>
</tr>
<tr>
<td>Ownership</td>
<td>6</td>
</tr>
<tr>
<td>Clear Visions and Objectives</td>
<td>3</td>
</tr>
<tr>
<td>Hard-Working, Focused Staff</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
What is the “Risk Register” and what does it contain?
Risk Register Contents

- An identification number for each risk event
- A rank for each risk event
- The name of each risk event
- A description of each risk event
- The category under which each risk event falls
- The root cause of each risk
Risk Register Contents (continued)

- Triggers for each risk; **triggers** are indicators or symptoms of actual risk events
- Potential responses to each risk
- The **risk owner** or person who will own or take responsibility for each risk
- The probability and impact of each risk occurring
- The status of each risk
<table>
<thead>
<tr>
<th>Risk ID #</th>
<th>Risk Statement (Description)</th>
<th>Probability of Occurrence</th>
<th>Impact</th>
<th>Score (Probability x Impact)</th>
<th>Risk Trigger</th>
<th>Risk Owner</th>
<th>Planned Response(s) (Description)</th>
</tr>
</thead>
</table>
What is “Quantitative Risk Analysis”? 
<table>
<thead>
<tr>
<th>Probability</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>risk 6</td>
</tr>
<tr>
<td>Medium</td>
<td>risk 3</td>
</tr>
<tr>
<td>Low</td>
<td>risk 8</td>
</tr>
</tbody>
</table>
Chart Showing High-, Medium-, and Low-Risk Technologies
Top Ten Risk Item Tracking

0 Top Ten Risk Item Tracking
   0 Qualitative risk analysis tool
   0 Maintain an awareness of risks throughout the life of a project

0 Establish a periodic review of the top ten project risk items
<table>
<thead>
<tr>
<th>Risk Event</th>
<th>Rank This Month</th>
<th>Rank Last Month</th>
<th>Number of Months in Top Ten</th>
<th>Risk Resolution Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inadequate planning</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>Working on revising the entire project management plan</td>
</tr>
<tr>
<td>Poor definition</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>Holding meetings with project customer and sponsor to clarify scope</td>
</tr>
<tr>
<td>Absence of leadership</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>After previous project manager quit, assigned a new one to lead the project</td>
</tr>
<tr>
<td>Poor cost estimates</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>Revising cost estimates</td>
</tr>
<tr>
<td>Poor time estimates</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>Revising schedule estimates</td>
</tr>
</tbody>
</table>
What is “Qualitative Risk Analysis”? 
Once you have identified your risks, what can you do about them?
Monitoring and Controlling Risks

0 Involves executing the risk management process to respond to risk events

0 If you don’t add tasks to your WBS, it isn’t going to happen!

0 Main outputs of risk monitoring and control are:
  0 Risk register updates/Top 10 updates
  0 Organizational process assets updates
  0 Updates to the project management plan and other project documents
Results of Good Project Risk Management

- Unlike crisis management, good project risk management often goes unnoticed.

- Well-run projects appear to be almost effortless, but a lot of work goes into running a project well.

- Project managers should strive to make their jobs look easy to reflect the results of well-run projects.