Some ideas for student projects to help with Dr. Bo Xie’s ongoing research project on computer training for older adults

Project overview:
This ongoing research project involves providing computer training for older adults (age 60+) to learn to access reliable health information on the Internet, particularly websites developed by the National Institutes of Health (NIH). The training takes place at public libraries in Prince George’s County. Graduate students in the College of Information Studies at the University of Maryland serve as instructors of the training classes. Each training class meets twice a week for 2 hours each time over the course of 4 weeks. Class size: no more than 7 participants per class. Survey questionnaires and skill tests are administered before and after the training class.

Things that can really help to move this research project further:

1. A project website.
   - At a very basic level, this project website can be simply informational: it provides detailed information about the project. This can include:
     1) The project manual that details every aspect of the project, so that others can easily follow the project manual to adopt the project to their own communities;
     2) Other types of information about this project, including personnel (faculty and graduate students), funding agencies, publications, etc.
   - At a more advanced level, this project website should have at least some types of interactivity. Possible interactive features include (but are not limited to):
     1) A tool (a tailored check list, in lack of a better name) for administrators and staff of public libraries and other senior-oriented organizations nationwide who are interested in starting a similar program in their own communities.
        ▪ For instance, this tool can ask the administrators to first enter some information about their organizations (e.g., how many computers their facilities have, staff support), and then generate a list of tailored recommendations (e.g., messages like “Your organization has all the necessary resources to start this program; follow the following steps to get your program started today…” or “Your organization will need to have the following additional resources in order to start this project in your own community… and here’s where and how you can obtain these additional resources…”
        ▪ The goal is that this tool provides a quick step-by-step action plan to help the administrators and staff of other organizations to get started.
2) Online registration/scheduling system to help to manage the computer training classes: e.g., older adults can check the class schedule and sign up online for a particular class that works best for their schedule (at present the scheduling has been done over the phone; not the most efficient way).

3) An online community where persons involved in the project can interact and share experiences. There may be three different components of this online community for different groups of users: older adults; administrators and staff of senior-oriented organizations; and researchers. Information sharing/communication ideally should be multimedia: text, image (photos), audio, video (e.g., a movie clip of one older adult explaining how much s/he has learned from and enjoyed the class, or a library administrator talks about what barriers s/he had to overcome in order to start a similar program).

2. A computer- or Web-based tool to administer the skill tests.
   - An important research aspect of this project is to assess participants’ changes in computer/Internet skills. Thus, it is essential to assess participants’ computer/Internet skills before and after the training class. Currently, this is being done in a group setting: all participants of the same class are asked to perform the same tasks on the computers (each participant has one computer to use) while a researcher records their performance on a hard copy testing sheet (exemplar tasks: “Go to the NIH SeniorHealth.gov website”; “Find information on the Falls and Older Adults health topic”). A better and perhaps more fun approach would be to make this testing a game-like experience where each individual participant goes through a game-like “quiz” to complete the same tasks. The tool automatically records each participant’s performance (e.g., how many tasks successfully completed within how many time; what errors were made). This tool can be a computer program that requires installation; or, better, a Web-based application so that users do not need to install anything onto their local computers (it is not easy to install anything onto the public libraries’ computers, as we have learned; for this reason, a Web-based application is a much better way to go).

What can students of CMSC 434 gain by helping with this research project

1) These products, of course, must be senior-friendly. Several sets of established guidelines should be followed to ensure senior-friendliness. Through this design process, you can become more familiar with these different sets of design guidelines that have been widely used by the HCI community.

2) The prototypes will, of course, need to be tested with older adults, which can help you to gain first-hand experience with usability testing by older adults.

3) Co-authored publications at professional conferences and/or peer-reviewed journals, if you are interested (this might require time commitment beyond this semester though).