How to do just about everything better using use cases

OR,
HOW TO WRITE REALLY, REALLY GOOD REQUIREMENTS, DO GREAT TESTING, MAKE DEVELOPMENT EASIER USING USE CASES AND OTHER TOOLS

Does this situation ever happen to you?

- A developer comes by in a rush and asks you to test a part of the application you've been testing.
- Basically he tells you where the build is and he runs away...

- Okay, well, I'll figure out the changes made.
- And then the excitement begins. . .

?

Okay, how's it supposed to work?

I know, I'll look at the requirements

Typical Requirements and the interpretations

Original Requirement	And the QA interpretation
• "The software can be installed ..." • "The system shall log information and errors to the SysUpdate.log. It shall try to recover from failures. If the system has a critical error, it shall notify the operator to contact Field Service."	• "Well, duh..." • "How does it log errors; What is the format of SysUpdate.log – machine readable or text; What mechanism tries to recover; What's a critical error; what notifies the user?..."

More Requirements and interpretations

Original Requirement	And the QA interpretation
• **Software must provide means for superusers to override (via password on field service tab) any anti-reuse functionality.**	• Can't get there from here.. • What Field Service tab? • And what the heck is anti-reuse functionality

After significant wandering around. . .you find the one person who gives you hope

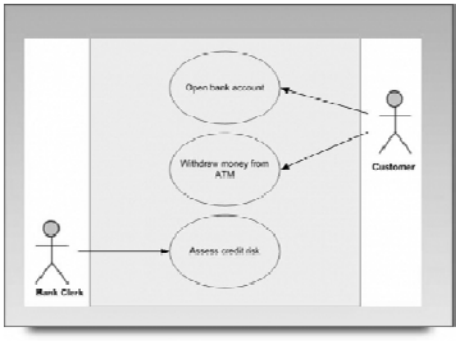
An Engineer with Notes!

If I could only find where the list of changes is

Maybe this isn't helpful...

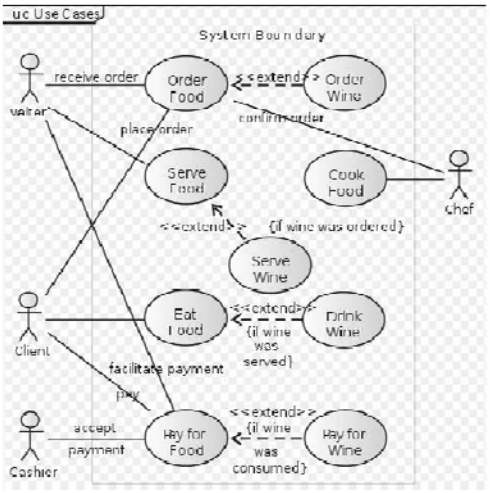
THERE'S GOT TO BE A BETTER WAY

After asking about half a dozen folks. Finally an engineer with some notes I can understand.



These kinds of diagrams illustrate use cases.

http://www.businessanalystfaq.com/blog/use-case-diagram.html



What is a use case?

- A use case can be thought of as a collection of possible scenarios related to a particular goal, indeed, the use case and goal are sometimes considered to be synonymous."

- A use case (or set of use cases) has these characteristics:
- Organizes functional requirements
- Models the goals of system/actor (user) interactions

- Records paths (called *scenarios*) from trigger events to goals
- Describes one main flow of events (also called a basic course of action), and possibly other ones, called *exceptional* flows of events (also called alternate courses of action)
- Is multi-level, so that one use case can use the functionality of another one.
- Use cases can be employed during several stages of software development, such as planning system requirements, validating design, testing software, and creating an outline for online help and user manuals.

http://searchsoftwarequality.techtarget.com/definition/use-case

How can we use these to make everything better?

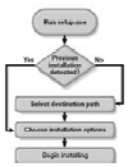
A PICTURE IS WORTH A THOUSAND WORDS.

USE THE RULE OF 3 – SAY THE SAME THING IN 3 DIFFERENT WAYSTO AID UNDERSTANDING

Start with the Word template and add a column for testing.

Use Case Install

Description – a brief summary of what the use case is about

		Test Notes
Scenario	Installation procedure	
Triggering event	User inserts disk or media and runs setup.exe	
Actors	User	
Related use cases	Click here to enter text.	
Stakeholders	Tech support, user	
Pre-condition	Adequate disk space; OS: Vista, Win7: 32 bit	
Post-condition	A new version of the software is installed	
Flow of events	**Actor** 1. Run setup.exe 2. Check for previous versions of the software. 3. If installed, choose the installation options 4. If not installed, Select the destination path (by default, C:\Volcano\ProductName) …	**System** 	Interrupt procedure just after next step – does it recover? What happens if it runs out of space during install.

Use Cases and Requirements

IS THERE AN EASIER WAY?

Can we use it with agile?

YES!!!! USER STORIES TRANSLATE VERY NICELY INTO USE CASES

Tools to help with use cases

- Case complete (commercial)
- Visual use case (http://www.technosolutions.com/topteam_use_case.html)
- Visual paradigm

(http://www.visual-paradigm.com/product/vpuml/provides/umlmodeling.jsp?src=google&kw=use%20case%20tools&mt=p&net=g&plc=&gclid=CMbryumJq68CFUPf4AodRQhDZg)

- Template for Office on the Microsoft web site

or

- http://www.technosolutions.com/use_case_template.html)
- Where did use cases come from? Ivaar Jacobson in 1992 in Object-oriented Software Engineering: A Use CASE Approach (ACMPress)

So how do we get started?

1. **DOWNLOAD WORD TEMPLATE OR TOOL**
2. **DRAW A CONTEXT DIAGRAM OR SYSTEM OVERVIEW**
3. **START DESIGNING MODULES**

Questions?

Thanks so much!

LINDA MCINNIS
QUALITY MATTERS
508-231-6421
LINDANCINNIS@YAHOO.COM

Use Case Install

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<table>
<tr><td></td><td colspan="2"></td><td></td></tr>
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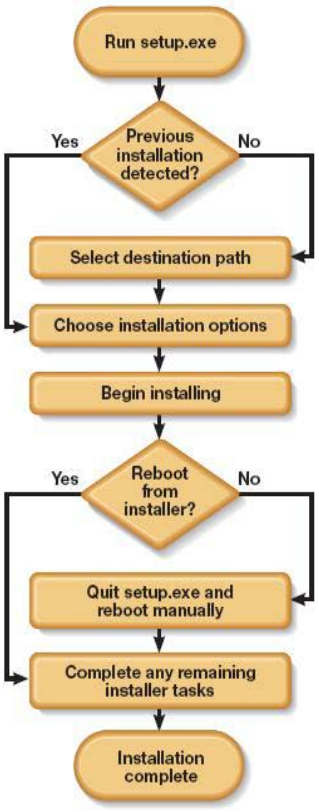
. . .</td><td> 
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What happens if it runs out of space during install.</td></tr>
<tr><td>Exception</td><td colspan="2">• Won’t run on 64bit version OS
• Has problems with VMware</td><td>Try 64 bit OS
VMware</td></tr>
</table>