Aide's Aide: Assistance to Home Health Aides

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1 User Group Information

Aide's Aide system is intended primarily for Russian speaking home health aides living and working around the Northeast locality of Philadelphia. The user community is definitely a community of practice that exists across official organizational boundaries, is in an active stage of development (i.e. aides engage in joint activities, share information, develop relationships), but visible only informally to those who are informed (Wenger, 1998). The following information about users was provided (unofficially) by Community Home Health Agency and three aides (during our meeting on January 25, 2008).

1. User group consists of around 300 aides, 35-60 years old, almost all females. There are only about 30 male aides who usually work with male patients. Both genders are considered to be users for the *Aide's Aide* system since there are no gender division in job duties.

2. Users work and live in the same locality (radius of about 5 miles). Close proximity between work and home and very flexible hours allows aides often come home several times a day (e.g. for lunch, to drop off shopping, take a short rest between patient's visits, etc.).

3. Most work more than 40 (often 50-60) hours, 6-7 days a week. Time management is probably the most important task aides face every day. Besides caregiving responsibilities aides have to fill out a lot of documents.

4. Many aides work for two or more agencies at the same time because their patients may be registered at different agencies. This fact is very important because it shows that this is a patient-driven job market. Patients choose an agency and they may request an aide from another agency. Since agencies fiercely compete for patients they would hire any aide on request of their patients. Thus, aides try to create good relationship

and please their patients. On the other hand, many patients recognize the importance of good relationship with their aides since they depend on the quality of their service.

5. Most users have higher education from the country of origin. There are aides who used to be teachers, accountants, engineers, nurses, and even doctors. They become aides because they have not been able to find a job or get certification to practice in the U.S.

6. Users usage of computers and Internet is limited. Computers are used for simple games (e.g. solitaire), reading online books, and social networking (mostly by younger and more computer proficient aides).

7. The main speaking language is Russian. Many know only little English.

Since the user population is quite small and homogeneous and encounters the same range of problems I will consider the entire set for the *Aide's Aide* system. Although the breakdown of system usage may occur (at least in the early stages of system lifecycle) when users that are more comfortable about use of technology and Internet would be willing to contribute to knowledge sharing more (Ardichvili, 2003).

Another important group of people that should be considered is the aides' patients. Even though they are unlikely users of this system, considering patients close ties with aides, it should benefit them through their aides (e.g. drug information, grocery store savings, etc.).

2 User Required Tasks

During the interview with aides we identified several tasks that *Aide's Aide* system should strive to accomplish.

1. *Fill Out Paperwork.* Weekly paperwork is a tedious and time consuming task (see user scenario in Appendix A). Users want to be able to electronically fill out and print the forms needed (they would love to submit these forms electronically as well but agencies are unwilling to change their practices).

2. *Car Pool Information.* One of the aides I interviewed does not have a car, so she usually relies on her friend (also an aide) to take her to the office or deliver her paperwork there. However, her friend is not always able to help because they have different schedules. There are many other aides who in the similar situation and public transportation is not available to take them to the office. In ideal world users of *Aide's Aide* would like to have the information of who and when is going to go to the agency's office and be able to contact them (preferably by phone).

3. *Knowledge Sharing.* Most significant task of all. During my interview, aides with cars estimated that about half of the working time they spend driving: running errands for their patients. Their patients are extremely savings-oriented (because of very limited means) and "want to get the same money-saving deals as other patients." As my

interviewee put it, "I want to know everything the other aides know, so I wouldn't miss that free gifts event at Macy's last week! My patient was very disappointed that she did not get an anti-age serum for free. And so was I." Thus, the *Aide's Aide* system should provide a tool to add and retrieve information about:

(a) Store deals, coupons, social services deals, etc.

(b) How to fill out application and forms, e.g. this week everyone is filling out the "pink form" (1040 tax return) for their patients and many do not have any idea how to do this.

(c) Information about government programs, e.g. when and where to submit applications for the Section 8 housing program.

3 Analysis

There is no computer information system available to help home health aides to better do their job. Aides often use phone to communicate between them as well as with clients. Those aides that I interviewed do not have and do not know anyone in their community who has smartphone or uses textmessaging (due to economic reasons rather than inability to use technology). However, aides usually have breaks during the day: they return home to eat and relax. Aides indicated that they may have enough time to look up or add some information on the web (about 10-15 minutes). Thus, the time here is an important constraint which implies that the system should be "light" and work fast (i.e. load, upload, download items fast).

For the sake of simplicity and due to cultural differences, the *Aide's Aide* is intended to be limited to Northeast Philadelphia's Russian-speaking neighborhood (see Figure 7). The trust and cultural and job equality is not an issue among these people, but they are more likely to participate in knowledge sharing (Ardichvili, 2003; Brazelton et al., 2003) if they are sure that boundaries of their tight-knit community stay intact (i.e. outsiders are not closely watching or commenting on their relations).

4 Measures

Since many users of *Aide's Aide* system are not very computer savvy and at this point of time I cannot assess their ability and willingness to learn new things I need to adhere to iterative development principles for system design. Iterative development methods should provide flexibility in selecting and locking features that work for users and help assess adaptability of the design ideas at the very beginning of the project (Kuniavsky, 2003).

As suggested by Bailey (2006), successful usability testing should include measures of three main areas: effectiveness, efficiency, and satisfaction. In order to evaluate the system's design with all three areas in mind I am going to use task scenarios (i.e. use cases) with: (1) the time to complete measurements as the measure for efficiency, (2) the number of correctly

completed tasks as the measure for effectiveness, and (3) the user satisfaction questionnaire and/or video recording of user experiences with the system.

References

A. Ardichvili, V. Page, T. Wentling. Motivation and Barriers to Participation in Virtual Knowledge-Sharing Communities of Practice, Journal of Knowledge Management, 7 (2003), 64.

B. Bailey, 2006. Getting the Complete Picture with Usability Testing. `http://www.hhs.gov/usability/pubs/030106news.html`, accessed on January 30, 2009.

J. Brazelton, G.A. Gorry. Creating a knowledge-sharing community: If you build it, will they come? Communications of the ACM, 46(2):23-25, 2003.

M. Kuniavsky. Observing the User Experience: A Practitioner's Guide to User Research. Morgan Kaufmann, San Francisco, CA, 2003.

M. Matera, F. Rizzo, G.T. Carughi. Web Usability: Principles and Evaluation Methods. In Emilia Mendes, Nile Mosley, eds., Web Engineering, 2006, pp. 143-180. Springer, Berlin Heidelberg.

E.C. Wenger. Communities of Practice: Learning as a Social System, Systems Thinker 9 (1998), no. 5, 2-3.

Appendices

A Weekly Paperwork and Area Served

Every Monday aides must submit their paperwork to the office. The process of filling out sheets, logs, etc. takes a couple of hours.

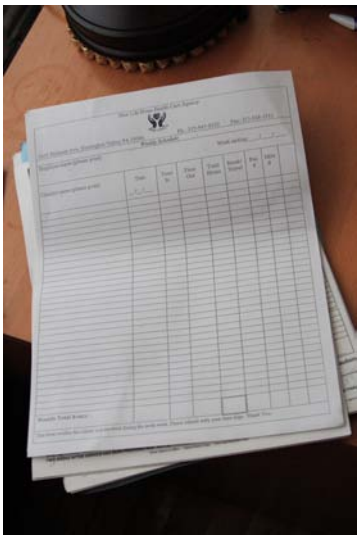

Figure 1: Example of aide's weekly paperwork

Figure 2: Weekly paperwork load – side perspective

Figure 3: Aide is filling out task sheet

Figure 4: The task sheet – close up view

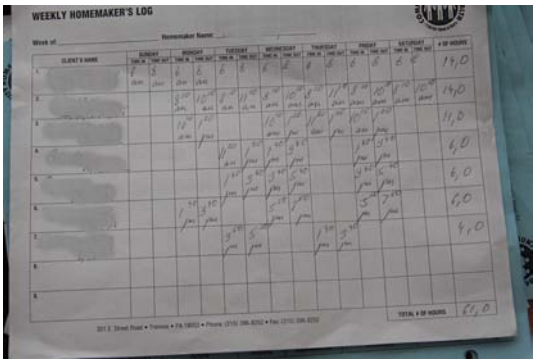

Figure 5: The weekly homemaker's log

Figure 6: Part of the completed paperwork is mailed to the office and the rest is delivered in person

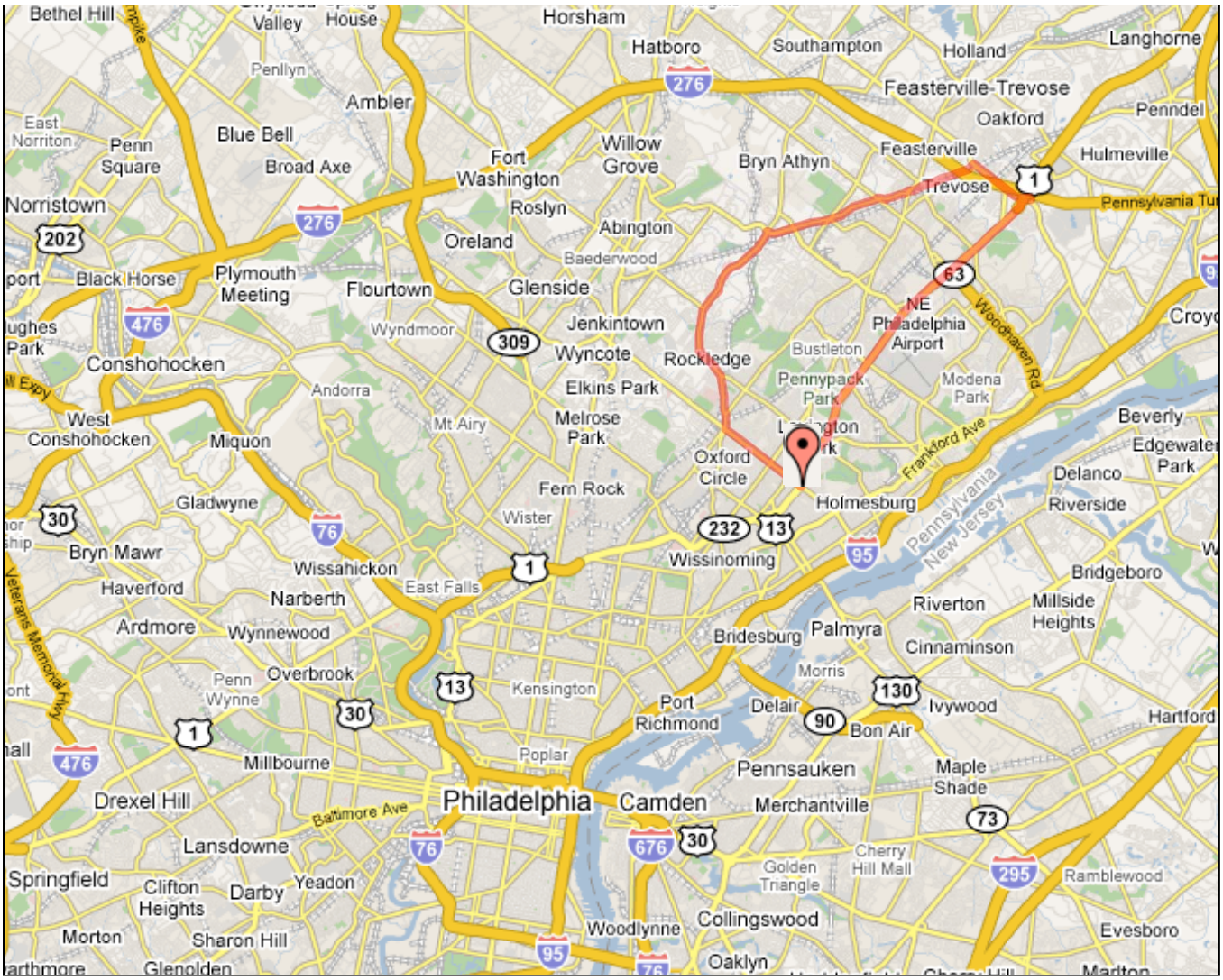

Figure 7: Approximate area where the aides work and live