# Creating Usable Self-Service Interactions

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## Abstract

*In today's economy, more and more of our transactions with organizations to research and purchase products and services are **self-service**; they involve no interaction with a human being. This paper explores people's experiences both with self-service transactions and with processes where the interaction migrates from self-service to human mediation. Two case histories from the author's consulting firm describe user research and interaction design to improve the usability of self-service transactions.*

## What Do We Mean by Self-Service?

To begin this discussion of self-service transactions, I first needed to think about the meaning of self-service. Before the 20th century, retail customers requested items from a shop assistant who would fetch them from shelves or containers. "Self-service" in grocery stores was developed in 1916 by American entrepreneur Clarence Saunders and his Piggly Wiggly stores.

In the 1920's, The Great Atlantic and Pacific Tea Company (A&P) self-service chain also spread into Canada and the United States. Lest this sound overly U.S.-centric, unattended self-service petrol stations first appeared in Europe, and are still rarely seen in America.

Today the term is used in both the physical and online environments when the customer performs activities previously the responsibility of the seller, whether a shop assistant or a specialist like a travel agent or banker. Specifically, I'll use "self-service" for activities which involve no interaction with a human being.

Although in our Internet-focused world we often think of self-service as an online activity, this discussion addresses a variety of unattended self-service transactions: online, over the telephone, and physical. Self-service telephone systems are called interactive voice response (IVR) systems, or sometimes voice user interfaces (VUIs). Physical self-service systems can be kiosks, ATMs, petrol pumps, or retail scanning/packing/payment systems.

In addition to conducting self-service commercial transactions, we are also self-service consumers of information. For the most part, self-service of information is a convenience, whether we're using Google and Wikipedia to learn who invented self-service groceries, checking an online wedding registry at a department store, or reading information at a kiosk in an auto dealership.

However, a colleague related using online medical sources to self-diagnose an illness and reaching an inaccurate assessment, resulting in a delay of five days before a potentially life-threatening blood clot was correctly identified. Self-service can carry risks, both of errors and of inaction or missing information.

We're also seeing the evolution of self-service. My consultancy, Tec-Ed, has for many years been researching and improving the usability of interfaces designed to implement self-service transactions. In the 1990s, we worked with Netscape on self-service purchasing of software products. We evaluated the usability of downloading software from the Netscape website, both downloading of client software by novice-to-intermediate end users and downloading of both client and server software by system administrator users. Self-service transactions are quite different today.

In addition to my own experience at Tec-Ed, reflected in both anecdotes and the case histories that conclude this paper, as part of my preparation I talked with 30 colleagues and friends about their experiences with self-service interactions. Most of these informal interviews took place during company meetings and at the information usability special interest group meeting at the 2010 ACM SIGCHI conference [1].

## What Makes Self-Service Usable—or Unusable?

Zuboff and Maxmin [2] say "the chasm between today's individuals and today's commercial organizations is what we call the transaction crisis." The consumer "reaches out in search of deep support, only to be snagged on the barbed-wire fence that surrounds nearly every commercial exchange. The only thing that can squeeze under that fence is a bit of cash. The rest of a person—all that holds the real complexity of his or her life—is left behind."

In the pursuit of cost-efficient transactions, organizations withhold service and support from customers. The quality of self-service affects us all, because "everyone is a consumer, no matter what their status or income level [2]."

A key question therefore becomes, which self-service transactions support customers well? In my informal

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interviews to learn people's experiences with self-service, some opinions were no surprise.

Several people praised Amazon.com, saying that you can "click to look inside" and read pages of books to help decide if you want them, as well as put desired items in your shopping cart and save them for consideration or purchase during a later visit. Amazon was also commended for having a clear and logical purchase path, where "you always know where you are and can back out."

In contrast, the interviewees criticized several "hidden" purchase paths. Many companies offer discount coupons or codes for purchases, but don't promptly display the effect of using the coupon. Similarly, sites were criticized for not displaying shipping and handling costs until late in the purchase process. Although numerous usability studies have shown that people are unwilling to enter their credit card information until they see the actual total price [3], this problem remains on many e-commerce sites.

In another example of hidden information, one colleague said, "I logged on to pay an energy bill the other night and it took almost a half hour. I was in an endless loop while simply trying to add a new checking account to use for bill payment. Only after I finally completed that task did I learn that my payment transaction would not post for five days, and the bill was due in four. Though I was paying early, my payment would be late!"

A self-service tool that was both praised and criticized was the time meter associated with purchasing event tickets online on some websites. Once you start the purchase process by selecting desired seats, a countdown begins during which those seats are reserved for you and not available to anyone else; people mentioned reservation periods of five minutes to an hour. One interviewee described the meter as highly stressful, saying that she would never again buy tickets on a site with a time meter. A second found it reassuring to know she wouldn't lose her chosen seats while entering her payment information.

Another colleague described an effective self-service process that combined interactions with several organizations. Her community has an award-winning public library, but its online search capability is limited. She uses Amazon.com to find books of interest and create a favorites list, then uses the library site to put books on hold and request (automated) emails when the books become available. Many U.S. public libraries also have self-service checkout kiosks.

Looking at additional physical examples of self-service, even though few U.S. petrol stations are totally unattended, the majority of petrol purchase transactions are now self-service. The customer never leaves the vicinity of the petrol pump, which accepts and validates credit cards as well as dispensing fuel. The process is almost seamless; only rarely do customers approach the attendant with a problem.

Self-service grocery checkout systems are widespread in the U.S., although most supermarkets have an attendant assigned to oversee an aisle of self-service scanners. One attendant commented that elderly people have the most usability problems, although some problems recur among all populations. For example, customers don't know that a weight sensor under their grocery bag compares the weight of each item in the database with its measured weight. Errors ensue both when customers don't promptly place a scanned item into the bag and when the purchased and actual weights are different, usually in a custom-packaged item.

## End-to-End Usability of Self-Service and Human Mediation

Some of the best—and worst—examples of self-service involve processes where the interaction migrates from self-service to human mediation, either to complete the activity or as an "escalation path" if an unattended transaction fails and the user seeks to resolve the problem by telephone or email. When interactions change modality successfully, moving smoothly from unattended to attended, the user experience is more likely to be positive.

Telephone interfaces offer many examples of multimodality. A common self-service frustration is to supply account numbers, passwords, and other information to an IVR system, then be routed to a live agent who repeats the same questions. On the positive side, in a recent travel transaction the United Airlines IVR system passed all of the caller's information seamlessly and accurately to the live agent.

Another problem is lengthy "phone trees" which don't address the caller's question and also don't offer a live agent, leaving the caller guessing how to reach a person. One interviewee mentioned an IVR system in which "cursing connects you to customer service." Another described offering the IVR a stream of possible keywords: "Help, agent, representative, help!"

Other unaddressed areas in telephone self-service include enabling the caller to adjust the speed of the interaction. Elderly callers or those unfamiliar with the language want the IVR to slow down, while impatient callers would tell it to speed up.

Online transactions offer many examples of multimodality. A colleague recently tried to RSVP online for an event hosted by the local Chamber of Commerce. After a frustrating series of click-throughs, instead of a form the site gave a phone number to call for reservations, which could have been displayed on the first screen.

Problem escalations are a frequent source of usability issues, especially since the user is already a person with a problem. Large companies offering online chat or email customer service systems use software products such as KANA Response that maintain libraries of pre-written replies to frequently occurring problems. However, the boilerplate response text doesn't always address users' actual problems.

My consulting firm conducted a contextual inquiry with customer service representatives (CSRs) of a Fortune 1000 company, and found that most CSRs created responses by combining the boilerplate text with their own words, and also by removing repetitious and irrelevant paragraphs from the boilerplate. One CSR commented that customers "can pick out when stuff is canned without even thinking about it. We used to use a lot of auto responders, even the ones that were signed by a CSR. But people need to feel that some human is actually reading and understanding their concerns."

Organizations also need to decide which mode takes precedence in pricing and decision-making. Some policies are clearly explained, such as airlines charging a fee for ticketing over the phone but not online. Others are more confusing, especially when customer service representatives have the authority to offer discounted prices if they think a dissatisfied customer may turn to a competitor.

Thus issues of trust and privacy also play a large role as consumers shuttle between self-service and human-mediated transactions. A colleague stated that he conducts as many transactions as possible online because he "hates talking to people on the phone," while others prefer the opportunity for a live negotiation. Several people commented on the irritation of online "security questions," where the choices are too limited or could have ambiguous answers.

Americans seem to be highly willing to supply financial information online, whereas in making travel arrangements for a European holiday before attending IPCC, I found that only one of the dozen locally-owned hotels I contacted accepted online payments. The online registration form for the IPCC conference hotel has an option reading, "I expect to arrive after 18.00 hrs - I will pay by credit card - For security reasons I will send my credit card details by fax."

## Is Usable Self-Service Different From Other Good User Experiences?

Are the issues that affect usability of self-service transactions different from usability issues for any product or service? As we consider what makes a good self-service user experience, the central premise remains unchanged from our existing best practices: Learn the goals and tasks of the target users, then ensure that the interaction follows users' actual task flows (not the internal system organization).

Self-service transactions are always two-way. Users are focused on what they want to do, whereas the interface may be designed for a different interaction from what users had in mind. However, the same is true of traditional interaction with products. For example, I want to switch on my outdoor grill by pressing a single button and begin cooking immediately, but my propane-fueled grill requires me to open a valve to the fuel canister, set a dial to high fuel flow, press and hold an igniting button, then adjust the fuel setting—and repeat the process if the flame doesn't appear within a few seconds.

If we review some classic usability heuristics, such as Jakob Nielsen's ten 1994 heuristics [4], updated by Keith Instone for the Web in 1997 [5], it's quite clear that they apply equally well to self-service transactions. For example, especially applicable are:

- User control and freedom: Users often choose system functions by mistake and need a clearly marked "emergency exit"
- Error prevention: Help users avoid and recover from errors; even better than good error messages is careful design that prevents problems
- Visibility of system status: The system should always keep users informed about what is going on, through appropriate feedback within a reasonable time

Despite the similarities between the usability of self-service transactions and traditional product usability, there are also fundamental differences. Self-service transactions involve communication between a customer and an organization, as distinguished from product use by an individual. If human mediation isn't quickly and seamlessly available as a backup to self-service, the process can fail. The interactions between the customer and the human mediator can also be researched and mined to further improve and extend the unattended experience.

Ultimately, the best way to improve the self-service user experience is to consider the end-to-end user experience. Self-service transactions will be more successful and more enjoyable if the customer's entire relationship with the organization is positive, and the transitions between modes as seamless and consistent as possible.

Many companies are beginning to recognize the value of the overall user experience. For example, over the past year Tec-Ed has been working with a new team at Cisco Systems chartered to improve the end-to-end experience of customers requesting technical support. Our research helped Cisco provide a more personalized service experience online, which will lessen re-routing of service requests and reduce their time-to-resolution [6].

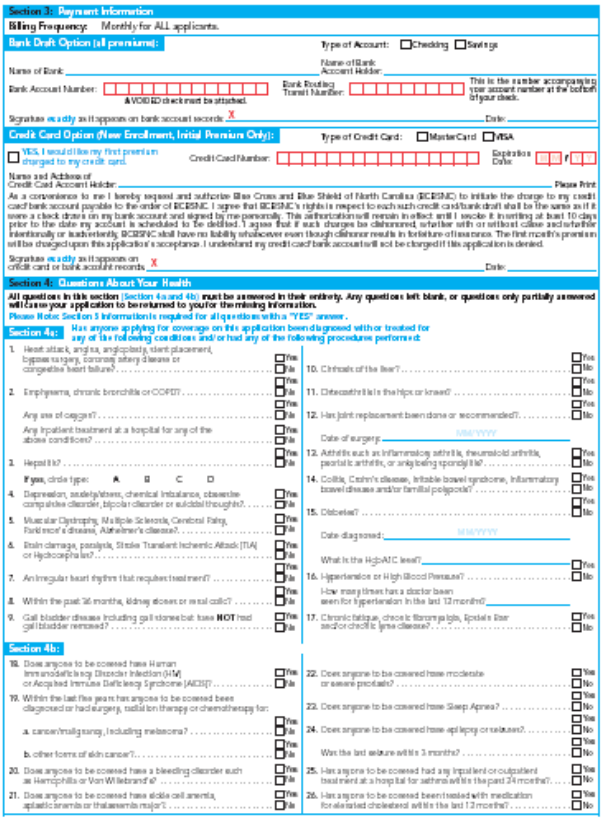
## Case Histories of Self-Service

To look at methods for improving the usability of self-service, here are two case histories describing projects my consulting firm performed. In the first project, we were engaged to redesign a self-service application form, and we successfully urged our client to include two cycles of user research. The second project was primarily a user research engagement to study self-service software licensing, then we conducted a follow-on redesign project.

### Blue Cross Blue Shield of North Carolina

Blue Cross Blue Shield of North Carolina (BCBSNC) commissioned Tec-Ed to redesign the Blue Advantage Enrollment Application form to reduce the percentage of rejected applications due to incomplete or incorrectly filled-out forms. The form was intended to be self-service, so it could be processed with no need for BCBSNC staff to contact applicants individually. Instead, their return rates (rejected applications) of 40% caused expensive personal follow-up and lost prospective customers.

Tec-Ed and BCBSNC worked together to define a tightly scheduled iterative design process over a four-week period. This demanding schedule—a project of this magnitude and importance normally takes several months—was required to coordinate with the release of the updated form on the BCBSNC website. BCBSNC engaged Tec-Ed because of our in-depth experience in both professional communication and usability; and Tec-Ed partnered with Caroline Jarrett for specialized expertise in forms design [7].


Section 3: Payment Information

Billing Frequency: Monthly for ALL applicants.

Bank Draft Option (all premiums):

Type of Account: ☐ Checking ☐ Savings

Name of Bank:

Name of Bank Account Holder:

Bank Account Number:

A VOIDED check must be attached.

Bank Routing Transit Number:

This is the number accompanying your account number at the bottom of your check.

Signature as it appears on bank account records: X

Date:

Credit Card Option (New Enrollment, Initial Premium Only):

Type of Credit Card: ☐ MasterCard ☐ VISA

☐ YES, I would like my first premium charged to my credit card.

Credit Card Number:

Expiration Date: MM / YY

Name and Address of Credit Card Account Holder:

Please Print

As a convenience to me I hereby request and authorize Blue Cross and Blue Shield of North Carolina (BCBSNC) to initiate the charge to my credit card/bank account payable to the order of BCBSNC. I agree that BCBSNC's rights in respect to each such credit card/bank draft shall be the same as if it were a check drawn on my bank account and signed by me personally. This authorization will remain in effect until I revoke it in writing at least 10 days prior to the date my account is scheduled to be debited. I agree that if such charges be dishonored, whether with or without cause and whether intentionally or inadvertently, BCBSNC shall have no liability whatsoever even though dishonor results in forfeiture of insurance. The first month's premium will be charged upon this application's acceptance. I understand my credit card/bank account will not be charged if this application is denied.

Signature as it appears on credit card or bank account records: X

Date:

Section 4: Questions About Your Health

All questions in this section (Section 4a and 4b) must be answered in their entirety. Any questions left blank, or questions only partially answered will cause your application to be returned to you for the missing information.

Please Note: Section 5 information is required for all questions with a "YES" answer.

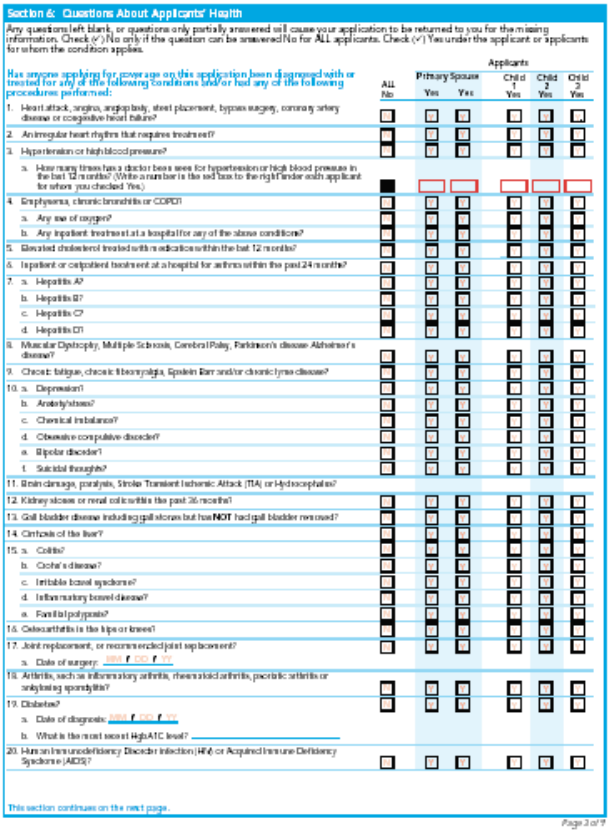
Section 4a: Has anyone applying for coverage on this application been diagnosed with or treated for any of the following conditions and/or had any of the following procedures performed:

1. Heart attack, angina, angioplasty, stent placement, bypass surgery, coronary artery disease or congestive heart failure? ☐ Yes ☐ No
2. Emphysema, chronic bronchitis or COPD? ☐ Yes ☐ No
   Any use of oxygen? ☐ Yes ☐ No
   Any inpatient treatment at a hospital for any of the above conditions? ☐ Yes ☐ No
3. Hepatitis? ☐ Yes ☐ No
   If yes, circle type: A B C D
4. Depression, anxiety/stress, chemical imbalance, obsessive-compulsive disorder, bipolar disorder or suicidal thoughts? ☐ Yes ☐ No
5. Muscular Dystrophy, Multiple Sclerosis, Cerebral Palsy, Parkinson's disease, Alzheimer's disease? ☐ Yes ☐ No
6. Brain damage, paralysis, Stroke Transient Ischemic Attack (TIA) or Hydrocephalus? ☐ Yes ☐ No
7. An irregular heart rhythm that requires treatment? ☐ Yes ☐ No
8. Within the past 36 months, kidney stones or renal colic? ☐ Yes ☐ No
9. Gall bladder disease including gall stones but have NOT had gall bladder removed? ☐ Yes ☐ No
10. Cirrhosis of the liver? ☐ Yes ☐ No
11. Osteoarthritis in the hips or knees? ☐ Yes ☐ No
12. Has joint replacement been done or recommended? ☐ Yes ☐ No
    Date of surgery: MM/YYYY
13. Arthritis such as inflammatory arthritis, rheumatoid arthritis, psoriatic arthritis, or ankylosing spondylitis? ☐ Yes ☐ No
14. Colitis, Crohn's disease, irritable bowel syndrome, inflammatory bowel disease and/or familial polyposis? ☐ Yes ☐ No
15. Diabetes? ☐ Yes ☐ No
    Date diagnosed: MM/YYYY
    What is the HgbA1C level?
16. Hypertension or High Blood Pressure? ☐ Yes ☐ No
    How many times has a doctor been seen for hypertension in the last 12 months?
17. Chronic fatigue, chronic fibromyalgia, Epstein Barr and/or chronic Lyme disease? ☐ Yes ☐ No

Section 4b:

18. Does anyone to be covered have Human Immunodeficiency Disease Infection (HIV) or Acquired Immune Deficiency Syndrome (AIDS)? ☐ Yes ☐ No
19. Within the last five years has anyone to be covered been diagnosed or had surgery, radiation therapy or chemotherapy for:
    a. cancer/malignancy, including melanoma? ☐ Yes ☐ No
    b. other forms of skin cancer? ☐ Yes ☐ No
20. Does anyone to be covered have a bleeding disorder such as Hemophilia or Von Willebrand's? ☐ Yes ☐ No
21. Does anyone to be covered have sickle cell anemia, aplastic anemia or thalassemia major's? ☐ Yes ☐ No
22. Does anyone to be covered have moderate or severe psoriasis? ☐ Yes ☐ No
23. Does anyone to be covered have Sleep Apnea? ☐ Yes ☐ No
24. Does anyone to be covered have epilepsy or seizures? ☐ Yes ☐ No
    Was the last seizure within 3 months? ☐ Yes ☐ No
25. Has anyone to be covered had any inpatient or outpatient treatment at a hospital for asthma within the past 24 months? ☐ Yes ☐ No
26. Has anyone to be covered been treated with medication for elevated cholesterol within the last 12 months? ☐ Yes ☐ No

Figure 1: Original application form


Section 6: Questions About Applicants' Health

Any questions left blank, or questions only partially answered will cause your application to be returned to you for the missing information. Check (✓) No only if the question can be answered No for ALL applicants. Check (✓) Yes under the applicant or applicants for whom the condition applies.

Has anyone applying for coverage on this application been diagnosed with or treated for any of the following conditions and/or had any of the following procedures performed:

Applicants

| | All No | Primary Spouse Yes | Primary Spouse Yes | Child 1 Yes | Child 2 Yes | Child 3 Yes |
|---|---|---|---|---|---|---|
| 1. Heart attack, angina, angioplasty, stent placement, bypass surgery, coronary artery disease or congestive heart failure? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2. An irregular heart rhythm that requires treatment? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 3. Hypertension or high blood pressure? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| a. How many times has a doctor been seen for hypertension or high blood pressure in the last 12 months? (Write a number in the red box to the right under each applicant for whom you checked Yes.) | ■ | | | | | |
| 4. Emphysema, chronic bronchitis or COPD? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| a. Any use of oxygen? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| b. Any inpatient treatment at a hospital for any of the above conditions? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 5. Elevated cholesterol treated with medication within the last 12 months? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 6. Inpatient or outpatient treatment at a hospital for asthma within the past 24 months? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 7. a. Hepatitis A? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| b. Hepatitis B? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| c. Hepatitis C? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| d. Hepatitis D? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 8. Muscular Dystrophy, Multiple Sclerosis, Cerebral Palsy, Parkinson's disease Alzheimer's disease? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 9. Chronic fatigue, chronic fibromyalgia, Epstein Barr and/or chronic lyme disease? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 10. a. Depression? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| b. Anxiety/stress? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| c. Chemical imbalance? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| d. Obsessive compulsive disorder? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| e. Bipolar disorder? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| f. Suicidal thoughts? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 11. Brain damage, paralysis, Stroke Transient Ischemic Attack (TIA) or Hydrocephalus? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 12. Kidney stones or renal colic within the past 36 months? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 13. Gall bladder disease including gall stones but has **NOT** had gall bladder removed? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 14. Cirrhosis of the liver? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 15. a. Colitis? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| b. Crohn's disease? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| c. Irritable bowel syndrome? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| d. Inflammatory bowel disease? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| e. Familial polyposis? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 16. Osteoarthritis in the hips or knees? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 17. Joint replacement, or recommended joint replacement? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| a. Date of surgery: MM / DD / YY | | | | | | |
| 18. Arthritis, such as inflammatory arthritis, rheumatoid arthritis, psoriatic arthritis or ankylosing spondylitis? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 19. Diabetes? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| a. Date of diagnosis: MM / DD / YY | | | | | | |
| b. What is the most recent HgbA1C level? _____ | | | | | | |
| 20. Human Immunodeficiency Disorder Infection (HIV) or Acquired Immune Deficiency Syndrome (AIDS)? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

This section continues on the next page.

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Figure 2: Redesigned application form

The key project activities were:

- User interviews: We collected data about usability problems with the existing Blue Advantage Enrollment Application form, asking people to "think out loud" while filling out the form.
- Stakeholder interviews: We met with BCBSNC stakeholders to identify issues and elicit ideas for improvement to the enrollment application form.
- First design iteration: We redesigned the form based on the data collected during the user and stakeholder interviews, as well as on our experience in documentation and forms design.
- Stakeholder review of the first design iteration.
- Second design iteration: We revised the form based on stakeholder feedback.
- Usability sessions with the second design iteration, exploratory "usability walkthroughs" rather than formal usability tests, to focus on problem identification while staying on schedule.
- Third design iteration: We revised the form to address problems and issues identified during the usability sessions.

Some of the problems identified during the initial user interviews included participants not understanding references to other forms and offers, confusion about different payment options, apparent randomness of the order of listed conditions/procedures, and difficulty in understanding text (especially in authorizations and other contractual statements). People also had difficulty reading the small print on the application.

In the stakeholder interviews, the redesign team met with people from ten BCBSNC and vendor groups. We asked questions about problems in the application process, specific requirements the new application should meet, and their success criteria for the redesign effort.

Because of the short time between review of the first design iteration and rendering the second design iteration for usability walkthroughs, we simply made as many changes from stakeholder feedback as time permitted before the user sessions.

In the usability walkthroughs with the redesigned application, many of the difficulties with understanding the text were the same as in the initial user interviews, because we could not substitute our recommended plain-language versions without extensive review by the BCBSNC legal department. However, we had addressed organizational and legibility concerns. The result was that more participants rated the redesigned application easy to use than participants did with the original application.

The Tec-Ed design team met the project deadline with a redesigned application form. We were pleased to learn that after the release of the redesigned application form, BCBSNC had 23% more successful applications—where a successful application required no human intervention—compared to the previous year.

## Online Registration/Licensing of Software

In this user research project, a major publisher of virtualization software wanted to investigate customers' end-to-end experience using the company's registration and licensing portals. Since much of their software is purchased as part of a bundled hardware/software package, this process involved both an OEM portal and the client's own portal. We conducted usability test sessions with eight system administrators/engineers to explore these questions:

- What parts of the overall workflow—registration, activation, licensing—are difficult for users? Why?
- How well do users understand the differences between product licenses and license files and between product registration and activation?
- How effective is the help and error messaging on the site, and the email messaging sent to users?

We asked participants to activate the software, retrieve licenses, complete a software upgrade, activate a subscription contract, and use online help. In the sessions, we observed a number of obstacles to the process.

For example, an automatic redirect to an OEM portal screen after about 10 seconds surprised test participants who had just begun reading the text on the first screen.

When they tried to return to the first screen to finish reading, they encountered a "Session Timeout" error. Participants also had difficulty moving from activation to licensing, because the task flow from finishing activation to retrieving a license file was unclear.

Terminology was a major stumbling block to task success; it was inconsistent among the certificates, the portals (both site messaging and help content), and the emails received. For example, one name was expressed on different screens as Partner Activation Code, PAC, and Product Activation Code. Participants were also unsure of definition differences between terms, especially:

- "Subscription" vs. "Support"
- "Registration" vs. "Activation" versus "Licensing"

This case history illustrates the challenges of multi-organization self-service. Usability problems were exacerbated because the task flow needed to achieve users' goals involved two different companies. Some of the flaws in the user experience could be addressed easily by our client (such as the session timeout and many of the terminology issues), while others required cooperation between the two organizations.

In a follow-on design engagement, Tec-Ed had the opportunity to improve the terminology and some of the task flow on our client's portal screens. We were fortunate to be able to apply our research findings directly to this portal redesign, even though our efforts were independent of future changes to the OEM portal.

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