

# NOUNS AND VERBS

## DOMAINS, ACTORS, AND USE CASES

FOR MILWAUKEE SPIN

OCTOBER 15, 2009



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375 BISHOPS WAY, SUITE 105 | BROOKFIELD, WI 53005 | (262) 780-0380 | [WWW.SYSLOGICINC.COM](http://WWW.SYSLOGICINC.COM)

- Nouns
  - Domain Modeling
  - Actor Identification
  - Context Diagram
- Verbs
  - Use Cases

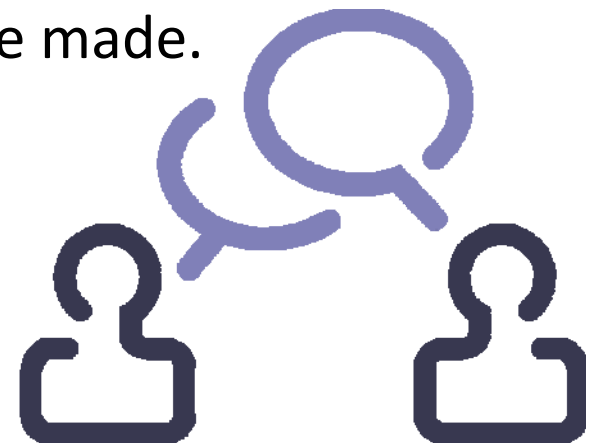
- Start with the *nouns*.
  - Person
  - Place
  - Thing



<http://www.youtube.com/watch?v=E2iLAI0gUW0>

The Schoolhouse Rock “Nouns” video is a good example of what happens in requirements gathering:

- A lot of information is shared in a short amount of time.
- How do you capture all the stories told by stakeholders?
- Some of the actors or classes are *implied* in the story.
- When the story is retold, clarifications are made.



# CAPTURE A LIST OF NOUNS

- To Record or Not To Record?
  - Record and **transcribe** the first couple of meetings
  - Plan about a 1:4 ratio of recording:transcribing time
- Mark the nouns using Microsoft Word's "Index" tool (or just print & underline...)
- Create an index of all the nouns

animals.....	1	flora.....	1	person.....	1,2
anything.....	1	goldies.....	2	place.....	1,2
<b>bandit</b> .....	1	home.....	1	<b>plants</b> .....	1
bandits.....	1	Hudson Street.....	1	record.....	2
<b>Beatles</b> .....	2	kind.....	2	state.....	1
bone.....	1	lady.....	1	<b>street</b> .....	1
brother.....	1	machine.....	2	<b>the Monkees</b> .....	2
<b>Chubby Checker</b> .....	2	me.....	1	thing.....	1,2
corner.....	1	Mrs. Jones.....	1	train.....	1
dime.....	2	name.....	1,2	twist.....	2
dog.....	1	noun.....	1,2	word.....	1,2
drugstore.....	2	nouns.....	1,2	you.....	1,2
<b>engineer</b> .....	1	noun's.....	1,2		
fauna.....	1	Oldies.....	2		

# USING THE INDEX TOOL IN MS WORD

- Highlight the noun

## **MS Word 2003**

### **To Mark a Word:**

*Alt+Shift+X*

*Mark*

### **To Insert an Index**

*Insert*

*Reference*

*Index and Tables*

## **MS Word 2007**

### **To Mark a Word:**

*Alt+Shift+X*

*Mark*

**or**

*References*

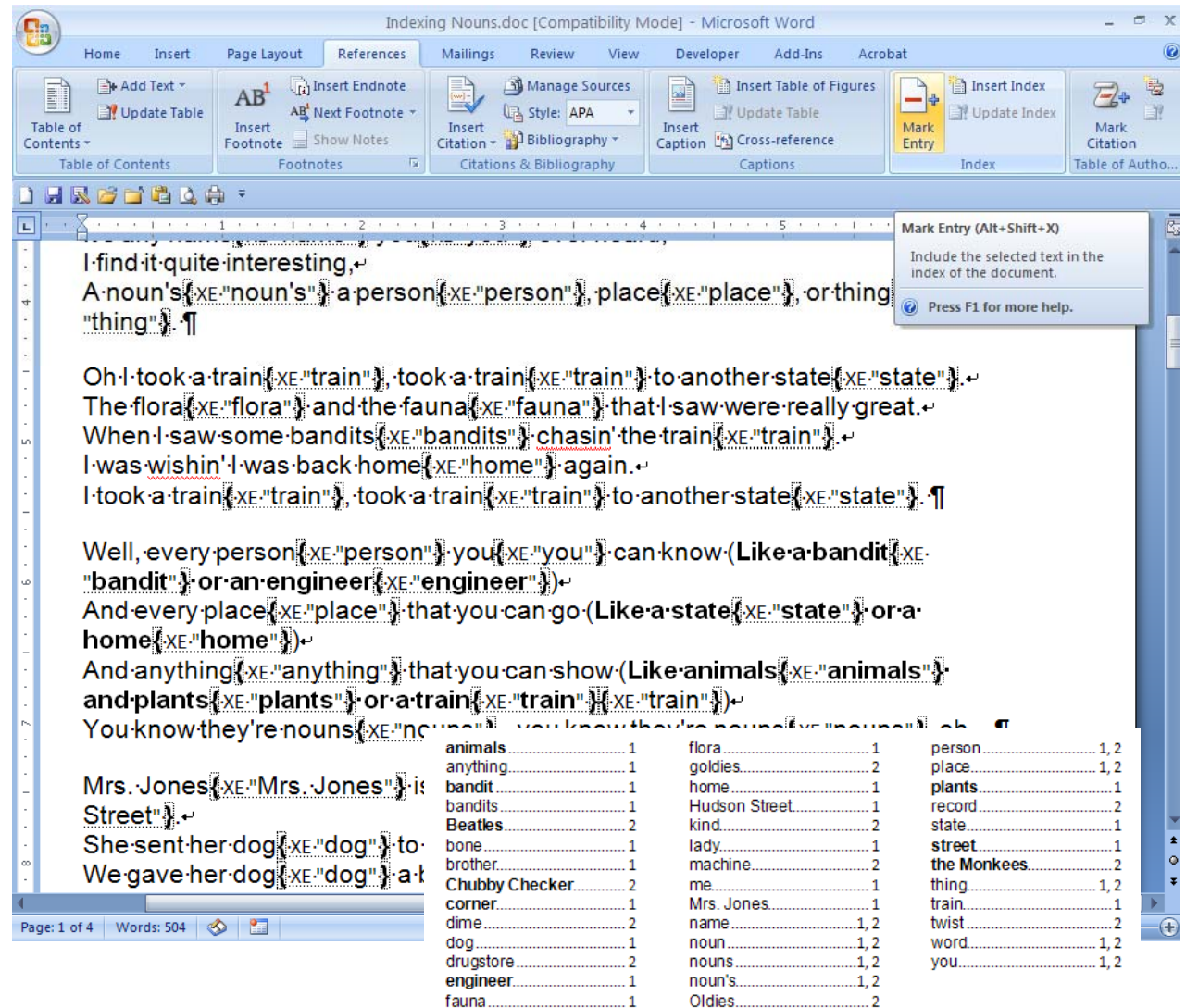
*Mark Entry*

*Mark*

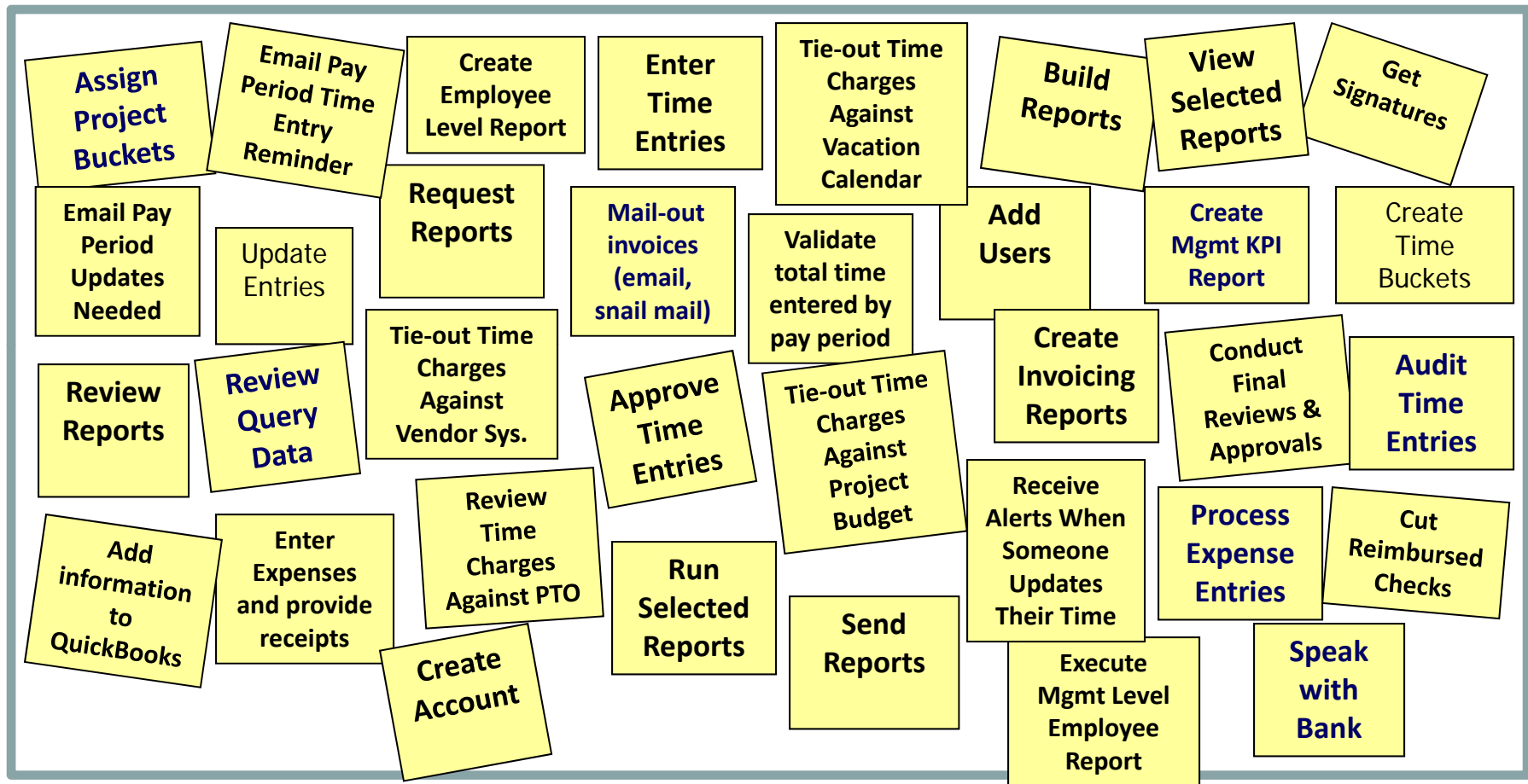
### **To Insert an Index**

*References*

*Insert Index*



# EXAMPLE: TIME MANAGEMENT TOOL



- The example is based on an employee time tracking system.
- An In/Out Diagram is one type of requirements elicitation activity.
  - Low tech: post-it notes and white paper

# IDENTIFY THE NOUNS, STAKEHOLDERS, ACTORS

Account Representative  
Admin1  
Admin2  
Administrator  
Approver  
Bank  
CEO  
Computer  
Contractor  
Employee  
Entry Detail  
Excel  
Executive Assistant  
Expenses  
Hours  
John  
Marilyn  
Month

Operations Manager  
Oscar  
Pay Period  
Payroll  
Philip  
Project  
QuickBooks  
Receipt  
Report  
Stacy  
Stephanie  
Sub-Contractor  
Terry  
Time  
Vendor  
Website  
Week

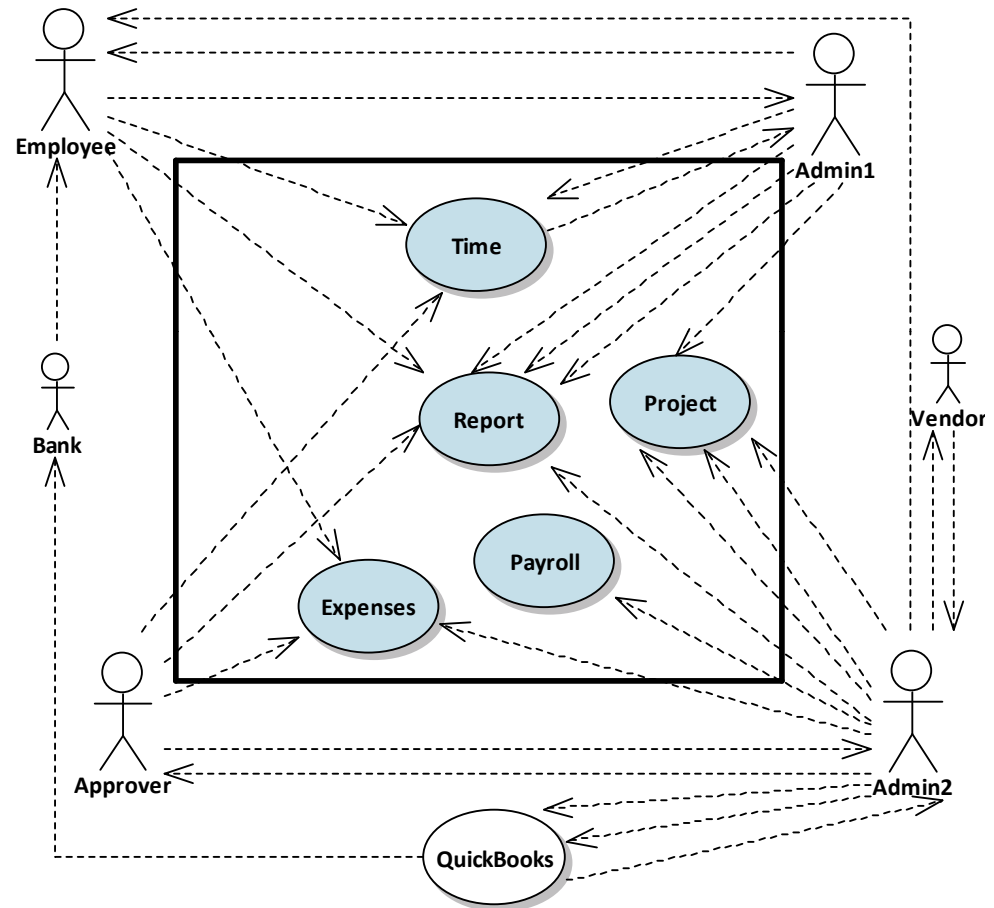
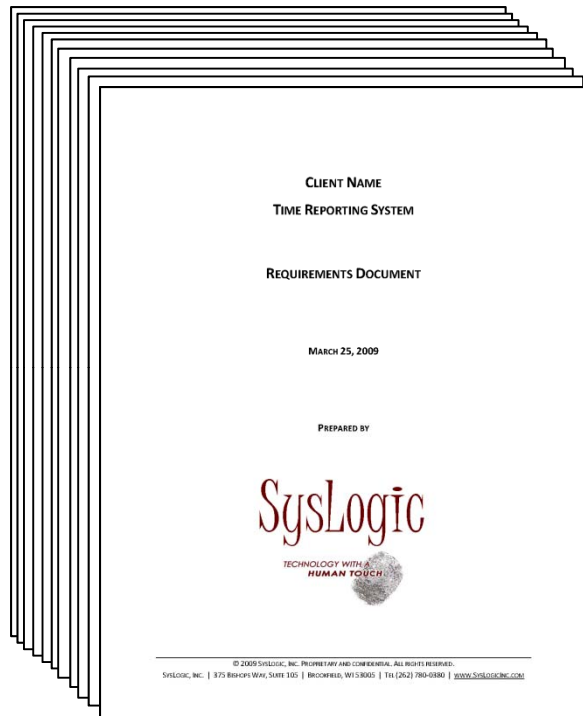
Stakeholders	Actors
<u>CEO</u>	<input type="checkbox"/>
<u>Operations Manager</u>	<input type="checkbox"/>
<u>Executive Assistant</u>	<input checked="" type="checkbox"/>
<u>Contractor</u>	<input type="checkbox"/>
<u>Employee</u>	<input checked="" type="checkbox"/>
<u>Approver</u>	<input checked="" type="checkbox"/>
<u>Administrator</u>	<input checked="" type="checkbox"/>
<u>Account Rep</u>	<input type="checkbox"/>
<u>John (IT guy)</u>	<input checked="" type="checkbox"/>
<u>Marilyn</u>	<input checked="" type="checkbox"/>
<u>Oscar (bank rep)</u>	<input type="checkbox"/>
<u>Philip (designer)</u>	<input type="checkbox"/>
<u>Stacy (admin)</u>	<input checked="" type="checkbox"/>
<u>Stephanie (admin)</u>	<input type="checkbox"/>
<u>Terry (payroll temp)</u>	<input checked="" type="checkbox"/>

**“A picture shows me at a glance what it takes dozens of pages of a book to expound.”** *-Ivan Turgenev, Russian novelist*

Diagrams:

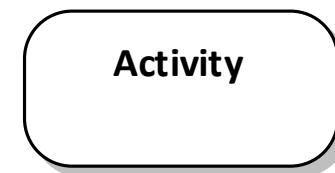
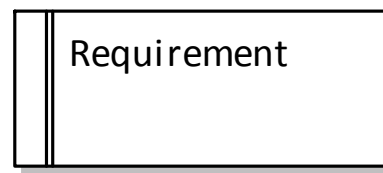
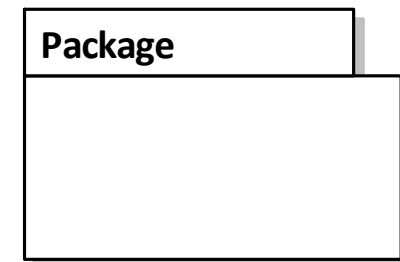
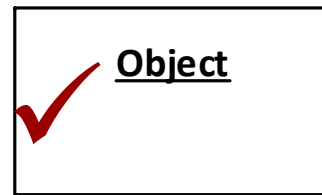
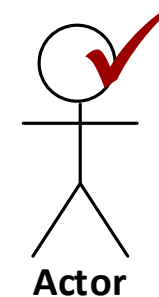
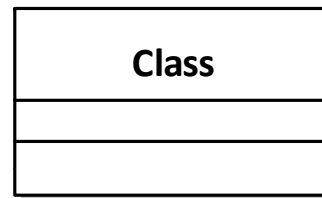
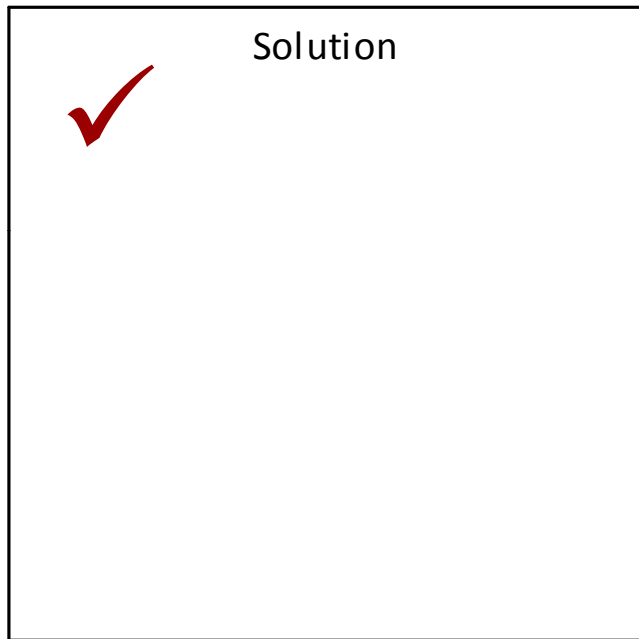
- Show **relationships** between objects, users, other systems and the solution.
- Help stakeholders and project team have the **“A-ha!”** moment of consensus.

# USING GRAPHIC REPRESENTATION



- Requirements Doc=14 pp.
- One contextual picture
- Graphics do not *replace* textual representation, they complement it

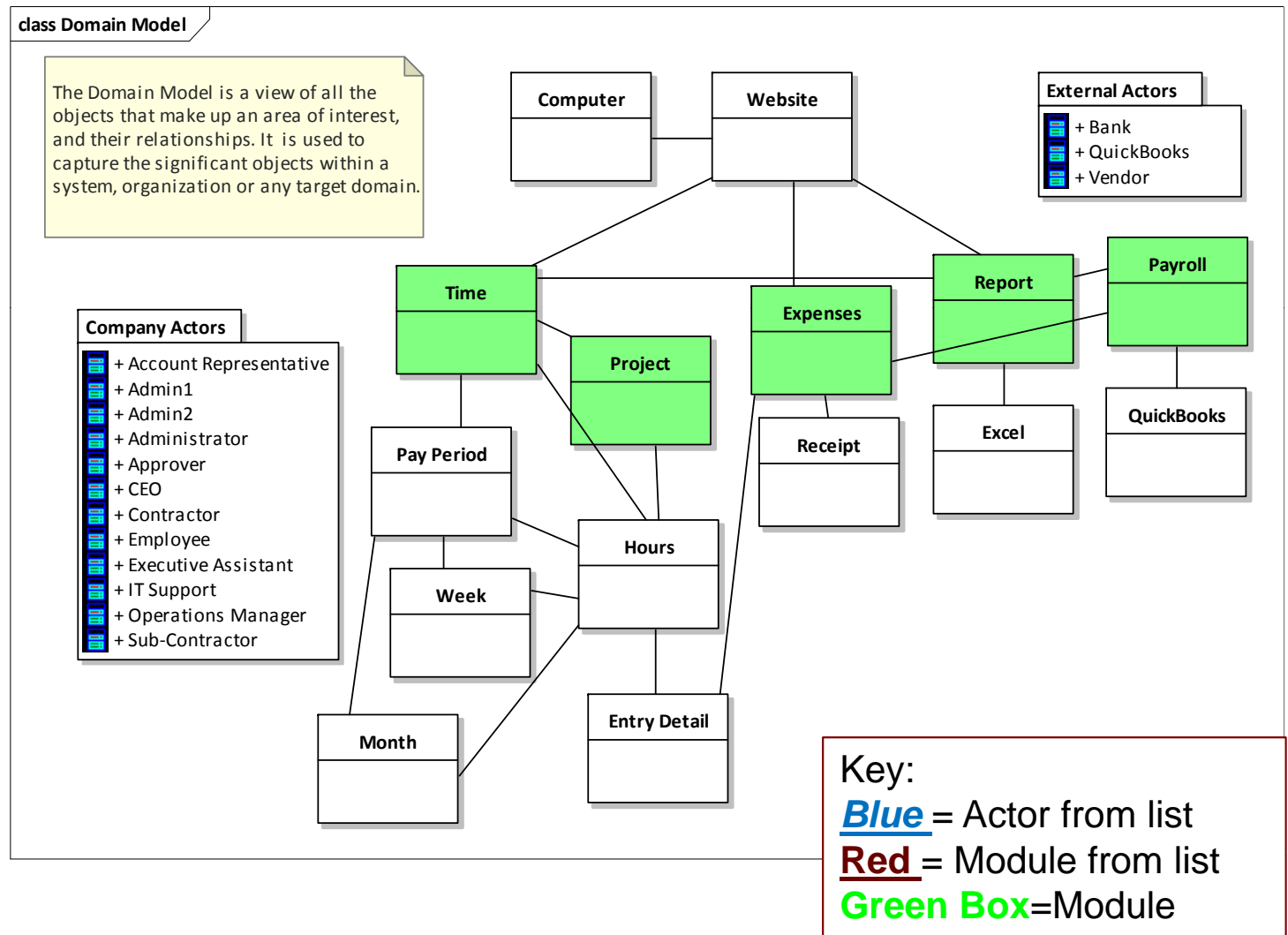
- UML uses basic shapes to represent different elements such as:



- **Class** (or context) diagrams, especially at a high level, can show how the solution's parts will relate to each other. It can include entities, organizations, buildings, even different computers and how they are connected.
- **Use cases** are helpful in showing what the solution is expected *to do*. These diagrams identify requirements during the planning of the project. Diagramming use cases is a simple first step *before* writing descriptive textual use cases, which can be lengthy.
- **Sequence** diagrams can be used when a solution sends and receives messages. They can also be helpful to indicate a timeline.
- **Activity** diagrams help show the business workflows using the solution. Diagramming these workflows help the developer and the business ensure the solution includes all the work needed by the business.

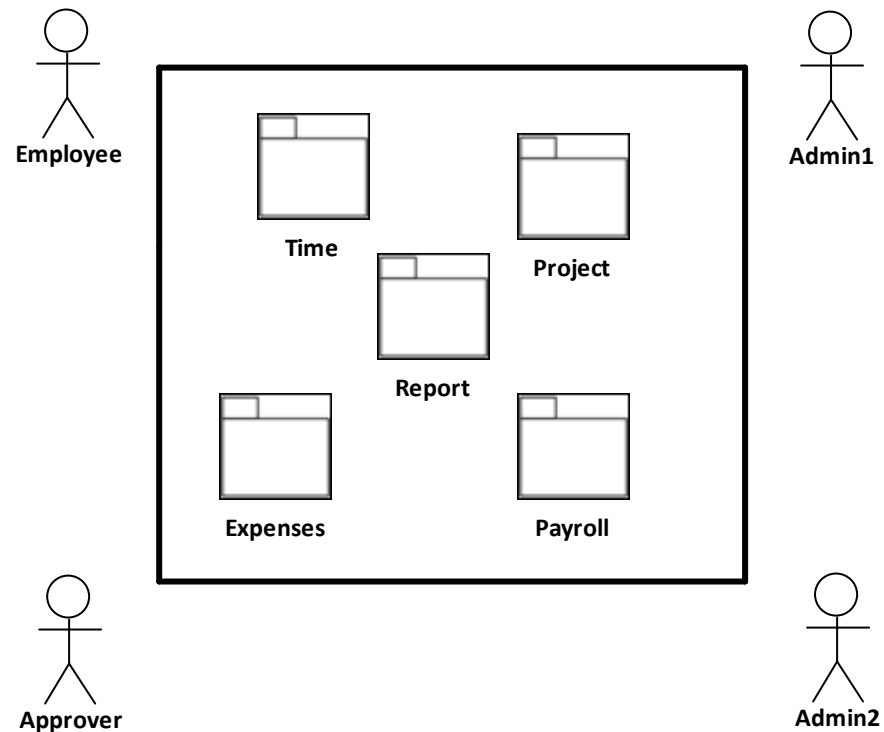
# NOUNS ARE THE DOMAIN AND THE ACTORS

- [Admin1](#)
- [Admin2](#)
- [Approver](#)
- [Bank](#)
- Computer
- [Employee](#)
- Entry Detail
- [Expenses](#)
- Hours
- Month
- Pay Period
- [Payroll](#)
- [Project](#)
- QuickBooks
- Receipt
- [Report](#)
- [Time](#)
- [Vendor](#)
- Week
- Website

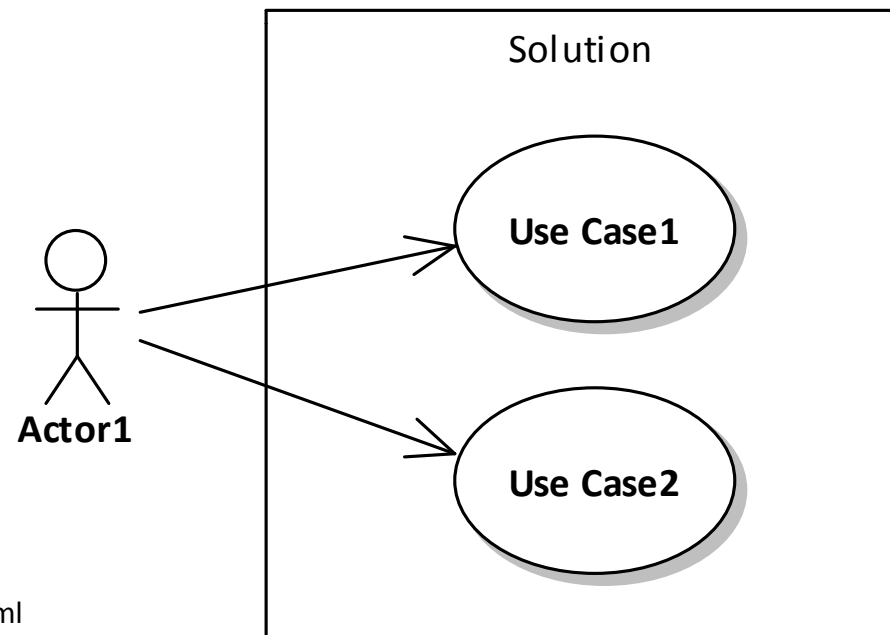


# CONTEXT DIAGRAMS

- The nouns are grouped into high-level, similarly-functioning modules within the solution.
- Actors are grouped into high-level **roles** that have direct relationships with the solution.



- **Use Case diagrams** display the relationship among actors and functions of the solution.
- They define behavior, requirements and constraints in the form of scripts or scenarios.
  - Actor
  - Use Case



[http://www.sparxsystems.com/resources/uml2\\_tutorial/](http://www.sparxsystems.com/resources/uml2_tutorial/)

<http://www.ibm.com/developerworks/rational/library/769.html>

[http://atlas.kennesaw.edu/~dbraun/csis4650/A&D/UML\\_tutorial/index.htm](http://atlas.kennesaw.edu/~dbraun/csis4650/A&D/UML_tutorial/index.htm)

- Then identify the **verbs**.
  - What does an actor do?
  - What does the solution do?
  - *Actions*

Using Active Verbs?

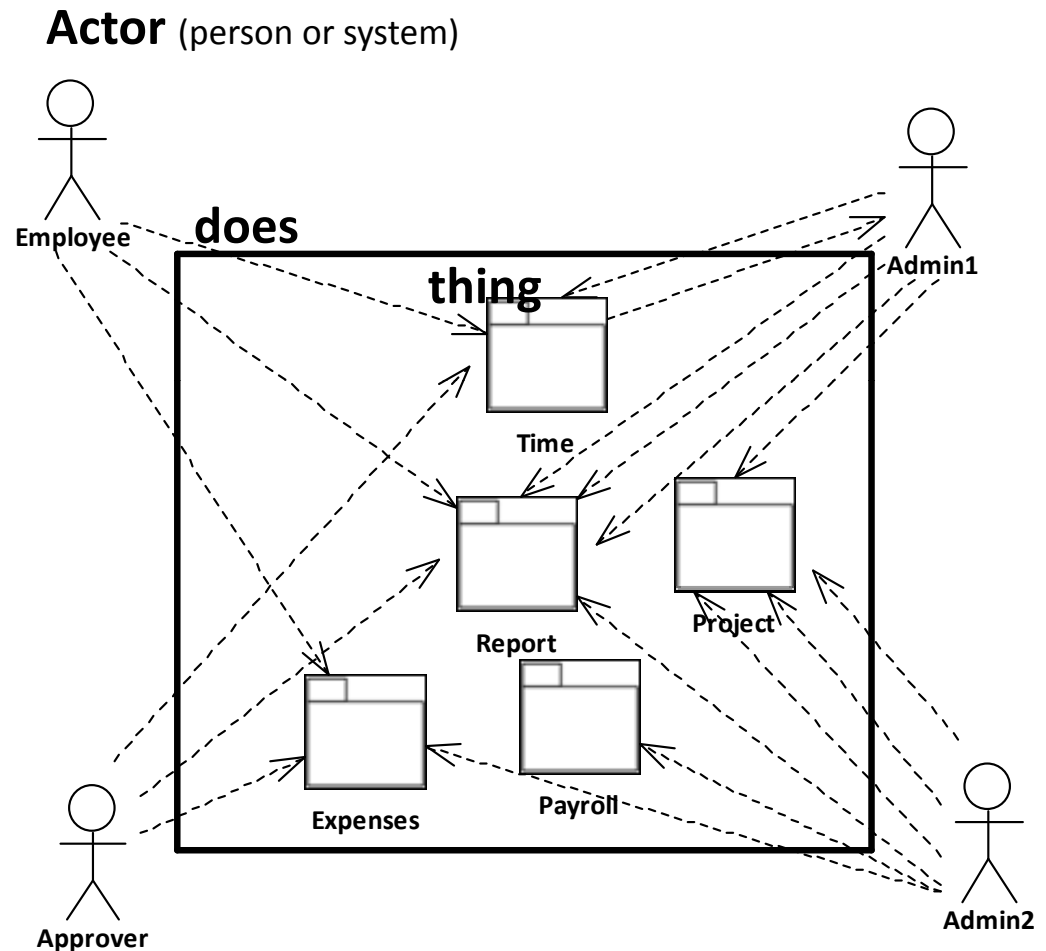
- check with “to”
- to enter, to run, to save
- shall enter, shall run



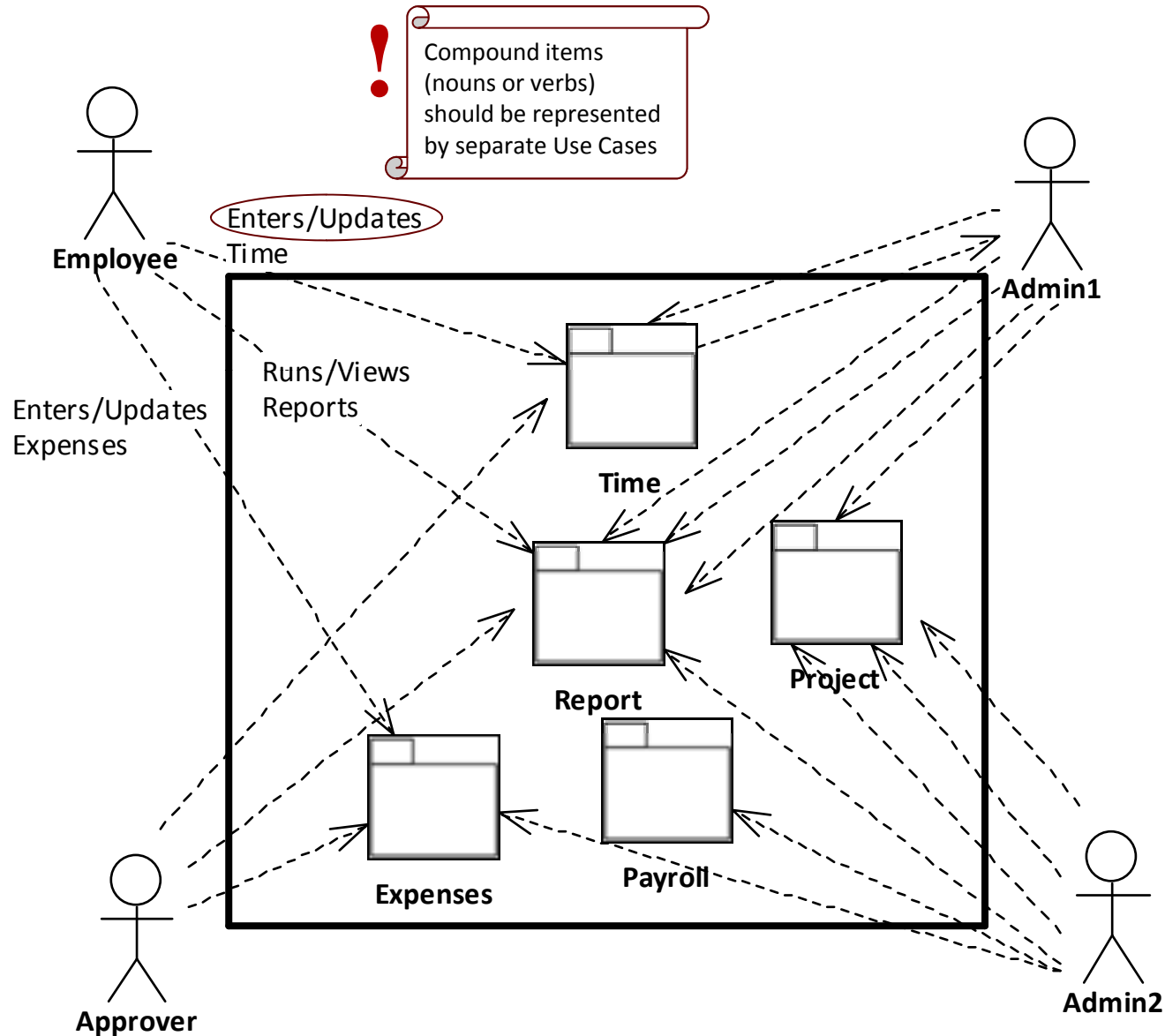
[http://www.youtube.com/watch?v=h4QEzJe6\\_ok](http://www.youtube.com/watch?v=h4QEzJe6_ok)

# CONTEXT DIAGRAMS → USE CASE DIAGRAM

- Draw **lines** between the actors (roles) and the modules.
- Each of these lines represents a Use Case.
- The syntax for a simple Use Case is:
  - “Actor does a thing.”
  - “Role affects Module.”

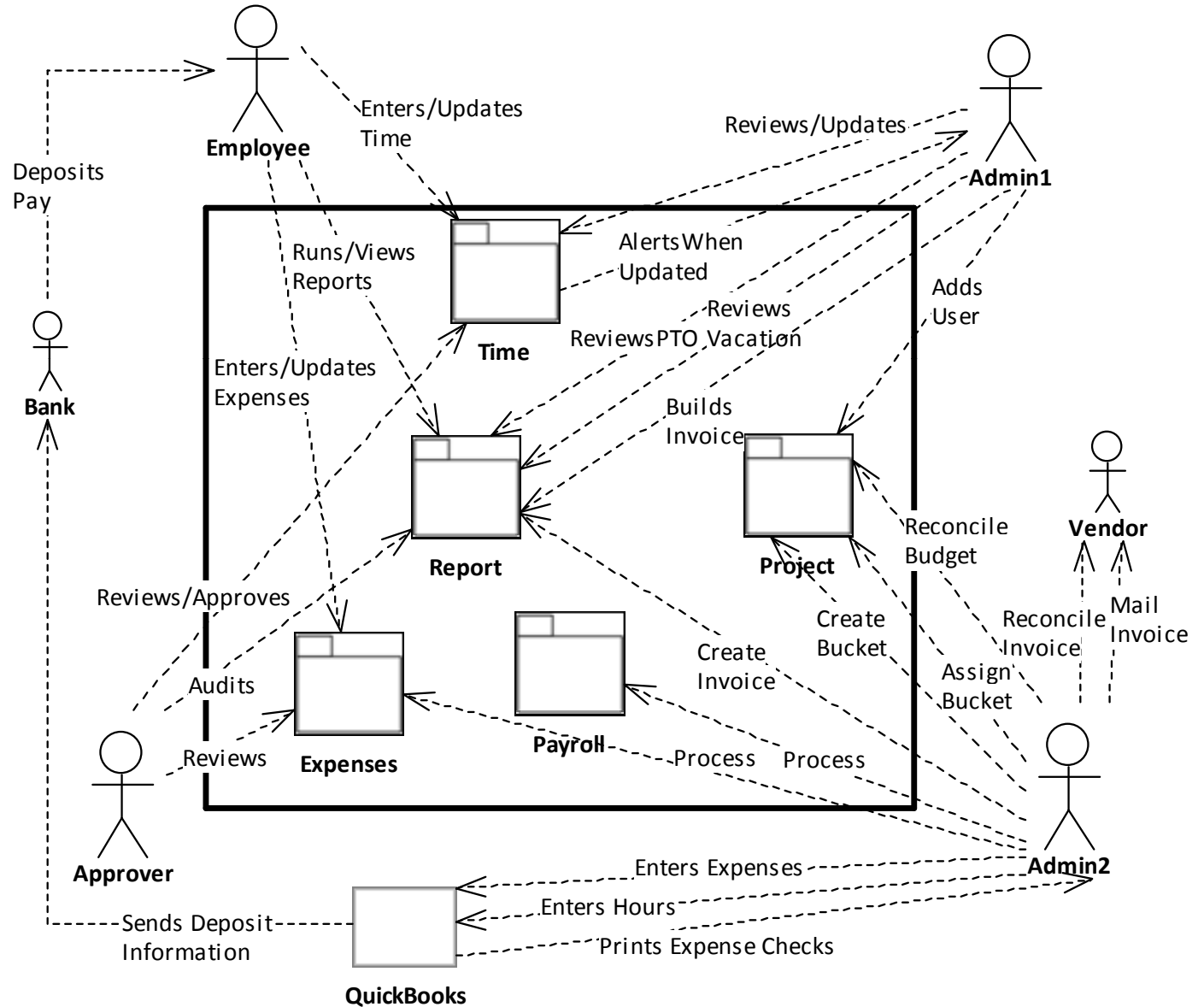


# USE CASE DIAGRAM – EXAMPLE 1



# USE CASE DIAGRAM - EXAMPLE 2

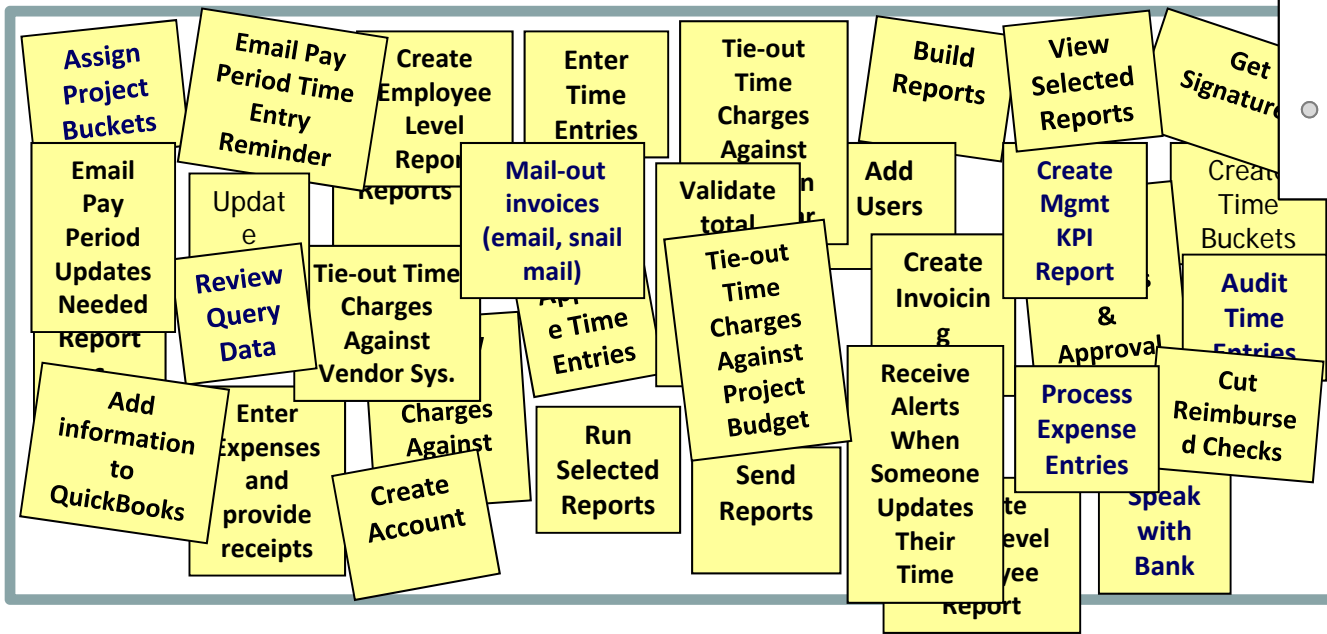
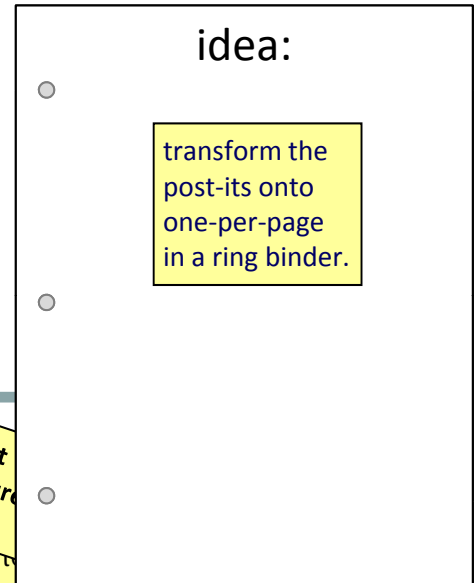
- Diagramming all the processes, even those external to the solution, can show areas for future consideration / automation



- **Simple Use Case**
  - (Noun + Verb + Noun)
  - Good tool for high-level estimating
- **Expanded version**
  - Simple Use Case
  - Explanation of what the Use Case means
  - Example of the Use Case in a real-life scenario
  - Better tool for designing solution or detailed estimating

# DOCUMENTATION FOR AN AGILE PROJECT

- Remember the elicitation activity from earlier?
- Each of these post-its may represent a use case.
- Look for duplicates
- Group similar items together
- Group items by who does them



# USE CASES IN A DOCUMENT

- Some companies want formal documentation around requirements and use cases.
- Every SDLC has documentation, from Waterfall to Scrum.
  - Documenting does not go away with agile project methodologies – it’s just done differently.

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USE CASE NARRATIVE

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USE CASE NUMBER	
SIMPLE USE CASE	Noun + Verb + Noun (Actor + does + thing.)
EXPLANATION	Expound for clarity and meaning.
EXAMPLE	Real-life example of this scenario.
PRIORITY	High   Medium   Low
COMPLEXITY	High   Medium   Low
PRE-CONDITION(S)	What must happen before this use case can occur.
SUCCESS CRITERIA	How to know the use case has been successful.
PRIMARY ACTORS	Actor named in use case.
SECONDARY ACTORS	Others who may perform the use case.
NON FUNCTIONAL REQUIREMENTS	Issues, regulations, needs which may impact the use case.
PRIMARY FLOW	The "Happy Path," i.e. when this use case happens in a perfect world. High level (simple) use cases for estimating may not utilize this.
ALTERNATE FLOW	What happens when the Happy Path can't be followed?
QUESTIONS	Questions for consideration around the use case.

**Priority Definitions:**

**High** Core functionality. High level of touch or impact. Other functionality may be dependent upon it.

**Medium** Important functionality, but not of the highest level touch or impact. Other functionality may be dependent upon it.

**Low** Functionality that has a low level of touch or impact. May have a limited user set or is an exceptional function. Typically no other functions depend upon it.

**Complexity Definitions:**

**High** Has multiple scenarios affiliated with it, requiring screen richness.

**Medium** Straightforward, yet still containing some hidden layers which may not be explained in the use case title.

**Low** Simple, with few if any hidden layers.

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TOMETTE KIRK: NOUNS & VERBS – DOMAINS, ACTORS, & USE CASES  
THURSDAY, OCTOBER 15, 2009

- Remember: Go back to **Basics**
  - Nouns
  - Verbs
  - Shapes
- Start with **simple** and expound
  - Context Diagram
  - Use Case: Noun + Verb + Noun
- Use the tools that work for **you**
  - MS Word
  - Pencil / Paper
  - Whiteboard / Markers



**Thank you!**

Tomette J. Kirk, CBAP®

tkirk@syslogicinc.com

(262) 780-0380

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