

Application: Falcon Customer Relationship Management Application

Application owners: Darren Overfelt, Beth Norzinsky, Jonathan Bolte

Type of evaluation: Heuristic Evaluation
 Usability Testing

Date of evaluation: October 15-16, 2001

Participants:

<i>IUB</i>	Male	Female
Windows	3	1
Mac	3	0
Mission Critical	2	0
Walk-in	1	1
<i>IUPUI</i>	8	1
TOTAL	17	3

Consultants: Todd Zazelenchuk
 Abigail Gonzales

Executive summary

In October, 2001, Usability Consulting Services conducted usability testing on the *FALCON* customer relationship management application for Indiana University. The purpose of this study was to identify usability problems with the system's information categories used by Help Desk employees for recording instances of problems and their associated resolutions. During the 30-minute sessions, a total of twenty participants performed a series of 8-20 authentic scenarios.

Participants demonstrated relative ease with the system's interface itself, quickly learning the data entry process and comprehending the majority of the categories. The top-level category of *Accounts Administration* was the source of difficulty for several users as they frequently recorded problems intended for that category in other areas of the structure (e.g. Email). This report presents the common choices made by users from each campus and summarizes the general findings of the twenty sessions. Recommendations are made in those cases where the evidence strongly supports them.

Purpose of Study

The purpose of this study was to evaluate the usability of the category structure and labeling used by the Falcon client relationship management application. Users of this application are expected to record each incident they deal with while serving clients over at the Help Desk and in order for the data to be entered accurately and efficiently, users must have a clear understanding of the categories presented to them.

Method

Design

This study applied basic usability testing methodology with its emphasis on authentic tasks, authentic users, the recording of observations and comments, the analysis of data, and the sharing of recommendations where appropriate.¹

Participants were asked to perform a “think-aloud” or verbal protocol in order to help the researchers understand their cognitive processes during the test sessions.²

Procedures

Sessions were performed at both the IUB and IUPUI campuses, making use of the usability lab at IUB and connecting remotely with IUPUI users through Microsoft Netmeeting™. Sessions typically lasted 30-40 minutes.

Participants

Participants were selected from the Help Desk environments at both IUB and IUPUI campuses. Two pilot sessions were performed to gauge how long the regular sessions would last and to assess the clarity of the tasks used. The data from these sessions were combined with those data from the regular sessions since revisions to the test scenarios were minor.

For IUB users, specific roles were identified prior to testing, including users with expertise in Windows, Mac/Unix, Mission Critical Support, and Walk-in Support. The role of each user determined the scenarios they were asked to complete. For IUPUI users, no roles were identified.

¹ Dumas, J.S. & Redish, J.C. (1993). *A Practical Guide to Usability Testing*. Norwood, NJ. Ablex.

² Ericsson, K.A. & Simon, H.A. (1993) *Protocol Analysis: Verbal Reports as Data*. Cambridge, MA. MIT Press.

Scenarios

Scenarios were developed for the sessions by having members of the target user group contribute actual problems and resolutions from their experience in the workplace. These scenarios were then assigned to particular roles for the IUB users with each user role having some specific and some general scenarios assigned to it. In total, IUB users generally completed 8-12 scenarios.

For IUPUI users, the entire list of scenarios was pooled and users were randomly assigned 10-12 scenarios from the pool.

Results

The results of this study are presented in booklet format with IUB data on even pages and IUPUI data on odd pages for easy comparison. For each scenario, the optimal path is shown, along with any alternative paths taken. The frequency of users taking each path is also shown.

A sample is shown below.

In this example, six out of seven users chose the optimal path. The seventh person began by selecting *Central Systems* and then *Steel*. At that point, she returned to categories and selected *Email*, *Imap01/iago*, *Pine-imap01/iago*, *General Consulting*.

If one or more levels were automatically filled by the system, those items are shown as italics.

Paths Taken (Optimal; Alternative, *autofill*)

Category	SubCategory	Product Type	Problem Type	
Email	Imap01/iago	Pine-Imap01/iago	General Consulting.	6/7
Central Systems	Steel.			
Email	Imap01/iago	Pine-Imap01/iago	General Consulting.	

Following the path data, users' comments and the consultant's observations for each scenario are presented for consideration.

Scenario # 1 (General)

P: The user received “*over quota*” warnings in his *Iago* account.

R: You had the user check for and remove messages with large attachments. Problem corrected.

IUB Paths Taken (Optimal; Alternative, *autofill*)

Category	SubCategory	Product Type	Problem Type	
Email	Imap01/iago	Pine-Imap01/iago	General Consulting.	6/9
Email	Imap01/iago	Pine-Imap01/iago	Other.	
Email	Imap01/iago	Pine-Imap01/iago	General Consulting.	
Email	Imap01/iago	Webmail	<i>TBD.</i>	
Email	Imap01/iago	Other	<i>TBD.</i>	
Customer System. Accounts Admin. Email	Imap01/iago	Other.	<i>TBD.</i>	

IUB Comments:

Category	Have a quota at the top level along with “other” or “general consulting” Have a general category at the top level.
Subcategory	“Quota” should be at the subcat level for accounts admin. and email
Product Type	I chose Webmail because most students use Webmail
Problem Type	I’m not sure what general consulting would mean, perhaps “quota” Suggests “requests quota increase”(3) and “cleared out messages” as options. Would like “quota” under each node and even in pine (1) The difference between general consulting and other is that GC is a frequent occurrence and other is infrequent. It doesn’t really matter which client it is. The problem is that you’re over quota.

IUPUI Paths Taken (Optimal; Alternative, autofill)

Category	SubCategory	Product Type	Problem Type	
Email	Imap0/Pearl	Pine-Imap0/Pearl	General Consulting	1/5
Email	Imap0/Pearl	Other/Imap0/Pearl	<i>TBD</i>	2/5*
Email	Imap0/Pearl	OE-Imap0/Pearl	Other	
Accounts Admin	Quota Increase	IUPUI-Quota Increase	Jewel	

IUPUI Comments:

Category	*	That was pretty straightforward.
Subcategory		
Product Type		You should have a quota option for each email server. You could include the mail program they are using.
Problem Type		The system needs “quota” as an entry.

IUB & IUPUI Observations:

- A Event though many users felt that *Email* is technically a subset of central systems, it is highly visible at the category level.
- B Possibly add a basic *quota* option at the subcat level to avoid having to choose categories 3,4 (if truly not client dependent) check system to see subcat level
- C The repetition of label information should be eliminated at the Product Type level. Having *imap02/kate* repeated when the user just made the selection for that subcategory and the same information continues to be displayed on the screen serves no real value and makes it difficult to easily discriminate between items in the Product Type list.

Scenario #2

- P: A user with an *iMac* and an inkjet printer couldn't print. No USB port appeared in the *Chooser* window. Nothing new had been installed recently.
- R: You asked user to shut down the computer and printer and then restart the printer then computer. The USB port appeared in *Chooser* and user could now print.

IUB Paths Taken (Optional; Alternative, *autofill*)

Category	SubCategory	Product Type	Problem Type	
Customer System	Hardware-Mac	External peripheral	Printer	0/3
Customer System	Hardware-Mac	Desktop External peripheral	Printer.	
Customer System	Hardware-Mac Operating systems	<i>Desktop</i> Mac OS9	<i>Other.</i> Device management.	
Customer System	Operating systems	Mac OS9	Configuration	*

IUB Comments:

Category		None.
Subcategory		For the subcategory desktop, I'd prefer USB to be in there.
Product Type		None.
Problem Type	*	The distinction between configuration and device management is vague. Perhaps configuration is more general and device management more specific.

IUPUI Paths Taken (Optimal; Alternative, autofill)

Category	SubCategory	Product Type	Problem Type	
Customer System	Hardware-mac	External Peripheral	Printer	3/5#
Customer System	Operating Systems	Mac OS 8	Other	*
Customer Systems	Hardware-Mac	Desktop	Other	%

IUPUI Comments:

Category	#	It makes perfect sense
Subcategory		
Product Type	%	I was expecting the machine itself like "CPU." It's not necessary to have the laptop/desktop distinction.
	*	I wanted "Mac" and "printer" as product type instead of OS 8.
Problem Type		

IUB & IUPUI Observations:

- A A *USB* option was desired for recording this scenario. Although it was mentioned at the subcat level, it seems more appropriate at the Product Type level.
- B At the Problem Type level, the differences between *configuration* and *device management* need to be clearer.

Scenario #3

P: A caller needed to log into a student organization email account, but the password didn't work. The password appeared to have been changed by another student.

R: You determined who was the faculty sponsor and had the caller contact the sponsor to get the password reset.

IUB Paths Taken (Optimal; Alternative, autofill)

Category	SubCategory	Product Type	Problem Type	
Accounts Admin	Password reset	<i>N/A – Password reset</i>	TBD	0/5
Email Accounts Admin	Password reset	<i>N/A password reset</i>	<i>TBD.</i>	
Email Central systems	Majordomo	General consulting-md	<i>TBD.</i>	*
Email IT Security	Email-IT Security.			#
IT Security	Server	Break in	Reporting	@
IT Security Email Central systems IT Security	Email-IT Security			%

IUB Comments:

Category	* @	Majordomo should be under email or have it in both Central Systems and Email. I felt that both IT security and Service Request applied
Subcategory	# %	I expected to see "student organization account" under email category. Password should have been a subcat option under IT Security.
Product Type	* #	There's not a heading under Majordomo that is specific to password change. I want to see password here.
Problem Type		

IUPUI Paths Taken (Optimal; Alternative, autofill)

Category	SubCategory	Product Type	Problem Type	
Accounts Admin	Password Reset	<i>N/A-Password Reset</i>	TBD	1/4*
Accounts Admin	Accounts Other Maintenance. Password Reset	Unauthorized Login. <i>N/A-Password Reset</i>	 <i>TBD</i>	 #
Email. Email	Other Maintenance			%
Inquiry	IT Related	<i>TBD</i>	<i>TBD</i>	

IUPUI Comments:

Category		
Subcategory	* %	I think ending at the subcategory level is sufficient. I'm unsure if I should categorize it as Jade or Pearl. You should include the email systems e.g. jade, pearl, etc.
Product Type		I think "password," "systems up," "systems down," "student organization" should be product types.
Problem Type	#	This isn't what I want.

IUB & IUPUI Observations:

- A If *Accounts Administration* is indeed the appropriate solution here, employees will require some training on the decision-tree process to avoid them gravitating toward *Email* and *IT Security*.
- B It seemed that some users had difficulty noticing the *Accounts Administration* option in the category list due to its blue highlighting. This applied to the first item in any of the four levels. While other users commented that they did notice the item that was highlighted, this feature seems to add little if any value and potentially causes some users to miss the highlighted item. If this feature can be turned off to avoid this possible confusion, we should do so.

Scenario #4

P: A caller said that all the images on his personal homepage were missing. Further investigation indicated that the subdirectories containing the images did not have the correct permissions.

R: You had the user run the correct *chmod* command to set permissions.

IUB Paths Taken (Optimal; Alternative, autofill)

Category	SubCategory	Product Type	Problem Type	
Central systems	Steel	Php-steel	TBD.	3/5
Central systems	Steel	General consulting	TBD.	
Central systems Customer system Data network Accounts Admin	Accounts			*

IUB Comments:

Category	*	I thought it would be under central systems.
Subcategory		
Product Type		
Problem Type		

IUPUI Paths Taken (Optimal; Alternative, autofill)

Category	SubCategory	Product Type	Problem Type	
Central Systems	Steel	Php-Steel	TBD	1/5
Central Systems. Data Network. Customer Systems Accounts Admin	Hardware-Linux/Unix.			
Customer System	Steel	Php-Steel	TBD	
Central Systems. Central Systems				
Central Systems. Customer System. Central Systems. Customer Systems	Steel	Php-Steel	TBD	*

IUPUI Comments:

Category		
Subcategory		<p>I think "Cord" should be under Central Systems. (3)</p> <p>The "Cord" listing needs to be here for IUPUI.</p> <p>I chose Steel because "Cord" wasn't available.</p> <p>Maybe Php could be a subcategory then "Cord" and Steel could be product type.</p>
Product Type		Rename Php to "Cord."
Problem Type	*	I would like to see "permissions" as option.

IUB & IUPUI Observations:

- A Consider placing *Cord* as a subcategory listing under *Central Systems*.

Scenario #5

P: A user wanted to read mail on *Steel* instead of *Ariel*.

R: You explained to the user how to change preferred email address within DAGS (the accounts page).

IUB Paths Taken (Optimal; Alternative, autofill)

Category	SubCategory	Product Type	Problem Type	
Accounts Admin	Other – Maintenance	<i>N/A – Other Maint</i>	<i>TBD</i>	0/11
Accounts Admin	Accounts Other Maintenance	<i>N/A – Other Maint</i>	<i>TBD.</i>	
Email	Steel	Other/Steel	<i>TBD.</i>	
Email	Steel	Central systems.		
Email Accounts admin	Mailforwarding	<i>Password-reset</i>	<i>TBD.</i>	
Email	Imapo04/ariel	Pine	General consulting.	
Email	Steel	Pine	Other.	@
Email Central systems. Inquiry Accts Admin	Steel. IT-related. Accounts.			%
Central Systems. Accounts admin Email Accounts admin Email	Accounts. Steel. Mailforwarding. Accounts. Steel	Pine	Configuration.	
Central systems Email	Steel Steel	Other Pine	Php-steel General consulting.	&
Central Systems	Steel	General consulting	<i>TBD.</i>	
Central Systems Email	Steel	Pine	General consulting.	

IUB Comments:

Category	& @ %	<p>By selecting Central Systems it implies that there is something wrong with CS and that's not true.</p> <p>Is email a central system or not? Wants to see an all purpose category at the top because it's not one specific email category.</p> <p>If it weren't an email problem I wouldn't know where to look I'd look under Central Systems if it were a customer problem with a webpage.</p> <p>I'm thinking accounts administration maybe but that would be for new accounts.</p>
Subcategory		<p>I don't see DAGS here under Central Systems (2).</p> <p>I want DAGS to be under Central Systems (2) and would like for changing one's "preferred email address" at the subcat level.</p>

		<p>Expected “preferred email address” at the subcat level. under Accounts Admin.</p> <p>Under Central systems have “IU accounts” as a subcat with “preferred email, create new UITS account and display list” as options.</p> <p>DAGS is a system page...but not a problem more information.</p> <p>it touches on 3 different systems but the email category doesn’t really let me.</p>
Product Type		
Problem Type		

IUPUI Paths Taken (Optimal; Alternative, *autofill*)

Category	SubCategory	Product Type	Problem Type	
Accounts Admin	Other-Maintenance	N/A-Other Maint	TBD	0/5
Accounts Admin	Mailforwarding	<i>N/A Password Reset</i>	<i>TBD (2)</i>	<i>2/5*</i>
Email	Steel .			
Accounts Admin	Mailforwarding	<i>N/A Password Reset</i>	<i>TBD</i>	
Email.				
Email	Steel.			
Accounts Admin	Mailforwarding	<i>N/A Password Reset</i>	<i>TBD</i>	
Central Systems	Steel	General Consulting	<i>TBD</i>	

IUPUI Comments:

Category	*	It works perfectly.
Subcategory		
Product Type		
Problem Type		

IUB & IUPUI Observations:

- A Although *Email* is a frequently used category, by having it at the top level, it makes it more likely that users will gravitate towards it whenever email is remotely involved in the problem. By placing it under *Central Systems*, it may require users to contemplate their first decision step a little more carefully.
- B While the category structure of the Falcon system was the primary focus of the test, the usability of the interface itself presented issues at times. In this scenario where users frequently went back to make changes to their selections, the current design requires that users manually delete a previous item before being able to choose a different path. This slows the user down unnecessarily. An improved design would allow the user to return to the menu level and simply select the browse button for the desired level and go immediately to selecting the new item.

General: Scenario #6

P: A user wanted to register for *Create a Web Page Using HTML* class.

R: You accepted her \$10 check and registered her for the class.

IUB Paths Taken (Optimal; Alternative, autofill)

Category	SubCategory	Product Type	Problem Type	
Service Request	Purchases	Educ classes-purchases	TBD	0/1
Service Request Central Systems Inquiry.				

IUB Comments:

Category		I'm not sure what to choose. Maybe have "Education" as a top level.
Subcategory		
Product Type		
Problem Type		

IUPUI Paths Taken (Optimal; Alternative, autofill)

Category	SubCategory	Product Type	Problem Type	
Service Request	Purchases	Education Classes-Purchases	TBD	0/3
Student Tech Centers Inquiry	IT Related	<i>N/A IT Related</i>	<i>TBD</i>	
Student Tech Centers. Inquiry	Non-IT Related	<i>N/A Non- IT Related</i>	<i>TBD</i>	*

IUPUI Comments:

Category	*	I couldn't think of a better path.
Subcategory		
Product Type		
Problem Type		

IUB & IUPUI Observations:

- A There is not enough data to really support much of a recommendation here. One may consider moving *Purchases* to the Category level if its frequency of use supports the idea.

Scenario #7

- P: A user usually reads her mail using *Webmail* and wanted to try using *Pine* but didn't know how.
- R: You used the accounts page to determine her account was on Kate, helped her log in and showed her briefly how to read and send email.

IUB Paths Taken (Optimal; Alternative, *autofill*)

Category	SubCategory	Product Type	Problem Type	
Email	Imap02/kate	Pine-imap02/kate	General Consulting	4/6
Email	Imap02/kate	Pine-imap02/kate	Other	
Customer system Email	Imap02/kate	Pine	Access	*

IUB Comments:

Category		
Subcategory	*	Wants email under Central Systems
Product Type		
Problem Type		It's kind of a mixture between how to access and how to use pine. I want "filters" as option.

IUPUI Paths Taken (Optimal; Alternative, autofill)

Category	SubCategory	Product Type	Problem Type	
Email	Imap0/Pearl	Pine-Imap0/Pearl	General Consulting	1/5
Central Systems . Email	Imap1/Jade	Pine-Imap1/Jade	General Consulting	
Email. Central Systems. Email Customer Systems Email Customer Systems	Application Software			
Customer Systems Email Customer Systems	Application Software	Other-app software	<i>TBD</i>	*
Email. Central Systems	Imap0/Pearl	Webmail/Pearl	General Consulting	#
Email. Central Systems Customer System	Operating Systems. Application Software	Communication	Other	%

IUPUI Comments:

Category		
Subcategory	* # %	Maybe you could have “email software” as an additional subcategory under Email. Pine should be under Central Systems Imap/pearls are all confusing in the Email category. The repetition makes them hard to distinguish. Webmail should be under Central Systems. There is no category for Pearl and Webmail. I don’t like the email options here—it requires a specific email system and sometimes it has nothing to do with a certain system
Product Type	#	Pine isn’t affiliated with email, so have it somewhere so you don’t need to select and IU system.
Problem Type		

IUB & IUPUI Observations:

- A The category, subcat and product type levels seem to work well enough. At the Problem Type level, distinguishing between *General Consulting*, *Other* and *Access* needs to be more clear.
- B (same as Scenario 1: Observation C)
The repetition of label information should be eliminated at the Product Type level. Having *imap02/kate* repeated when the user just made the selection for that subcategory and the same information continues to be displayed on the screen serves no real value and makes it difficult to easily discriminate between items in the Product Type list.

Scenario #8

P: A user wanted to filter out harassing emails from her *Lear* account.

R: You helped the user set up server-side filters to filter email from her old boyfriend.

IUB Paths Taken (Optimal; Alternative, *autofill*)

Category	SubCategory	Product Type	Problem Type	
Email	Imap03/lear	Other-imap03/lear	TBD	0/4
Email	Imap03/lear	Pine-imap03/lear	Other	%
Email	Imap03/lear	Pine-imap03/lear	Configuration	
IT Security	Email	Harassment	TBD	#
Accounts Admin Central systems Accounts Admin	Mailforwarding	TBD	TBD	*

IUB Comments:

Category		
Subcategory	*	I'd prefer "mail filter"
Product Type		
Problem Type	#	Could have "set a filter (2)" or "contact IUPD"
	%	I'd like "filters" here.

IUPUI Paths Taken (Optimal; Alternative, autofill)

Category	SubCategory	Product Type	Problem Type	
Email	Imap01/Jade	Other-Imap01/Jade	TBD	0/6
Email	Impa0/Pearl	Pine-Imape0/Pearl	Other	
Email	Impa0/Pearl	Other-Imap0/Pearl	TBD	2/6 * %
IT Security	Email/IT security	Harassment	TBD	
Central Systems. Email	Impa0/Pearl	Pine-Imape0/Pearl	Configuration	#
Email IT Security	Impa0/Pearl Email/IT security	Harassment	TBD	

IUPUI Comments:

Category		
Subcategory	#	I think Email should be a subcategory to Central Systems, and I want the options for Jade and Pearl.
Product Type		
Problem Type	*	Maybe have “filters” (3) as a problem type.
	*	Maybe you could have “server configuration” or something to do with server side.
	%	It may make sense to have “server-side functions” (e.g. vacation, forwarding, server-side filters)

IUB & IUPUI Observations:

- A The path of *IT Security*, *email*, *harassment* seems to be a contender here. The optimal path may require a second look.
- B Based on users’ feedback, consider a *filter* option at either Subcat or Problem Type level.

Scenario #9

P: John was trying to connect to the modem pool, but instead of connecting he heard a telephone company recording on the other end of the line.

R: You resolved this by checking his settings and removed the 812 area code from the dial settings.

IUB Paths Taken (Optional; Alternative, *autofill*)

Category	SubCategory	Product Type	Problem Type	
Customer System	Operating systems	Windows XP Workstat	Dialup networking	1/4
Customer System	Operating systems Application software	Communication Other.		*
Customer System	Hardware-pc	Desktop	Modem	
Customer System	Application software Hardware-pc Application software	Communication	Other communication	

IUB Comments:

Category		
Subcategory		It makes some sense to have a networking section as a subcat under customer system. Have software as subcat to central systems rather than application software, maybe better if "communications software".
Product Type	*	I'd like to see an option for dial-up.
Problem Type		

IUPUI Paths Taken (Optimal; Alternative, autofill)

Category	SubCategory	Product Type	Problem Type	
Customer System	Operating Systems	Windows XP Workstation	Dialup Networking	0/5
Customer System	Operating Systems	Windows 98 2 nd E	Dialup Networking	
Customer System	Operating Systems	Windows Workstation	Dialup Networking	
Data Network	Wan/State	Dial up Services	Software	
Data Network. Data Network	Lan/Campus. Commodity.			*
Customer System. Data Network	External Connections	Modem	TBD	
Data Network	External Connections	Modem	TBD	

IUPUI Comments:

Category		When I read "Data Network" I think of Lan. Change it to Networking/Dial up to be more descriptive.
Subcategory	*	Maybe have modem connections and dialup networking as a sub category because we deal with it so much.
Product Type		
Problem Type		

IUB & IUPUI Observations:

- A Users had difficulties at the Subcat level.

Scenario #10

- P: A user had an *Excel* spreadsheet with names and addresses he wanted to use for envelope labels.
- R: You explained to him how to use *Word* and the mail merge function with the existing *Excel* file to create a merge file and print the labels.

IUB Paths Taken (Optimal; Alternative, autofill)

Category	SubCategory	Product Type	Problem Type	
Customer system	Application software	Word Processing	Word	1/4
Inquiry				
Customer system	Application software	Word Processing	Word	
Customer system	Application software	Spreadsheets	Excel	2

IUB Comments:

Category		Maybe you could call Customer system "home pc"
Subcategory		
Product Type		I'm torn between word and excel as the product type
Problem Type		

IUPUI Paths Taken (Optimal; Alternative, autofill)

Category	SubCategory	Product Type	Problem Type	
Customer System	Application Software	Word Processing	Word	3/5
Customer System	Application Software	Spreadsheets	Excel	2/5

IUB Comments:

Category		
Subcategory		
Product Type		How do you deal with a problem that is a combination of software—excel and word? It becomes difficult to categorize. Maybe allow a product type for two different applications. Could the system provide a combo option?
Problem Type		

IUB & IUPUI Observations:

- A Users were uncertain how to record the fact that two different applications (Word & Excel) were involved in this scenario. Perhaps providing an option for common combinations of applications or a standard practice to follow in such cases would help.

Scenario #11

- P: A caller reported that her workstation running *Workflows* in the Music Library would not connect.
- R: The diagnosis revealed it was more widespread than just her machine. You notified the *Unicorn Support* queue.

IUB Paths Taken (Optimal Path; Actual Paths, *autofill*)

Category	SubCategory	Product Type	Problem Type	
Central systems	Library	Sirsi	TBD	2/2

IUB Comments:

Category		
Subcategory		
Product Type		
Problem Type		I would like to see "outage" as an option.

IUPUI Paths Taken (Optimal; Alternative, autofill)

Category	SubCategory	Product Type	Problem Type	
Central Systems	Library	SIRSI	TBD (1)	2/6
Central Systems				*
Central Systems Customer Systems	Library Application Software	IUCAT Other-App. software	TBD. TBD.	#
Central Systems Inquiry. Central Systems	Library. Library.			
Data Network. Central Systems	Library	SIRSI	TBD	

IUPUI Comments:

Category		
Subcategory	*	I wanted to see Unicorn/Workflows at the subcategory level. (2)
Product Type		I want to see Workflows or Unicorn under subcat library. (3)
		I'm unsure if Workflows is supposed to be here. (2)
		I prefer Unicorn over Workflows.
	%	I guessed on SIRSI.
	\$	SIRSI isn't chosen like at IUB. I'd like a general category for library systems.
Problem Type	\$	Maybe you could have "Can't log on" or "Systems Down"
	#	I'd chose "connectivity" as an option if it were available

IUB & IUPUI Observations:

- A The request made for an *outage*"option was common across a few scenarios, given the relatively high frequency of this issue.
- B IUPUI users appeared less comfortable with *SIRSI* as the product type and desired *Workflows* as an option.

Scenario #12

- P: A user reported that she can log into *Oncourse* but sees no classes, even though she is registered.
- R: The user had two accounts, one under a 999 number. You requested that the unwanted account be deleted by *Valid*. Problem resolved.

IUB Paths Taken (Optimal; Alternative, *autofill*)

Category	SubCategory	Product Type	Problem Type	
Accounts Admin	Other – Maintenance	<i>N/A – Other Maint</i>	TBD	0/2
Central systems Accounts Admin	Oncourse Accounts.			*
Central systems	Oncourse	Profiles	Course listing	

IUB Comments:

Category		
Subcategory		
Product Type	*	After selecting oncourse as subcat I would have liked to have “other” as product type.
Problem Type		

IUPUI Paths Taken (Optimal; Alternative, autofill)

Category	SubCategory	Product Type	Problem Type	
Accounts Admin	Other Maintenance	N/A -Other Maint	TBD	0/7
Accounts Admin	Accounts. Disable/re-Enable	N/A Disable/Enable	TBD	2/7
Accounts Admin	Accounts. Other Maintenance. Accounts. Creation. Other Maintenance	N/A -Other Maintenance	TBD	%
Accounts Admin Accounts Admin	Accounts. Other Maintenance. Accounts Other Maintenance	N/A -Other Maintenance	TBD	@
Central Systems Accounts Admin	Oncourse. Accounts. Other Maintenance	N/A -Other Maintenance	TBD	\$
Central systems	Oncourse	Schedule	TBD	*
Central Systems	Oncourse	Profiles-Oncourse	Course Listing	#

IUPUI Comments:

Category	\$	Have a search option for categorizing. Since the user has two accounts it could go under Central Systems or Accounts Administration depending on whether the student knows they had an account or not.
Subcategory	%	Under accounts administration have a subcategory to indicate that it has been returned or referred to.
Product Type		
Problem Type	# @ *	Right where I thought it was going to be. Maybe have a product type for “duplicate accounts.” You could have an option saying that “no classes are appearing.”

IUB & IUPUI Observations:

- A Users do not seem to perceive of *Accounts Administration* in the desired manner.

Scenario #13

P: A user called requesting assistance with her long distance code.

R: You transferred her to Telecom.

IUB Paths Taken (Optimal Path; Actual Paths, *autofill*)

Category	SubCategory	Product Type	Problem Type	
Inquiry	IT related	<i>N/A – IT related</i>	<i>TBD</i>	0/2
Voice network.				*
Voice network	Software	Voicemail	General consulting	#

IUB Comments:

Category	*	I'd like "other" at the top level
Subcategory		
Product Type	#	I'm looking for something with billing (long distance code) I don't think of I/d as voicemail. Maybe call it "telephone features" or "options"
Problem Type		

IUPUI Paths Taken (Optimal; Alternative, autofill)

Category	SubCategory	Product Type	Problem Type	
Inquiry	IT Related	N/A-IT Related	TBD	1/4
Voice Networking	Software-Voice Network	Phoneset	Other (2)	2/4 * %
Voice Networking	Software-Voice Network. Hardware-Voice network. Software-Voice Network	Phoneset	General Consulting	#

IUPUI Comments:

Category		
Subcategory	* # %	Maybe have "phoneset software" as a subcategory. Why not have Voice Networking be a subcategory. There could be two routes depending on how telecom works (hardware or software). Since I'm unsure about how telecom is set up, I'm unsure about which to chose.
Product Type		
Problem Type		

IUB & IUPUI Observations:

- A While users selected *Voice network*, they expressed uncertainty that it would provide them with options regarding long distance.

Scenario #14

P: A user called from a regional campus to report they cannot connect to IUIS. Further investigation reveals they cannot connect to anything off their campus – the trace routes stop at the IUPUI routers.

R: You reported the problem to NOC.

IUB Paths Taken (Optimal; Alternative, *autofill*)

Category	SubCategory	Product Type	Problem Type	
Data network	Wan/state	Routers-wan/state	Other	0/2
Data network	Wan/state	Routers-wan/state	Hardware	2

IUB Comments:

Category		
Subcategory		
Product Type		
Problem Type		The hardware is the part we don't know. It's just a hunch. Perhaps an option TBD. Dialup servers should not be under wan/state.

IUPUI Paths Taken (Optimal; Alternative, autofill)

Category	SubCategory	Product Type	Problem Type	
Data Network	Wan/State	Routers-Wan/State	Other	0/6
Data Network	Wan/State	Routers-Wan/State	Hardware	2/6#
Data Network	Lan/Campus	Routers-Lan/Campus	Hardware.	%
	Wan/State			
	Lan/Campus	Routers-LanCampus	Hardware	
Data Network	Lan/Campus			\$
	External Connections	Routers	Other	
Data Network	Wan/State	Routers-Wan/State.		
Data Network	External Connections			
Central Systems				*
Data Network	Lan/Campus	Gateways	Other	

IUPUI Comments:

Category		<p>Four categories may be too much.</p> <p>It would be better if you call Data Network just “Network”</p> <p>I’d like to see “outage” right off the bat. It’s such a common problem that it could be at a category level with apps as a subcategory.</p>
Subcategory	%	I had a hard time picking between wan/state and LAN/campus. Maybe you should include wan/state/regional.
	*	Under Central Systems I wanted something with “NOC”, “networking”, or “routing” as an option.
	\$	<p>Maybe it would be easier to specify which campus like (IUK, IUB) so you could tell if it was an internal connection or isolated to a campus.</p> <p>I first looked for a regional connection. It seems to be missing “regional connections” and I’m not sure if wan/state is intended to be that.</p>
Product Type		
Problem Type	#	I feel good about the path.

IUB & IUPUI Observations:

None.

Scenario #15

P: A user calls to say she cannot keep *MS Word* running for more than 5 minutes per session.

R: You walked the user through reinstalling *Word*. Problem resolved.

IUB Paths Taken (Optimal; Alternative, *autofill*)

Category	SubCategory	Product Type	Problem Type	
Customer system	Application software	Word processing	Word	4/5
Service requests				
Inquiry				
Customer system	Application software	Word processing	Word	*

IUB Comments:

Category	*	I thought there would be a subcat for applications under Central Systems. I didn't think Customer service at first. I thought Inquiry might suffice.
Subcategory		
Product Type		
Problem Type		You might want to add notes about repair or re-install to track history for follow-up.

IUPUI Paths Taken (Optimal; Alternative, autofill)

Category	SubCategory	Product Type	Problem Type	
Customer System	Application Software	Word Processing	Word	3/5 *
Customer System	Operating Systems	Word Processing	Word	
Service Request. Customer System	Application Software	Word Processing	Word	

IUPUI Comments:

Category	*	The category name didn't make sense initially.
Subcategory		
Product Type		
Problem Type		

IUB & IUPUI Observations:

None.

Scenario #16

P: A user requests assistance with navigating through the naming conventions of the addressbook in *Polycom*.

R: You provided assistance and user is satisfied.

IUB Paths Taken (Optimal; Alternative, *autofill*)

Category	SubCategory	Product Type	Problem Type	
Video network	Polycom	Gen Consulting-Polyc	TBD	1/2
Video network	Polycom	Software-Polycom	TBD	

IUB Comments:

Category		
Subcategory		I'm looking for a billing category.
Product Type		Maybe look for "voice features" or "telephone features."
Problem Type		I would prefer "usability" as an option.

IUPUI Paths Taken (Optimal; Alternative, autofill)

Category	SubCategory	Product Type	Problem Type	
Video Network	Polycom	General Consult-Polyc	TBD (4)	4/6 #
Video Network	Polycom	Software-Polycom	TBD	*
Video Network	Polycom	General Consult-Polyc	TBD	

IUPUI Comments:

Category	#	It seemed to fall right into place.
	*	It was completely logical.
Subcategory		
Product Type		To me general consulting is showing someone how to do something whereas software or other would be for a specific problem.
Problem Type		I'd like to see "address book" as a problem type.

IUB & IUPUI Observations:

- A The options of *General Consulting* and *Other* throughout the categories are going to have to be clearly understood by users if data integrity is to be of value. If the differences prove to be too small or difficult to explain and understand, the two categories should be collapsed into one.

Scenario #17

- P: A user is getting the following message: “cannot connect to Delaware”. The user’s mailbox is not responding to login requests and you cannot ping it.
- R: You notified the *Messaging* team.

IUB Paths Taken (Optional; Alternative, autofill)

Category	SubCategory	Product Type	Problem Type	
Email	Exchange	Other-exchange	TBD	2/10
Central systems Email	Exchange	Other-exchange	TBD	3/10
Email	Exchange	Outlook	Other	2/10
Email Central Systems.	Exchange	Other-exchange	TBD	
Service requests Email	Exchange	Outlook	Other	
Email	Exchange			*

IUB Comments:

Category		I thought it would be under Central Systems because exchange is a part of it. Is email a part of Central Systems? I expect to see a list of exchange servers under central systems.
Subcategory	*	I’d leave it blank at this point. I’d like under service requests a subcat for exchange server or email.
Product Type		It doesn’t say what program it is here. Have “outage” as a product type.
Problem Type		There’s no option for server not responding or down? (2) I’d like to see outage as an option. (2) Maybe have a system not enabled option. I’d like to see the last category indicate that it is sent on to Message. Maybe “Delaware’s down”

IUB Observations:

- A There is an initial expectation that *Email* should be a subset of *Central Systems*.

Scenario # 17

- P: A user is getting the following message: “cannot connect to IUPUIMBX03.uits.iupui.edu”. The user’s mailbox is not responding to login requests and you cannot ping it.
- R: You notified the *Messaging* team.

IUPUI Paths Taken (Optimal; Alternative, autofill)

Category	SubCategory	Product Type	Problem Type	
Email	Exchange	Other-Exchange	TBD	2/5
Email	Exchange	Outlook-Exchange	Other	*
Email	Exchange			
Data Network	Lan/Campus.			
Email	Exchange	Outlook-Exchange	Other	
Accounts Admin				#
Central Systems				
Accounts Admin	Disable/Re-enable	<i>N/A Disable/Re-enable</i>	<i>TBD.</i>	
Accounts Admin	Other-Maintenance.			
Central Systems	Accounts	Lockout.		

IUPUI Comments:

Category	*	It’s pretty straightforward.
	#	Central Systems and Email are confusing because exchange is a part of the central systems.
Subcategory		The first thing I want to report is the “outage” and not dig through the system. Maybe have it as a subcat or problem type
Product Type		
Problem Type		Have “Access” or “Unable to Access” as a problem type

IUPUI Observations:

None.

Scenario #18

P: A user requested directions to the location of a 24-hour STC lab.

R: You provided the directions.

IUB Paths Taken (Optimal; Alternative, autofill)

Category	SubCategory	Product Type	Problem Type	
Inquiry	Non-IT related	<i>N/A – Non-IT related</i>	TBD	3/5
Student Tech Centers	Facilities	<i>TBD</i>	<i>TBD</i>	%
Service requests Student Tech Centers	Hardware			*

IUB Comments:

Category		I'm not sure how Inquiry differs from Service Requests
Subcategory		
Product Type	# *	Have Student Tech. Centers as a product type. I would leave product type empty since there is nothing on location. Maybe see something on "locations (2)", "directions"
Problem Type	%	I'd like to see "referred/transferred to Lindley." That was straightforward.

IUPUI Paths Taken (Optimal; Alternative, autofill)

Category	SubCategory	Product Type	Problem Type	
Inquiry	Non-IT Related	<i>N/A Non-IT Related</i>	<i>N/A (0)</i>	0/5
Student Tech Center	Facilities	<i>Other-Facilities</i>	<i>TBD</i>	4/5
Inquiry	IT Related Non-IT Related	<i>N/A Non-IT Related</i>	<i>N/A</i>	

IUPUI Comments:

Category		
Subcategory		
Product Type		
Problem Type		

IUB & IUPUI Observations:

- A Users gravitated toward the obvious relationship of STC and the category with that name. The category *Inquiry* is perhaps too general, given that the majority of problems called in could be considered inquiries.
- B At the product type level under the STC category, an option for *locations* or *directions* would be helpful.

Scenario #19

- P: A user formatted his computer and installed Win98. Now he reports that his display is *'big looking and weird'*.
- R: You had him check his display settings, increase the resolution and increase to 32bit color. Problem resolved.

IUB Paths Taken (Optimal; Alternative, autofill)

Category	SubCategory	Product Type	Problem Type	
Customer system	Operating systems	Windows 98	Configuration	2/4
Customer system	Application software	Other	<i>TBD</i>	
Customer system	Hardware-pc	Desktop	Video card	

IUB Comments:

Category		
Subcategory		<p>The word "application" is what gets me. You're using software to change the hardware.</p> <p>It's a choice between hardware verses software that controls the hardware. Maybe "drivers" could be an option.</p>
Product Type		
Problem Type		

IUPUI Paths Taken (Optimal; Alternative, autofill)

Category	SubCategory	Product Type	Problem Type	
Customer System	Operating Systems	Windows 98	Configuration	2/4*
Customer system	Application Software. Operating Systems Hardware-PC	Windows 98 SE Desktop	Device Management. Monitor	#
Customer system Customer System	Operating Systems Application Software Hardware-PC	Other-Software. Desktop	Monitor	%

IUPUI Comments:

Category	*	That seems self-explanatory.
Subcategory		
Product Type	%	I thought that “display” would be a product type.
Problem Type	#	It’s really a “driver” issue.

IUB & IUPUI Observations:

- A Users demonstrated difficulty at the Subcat level.

Scenario #20

- P: Jane moved into a dorm, installed an Ethernet card in her laptop and ran the NetConfig CD. Her computer won't connect and the NetConfig tool reports a network error.
- R: After further troubleshooting, you found that she still needs to install the drivers for the Ethernet card. You helped her do so. Problem resolved.

IUB Paths Taken (Optimal; Alternative, *autofill*)

Category	SubCategory	Product Type	Problem Type	
Customer system	Hardware-pc	Laptop	Network card	3/4
Customer system	Hardware-pc	Desktop	Network card	

IUB Comments:

Category	
Subcategory	
Product Type	
Problem Type	

IUB Observations:

None.

Scenario # 20

P: A user requested a datajack activation.

R: You filled out a form with account number and other information and placed it in the queue.

IUPUI Paths Taken (Optimal; Alternative, *autofill*)

Category	SubCategory	Product Type	Problem Type	
Service Request	Datajacks	Installation-Datajacks	TBD (0)	0/5
Data Network	Lan/Campus	Jacks	Activation	5/5 *

IUPUI Comments:

Category	*	It seemed to fit perfectly.
Subcategory		
Product Type		
Problem Type		

IUPUI Observations:

- 1 All users expected to find *Datajacks* under the *Data Network* category.

Scenario #21

P: A user called to request a password reset on IUIS- his password has expired.

R: You reset the password for him and he can now log in.

IUB Paths Taken (Optimal; Alternative, *autofill*)

Category	SubCategory	Product Type	Problem Type	
Accounts Admin	Password reset	<i>N/A – Password reset</i>	TBD	1/2
Central systems	IUIS	<i>TBD</i>	<i>TBD</i>	

IUB Comments:

Category	
Subcategory	
Product Type	
Problem Type	

IUB Observations:

A Understanding the category of *Accounts Administration* may require some initial training of employees.

Scenario #22

- P: A user reports he is unable to connect to CFS. When he tries to map to [\\cfs.iu.edu/username](http://cfs.iu.edu/username), he receives the following message: "Network Path not found."
- R: Have her try mapping to the IP [\\129.79.6.1/username](http://129.79.6.1/username). That works.

IUB Paths Taken (Optimal; Alternative, autofill)

Category	SubCategory	Product Type	Problem Type	
Central systems	CFS	Mapping-cfs	TBD	7/8
Customer systems	Hardware-Mac	Desktop.		
Central systems	CFS	Mapping	TBD.	

IUB Comments:

Category		Inquiry could be flushed out
Subcategory		
Product Type		
Problem Type		Would want it to say "put in IP address" (2) Maybe "network path is not found" or "connecting to IP"

IUB Observations:

None.