*Please submit this completed application, the supplemental budget spreadsheet, and any relevant supporting documentation by the deadline indicated in your Step 1 notification letter to* [*Sustainability-Committee@Illinois.edu*](https://www.dropbox.com/s/zjt2aok7pyx3l6e/IlliniGadgetGarageBook.pdf)*.The Working Group Chairs will be in contact with you regarding any questions about the application. If you have any questions about the application process, please contact the SSC Program Advisor, Micah Kenfield, at* [*kenfield@illinois.edu*](mailto:illinigadgetgarage@gmail.com)

# General Information

**Project Name:** Illini Gadget Garage: Fostering Campus Repair Culture via a Permanent Location

**Total Amount Requested from SSC:** $35,000

**Project Topic Area(s):** Energy Education Food & Waste

Land Water Transportation

# Contact Information

### Project Lead

Applicant Name: Joy Scrogum

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### Financial Contact *(Must be Full-time University of Illinois Staff Member)*

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### Facilities Management Contact *(If Applicable)*

Contact Name: Name of Applicant or Project Lead

Email Address: Preferred Email Address

**Primary Project Team**

|  |  |  |
| --- | --- | --- |
| **Name** | **Department** | **Email** |
| Martin Wolske | Graduate School of Library & Information Science (GSLIS) | mwolske@illinois.edu |
| William Bullock | School of Art & Design | wbullock@illinois.edu |

# Project Description

**Please provide a brief background of the project, the goals, and the desired outcomes:**

The latest information from US EPA ([http://www.epa.gov/sites/production/files/2015-09/documents/2013\_advncng\_smm\_fs.pdf](http://www.sustainelectronics.illinois.edu/research/gadgetgarage.cfm)) indicates that in 2013, we generated 3.14 million tons of e-waste in the U.S. Of this amount, only around 1 million tons or 40.4% was recycled. The rest went to landfills or incinerators. The Electronics Take-back Coalition has questioned whether recycling rates are actually that high (see page 4 at [http://www.electronicstakeback.com/wp-content/uploads/Facts\_and\_Figures\_on\_EWaste\_and\_Recycling1.pdf](http://www.sustainelectronics.illinois.edu/services/campusconsortium.cfm)). Regardless, it's clear that we're not recycling enough to stem the ever growing tide of e-waste generated in our country, and globally this is a very serious issue. Every electronic device sent to landfill represents a loss of the precious natural and human resources that went into its manufacture. And all too often in our culture, we perceive devices as ready for recycling before they are technically obsolete. As the latest model of smartphone is released, for example, Americans tend to automatically upgrade their device, disposing of the previous one, which may still function perfectly well. We also tend to replace items rather than repair minor damage. During a guest lecture for a UI course in 2014, Craig Boswell of HOBI International, an IT asset management firm, noted that one of the most frequent problems that company observes with smartphones sent to it for recycling are cracked screens—not defects in primary function. Screens are easily replaced, but consumers often perceive such repairs as expensive, complicated, or otherwise not worth their time when they might just as easily upgrade to a newer model.

The Illini Gadget Garage (hereafter called “the Garage” or “Gadget Garage”) project was established in 2015 with funding from SSC to address the e-waste issue, encourage discussion of impacts of electronics throughout their product life cycles, educate about local recycling options, and foster a shift in our campus community mindset from a “throwaway society” to more a “repair and reuse” culture. The original plan was to establish a permanent collaborative repair center where students and staff could bring their personally owned electronic devices for assistance in troubleshooting and guidance in performing minor repairs. This would not only prolong the useful life of electronic devices in the UI community, but also empower individuals to feel capable of repairing and maintaining devices they own. The Garage would also provide UI students with experiential learning opportunities through allowing a space for development of repair guides as part of the iFixit Technical Writing program ([http://edu.ifixit.com/](http://www.istc.illinois.edu/research/)), providing opportunities for courses and RSOs to interact with the project, and providing volunteer opportunities for assistance with repairs. The project faced a setback in its first semester, however, when it became clear that renovations were necessary to bring the space it occupied, IL Natural History Survey Storage Building 3 (SB3), up to compliance with ADA standards that would allow it to be fully open to the public. The project team moved forward working with “test pilots” at SB3—individuals who did not have accessibility issues and who were willing to work with student volunteers so they might gain experience with the collaborative repair process. SB3 continued to be used as a base of operations where tools and other equipment could be stored, and as a meeting space for related classes, volunteers and project staff. In the spring 2016 semester, in addition to limited “test pilot” meetings at SB3, “pop-up” repair clinics are being scheduled in a variety of spaces around campus which are already ADA compliant, so that all students and staff can still benefit from the services of the project without a fully accessible central location. Meanwhile, external donations are being sought and a business plan is under development which will include a membership structure to help cover operational expenses for the project in the future (e.g. consumables such as office supplies, computer maintenance, tools, etc., as well as utilities and custodial service for SB3). Though not yet solidified, a membership structure might allow students to use Gadget Garage services for free, but have a small fee for UI staff and faculty, and a slightly larger fee for any members of the broader Champaign-Urbana community that wish to use its services. There could also potentially be fees for off-campus community groups to have Gadget Garage student volunteers and staff conduct a “pop-up” repair clinic at off-campus venues, providing further experiential and service-learning opportunities for UI students. Interest in off-campus clinics has been expressed by multiple organizations, including Parkland College and the Champaign Public Library. Those possibilities are currently being discussed and explored by project team members.

We are aware of the fact that SB3 is outside the core of campus, and that there is concern that this may make it difficult for large numbers of students to travel to the permanent location. Using the CU-MTD trip planner (<https://www.cumtd.com/maps-and-schedules/trip-planner/>), we were able to find three different options for using buses to travel from the Illini Union (chosen to represent the core of campus) to SB# (1833 S. Oak St.). Two potential options took less than 20 minutes; one took 24 minutes. This shows that while the location may not be the most convenient for those without their own vehicles, students with a few consecutive hours of free time would be able to travel to and from the location and have adequate time to troubleshoot and work on a device. Our goal is to make sure at least one pop-up clinic will be held per month during each semester in the 2016-2017 academic year in locations that are closer to the core of campus. Preferably, we’ll strive for 3-4 such clinics per month, depending on space and volunteer availability. Recruitment of volunteers and obtaining information on departments and groups (e.g. RSOs) interested in hosting pop-up clinics will be fostered by the “marketing and outreach” line item in the budget for this proposal (that line item will also be for marketing of workshops). Project team members are already developing Google forms and marketing materials and procedures. Volunteer and clinic hosting opportunities will be promoted at a booth devoted to the Gadget Garage project at the Sonified Sustainability Festival in April 2016.

While continuing the pop-up repair clinics will allow the Gadget Garage team to assist members of the campus community with repair of electronic devices, we believe that also having a physical location, with regular open hours, is important to integrating repair culture into the campus landscape, and breaking down some of the perceived barriers to repair and reuse of electronics. We know from informal comments that have been made as people hear about this project that many individuals are intrigued by the idea, but still have a sense that repairing a device is not something they are capable of, largely because they’ve never tried anything like that. Clinics, and the resulting word of mouth, will help combat that to a degree, but having a set space, designed to be inclusive and welcoming to all people—especially those who do not see themselves as technically inclined, “tinkerers,” or “techies”—will provide an opportunity for people to come in, observe others working on devices, read posted “success stories” from people who were able to fix their device, sit and talk, and partake of regularly scheduled workshops that are geared toward specific, common problems. A location where regular project activities occurs also would help establish the “brand” or “identity” of the Gadget Garage in the campus community, helping to build trust in and acceptance of the idea of working together with someone on repairing your own device. A physical location would also people to come in and use the Garage’s tools with minimal input from “repair guide” volunteers, if they don’t need or want help, and additionally allow UI students interested in participating in the iFixit Technical Writing program to use the camera, back drop, lights, and tools our project has already obtained, in a permanent “repair guide production room,” facilitating completion of repair guides written by students and shared with the global community via iFixit’s web site. This would help increase the reach of our efforts to encourage repair, and also potentially facilitate more classes and/or Registered Student Organizations in creation of these guides as part of the UI-iFixit partnership. Gadget Garage staff and volunteers would be on hand to provide tips and advice on writing a successful repair guide, taking good pictures, etc.

Thus, our team is applying for additional funding from the SSC with the following goals:

* To supplement existing grant funds and donations to complete renovation of SB3 so that it meets ADA compliance standards and can thus be opened to the public in Fall 2016. With renovations able to begin, our team will then be able to work on obtaining funding from corporate sponsors and private donors to implement space design suggestions developed as part of Professor William Bullock’s fall 2015 course focused on the Gadget Garage (see [https://www.dropbox.com/s/zjt2aok7pyx3l6e/IlliniGadgetGarageBook.pdf?dl=0](http://www.epa.gov/sites/production/files/2015-09/documents/2013_advncng_smm_fs.pdf?dl=0).). This will help create a welcoming, inviting, and inclusive community space that is not geared exclusively toward “techies.”
* Hire a graduate student hourly to help staff the physical Illini Gadget Garage (renovated SB3) during open hours, coordinate volunteer recruitment and training, and assist the PI with gathering project metrics and scheduling pop-up repair clinics (around campus) and workshops (at the Gadget Garage).
* Foster greater participation in the iFixit Technical Writing program among UI students, and also encourage UI staff and faculty to write guides on their own if they’re interested, by hosting a free workshop on repair guide writing and allowing use of photo equipment and tools for guide production within the Gadget Garage physical location.
* Host at least three additional workshops during the Fall 2016-Spring 2017 academic year within the Gadget Garage space focused on specific repair issues (e.g. replacing cracked phone screens) to help address common problems in a way designed to result in success and a sense of accomplishment. This will foster empowerment and combat the perception that device repairs are activities only possible or conceivable for certain subsets of the population. For example, at a workshop geared toward replacing screens, participants would sign up ahead of time, indicating the model phone they have and perhaps have some preliminary assessment by Gadget Garage volunteers. Gadget Garage staff would obtain necessary replacement screens prior to the workshop so registered participants could show up, be guided through replacing the screen, and walk out with a repaired device.

Workshops provided would be offered free to students; a cap on registration may be necessary dependent upon interest and if space allows, staff and faculty may participant in the workshops with a small registration fee. This would allow give priority to student participants in workshops supported by these SSC funds. Other workshops with a registration fee for all participants might be held during the fall 2016-spring 2017 academic year, as project team time and other funding sources allow, but the ones supported by this SSC grant would be free for students. Requested funds would thus cover a portion of the upgrade of the SB3 space, the salary of a student hourly staff member, workshop materials and marketing, and a small portion of the PI’s salary to supervise and work with the graduate hourly. Note that the PI will be devoting more time to the Gadget Garage project than will be covered by the funds in this grant, and that additional time may be considered an in-kind contribution by ISTC.

**How will the project improve the sustainability of the Illinois campus and how will the project go above and beyond campus standards?**

The Illini Gadget Garage provides students and staff with a convenient, low-cost (if/when a fee structure is adopted for staff and non-campus members) or free option for extending the useful life of their personal electronic products. While a system is in place to promote reuse and responsible recycling for University-owned devices, no such system exists for student and staff-owned devices. The Gadget Garage helps to fill part of this service gap by assisting and empowering students and staff to maintain and repair their devices, and by raising awareness of options for electronics recycling and donation among campus community members. Awareness of the impacts of electronics devices will be raised through the efforts of the Gadget Garage, fostering more sustainable attitudes and behavior related to electronics among the UIUC community. The project also ties sustainability considerations to experiential learning activities, which will help establish this campus as a place where sustainability isn’t simply one more discipline to which students and staff may align themselves, but an integral part of the campus culture and experience.

Additionally, ISTC is currently working on development of a single-use battery recycling program, to replace the one that UI Facilities and Services currently pays for, which is being discontinued due to budget cuts for F&S. Joy Scrogum, PI for the Gadget Garage project, is part of the ISTC committee discussing battery recycling possibilities. If ISTC is able to create a new battery recycling program, it is anticipated that the Gadget Garage could provide drop-off opportunities for batteries for recycling, both in the permanent location (SB3) and by providing collection buckets at pop-up clinics in various locations around campus. Gadget Garage volunteers could help educate the campus community about the new recycling program, and could also help ISTC staff pick-up full battery recycling buckets from various locations around campus. Thus, the Gadget Garage could be an important part of continuing to provide a battery recycling service on campus and facilitating opportunities for students and staff to drop off batteries for recycling. See the support letter from Bart Bartels, ISTC employee and member of the campus SWATeam on waste, purchasing, and recycling, regarding these contributions to campus sustainability (letter will be attached to email submission of this proposal).

Note that the Illini Gadget Garage cannot serve as a regular electronic device recycling collection point (this does not mean batteries) without registering with the Illinois EPA, paying an annual registration fee, and regularly reporting to the IL EPA (see [http://www.epa.illinois.gov/topics/waste-management/electronics-recycling/collectors-recyclers-refurbishers/index](https://twitter.com/IlliniGadget)). This type of service is beyond the expertise of the project team and scope of the project. When seed funding for the Illini Gadget Garage project was being applied for from SSC in 2015, the PI consulted with the IL EPA staff members Dave Walters and Michelle Bentley, and confirmed that the Illini Gadget Garage would not need to register with the state in this way, as the primary goals of this center are repair and education rather than providing a recycling service for electronic devices. The Gadget Garage might accept a limited number of devices with mild damage for repair by student volunteers to gain experience and to prepare iFixit repair guides; however, that will NOT be widely advertised to prevent large scale “dumping” of electronics at SB3 or at pop-up clinics which the Gadget Garage would then need to deal with. Devices may be donated for part of the “Save a device, save the planet” workshop described in the project timeline for April 2017, and any that cannot be repaired would be taken to a local electronics recycler by Gadget Garage staff. The Gadget Garage may explore partnering with a local electronics recycler to host an electronics recycling event on campus, if a local recycler would be interested in donating its services or if other external funds were obtained to pay for this kind of event (such events, like those hosted by Champaign County, entail a paid contract with the electronics recycler), but the Garage itself will not be responsible for the actual handling and recycling of electronics collected at such an event. The project PI has also checked previously with IL EPA as to whether electronics recycling fundraisers, in which printer cartridges, phones, or other small devices are collected and sent to an organization such as TerraCycle or Funding Factory, would be something that would require registration with the State as a collector. At the time of consultation this was not the case, as such fundraising collections are seen as educational and not part of a business. The project team may check again with IL EPA about such situations and explore electronics recycling fundraising options as a means to provide some convenient form of recycling to students while also raising funds for Gadget Garage operations. As noted previously, the Gadget Garage will promote existing local electronics recycling and donation options through distribution of the Champaign County Electronics Recycling Guide, promotion of organizations that accept electronics as donations, and promotion of any scheduled countywide collection events.

**Where will the project be located? Will special permissions be required to enact the project on this site? If so, please explain and submit any relevant letters of support with the application.**

The permanent location of the Gadget Garage, SB3, is owned by the Illinois Natural History Survey (INHS). A Memorandum of Understanding exists between INHS ad the Illinois Sustainable Technology Center (ISTC) for use of the space for the Illini Gadget Garage project. Any required improvements or renovations are the responsibility of ISTC, with written approval of proposed plans by the director of INHS (i.e. INHS must be informed of proposed changes and sign off on them before they occur). INHS staff are already aware of the need for renovations for ADA compliance, and thus it is not anticipated that there will be any difficulty in obtaining written permission for the renovations to proceed once appropriate funding has been obtained. A copy of the MOU for use of SB3 is attached to the email submission of this proposal.

**Other than the project team, who will have a stake in the project? Please list other individuals, groups, or departments affiliated directly or indirectly by the project. This includes any entity providing funding (immediate, future, ongoing, matching, in-kind, etc.) and any entities that will be benefitting from this project. Please attach letters of commitment or support at the end of the application.**

Groups which might benefit from this project, beyond the project team and the general population of UI students and staff who could be clients include:

* Members of the [UIUC Sustainable Electronics Campus Consortium](http://edu.ifixit.com/), who may benefit from collaborations emerging from meetings associated with the Gadget Garage project, who could be clients or volunteers, and who might host repair clinics with their departments.
* Other “fixer” communities on campus (such as members of the bike shop) who may be interested in a place to work on maintenance and repair of additional products, and who could benefit from participation in the iFixit Technical writing program (which is not restricted to work involving electronic products). The Gadget Garage will set up a space dedicated to photography related to preparation of iFixit guides. This equipment, and advice on how the technical writing program could fit into their activities, could allow these other “fixers” to share their knowledge more broadly, further fostering a culture of repair and maintenance as opposed to disposal and replacement.
* iFixit, which benefits from having UI as a partner in its technical writing project (see [http://edu.ifixit.com/current-universities](https://www.ifixit.com/Device/Samsung_S85)).
* Various registered student organizations with interests in computers, electronics, engineering, design, STEM education, or in sustainability. Some RSOs, such as Engineers Without Borders, could benefit from volunteering at the Gadget Garage and learning about both collaborative repair and about the creation of online repair guides.
* Local businesses involved in electronic repair and recycling, which could benefit from Gadget Garage referrals.
* Local non-profits which may benefit from Gadget Garage referrals for donations of devices or components (e.g. the IDEA Store, Goodwill, etc.)
* “Maker” communities on campus (e.g. the FabLab) whose members are interested in product creation and prototyping. These individuals would also presumably be interested in repair and maintenance of their creations, and could benefit from the tools and resources which would be available at the Gadget Garage. These individuals might also learn lessons on designing for disassembly and repair to apply in their own creative projects through participation in collaborative repair and troubleshooting of existing devices at the Gadget Garage.

**Please indicate how this project will involve or impact students. What role will students play in the project?**

Students (undergraduate and graduate) will continue to be involved as volunteers at the Gadget Garage, performing troubleshooting, assessment, and collaborative repair of devices along with Gadget Garage clientele. Courses, special student projects, and Registered Student Organization activities may also be held in conjunction with the Garage, as has been the case in the fall 2015-spring 2016 academic year. As outlined above a student hourly will be hired to staff the physical location and assist with volunteer recruitment and training, scheduling of clinics and workshops, and gathering metrics to assess the impact of Garage activities (e.g. weights of devices repaired, number of devices repaired, number of clients served, etc.). Students will also have the opportunity to produce repair and replacement guides for iFixit.com, the self-described “repair manual for everything,” dedicated to empowering consumers to extend the useful life of products they own, as part of the UI participation in the iFixit Technical Writing program. Student guides might be produced as part of coursework, RSOs, or based on independent interest. Students will also be involved as clientele for the Gadget Garage, benefiting from the repair of their items and/or the provision of information and assistance regarding recycling and reuse options.

# Financial Information

*In addition to the below questions, please submit the supplemental budget spreadsheet available on the Student Sustainability Committee website. Submission of both documents by the submission deadline is required for consideration of your project.*

**Have you applied for funding from SSC before? If so, for what project?**

William Bullock was the project lead and Joy Scrogum was on the project team on a proposal submitted to SSC in 2011. That proposed project was similar to the Illini Gadget Garage concept, but focused on students repairing Prairie Research Institute (then the Institute of Natural Resource Sustainability) owned computers that would otherwise be sent to University Surplus. That proposal, called "Repurposing Campus E-waste," was not funded. Joy Scrogum is currently on the project team for an SSC funded project called "UIUC Baseline Waste Characterization and Zero Waste Pilot Program." The entire project team received funding from SSC in 2015 to launch the Illini Gadget Garage project.

**If this project is implemented, will there be any ongoing funding required? What is the strategy for supporting the project in order to cover replacement, operation, or renewal costs?   
  
Please note that SSC provides funding on a case by case basis annually and should not be considered as an ongoing source of funding.**

Ongoing funds will be required for consumables such as printer paper and office supplies, to pay for the ISTC portion of utilities for SB3, and for wages for any additional student hourlies hired to assist with specific tasks. Funds for such expenses will be sought via sponsorships, and fees from memberships and off-campus events. The project team continues to appeal to corporate sponsors and individuals for donations to support the Gadget Garage. See <http://www.sustainelectronics.illinois.edu/research/gadgetgarage.cfm> for a list of previous sponsors and sponsorship levels. See also [http://www.sustainelectronics.illinois.edu/SEIdonation.html](http://www.epa.illinois.gov/topics/waste-management/electronics-recycling/collectors-recyclers-refurbishers/index) for a donation form set up with the UI Foundation for the SEI Various Donors account. The Illini Gadget Garage is the only current educational project which is drawing on funds in that account. We are also currently in the process of developing a service account for the Gadget Garage. The service account would receive funds from a fee structure for annual membership (similar to the campus bike shop, where staff and members of the broader community would pay different levels to be able to come into the permanent Garage location and use tools and guidance), as well as fees for off-campus pop-up repair clinics hosted by non-campus organizations. Note also that the PI will be devoting more time to the Gadget Garage project than will be covered by the funds in this grant, and that additional time may be considered an in-kind contribution by ISTC. As noted previously, project team members will also explore “recycling fundraisers” to support Gadget Garage operations, through programs such as Funding Factory ([http://www.fundingfactory.com/](http://edu.ifixit.com/current-universities)), TerraCycle (<https://www.terracycle.com/en-US/brigades/e-waste-brigade>), or similar programs.

**Please include any other sources of funding that have been obtained or applied for. Please attach any relevant letters of support as needed in a separate document.**

Other funding programs which the Gadget Garage might have planned to apply for, such as the ISTC Sponsored Research Program grant ([http://www.istc.illinois.edu/research/](http://www.sustainelectronics.illinois.edu/SEIdonation.html)) or the UI Public Engagement Grant program (to establish partnerships with non-campus groups; [http://engagement.illinois.edu/grants-awards/program.html](http://www.electronicstakeback.com/wp-content/uploads/Facts_and_Figures_on_EWaste_and_Recycling1.pdf)) have been put on hold due to the current state budget crisis. Thus, efforts for other sources of funding are currently focused primarily on donations and sponsorships, as well as establishing a service account so that fees for off-campus clinics and future workshops might be charged and collected. Previous sponsorships, obtained in 2015, are listed at [http://www.sustainelectronics.illinois.edu/research/gadgetgarage.cfm](http://www.sustainelectronics.illinois.edu/services/campusconsortium.cfm).

The project team is also exploring external foundations which may provide funding for environmental and sustainability efforts. The Prairie Research Institute, of which ISTC is a division, recently formed a Foundation Funding Assistance Committee, to provide feedback on foundation proposals for Institute staff members, which may provide guidance in the ongoing efforts to find external funding for the Gadget Garage project.

# Environmental, Economic, and Awareness Impacts

*In addition to the below questions, please indicate specific measurable impacts as applicable on the supplemental budget spreadsheet.*

**Which aspects of sustainability does your project address, and how? Does the project fit within any of the iCAP goals? If so, how does the project go beyond the university status quo standards and policies.**

The 2015 iCAP includes waste reduction goals and expresses objectives to "Reduce nondurable (use once and throw away) purchases; Reuse materials; and Raise recycling rates across campus with awareness created by waste characterization studies, events, and information campaigns." (see [http://sustainability.illinois.edu/wp-content/uploads/2015/10/iCAPNutshell\_smallpreset.pdf](https://www.facebook.com/IlliniGadgetGarage/)). The Gadget Garage will support all of these objectives by fostering repair of electronics rather than replacement and disposal, thus promoting product life extension. The project will raise awareness of the state electronics landfill ban, responsible recycling and donation options, and the need to extend the useful life of electronics to offset negative impacts associated with their production (e.g. mining, embedded energy, factory working conditions, etc.). The project fosters the incorporation of sustainability into the mindsets of students and staff beyond those in environmentally related disciplines by tying sustainability to something that everyone experiences—the need to repair or maintain the electronic devices ubiquitous in our lives. The project certainly supports iCAP education goals related to sustainability learning outcomes and development of experiential learning sites. This project goes beyond the status quo by extending such experiences to staff as well as students, and extending the reach of experiential learning activities beyond the campus though participation in iFixit’s online repair guide community. The project supports the idea of seeking donations for campus sustainability efforts, through matching and in-kind contributions previously obtained from HOBI and iFixit, and through continued efforts to obtain sponsorships. The project also addresses economic aspects of sustainability to some degree by assisting students and staff in saving money by extending the useful life of products they already own, reducing the need for the purchase of replacement devices. This illustrates that sustainable behavior can be economically beneficial as well as environmentally beneficial.

**How will the environmental impacts of your project be measured in the near and long term? What specific monitoring and evaluation processes will you be using to track outcomes and progress?**

Impacts will be measured through tracking the number of people served and devices serviced both at pop-up clinics and the permanent location, as well as the number of devices successfully repaired. Number of referrals to local repair and recycling businesses and donation opportunities will also be tracked, as well as the number or weight of devices and components recycled by the Garage itself as the result of regular operations and any recycling-related fundraising activities. These statistics can be used in conjunction with Electronics Environmental Benefits Calculator (EEBC; <https://www.epa.gov/fec/publications-and-resources#calculator>) to estimate associated benefits such as the reduction in GHG emissions, energy use, toxic materials, solid waste and hazardous waste. The number of iFixit guides written and published online as the result of Garage activities will also be tracked; usage stats for those guides could serve as a gauge for educational impacts beyond the UIUC campus (for example, see the “view statistics” listed at the bottom of the Samsung S85 guide written by UIUC students in ENG 498 during spring 2014, [https://www.ifixit.com/Device/Samsung\_S85](http://www.sustainelectronics.illinois.edu)). Online feedback forms will be made available, as well as the Gadget Garage Gmail address ([illinigadgetgarage@gmail.com](http://www.sustainelectronics.illinois.edu/research/gadgetgarage.cfm)) for Garage clients and the campus community to report satisfaction with services and changes in attitude or awareness resulting from the use of the Garage and interaction with staff/volunteers. The UI Sustainable Electronics Campus Consortium will be used as an advisory committee of sorts to provide feedback on project development and efficacy; the consortium will have at least one meeting per semester devoted to the Gadget Garage project to obtain feedback and suggestions.

**What is the plan for publicizing the project on campus? In addition to SSC, where will information about this project be reported?**

The project will be promoted via its own social networks ([https://twitter.com/IlliniGadget](http://sustainability.illinois.edu/wp-content/uploads/2015/10/iCAPNutshell_smallpreset.pdf) and [https://www.facebook.com/IlliniGadgetGarage/](mailto:kenfield@illinois.edu)), as well as blogs and social networks (Twitter and Facebook accounts) associated with ISTC and the Sustainable Electronics Initiative (SEI; [www.sustainelectronics.illinois.edu](http://engagement.illinois.edu/grants-awards/program.html)). A page has been established on the SEI web site devoted to the Gadget Garage project ([http://www.sustainelectronics.illinois.edu/research/gadgetgarage.cfm](http://www.fundingfactory.com/)). Emails about clinics and other project information will be shared with the UI Sustainable Electronics Campus Consortium, coordinated by SEI (see [http://www.sustainelectronics.illinois.edu/services/campusconsortium.cfm](mailto:Sustainability-Committee@Illinois.edu)). Information might also be included in the ISTC annual report made available online (depending on approval by ISTC communications staff). Information will be submitted for the iSEE electronic newsletter and online calendar (for pop-up clinics), as well as on the online calendars for ISTC and SEI. Where appropriate project information will be submitted to the campus Eweek and to the Prairie Research Institute E-monthly newsletter, as well as to the Students for Environmental Concerns e-newsletter. Project team members will reach out via email and direct contact to various RSOs to promote volunteer and clinic hosting opportunities, to the Sustainability and Innovation LLCs, and to instructors of relevant classes. Ads may also be purchased to promote the project in the Daily Illini, Technograph, and other relevant publications. We will also investigate ads on MTD buses and on the various digital billboards/displays in campus buildings. Flyers may be posted in various campus buildings with public bulletin boards, at local coffee shops/restaurants, and in key locations such as the campus bike shop, Fablab, MakerSpace Urbana, etc. Project team members will reach out to the UI News Bureau, News-Gazette, the Campus Communicators listserv, and other news outlets. iFixit has also expressed interest in covering the work and progress of the Gadget Garage on its own blog.

**What are your specific, measurable outreach goals? How will these be measured?**

We hope to raise awareness of electronics legislation; local recycling, repair and donation options; and techniques to maintain and extend the useful life of devices. We also hope to decrease misconceptions regarding the disposability of devices and prohibitive complexity of electronics repair and maintenance, and raise awareness for the need for product life extension by raising awareness of environmental and social impacts of electronics throughout their product lifecycles. These outcomes may be measured through online and onsite feedback forms, feedback from local repair shops to which we're reaching out that may indicate clients have been referred to them by the Gadget Garage, and through stakeholder interactions conducted by GSLIS project team members (begun as part of the SSC grant obtained in 2015). We hope to increase participation among the UI community in the iFixit technical writing project; the number of UI student-written iFixit guides over time/per semester can easily be monitored. Also, usage statistics for iFixit guides produced by UIUC students can provide a gauge for the educational impacts beyond the campus community. Awareness of volunteer opportunities and pop-up repair clinics can be measured by the number of volunteers serving per semester; the number of repair clinics and attendees at each clinic; and social networking statistics such as Twitter followers, Facebook likes, and interactions on those social networks (e.g. comments, shares, etc.).

**Do you have any additional comments or relevant information to aid in evaluation of this application?**

Please provide any additional information here.