Qualitative Methods for Test Design

Session # Pre-4 at

Software Test Professionals
Conference & Expo 2013

Cem Kaner
Professor, Florida Institute of Technology

Rebecca L. Fiedler
President, Kaner, Fiedler & Associates, LLC

These notes are partially based on research supported by NSF Grant CCLI-0717613 “Adaptation & Implementation of an Activity-Based Online or Hybrid Course in Software Testing.” Any opinions, findings and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.
Scenarios & requirements analysis
– The requirements analyst tries to foster agreement about the system to be built. The tester exploits disagreements to predict problems with the system.
– The tester doesn’t have to decide or recommend how the product should work. Her task is to expose credible concerns to the stakeholders.
– The tester doesn’t have to make design tradeoffs. Her task is to expose the consequences of those tradeoffs, especially consequences that are unanticipated or more serious than expected.
– The tester doesn’t have to respect prior agreements. (Caution: testers who belabor the wrong issues lose credibility.)
– The scenario tester’s work need not be exhaustive, just useful.

Designing scenario tests is much like doing a requirements analysis, but it is not requirements analysis. They rely on similar information but use it differently.
CHAT Model

- Tool
- Subject
- Object

- Rules
- Community
- Div of Labor

Outcome
Purpose
Motive
<table>
<thead>
<tr>
<th>Celery</th>
<th>Cucumbers</th>
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<tr>
<td>Lettuce</td>
<td>Onions</td>
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<td>Potatoes</td>
<td>Bouillon cubes</td>
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<td>Sprouts</td>
<td>Gravy</td>
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<td>Other_____________</td>
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<td>Mac &amp; cheese</td>
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<td>Avocado</td>
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<td>Berries</td>
<td>Pasta</td>
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<td>Ramen</td>
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<td>Feta</td>
<td>Lemons / Limes</td>
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<td>Other_____________</td>
<td>Oranges</td>
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<td>Other_____________</td>
<td>Red pepper</td>
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<td>Other_____________</td>
<td>Peaches</td>
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<tr>
<td>Spices &amp; herbs</td>
<td>Salad dressing</td>
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<tr>
<td>Other_____________</td>
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<td>Other_____________</td>
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<td>Other_____________</td>
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<tr>
<td>Canned foods</td>
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</table>
Rules
Subject
CHAT Model

Community

THE ULTIMATEST GROCERY LIST: THE DELUXE VERSION (v2.4) ©2007-2009 GROCERYLISTS.ORG

Other_____________

Sauces
Other_____________

Canned foods
Other_____________

Syrup
Steak sauce
Hot sauce
Tomatoes
Tuna
Mixed fruit
Kippered snacks
Corn
Beans
Applesauce
Pears
Melons
Lemons / Limes
Bananas
Spinach
Potatoes
Onions
Mushrooms
Celery
Broccoli / Cauliflower
Beets
Asparagus

The Ultimatest Grocery List!
is the world's largest online collection of found grocery lists. Visit our shopping blog, our hilarious Top 10 lists, learn

Other_____________

Refrigerated items
Other_____________

Spices & herbs
Other_____________

Whipped cream
Milk
Margarine
Butter
Chip dip
Vegetable oil
Apple cider vinegar
Spice mix
Salt
Parsley
Garlic
Cilantro
Black pepper
Peanut butter
Pasta
Mayonnaise
Gravy
Cereal
Bouillon cubes

Tool

Baked goods

Meat
Other_____________

Croissants
Crackers
Cookies
Tilapia
Salmon
Oysters
Cocktail sauce
Turkey
Steak
Pork
Lunchmeat
Hot dogs
Ground turkey
Beef
Bacon
Veggie burgers
Pizzas
Desserts
Swiss
Provolone
Cream cheese

Other_____________

Personal care
Other_____________

Toilet paper
Shaving cream
Shampoo
Razors
Q-Tips
Mouthwash
Hair gel/spray
Floss
Condoms
Bath soap
Antiperspirant

Potato chips
Popcorn
Gum
Cookies
Candy
Pie shell
Oatmeal
Cocoa
Cake icing / decorations
Bread crumbs
Sliced bread
Rolls
Pie
Fresh bread
Donuts

Cleaning products
Other_____________

Film to process? Film?!
Plastic bags to recycle?
Sunscreen
Magazine / Newspaper
Insecticides
Insect repellent
Charcoal
Candles
Spray polish
Paper towels
Oven cleaner
Laundry detergent
Garbage bags
Floor cleaner
Fabric softener

Toothpicks
Roasting pan
Freezer bags
Disposable plates
Disposable cups

Eye drops
Cold / Flu
Band-aids
Antacid
Aspirin
Rent movie?
Need ice?
Take-out deli food
Taco night
Spaghetti night
Pizza night
Burger night

White wine
Rum
Red wine
Malt beverage
Gin
Beer

Pens / Pencils
Paper
Notepads
Glue
Envelopes
DVDRs
Wipes
Formula
Diaper lotion
Diapers
Bottles / Cups
Baby food
Pet shampoo

Baby

Pets

Rent movie?
Need ice?
Take-out deli food
Taco night
Spaghetti night
Pizza night
Burger night

White wine
Rum
Red wine
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Glue
Envelopes
DVDRs
Wipes
Formula
Diaper lotion
Diapers
Bottles / Cups
Baby food
Pet shampoo

Baby

Pets
**The Ultimatest Grocery List!**

**Syrup**
- Steak sauce
- Soy sauce
- Hot sauce
- BBQ sauce

**Pickles**
- Pasta sauce
- Olives
- Kippered snacks

**Applesauce**
- Anchovies
- Peaches
- Oranges
- Melons
- Cherries
- Berries
- Avocado
- Zucchini
- Spinach
- Mushrooms
- Lettuce
- Cucumbers
- Corn
- Broccoli / Cauliflower
- Asparagus

**Margarine**
- Butter
- Tortillas
- Juice
- Chip dip
- White vinegar
- Olive oil
- Balsamic vinegar
- Apple cider vinegar
- Vanilla extract
- Red pepper
- Oregano
- Garlic
- Cilantro
- Black pepper

**Pasta**
- Mustard
- Mac & cheese
- Lemon / Lime juice
- Honey
- Coffee
- Bottled water

**Croissants**
- Cookies
- Cake
- Buns
- Tilapia
- Halibut
- Crab
- Turkey
- Lunchmeat
- Beef

**Shaving cream**
- Shampoo
- Razors
- Moisturizing lotion
- Lip balm
- Hand soap
- Floss
- Feminine products
- Facial tissue
- Deodorant
- Cosmetics
- Antiperspirant

**Shopper's Baking List**
- Tortilla chips
- Pudding
- Potato chips
- Popcorn
- Granola bars
- Dried fruit
- Candy
- Sugar
- Pie shell
- Cake / Brownie mix
- Brown sugar
- Bread crumbs
- Rolls
- Pitas
- Pie
- Pastries
- Fresh bread

**Before you go**
- Clip coupons!
- Bring canvas bags!
- Sunscreen
- Magazine / Newspaper
- Light bulbs
- Greeting cards
- Batteries
- Sponges / Scrubbers
- Dryer sheets
- Plastic wrap
- Non-stick spray
- Disposable plates
- Disposable cutlery
- Disposable cups
- Coffee filters

**Before you check out**
- Stock up on sale items?
- Taco night
- Spaghetti night
- Pizza night
- Chili night
- Burger night

**Bottled Water**

---

*Yes, I know tomatoes are technically classified as fruits, not vegetables :-)*

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**The Ultimatest Grocery List!**

**www.grocerylists.org**
Tensions

- Within one node of the CHAT model
- Between two different nodes
- Between old and new
- Between nearby activities
Portfolio Case Study

- Investment portfolios
- Artist’s portfolios
- Teaching portfolios
Exploring the student experience
Notes about the students

- Very busy
- Use *MySpace* and *Facebook* for fun and for socializing
- See themselves as creative individuals
- Most are very proficient with word processing software and some with HTML
CommercialFolio use required

Faculty provided a template

Specific content requirements – archiving projects from courses

Required a matrix of artifacts
CommercialFolio

Community

Community
<table>
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<tr>
<th>Courses</th>
<th>Artifacts</th>
<th>AP 1</th>
<th>AP 2</th>
<th>AP 3</th>
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Tensions

- Within one node of the CHAT model
- Between two different nodes
- Between old and new
- Between nearby activities
INTRODUCTION TO REQUIREMENTS ANALYSIS
## Interest Analysis

<table>
<thead>
<tr>
<th>Person</th>
<th>Role</th>
<th>Interests</th>
<th>Activities/ Benefits</th>
<th>Features</th>
<th>Challenges</th>
<th>Scenarios</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who is interested in this software and how it will be used? People on this list are likely to have competing interests. Think broadly to include both internal and external stakeholders as well as favored and disfavored users.</td>
<td>Describe the role</td>
<td>Broadly speaking, what are this person’s “interests”? What are they trying to accomplish and why? How important is this to them?</td>
<td>Not all interests will be fulfilled by one piece of software. What benefits/activities will this software enable?</td>
<td>What are the most important features this person will need? What sequences will they use? How does this impact other parts of the system(s)?</td>
<td>What challenges and pressures does this person face? What interferes with this person’s ability to complete their tasks?</td>
<td>How could you incorporate this into your suite of scenario tests?</td>
</tr>
</tbody>
</table>
SCENARIO TESTING
Black Box Software Testing: Introduction to Test Design: Lecture 2(b): Slides 168-184

Cem Kaner, J.D., Ph.D.
Professor of Software Engineering: Florida Tech

Rebecca L. Fiedler, M.B.A., Ph.D.
President: Kaner, Fiedler & Associates

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BLACK BOX SOFTWARE TESTING:
INTRODUCTION TO TEST DESIGN:
LECTURE 4(c): SLIDES 312-333

CEM KANER, J.D., PH.D.
PROFESSOR OF SOFTWARE ENGINEERING: FLORIDA TECH

REBECCA L. FIEDLER, M.B.A., PH.D.
PRESIDENT: KANER, FIEDLER & ASSOCIATES

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Contact Information

Cem Kaner
Professor
Florida Tech
kaner@kaner.com

Rebecca Fiedler
President
Kaner, Fiedler & Associates, LLC
info@bbst.info

http://bbst.info
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307/672
Angry Sun God
Cereal at the iggle
Craziest Trader Joe's in the world
Day 47/365 - Dead Tree Graveyard
Domestic strife
Grocery List
Grocery Lists
Hanging the show, 4
hermitlabs
Katie making a list
None
P5109269.jpg
P6069812
Sarah_Grad_2009_104_5
Social Network Diagram of the Earlist [sic] Flickr Users
Teamwork (from below)
Thanksgiving Supplies
The Smallest Grocery List Ever
untitled
iPhone Grocery List

Fuschia Foot
EricGjerde
juliekaffe
juicyraii
Kevin H
kgbbristol
mattack
BrittneyBush
*keaggy.com
jspad
susiewrites
Motorito
Julie, Dave & Family
Julie, Dave & Family
nsaplayer
Quiplash!
Casey J
phil_g
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B Tal
Grocery Store IQ website