DISCOVERING AND PRIORITIZING IT NEEDS

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INTRODUCTIONS

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TODAY'S AGENDA

- Brief Introduction to Systems Analysis/Design Tools
  - Modeling
  - Prototyping
  - Computer-Aided Systems Engineering (CASE) Tools
  - Methods
    - *Structured Analysis*
    - *Object-Oriented Analysis*
    - *Agile/Adaptive Methods*
- Discovery Tools
  - Strengths, Weaknesses, Opportunities, Threats (SWOT)
  - Continuous Improvement Model (CIM)

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TODAY'S AGENDA CONTINUED

- Prioritizing IT Projects
  - Operational Feasibility
  - Technical Feasibility
  - Economic Feasibility
  - Schedule Feasibility
  - Organizational Goals
  - Weighted Methods
- IT Project Requirements
  - Gathering
  - Documenting
  - Validating

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MODELING

"Modeling produces a graphical representation of a concept or process that system developers can analyze, test, and modify. A system analyst can describe and simplify an information system by using a set of business, data, object, network, and process models." (Shelly & Rosenblatt, 2012).

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PROTOTYPING

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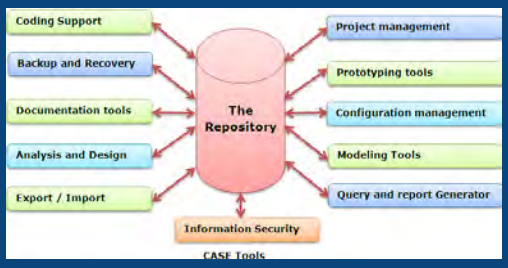
COMPUTER-AIDED SYSTEM ENGINEER (CASE) TOOLS



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METHODS

Structured Analysis

Object-Oriented Analysis

Agile/Adaptive

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DISCOVERY TOOLS

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SWOT ANALYSIS

STRENGTHS:	Our organization has great community support
WEAKNESSES:	We lack sufficient IT resources and funding
OPPROTUNITIES:	Could we ask our champions in the community to assist us with funding our IT needs?
THREATS:	Without IT we won't be able to serve as many children and might lose volunteers

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CONTINUOUS IMPROVEMENT MODEL (CIM)

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SELECT AN IT PROJECT

- Upgrading hardware
- Upgrading software (MS Office)
- Setting up a share (file server)
- Providing secure email for staff and volunteers
- Creating / modifying web presence
- CRM/DRM implementation
- Program management system implementation

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OPERATIONAL FEASIBILITY

"Operational feasibility means that a proposed system will be used effectively after it has been developed." (Shelly & Rosenblatt, 2012)

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TECHNICAL FEASIBILITY

What technical resources will be needed to develop, purchase, install, and operate the system?

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ECONOMIC FEASIBILITY

Proposed system's benefits outweigh the estimated total cost of ownership (TCO).

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TCO

The Gartner Group stated in 2008 an unmanaged PC could have a TCO of **$5,867** compared to a locked and well managed PC costing **$3,413**. (Gartner, 2008)

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WAYS TO LESSEN CTO

- Standardize equipment
- Automate or outsource – reduce labor costs
- Only pay for what you use
- Shift to cheaper equipment
- Get rid of old equipment (Gruman, 2006)

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CALCULATING RETURN ON INVESTMENT (ROI)

$$ROI = \frac{(Total\ Benefits - Total\ Costs)}{Total\ Costs}$$

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NET PRESENT VALUE (NPV)

"The NPV of a project is the total value of the benefits minus the total value of the costs, with both the costs and the benefits being adjusted to reflect the point in time at which they occur." (Shelly & Rosenblatt, 2012)

$$NPV = \sum_{t=0}^{n} \frac{(Benefits - Costs)_t}{(1+r)^t}$$

where:
r = discount rate
t = year
n = analytic horizon (in years)

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TURNING INTANGIBLES TO TANGIBLE BENEFITS

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SCHEDULE FEASIBILITY

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ORGANIZATIONAL GOALS

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PRIORITIZING YOUR IT PROJECTS

- Aligns with Goals
- Competitive Advantage
- Customer Satisfaction
- Estimated Project Cost
- Potential Revenue
- Ease of Implementation
- Change in Image/Reputation

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BASIC PRIORITIZING

Project Prioritization Worksheet

Project	Strategic Value	Ease	Financial Benefit	Cost	Resource Impact	Overall Priority	Notes
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WEIGHTED METHODS

Figure 1—Project Prioritization Matrix

	Project List	Cost Savings/ ROI	Weighted Score	Technical Complexity	Weighted Score	Business Value	Weighted Score	Security/ Importance	Weighted Score	Speed to Market	Total Project Score	Weight Factor	Project Priority Ranking
	Weight Factor	3		2		2		3		1			
1	Project A	8	24	10	20	1	2	10	30	1	1	77	1
2	Project B	10	30	9	18	2	4	5	15	4	4	71	2
3	Project C	7	21	2	4	9	18	6	18	10	10	71	3
4	Project D	4	12	4	8	7	14	7	21	9	9	64	4
5	Project E	3	9	8	16	3	6	9	27	2	2	60	5

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GATHER REQUIREMENT METHODS

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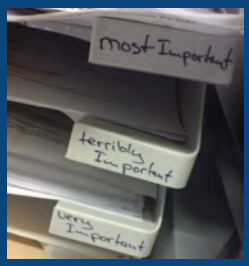
PRIORITIZING REQUIREMENT TOOLS



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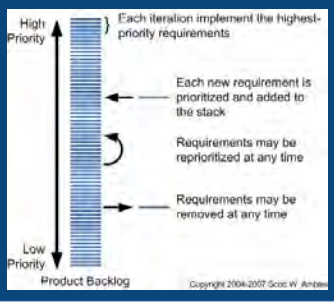
SCRUM REQUIREMENTS MANAGEMENT



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UNDERSTANDING & DOCUMENTING REQUIREMENTS

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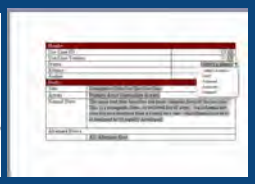
USE CASES



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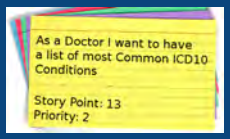
USER STORIES

As a/an	I want to...	so that...
moderator	create a new game by entering a name and an optional description	I can start inviting estimators
moderator	invite estimators by giving them a url where they can access the game	we can start the game
estimator	join a game by entering my name on the page I received the url for	I can participate
moderator	start a round by entering an item in a single multi-line text field	we can estimate it
estimator	see the item we're estimating	I know what I'm giving an estimate for
estimator	see all items we will try to estimate this session	I have a feel for the sizes of the various items
moderator	see all items we try to estimate this session	I can answer questions about the current story such as "does this include ___"
moderator	select an item to be estimated or re-estimated	the team sees that item and can estimate it



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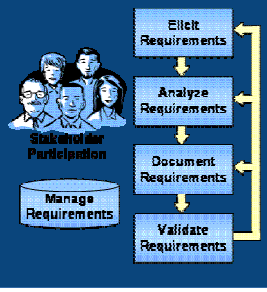
VALIDATING REQUIREMENTS



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TAKEAWAYS

- ✓ Align IT with organizational goals
- ✓ Use SWOT or CIM to identify IT needs
- ✓ Run feasibility analysis on your IT needs
- ✓ Prioritize your IT needs
- ✓ Focus on the user (user-centric) not the technology
- ✓ Take the time to gather, analyze, prioritize, document, and validate your requirements

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QUESTIONS / DISCUSSIONS

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REFERENCE(S)

Ambler, S. (2012). *Agile Best Practice: Prioritizing Requirements.* Retrieved from http://www.agilemodeling.com/essays/prioritizedRequirements.htm.

Gartner (2008). *Gartner Says Effective Management Can Cut Total Cost of Ownership for Desktop PCs by 42 percent.* Retrieved from http://www.gartner.com/it/page.jsp?id=636308.

Gruman, G. (2006). *Learn to Trim IT Costs Strategically.* Retrieved from http://www.cio.com/article/22396/Learn_to_Trim_IT_Costs_Strategically?page=1

Shelly, G. B., & Rosenblatt, H. J. (2012). *Systems Analysis and Design* (9th ed.). Boston, MA: Course Technology.

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