

PLP Innovation and Technology Opportunity Grant Program Application

Library Name: Burlingame Public Library

Project Title: Sustainable Future: Integrating AI, 3D Printing, and VR into Learning Experiences

Select category you are applying under:

- Category A: Innovation and Technology Opportunity Grant
- Category B: Grant Replication Program

If Category B is selected, enter the name of the grant you are replicating:

1. Please provide a one paragraph project summary.

Sustainable Future will focus on older adult education through interactive programming in the library's reopening makerspace, The LAB. The combination of guest speakers, open lab demonstrations, and workshops will highlight the important intersections of AI, 3D printing, and VR within all three target areas of the PLP Innovation and Technology Grant: sustainability, emergency preparedness, and climate change. With grant funded technology including 3D printers, AI software, and VR headsets, community members will be able to participate with a hands-on (or VR headset on) approach to library programming that will lead to engaging, immersive learning experiences. At the end of the grant period, community members will have learned how advancing technologies can help lead to a sustainable future.

2. Explain how this project fits with the library's strategic directions.

Sustainable Future runs parallel with both the library's strategic plan and the City of Burlingame's Age Friendly City Plan. The interactive makerspace programs will help achieve Goal C of the plan that aims to provide enriching experiences for all ages. As an example, VR headsets can promote both play and learning through games focused on climate change education. The grant will also help achieve Goal D that celebrates and educates with diversity, equity, and inclusion by making grant funded equipment accessible to the community. And finally, adult-focused programming will run parallel with the City of Burlingame's Age Friendly

City Plan by providing opportunities for older adults to learn and experience new technology with their peers.

3. Please provide a detailed description of the proposed project including the population served and the demographics of that population.

The programming behind Sustainable Future will consist of interactive workshops and open lab hours for older adults. While the library does STEAM programming for younger age groups, the technology listed in the grant is still very new to our older adult demographic. The combination of workshops and open lab hours ensures that we provide as many opportunities as possible for our audience to participate. And while the main plan for programming focuses on a single technology, there is potential for expansion to include programming that combines technologies together. For example, a 3D printing workshop could have participants utilize the VR headsets to model designs in virtual space or use AI tools to help them design their 3D models.

Interactive Workshops – Throughout the grant period, interactive workshops will be held in the library’s makerspace. The programs will be designed so that they can be offered multiple times throughout the grant period. The following programs will be offered a week apart from each other. The 3-week program set will be defined as a rotation.

3D Printing & Sustainability – These 1-hour programs will introduce the technology of 3D printing and its role in sustainability by printing everyday items at home. Attendees will learn how to use the 3D printers in The Lab as well. Each participant will start a print job at the beginning of the program and leave with an item at the end. Example: 3D printing sessions on creating tools and supplies for emergency preparedness.

AI & Sustainability – These 1-hour programs will discuss how AI tools can help community members develop sustainable practices in life and at home. Through hands-on demonstrations and interactive discussions, attendees will gain insights into AI-driven solutions for energy efficiency, waste reduction and recycling, water conservation, and sustainable gardening.

VR & Climate Change/Emergency Preparedness- The Meta Quest VR headsets will provide interactive programs featuring a series of films on climate change hosted and produced by Biosphere VR. The films will be viewed in VR through headsets by participants. Afterward, a discussion will be presented on the experience of seeing climate change in action within the VR lens. Additionally, the headsets will be used for VR programming on emergency preparedness training and participation in mixed reality emergency scenarios.

Open Lab Hours – Each week, The LAB will have dedicated hours set for community drop in to practice and learn about 3D Printing, AI, and VR. The LAB open hours will be time for participants from the above programming to experiment on their own using the various grant-funded technology.

4. What are the goals and objectives of the project?

The goals and objectives behind the grant are as follows:

Goals

- **Promote digital literacy** – Introduce technology through interactive workshops that highlight the technology available in The LAB
- **Increase climate change awareness** – Use VR headsets to provide immersive viewing experiences on climate change through group watching and post discussions
- **Spark innovation and creativity** – Provide community members with the space and technology to flex their creative muscles and create connections with others
- **Build sustainable practices within the community** – Build knowledge within the community on sustainable practices in day-to-day life
- **Reintroduce the library’s makerspace to the community** – Active programs visible to library visitors and workshop marketing generate curiosity and knowledge about the library’s makerspace

Objectives

- **Increase adult programming in the library’s makerspace** – 12 programs held in The LAB to increase visibility and activity in the newly reopened makerspace
- **Open lab hours** – Facilitate 8 hours of open lab per week for drop in experimentation
- **Host four guest speakers who specialize in the respective technologies** – Create community connections with local experts to share their knowledge with their neighbors
- **Evaluate program impact** – We will provide surveys and allow for patrons to provide feedback to measure the impact of our grant project

5. Please include your project timeline (include detail of activities).

- **September 2024** – Purchase 3D printers, VR Headsets, and subscribe to ChatGPT Plus
- **October – November 2024** – Plan 12 Sustainable Future workshops, book guest speakers, schedule weekly open lab hours, develop marketing plan for grant period
- **December 2024** – Marketing and promotion of Sustainable Future
- **January/February 2025** – Sustainable Future begins with first rotation of programming and open lab hours start
- **February/March 2025** – Second rotation of programming
- **April/May 2025** – Third rotation of programming
- **June 2025** – Analysis of survey data and submission of final narrative

6. Please indicate how you will evaluate success of your project.

We will use outcome-based evaluation with two outcomes success measures: 1) community members learned about a new piece of technology in the library and 2) community members learned how to use a new piece of technology in the library. These outcomes will be measured by a combination of open lab attendance and total workshop registrations. Pre-surveys and post-surveys will be handed out at open labs and workshops to ascertain additional qualitative data. Follow up emails thanking patrons for attending will also link to online versions of surveys. The overall project will be deemed successful if the results of these surveys provide significant data that the two outcomes were met.

7. Please detail your project budget. (Note: Indirect costs are not allowed).

Currently, The LAB houses enough space for eight pieces of technology in a workshop or classroom set up. A great example is our 8 sewing machines that allow participants to have a dedicated machine to work with. As such, our project budget aims to bring that same total to the equipment proposed.

Item	Quantity	Cost	Total
Bambu Carbon X1 Combo	3	\$1,449	\$4,347
Filament	25	\$19.99	\$499.95
ShapeLab VR CAD Software	1	\$69.99	\$69.99



Meta Quest 3 Mixed Reality Headsets	8	\$499.99	\$3,999.92
ChatGPT Plus 1 year Subscription	1	\$240	\$240
Guest speaker fee	4	\$200	\$800
Total Requested			\$9,956.86

8. Please indicate how the project will be sustained after the grant term is over.

Since Sustainable Future programming is both repeatable and hosted by library staff, the workshops can be repeated over again even after the grant term. Hosting open lab hours can be extended as a volunteer opportunity that creates inter-generational community programming which is another tenet of the Age Friendly City Plan. Additionally, 3D printing supplies and filament can be supported by the Burlingame Library Foundation. More importantly, the technology infrastructure provided by the grant will provide the library with the tools necessary to ensure programming is still possible as technology advances. There is added potential for an increase in services, especially in The LAB. For example, the library can fold a select number of the VR headsets into our technology lending program. Also, the new tools and technology can become the basis for additional offerings of STEAM programming for the younger demographics of our community. Taken together, the Sustainable Future grant doubles as catalyst for the library's continued efforts in The LAB and community learning through hands on experiences.

Complete Only for Category B Grants:

9. Explain what grant was selected to replicate and why.

10. If there are changes or enhancements to the original grant, including budgetary changes, please detail the changes and your rationale for making them.