THE CITY OF PLEASANTON

LIBRARY COMMISSION AGENDA REPORT

May 2, 2019
Item 4

TITLE: REVIEW AND DISCUSS NEW *ROBOT'S ON THE LOOSE! ROBOTICS AND CODING FOR KIDS* PROGRAMMING

SUMMARY

In December 2019, staff were awarded a $10,000 Library Services and Technology Act (LSTA) grant from the California State Library to develop and implement new robotics and coding programs for children in elementary and middle school grades. The Friends of the Pleasanton Public Library agreed to fund the additional expenses necessary for this project.

FINANCIAL STATEMENT

LSTA CopyCat Grant funding totals $10,000 for materials and supplies, including: 12 *Dash* robots, 12 *Dot* robots, 12 iPads, and various related supplies.

Contributions from the Friends of the Pleasanton Library are projected to total $3,688 for a charging cart, marketing materials, and related accessories.

BACKGROUND
In 2017, Pleasanton Public Library adopted a strategic plan with a mission to have the Pleasanton community "Start Your Journey Here: Discover, Connect, Share" with a vision to "Inspire Curiosity, Creativity and Community."

Goal A from the strategic plan presents an objective to "Strengthen the Library's programs and services to reflect the expectations and desires of the Pleasanton community. "

Three of the six strategies established to meet Goal A are:

1. Enhance programming that will encourage exploration and intellectual curiosity

2. Expand and enhance literacy services and programming to improve literacy outcomes in the community

3. Increase assistance and instruction for customers in the use of digital devices, tools, resources and general digital literacy skills.

To incorporate these strategies into services, library staff began searching for ways in which other libraries incorporate technology and technology literacy into children's programming. Staff visited Livermore Library's *Create Lab*, studied Gilroy Library's *STEAM-Powered Robots* programs, and tested various programming robots at last year's California Library Association Conference in Santa Clara. This research led to strong interest in acquiring *Wonder Workshop*'s *Dash* and *Dot* robots.

Independent reviewers of the *Dash* and *Dot* robots have explained that these robots are not only exciting for those who had little to no knowledge of coding, but that even intermediate coders were inspired by them, gaining more confidence and creativity with the robots as their coding skills improved.

In search of funds to acquire the *Dash* and *Dot* robots, library staff discovered CopyCat Grants, part of the California State Library's Library Services and Technology Act. CopyCat grants allow California public libraries to apply for funding to "copy" a successful, replicable project that can be implemented in nine months (January-September 2019).

In December 2019, staff applied for a CopyCat Grant and were awarded $10,000 to develop and implement robotics and coding programs for children inspired by Gilroy Library's *STEAM-powered Robots* program.

DISCUSSION

Robots on the Loose! Robotics and Coding for Kids features Wonder Workshop's *Dash* and *Dot* robots. *Dash* and *Dot* are remote-controlled via tablet devices, but they are also programmable, using an app called *Blockly* that introduces children to coding. The *Blockly* app is a visual drag-and-drop programming tool developed by Google that allows children to snap together programming commands like puzzle pieces, giving children in elementary and middle grades a range of exploratory options and fun challenges. LEGO-compatible attachments will also allow hands-on engineering and myriad free-play possibilities.

The first pilot program for *Robots on the Loose!* took place March 30, 2019, with 23 children, from grades 1st to 5th, and 13 parents in attendance. Staff, as well as 8 teen volunteers, introduced the *Dash* and *Dot* robots. Participants were able to control the robots via their iPad controllers and learned firsthand what exactly these robots are capable of doing. Groups were also able to work on fun challenges administered by the teen volunteers.

Robots on the Loose! has already enhanced and supplemented the library's new STREAMing (Science, Technology, Reading, Engineering, Art, and Math) programming, giving the primary audience improved access to and experience in robotics and computer programming. As the program becomes its own series, staff project 80% of participants will report an increased interest in robotics following the program and 50% of participants will report an increased awareness of basic coding/computer programming. Teen volunteers will continue to provide guidance to younger children. Staff project 80% of teen volunteers will report their volunteer work to be meaningful and having made a real-world difference in the lives of others.

Thus far, surveys results indicate:

- 100% of respondents agreed they learned something by participating
- 100% of respondents agreed they felt more confident about what they learned
- 75% of respondents agreed they intend to apply what they just learned
- 93.75% of respondents agreed they were now more aware of resources and services provided by the library
- 62.5% of respondents agreed they are more likely to use other resources and services provided by the library
- 31.25% of respondents were attending their first ever program at the library

Plans are underway to expand this type of programming during the summer months, including taking the robots to the Pleasanton Unified School District's Summer Day Camp. The Pleasanton Public Library Strategic Plan identifies an objective to "collaborate with other city departments, local agencies, businesses, and organizations to extend the reach of the library to meet community needs and interests." The majority of students in the Pleasanton Unified School District's Summer Day Camp receive

need-based assistance and many do not have access to robotics or coding at home. Reaching these children in their summer schools and camps with *Robots on the Loose!* will help to bridge the technology gap.

Via prototype testing with the after-school middle grade students, staff discovered that *Dash* and *Dot* robot interest levels were very high, giving staff confidence in developing future programs for middle schoolers. Via interviews with parents and children during the pilot programs, staff have confirmed there is substantial interest in more advanced robotics classes, specifically coding classes using *Wonder Workshop*'s *Blockly* app.

ALTERNATIVE ACTION
Any action recommended by the commission.

Submitted by:

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