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# What you Need to Know About Managing an Enterprise GIS Project

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# Planning and Managing Successful GIS Projects

1. Focus on the business workflow
2. Fit the management of the project to the scope/scale
3. Break it into small workable pieces
4. Always be in SELL mode
5. Manage change
6. Involve IT team early
7. Do not get enamored with technology
8. Requirements, requirements, requirements
9. Use COTS as much as possible
10. Implementation is a continuous process

# Focus on the business workflow

- What business workflows are you supporting?
  - Replacing an existing legacy system
  - Replacing an existing manual system
  - Creating a new business opportunity
- What value are you adding?
- Who are the users of the system?
  - What are their real priorities
  - How do they view this effort
  - Who are the champions
- How do you measure success?

# Fit the management of the project to its scale/scope

- One management style does not work for all projects
- Decide what level of communication is important
- Recognize what is important for your project
  - Every project needs a plan
- Manage to the triple constraints:


*Change in one affects the others*

# Break it into small workable pieces

- Use a phased approach
- Use 4, 8, 12 week increments
  - Clearly define requirements and workflows that will be in each
  - Try and complete a workflow in each spiral
- Communicate overall plan
  - MS Project

*Take small steps*

# You need to be in SELL mode

- Communicate with key stakeholders
- Style of communications needs to vary
  - Formal reports
  - Informal reports
- Plan key dates into the schedule
  - Promote success
  - Visibility

***Communicate…upward, downward and across teams***

# Manage change

- Changes happen in every project
  - Schedule, requirements, priorities, budget, resources, etc.
- Be clear about the consequences
- Earlier they are identified the better
- Key elements of change communication
  - Simple, Direct, Constant & Consistent

***It will happen….get over it***

# Involve IT team early

- Key stakeholder
- Understand policy and standards
- Identify hardware and network impacts
- Consider security model and impacts
- Identify who will support system
- Plan to educate and train staff (including IT staff)

***And keep them involved***

# Do not get enamored with technology

- Remember what you are trying to deliver
  - Be careful of the “shiny” object
  - Does it address the mission need
  - Will this technology meet the goals of the business case
  - Don’t build/deliver a sports car if you need a truck

***Focus on key business functions***

# Requirements, requirements, requirements

- Describe WHAT not HOW
- Be “testable”
- Provide traceability throughout the project
- Support design and application development activities
- Model business process and user interaction
- Define interfaces with other IT systems

***THE most important part of a project***

# Requirements, requirements, requirements

## Bringing it all together

### *Customer requirements*

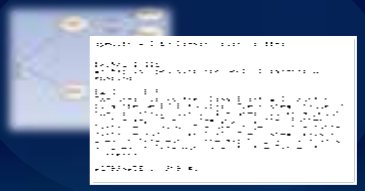
| ID | Requirement |
|---|---|
| 32 | User must be able to search for images using a point buffer |
| … | … |

### *Revised requirements*

| ID | Type | Functional Area | Requirement | Original Requirement |
|---|---|---|---|---|
| 101 | F | Desktop Client \ Discovery \ Search Filter | User must be able to specify an area of interest by selecting a point feature on the map and inputting a radius (square buffer) | User must be able to search for images using a point buffer |
| 102 | F | Desktop Client \ Discovery \ Search Filter | User must be able to specify an area of interest by drawing a point on the map and inputting a radius (square buffer) | User must be able to search for images using a point buffer |
| 104 | F | Desktop Client \ Discovery \ Search Filter | All coordinate entry should support both decimal degree (DD) and degrees/minutes/seconds (DMS) input | User must be able to search for images using a point buffer |
| … | … | … | … | … |

*Business processes*

*Use cases*



*Domain model*

# Use COTS as much as possible

- Maximizing commercial off the shelf  (COTS) software in a GIS system
- System meets business goals by leveraging COTS
  - Configures and extends COTS
  - Avoids developing software
- Immediate capability…continually improving via COTS release cycles
- Users engaged early and often to iteratively improve system

# Implementation is a continuous process

- Business process insertion
- Job/mission specific training
- Operations and support
  - Helpdesk
  - Software release schedules
  - Integration issues
  - Natural disasters
- Measure benefits
  - Is value being realized
  - Are users leveraging the system


***Assess what is critical and focus on it***

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# Discussion

# Additional Resources

- **ESRI project methodology**
  - www.esri.com/services/professional-services/methodology.html
- **Business case resources**
  - *The Business Benefits of GIS: an ROI Approach*—Outlines case studies and general methodology for doing cost-benefit analysis
  - *Thinking About GIS*—Roger Tomlinson
  - www.esri.com/getting_started/executives/success.html
- **Project Management Body of Knowledge (PMBOK)**
  - www.pmi.org

# Additional Resources: Books

- *Software Requirements (2nd Edition)* by Karl Wiegers, Microsoft Press, 2003
- *Applying UML and Patterns (2nd Edition)* by Craig Larman, Prentice-Hall, 2001
- *Use Case Driven Object Modeling with UML* by Doug Rosenberg and Matt Stephens, Apress, 2008
- *Agile Development with ICONIX Process* by Doug Rosenberg, Matt Stephens, and Mark Collins, Apress, 2005
  - www.iconixsw.com/
- *Software Project Survival Guide* by Steve McConnell, Microsoft Press, 1997


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