**Fostering Place-Based Resource Sharing**
A Partnership of the University of Michigan and the Palo Alto Research Center

**University of Michigan Team:**
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**Partnering Client:**
Victoria Bellotti - Palo Alto Research Center (PARC)

**Faculty Adviser:**
Raymond De Young - School of Natural Resources and Environment

**1. Introduction:**
Overconsumption of the Earth’s natural resources is causing widespread environmental degradation and anthropogenic climate change. The scale of our species’ impact on the planet is showing no signs of slowing down, with a global population of nine billion people expected by 2050 and increasing rates of consumption among developed and developing countries alike. Future environmental sustainability may be fundamentally dependent on our ability to reduce current levels of consumption. One way to implement this much-needed societal change is by motivating individual and community participation in place-based resource sharing.

Resource sharing, currently less common in modern, individual-centered cultures, has the potential to reduce our personal and collective consumption and waste by utilizing already existing goods, skills, and services. “Sharing economies” include the sharing of physical resources like cars, household goods, and living and work space, but can also include non-tangible items like time, services, and skills. The benefits of sharing resources within local communities are numerous. The most obvious is the potential for mitigating our aggregate impact on the environment through changes to individual consumption behaviors. However, sharing also has the potential to create work opportunities, improve social cohesion and community well-being, and foster greater equity through improved access to goods and services.

**2. Project Goals:**
The success of place-based resource sharing may be dependent on our understanding of the needs of communities, including what motivates individuals to share resources, as well as the barriers to engaging in sharing. Currently, our team is coordinating a project through the Dow Master’s Fellowship to answer these questions within the context of Southeastern Michigan. Through interviews with leaders of sharing organizations and a survey of community members in four comparison communities, this ongoing project aims to capture motivations for sharing in order to help improve local sharing economies through a well-informed social marketing and urban design strategy.

The proposed project will build off of our ongoing work in two distinct ways: 1) in collaboration with the Palo Alto Research Center (PARC), we will develop a cross-sectional qualitative assessment to better understand motivations for participating in local sharing economies among communities in the United States and abroad; and 2) we will provide consultation and support to computer-human interaction designers at PARC, Penn State University, Carnegie Mellon University (CMU) and leaders in the hOurworld timebanking network to improve the predictive functionality of a ‘smart’ mobile TimeBanking application currently under development, which will draw on our motivational interview findings to match community members with one another and encourage the sharing of resources and services.

**3. Project Scope:**
The proposed project has the potential to make a substantial contribution to the existing literature on motivations and barriers to engaging in sharing economies among diverse communities. The interview that we propose to design and implement will be administered in a wide range of communities, thereby giving us a better understanding of the myriad of factors that may impact the success of local sharing economies. The development of the mobile application mentioned above has the further potential to engage community members to share
transportation, skills, and services in communities around the world, thereby enabling us to apply our findings on a broad scale.

To meet our project goals, we will draw on the experience of our partnering client, PARC, and our Faculty Adviser, Raymond De Young. PARC is a technology innovation company renowned for its work in human-computer interaction. Their interest in understanding and facilitating service exchanges is part of an ongoing research and development effort with Penn State University and CMU that is funded by the National Science Foundation. They also recently published a paper on motivations for participating in the sharing economy, which will help to inform the larger survey that will be developed for the proposed project. We will also draw on the expertise of Raymond De Young, Professor of Environmental Psychology in the School of Natural Resources and Environment, who has extensively studied intrinsic motivations for engaging in environmentally responsible behaviors.

4. Accomplishments to Date:

The University of Michigan Team has just completed a comprehensive survey of motivations for, and barriers to, engaging in place-based resource sharing in Southeastern Michigan (N=313). The results from that survey are currently undergoing data analysis. The survey data will be applied to the development of a social marketing and urban design strategy to improve place-based resource sharing locally, with global implications. Simultaneously, we will also begin to use the survey results to develop an in-depth qualitative interview that will aim to further explore some of the important findings from the initial survey, using the lens of resource sharing organizations in the US and abroad. This last component will be the focus of this project.

5. Remaining Project Plans:

Our team will not be applying for additional funding for this project. We will use the available funding to design and implement the qualitative interview, as described above. This interview will be administered to active members of sharing organizations from a diverse range of communities in the US and internationally. Our project team has applied to involve an undergraduate research assistant through the Undergraduate Research Opportunity Program (UROP). The UROP student will help to conduct background research, develop the qualitative interview, and conduct phone- and Skype-based interviews with study participants.

The qualitative assessment will aim to better understand how individuals transition from convenience users of sharing services to more active, “champion” members of sharing organizations. The interview will include components of intrinsic motivations, urban planning, and effective communication, as informed by the results of the ongoing, larger survey from the Dow Master’s project. The results from the survey will be presented to the Advisory Board in April, as well as adapted for publication in an academic journal.

The qualitative instrument will be developed early this semester, with implementation beginning at the end of this semester and continued through the Winter semester. The findings from this survey will be analyzed through the lens of environmental psychology, social marketing, and place-based urban planning. The major goals of the study will be to better inform how environmental stewardship through resource sharing can be motivated among individuals and communities, and how this knowledge can be utilized through technological advancements to connect would-be users of sharing services and future members of sharing organizations.

6. Remaining Project Timeline:

**September - November:**
- Apply results from ongoing Dow Master’s project to design a qualitative interview to measure motivations for participating in place-based resource sharing. This phase will include background research, interview development, and initial contact with study participants.

**December - March:**
- Implement motivations interview and analyze findings with adviser Raymond De Young.
- Consult with PARC on developing mobile technology to encourage sharing practices.

**April - May:**
- Present survey findings to Graham Sustainability Institute External Advisory Board.
- Prepare white sheet report and manuscript for a follow-up publication in CHI 2017 or another academic journal.
5. Budget:

<table>
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<th>Item</th>
<th>Purpose</th>
<th>Specifics</th>
<th>Amount</th>
</tr>
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<tbody>
<tr>
<td>Survey Incentives</td>
<td>Increase participation in motivation survey through donations to charity organizations focused on sharing</td>
<td>$250 to one charity from provided options, and $250 to write-in charity. Charities will be selected based on a tally of survey respondent votes</td>
<td>$500.00</td>
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<tr>
<td>Student Wages</td>
<td>Support for project’s student leaders to implement survey design and consult with PARC on application development</td>
<td>Hourly wages for University of Michigan team ($22/hour x 4 hours/week x 15 weeks)</td>
<td>$3,960.00</td>
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**Total Budget:** $4,460

6. Literature Cited: