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Q1 LEA School/District Name

Westside Consolidated High School

Q2 LEA Contact Name

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Q3 LEA Contact Title

Teacher

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Teacher

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870-935-7501

Q7 Grant Level Proposal

**Medium - \$7,500 to
\$20,000**

2018 Innovation in Computer Science: School Grant Program Proposal Submission Form

Q8 PROPOSAL DESCRIPTION (MAX 3000 Characters) - provide a narrative regarding the need for the proposed program/project, specific goals to be achieved, and how if funded the program is likely to achieve those goals.

Westside High School is comprised of 665 students in 8th - 12th grade. We serve a rural community in Craighead County, which includes the towns of Bono, Cash, and Egypt. Last year we were able to accommodate 20 students in a Computer Science class taught out of a math classroom. This year we have been provided in our own classroom, to allow for improving the Computer Science program. Currently, we have 48 students in Computer Science with the majority seeking a full credit. With the increase in student participation and new space. We would like to have updated technology to improve this class and continue to see it grow. Our outdated equipment includes 15-year-old calculators and outdated computer components. The new equipment would help improve the use of our Raspberry Pi Canna Kits and the PI tops will allow for easier storage of the PIs. This is my first year teaching Computer Science so Professional Development is extremely needed to help this program grow and meet its full potential. Goals for this program are: More course offerings. To be an integral part of cross-curricular projects. To have a program of study with completers. Partnerships with area businesses and institutions. Improve the quality of teaching through Professional Development. With this grant, we would achieve our goals by upgrading technology that would allow us to draw more students into the program. For the program of study application we did an interest survey and in the sample of students from grades 8-11th and there was 34% of students that want to take computer science classes. With the growth of the program, we could open more sections on all four levels. Currently, we only have Computer Science with Emphasis in Programming Level 1 and 2. We plan to offer Level 3 and 4 next year as well as Computer Science Internship 1 and 2 and Independent Study if needed. We have submitted an application for a program of study thru CTE in the Information Technology Cluster in Programming. We are also looking at the possibility of offering an AP course as well. This grant will give access to the top of the line, interactive, multi-use equipment that is engaging and helpful in learning standards for multiple grade level and subjects. This will allow our department to be the glue that brings cross curriculum projects together. Area businesses are already wanting to get on board and see what we can accomplish together. Some talks are already being made with Hytrol, Sign-Mart, TechFriends, Blue-sky Technologies, ASU with more to follow. With the ability to have high skilled students businesses will want to be apart of what we are doing. With the equipment and using the software we already have we will be an asset to our whole community. Our students need to have the best chance for success in a computer science field, it will make our school better, and will help our community. The only way we can fully accomplish our goals is thru the opportunity of this grant.

Q9 PROPOSAL TIMELINE (MAX 1500 Characters) - list major activities of your proposal with approximate target dates

First month (January)- acquire materials (except Oculus Quest released in spring), news release to local media outlets of grant awarding and plans, social media posts on district and CS pages. Second month (February)- assemble and prepare materials, learn and teach CS classes with Sphero, move Raspberry PIs to PI-tops, try developed videos/games made on other oculus models, Field Trips, guest speakers Third month (March)- CS classes learn Spheros, teach librarians and instruction facilitators how to operate the Oculus models, Fourth month(April)- CS classes learn 10 minutes of code activities to learn how to code with the TI Rover and Hub so that they can teach the code lessons in Math and Science classes. Fifth month(May)-Clean, store, and maintenance on all items. Summer- Training with TI on our compass for all math, science, and CS, online PD, conferences CSTA, ISTE, PI academy, cross-curricular lesson/project building August 2019-December 2019- start implementing cross-curricular projects in core classes, start a student organization, start after school coding activities, competition night at parent-teacher conferences, meetings with businesses and community members (mayors, etc), social media posts thru District and CS pages. January 2020- showcase activities at a halftime of a basketball game Spring 2020- Meet with local news outlets of how the implementations of the program are going and long-term goals. School board meeting. First completers graduate.

Q10 PROPOSAL EXPECTED RESULTS (MAX 1500 Characters) - Describe the student outcomes, or changes, that will result if this proposal is funded.

With the program being funded we will be able to offer more courses for students to take, have a program of study, internships, and graduate completers. The number of students interested will increase, higher understanding of math and science components, students will find ways to use Computer Science in every class. Students will help with building opportunities for other students, grades, schools, businesses, community members need and can easily use. This will be a place that students, businesses, community members want to be a part of. Students are able to be employable out of high school or continuing their education in a similar field. Students on every campus will be exposed to at least something we are doing. Classes at Westside will be enriched by projects and availabilities now presented with the new technologies. There will be many opportunities for cross-curricular projects. Area businesses will want to hire our students for their experience and skills they have.

Q11 PROPOSAL EXPECTED IMPACT (MAX 1500 Characters) - Describe the estimated number of students, teachers, and/or community members that will be impacted and how they will be impacted if this proposal is funded.

If the proposed project is funded then all high school students (grades 8-12) will be impacted which is 665 students. TI innovator activities will be used in math and science classes. The spheros will be used in a variety of classes to make interactive timelines, expressing different events, tone, the mood in literature to name a few. The Oculus items will be used in every library for classes to use or check out so that every class has the opportunity to experience and learn in virtual reality. The curriculum pythonroom will be used with Level 1 and 2 to supplement to build a strong foundation in coding and problem-solving. The pi-tops will allow better ease of use with the raspberry pis and allow to work on projects or coding in other places besides our lab space. The project will also impact aftercare students from the elementary and middle school which averages 70 students this year. The students will also reach out to elementary GT students, makey spaces at the middle school which includes all 416 students during library time. The total impact would be at least 1000 students, at least 25 teachers, and minimal 5 businesses and many community members thru work-based learning and service learning projects. As the program continues the impact will only grow to the whole 1817 students, every teacher, to other districts and other communities thru the cross-curricular, pi projects, VR experience that others will want and need.

Q12 INNOVATIVE ASPECT (MAX 1500 Characters) - Describe why this proposal is creative and should receive funding as an out of the box way to support student growth/achievement.

The innovative part is that we don't want to be selfish with the tools or learning capabilities. We want to share these awesome possibilities and help any student in any grade level. We want to show how Computer Science can be used in many different fields and is for everyone. We also want to show that it can make projects easier than doing by hand and doesn't have to be overwhelming either. The program wants to be the rudder for all cross-curricular projects that impact student learning and our community for good while learning standards. We will focus on reaching females, special education students and low economic status students. By using a variety of curriculum, software, projects, and equipment we hope to entice more of these demographics. Special education students are often left out of the equation on many electives especially involving high-level math and science skills. We want to find ways that they can succeed (sphero, VR, game development, the online curriculum at their own pace). Low economic students who wouldn't have the financial abilities to access many of these tools outside of school will now have the opportunity to learn and build with these tools. In the latest posted data from 15-16, the district had 57% on free and reduced meals. The out of the box tools are the Texas Instrument Innovator system and to use the Oculus to help plus the software Unity to learn to program to make this an interesting, see the immediate results avenue.

Q13 TRANSFORMATIVE POTENTIAL (MAX 1500 Characters) - Describe how this proposal if funded and implemented beyond your program has the ability to raise student achievement across the state.

Many see computer science as a cool idea but for other people, with this program, the students will be able to display that is isn't so scary or hard. With the success of our program in using programming and coding with these tools, it will showcase how they could and should be used in every subject, every classroom in the state, in the US. When others see what we are doing and the success it brings to our whole school others will want a program like ours. With the abilities that this program will have and the imaginations of the students, the amount of programming and developing for good will be incredible. This program will not just be a class that one takes and are done with but it becomes a part of who they now are. They are now a person who can problem solve, find ways to use data, and make common practices faster and more efficient.

Q14 FOLLOW UP and/or MARKETING/OUTREACH (MAX 1500 Characters) - Describe how your organization will follow up on this program after completed and/or how it will be marketed to and awareness raised within the community if the proposal is funded.

If funded the school will showcase the awarding and activities on social media, and area media outlets. The equipment will be showcased on social media and in venues of the community, such as parent-teacher conference, school board meetings, halftime of sporting events, etc. The organization will also pair up with area business leaders and key leaders of the community of how this knowledge can benefit our rural area and let them tour our facility. The program will start a student organization, be in competitions, outreach to elementary with after-school programs. The department will organize with the EAST program to develop a video to be used in marketing, recruitment of students, and outreach. This program will there to learn and practice by doing good for our school and community.

Q15 Budget Proposal

Budget Proposal - Google Docs.pdf(51.1KB)

Budget Proposal

Item	Price	Quantity	Total Price
Texas Instrument			
TI Calculators Classroom Pack of 10			
TI hub		5	
TI Rovers		5	
Quote from dealer			2315.33
TI 1 day training at Westside for many teachers			1990.00
Power pack \$10*5=\$50 storage bags \$25*5=125			175
Sphero Bolt Pack with Case and Chargers		1	2499.99
Pocketlab Bundle voyagers, curriculum kits, accessories, case, chargers,etc			1000.00
Pythonroom online curriculum 300 per year for 35 students, \$1 more each month per student			300-540
PI-Top	264.95	10	2649.50
Storage on wheels with lock for pi-top			200
Oculus			
Oculus GO	199.00	8	1592
Oculus Quest	399.00	4	1596
Oculus Experiences			250
Unity Assets			250
Cases for Oculus	17/35	13	136/175
Vuze 3D 360 4K VR Camera	800	1	800
Rechargeable batteries and charger	16/24	3	48/72
PD conferences and academies some not released CSTA, ISTE, PI academy, Coop offered			2500

Taxes and Shipping			2,000??
If taxes and shipping go over Pockelab will be cut/then spheros may not get a 30 pack			
Total			18,788.82 Without taxes or shipping