THE STANFORD SILICON VALLEY AGING AND TECHNOLOGY COMMUNITY ENGAGEMENT LAB

INTRODUCTION

The aging of our population has emerged as one of the primary trends of the 21st Century. As the baby boomers have begun to turn 65, the topic has moved to the front pages. There has been an expectation that a large number of products, services, and solution serving the needs of this population would emerge to meet the demographic changes. But the flow of new products and services has not been fast enough if we expect to create solutions in time to meet the needs of this population as they arise. There is a need for the research -> development -> productization cycle to move more quickly and iterate to workable solutions on "internet time". But these solutions cannot be designed in a vacuum from the users themselves, especially when the developers themselves are often from the younger generation. The adage "design for what you know" is often taught in school, but it breaks down here. Developers must move from a paradigm of "designing for" to "designing with", and involve older users in the development process from the earliest stages. But it can be very difficult for designers and companies to reach this population quickly and cost-effectively.

What is needed is an organized and engaged older population working side by side with researchers and developers to solve the problems they understand best. This population needs to see itself as a core part of the creation of solutions – not as a static group waiting for options they may or may not find desirable. Researchers and designers need to feel they can easily access these people at any point in the process for feedback, thoughts, or just impressions. Design thinking informs much of the innovation in the Silicon Valley, and it tells us to iterate quickly, fail with minimal consequences, and engage the user throughout.

A window of opportunity exists to position Stanford and the Silicon Valley as the nexus of development for technology targeted at the aging population by creating an "interchange" lab, where developers can access real-world users of potential products and the Valley's older residents can influence the design of these products. It is proposed that the Stanford Center on Longevity lead the development of this lab, working to the following goals:

Goals

1. Facilitate more interaction among researchers, companies developing solutions, service providers, and end users for products targeting the aging market.
2. Reduce the time and expense associated with research and product iterations by providing efficient access to an engaged and organized subject/user group.
3. Provide an opportunity to aging residents of the Silicon Valley to take a leadership position in the development of products, services, and business models, and in the process establish the area as being on the "cutting edge" of aging.
4. Provide opportunities for Stanford students and researchers to access to a broad swath of the aging community, reducing the barriers to entry for working in this field. This is especially important for technology developers, who otherwise might have no connection to this community.
5. Increase the "hit rate" of products being developed for aging users.
6. Develop Silicon Valley as the nexus of development for aging-related products and services.

7. Create economic activity and jobs in the Silicon Valley by making it the logical place to develop aging-related products, services, and business models.
8. Be a trusted, science-based partner for both seniors testing products and companies looking to reach the aging market.

BENEFITS OF THE LAB

To Society

The rapid aging of the population demands action in a timely manner. According to *New Realities of an Older America*, published in 2010 by the Stanford Center on Longevity:

> *"The number of old people – age 65 and over – will double over the next 30 years, from 40 million to 80 million, and the share of old people will increase from 13% to 20%. By the time the last baby boomers turn 65 in 2029, 1 in 5 Americans will be age 65 or older. By 2032, there will be more people 65 or older than children under 15."*

This mega-trend will change the way we live, work, and the underlying structure of our economy. It is critical that we engage now to create real solutions make these changes positive for our country. The lab will work to speed the pace and effectiveness of development of technologies for aging.

To Researchers

As researchers understand the magnitude of the population shift, their work will increasingly draw from and benefit older individuals. Ready access to and regular engagement with an interested older population will help to bridge the gap between often young university researchers and students and the people whom they are studying.

To Businesses

Generally speaking, businesses have not effectively targeted what should be a large, growing, and lucrative market. According to the 2010 Survey on Consumer Finances by the Federal Reserve, those over 50 control 72 percent of all financial assets and account for 48 percent of all customer demand.[i] This will only grow in future decades, as the number of Americans over 65 is expected to double over the next 30 years to 80 million.[ii] The market is vast, but as yet mostly untapped, especially in the technology domain. Initial forays into this space have met with only limited success as companies struggle to find business models and marketing approaches. Many products targeting the "aging" space demonstrate the gap between how developers view the older population and the new realities of this group. "Big, Beige, and Boring" is the description often attached to these offerings. Boomers have re-defined each life stage and will continue to do so. They demand products that add value to their life and excitement to their lifestyles.

Those creating technology for aging often lack access and connections to evaluate needs and test prototypes in a timely and cost-efficient manner. The lab will simplify this process by become the "go-to" place for these needs. By centralizing this service, the lab will spread the core costs of this function across the industry.

To the Community

Silicon Valley has a vibrant and diverse older population, many of whom contributed greatly to creating the technology-based culture that we now consider the norm. This is a natural group to take the lead on creating a new culture of aging. There is an opportunity to make the Valley the model for how to work with the older population to serve their needs and improve their lives. Older people can be part of the solution and benefit directly from the results.

WHY HERE?

The idea of accessing the population as a way of better developing products for the aging market is not new. The Institute for the Ages in Sarasota, Florida was created in 2011 with development money from the county on the premise that new jobs could be created by pairing Sarasota's position as the oldest large county in America with businesses interested in meeting this market. The Mayo Clinic has teamed with a local retirement community to create the Healthy Aging and Independent Living Lab. The Oregon Center for Aging and Technology (ORCATECH) focuses on developing and testing data-gathering devices in a community setting. Although these efforts are doing good work, the Silicon Valley offers an unparalleled set of resources for this work, including:

- A diverse and vibrant older population
  - 12.3% of the people in Santa Clara and San Mateo counties are over 65, very close to the 13% for the U.S. overall.[iii]
  - The Bay Area includes some of the most ethnically diverse counties in the U.S.
- Top-flight academic institutions in close proximity
  - Stanford, UC-Berkeley, UCSF, UC Santa Cruz
- Deep and broad corporate research presence
- An unrivaled start-up culture
- A strong investment community

CORE TENENTS

The following are considered key operating principles:

1. The lab will be funded initially by philanthropic means and will endeavor to move toward an affiliate funding model.
2. The lab will remain non-biased in its evaluations and will not accept equity in any of the companies testing products.
3. Data gathered in projects supervised by the lab will be shared. The company or researcher bringing the project to the lab will have first access to data, but must accept that results will eventually be publicly available.
4. The lab is inherently project based and will focus on evaluation and need-finding. Core research and product development will not be part of the lab's mission.
5. A diverse and active advisory board will help lab management to identify and select the projects to be accepted.
6. The core cost of maintaining the infrastructure, relationships, and expertise to perform evaluation will be borne by the lab. Prototype costs and participant re-imbursement (if

applicable) will be borne by the individual company or researcher. The goal is to provide a low-cost, easy access to valid testing.

OPERATING APPROACH

The lab will act primarily as moderated connector of researchers, students, technology developers, and users.

Primary Tasks

The primary tasks performed by the lab will be:

1. Work with developers and researchers to design evaluations and studies.
2. Outreach to the community to engage seniors in the role of testers, advisors, and research participation.
3. Maintain a "registry" of potential users and test subjects in the Silicon Valley.
4. Pair projects with user base.
5. Moderate projects, working with developers, researchers, and the community.
6. Publish results of evaluations and research (Note: results may be written by researchers and developers. The lab will maintain a database of results and work to ensure objectivity of results).

Community Registry

Core to the successful performance of the lab will be the development and maintenance of a registry of community resources available to researchers and developers. This are expected come via interaction with aging service providers, community groups, and local governments. All participation by the public will be voluntary and may or may not be compensated, depending on project parameters.

Beyond simply registration, the lab will actively endeavor to engage seniors in creating a new culture of aging. The lab looks to draw upon their talents, advice, and participation in projects.

Core staff

The following personnel will be required to perform lab functions:

1. Lab Manager – Responsible for overall function of the lab, community and corporate outreach. Also holds primary responsibility for fundraising and coordination of board meetings.
2. Community Coordinator – Responsible for creation and maintenance of the community registry. Maintains relationships with community resources.
3. Evaluation Coordinator – Individual with expertise in performing focus groups, product evaluation, and research studies. Will work with developers and researchers to create and perform evaluation. Assures validity and objectivity of results.

It is expected that many general and administrative tasks will be shared with the Stanford Center on Longevity for cost-effectivity.

Project Selection

Projects will be proposed to the lab by researchers, developers, and potentially individuals from the community. The lab manager and evaluation coordinator will help to refine requests. Selection of project to be performed at the lab will be made at quarterly board meetings.

Projects will be selected based on the potential to bring benefit to the aging community.

METRICS

The following measurements are proposed to track lab progress and success:

1. Number of:
    a. Focus groups conducted
    b. Pilot studies performed
    c. Surveys completed
2. Percent of the community over 50 (60??) with some involvement in the effort.
3. Number of students involved
4. Number of researchers involved
5. Successful product/services launches with "roots" in the lab.

ADVISORY BOARD

Core to the operation of the lab is a diverse advisory board representing the interests of the multiple parties involved. The board will meet quarterly and be responsible for accepting projects into the lab. The structure of the board is envisioned as follows:

- Stanford Faculty chair
- Lab Operating Manager
- 1 member representing the core philanthropic funder
- 2 Stanford faculty
- 2 members representing the Silicon Valley aging community
- 1 member representing industry
- 1 member representing the start-up community
- 1 member representing the investment community

POTENTIAL RESEARCH THEMES

The following are potential areas of focus for the center. While they are viewed as ripe for opportunity, they are only examples of potential efforts. The actual agenda for the center will be defined by the board and actual opportunities for impact.

1. Models for Aging in Place
    a. Ambient Assisted Living
    b. Hybrid support models

2. Active lifestyles for Quality of Life Preservation
    a. Sports Medicine
    b. Behavioral Modifications
    c. Quantified Self
3. Low-Cost Support Solutions
    a. Develop business models
    b. Develop product goals
        i. Performance
        ii. Cost
4. Supporting an Aging Workforce
    a. Technologies and products
    b. Workplace wellness

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[i] http://www.federalreserve.gov/pubs/bulletin/2012/pdf/scf12.pdf
[ii] New Realities of an Older America
[iii] U.S. Census Bureau Data, 2012