Announcements
Design (tie-in) Doc due next week
R1 a little over two week away

Much more than just a demo…
Start working on draft of Architecture Doc

Thursday
Complete BP: Change Mgmt reading (requires email registration)
ERP Progress (each CT slides)
RG Weekly Status
Change Accountability Lecture
Change Control Process Activity
Required External Reading

http://searchsecurity.techtarget.com/magazine
Content/5-Steps-for-Developing-Strong-Change-Management-Program-Best-Practices

Don’t focus on security
Change Accountability

SWEN-343
Questions for today

How does one control change in a project?

What difficulties does/will this have?

What can be done about it?
Where do Changes Originate?

Planned software development
Unanticipated problems
    Bugs
    Security
Enhancements
Why do you need a **Change Management Plan**?

Inform the necessary parties (a Strong FYI)
- Knowledge sharing
- When/if systems will be down

Provide:
- Backup plan
- Trail of production changes

Catch mistakes
- More eyes = more likely to catch issues

Ensure proper protocol
- Reduce chaos
Alternatives to CMP

**Free for all:** People do what they want
→ Chaos

"**Democracy**: Everyone votes.
→ Takes forever to get anything done

**Representative Group**
A small group of educated individuals make decisions.
Like an intelligent version of congress
Change Control Board (CCB) or CAB

A formal group of representatives who approve or reject project changes

Provide guidelines for:
- Preparing change requests
- Evaluate change requests
- Manage implementation of approved changes

Group should be stakeholders
“Typical” Process Plan

Alteration Submitter → CCB Review

More Information Needed

Change Approved

- Meet criteria
- Risk Analysis
- Testable
- Proper Rollback
- Affect Areas

Conduct Changes

Verify updates

Notification

CCB Rejected
What are some challenges this can lead to?
What are some challenges this can lead to?

“I want it now”
Emergency fixes - Emergency CCB (Account for this)
  Bug
  Customer Demand
  Security vulnerability
  Hardware issue
People don’t follow process
  What are negative ramifications?
  How do you enforce this?
People approve since it is “easier”
  Rubber stamp approvals
“The Google Way”

A pushed submission MUST

Have attached tests
That run & pass

Be signed off by:
Directory owner
One other engineer
Stages

1. Request & Approval
2. Planning & Testing
3. Scheduling & Communication
4. Implementation
5. Documentation & Follow up
Request For Change (RFC) & Approval

Many items to review.....
- Is it needed?
- Does reward outweigh the risk?
- Is it complete?
- Should the changes be made?
- Does it leave proper audit trail

RFC can be rejected due to poor planning/documentation
- But will often push back to requestor
Planning & Testing

Significant *scrutiny* should occur here…. Requestor should provide:

  Implementation & Backout plans
  Easy rollback is of paramount importance

Testing should not be an afterthought

  Verify that change took place
  Verify that change properly took place

Much of plan is *driven by risk*

  How much verification
  Who should be on hand
Scheduling & Communication

When to perform changes?
  Off hours? - Will you have necessary people?
Turn into a well documented process
  Think checklists, visibility and value-add
Change management tools may be useful
  Many vendors with different approaches
  Atlassian JIRA, IBM Rational ClearCase, etc.
Implementation

Follow plan
Have proper people on call or in attendance

Don’t be afraid to roll-back/not conduct update
Documentation & Follow-up

Create a sound **audit** trail

- Approvals
- Comments
- Plans
  - Implementation & Backout

.. Good for:
- Compliance
- Project history
- Rollback
What Should the Document Look Like?
Example Document

http://www.se.rit.edu/~swen-343/resources/SampleCCB.docx

What changes should be made?
Activity

As a class, come up with a CM process
What document will you use?
What “flow” will you use?
Who will your approvers be?
From what role & group-groups
Will you use change management software?
What will happen to those who don’t follow the process?
Possible Process

Each group come up with their 3 primary plan attributes & needs: 5 min
Class discussion & refinement: 10 min
Agreement of doc and process: 5 min
Resources

http://www.jamasoftware.com/blog/the-change-control-board/
http://searchsecurity.techtarget.com/magazine/Content/5-Steps-for-Developing-Strong-Change-Management-Program-Best-Practices