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Q1 LEA School/District Name

Monticello High School/ Monticello School District

Q2 LEA Contact Name

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Q7 Grant Level Proposal   **Medium - $7,500 to $20,000**

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.

Monticello High School (MHS) is located in an area with limited financial resources and a limited amount of industry for students to see the real need for a computer science (CS) background. We recognize we are preparing our students for possible job opportunities in Monticello and around the state, nation, and world. It is important for students of MHS to be prepared for the workforce wherever they live after graduation. The projected job market careers in the field of CS are growing exponentially. The students of MHS deserve the opportunities and job prospects they might not have without the necessary skills they could learn in high school from CS classes. MHS is currently offering CS I - IV however our CS program is in its early years of development. Our need at MHS is to create a program with more advanced opportunities, project based learning, and real world experiences to fully engage our students in the CS standards. MHS would like to grow with current job trends and industry demands. One goal of our proposal is to expand the knowledge of the staff on the possibilities of a quality CS program and CS instruction. MHS needs to have a vision of how we could develop a quality program which will prepare our students for the workforce. Another goal of our proposal is to expose our student body to the field of CS and to increase our enrollment in CS courses. Additionally, we would like to provide a project based learning environment, as well as, spotlight local industry. This would help prepare our students to be job-ready after high school graduation. The inclusion of more CS courses at MHS will enable our students to be introduced to the different industry standards and how to actually perform different jobs. The exposure to these skills will enable the students to see how programming and coding skills could enhance their future.   With this funding, the grant would allow our CS teacher and administration to attend CS training programs to help with the mission and overall instruction of the CS standards. These teacher trainings will allow the program to better meet the needs of the current job market and industry demands. Professional development will allow the teacher an opportunity to network with other schools. Through this networking MHS will be able to create a vision for what we want our CS program to look like and what we want to accomplish. The grant funds will be utilized to set up areas within the classroom to work on project based activities. These hands-on activities will provide enrichment to the CS curriculum. The grant funds will be used to purchase supplies necessary to build a program with a real world setting, rather than just sitting at a desktop computer. The funds would also provide materials to be used with other students to generate interest in taking CS classes. These supplies will enable the students to learn from the industry trends how coding and CS are used within our own community's industry.

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

If awarded the grant, we will begin purchasing the budgeted equipment, supplies, apps and software in January 2019. This grant would allow our classes to integrate projects into the curriculum to enhance the CS courses. The new equipment and materials would be used to set up project based learning centers within the CS classes. Beginning in the spring of 2019, current CS students would promote CS through coding activities in the student center during the students' lunch break. This free time to interact with the CS equipment would allow students to develop an interest in the CS classes and assist MHS in growing the enrollment in the CS program. The CS teacher and an administrator will attend conferences before August to help develop a vision for a quality program to offer our students. The attendees of the trainings would return to the school and educate the staff through professional development about the vision of the CS program and how CS impacts our students and their future. The in-house training would occur during August 2019. In addition to educating the staff, planning and implementing new ideas gained from training would begin and continue throughout the school year. During the fall of 2019, coding activities would continue in the student center and competitions between our students would be added. During the 2019-2020 school year, MHS will begin a local CS club and attend competitions around the state.

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

This CS Grant award would enable our school to generate more interest in CS by allowing more students access and exposure to the different possibilities of coding. Coding can teach skills that apply across the curriculum, beyond CS. The exposure to coding helps students to be producers not just consumers of digital media. CS is a hands on way of learning that many students find intriguing. When students are intrigued they are more likely to research and become more knowledgeable of the different CS jobs. This expansion of understanding of coding languages greatly will enhance our students' problem solving skills which will be reflected across all curriculum areas. Coding is not just about going to a computing class. These project based activities are great for all subjects including design technology, physics, art, and music, just to name a few. Coding is a part of the world for all of us-from gaming to working our mobile phones, our computers, even our washing machines. Coding enables students to understand they are providing instructions in a form which computers can understand. Through CS courses students work in teams to solve problems or to change or improve people's experience in an area of our everyday lives. Students will experience what engineers do as they work together to develop new products.

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.

MHS has 45 classroom teachers. The in-house training will help all teachers see the importance of CS and find innovative ways to make connections in their own subjects. Teachers at all levels can find curriculum and helpful resources to challenge and inspire students to code. The campus has an enrollment of approximately 536 students. We hope that every students' educational experience will be touched by the knowledge and/or integration of the CS standards in various areas of education. We currently offer CS I-IV. Our hopes are to increase the number of students enrolled in the existing CS courses and to create the need to offer additional CS courses due to the increase of student interest. With the addition of the coding activities and competitions, we hope to involve a minimum of 250 students. The community will be impacted by the increased participation in our CS courses. With trips to local industry to view how CS is an integral part of the daily operations in these companies, students are provided a vision of local job opportunities where they may invest in their community. We hope to have students who are participating in the CS classes make presentations to the Monticello Economic Development Commission (MEDC). This would educate our community leaders on the skills being developed in our students and enable our community leaders to express to industry how our local schools are promoting these needed skills for their businesses.

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.

Coding is an invaluable literacy applicable to virtually any future career or field of study. These skills will help students build their essential 21st century literacy by learning how code works and how to write code themselves. The grant award will not only be used within the classrooms but will be utilized to promote coding activities and competitions among our student body during their lunch break in the student center. These students may not be enrolled in the CS classes but this exposure during this student time will allow them to grow in their CS knowledge and express themselves. Our hopes are during this student lead time that students will collaborate with one another, grow their CS skills, and enroll in the classes that the school offers. The student lead activities will use materials and supplies, software, laptops, and tablets to help nontraditional students have a better understanding of coding and what the CS classes have to offer.

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.

If awarded the Innovation in CS Grant, our school which is in an underserved part of the state will be able to enhance our CS class offering. We will set up a CS lab adjacent to the classroom. This area will give the student the opportunity to participate hands-on project based lessons. We want our students to continue to grow in the CS field and become producers not just consumers of the digital media. The funds will help to increase our CS teacher's capacity not only within our school but in our area of the state. Introducing students to programming, coding, and a broad understanding of computing requires skilled instructors. By offering more CS courses, more students will be exposed to the industry and learn how relevant it is in the real world. Through this exposure of better equipped teachers and offering more student opportunities to CS, our school should see a rise in student achievement which would be reflected in the state's overall knowledge base of CS skills. CS includes problem solving, creativity, and abstract thinking. CS is highly creative, interactive, and has huge possibilities for changing not only the student achievement across the state but the world.

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.

The school will evaluate for the effectiveness of the CS courses by comparing the present enrollment with the number of students who are taking the courses after the grant has enabled the program to enhance the CS learning labs. The administration and the teachers will determine the effective portions of the program and continue to build on its strengths and weaknesses. Many different fields have been transformed by the world of CS. The local industry will be informed by the school concerning the results and opportunities that our students are receiving from the CS education at Monticello High School. Such as medicine, sports, apparel design, robotics, music, games, and literature just to name a few. The CS educators will continue to reach out to the community and assess the demands of not only the local industry but also statewide industry. This outreach will assist the community in increasing their understanding of what skills our students are accomplishing in the CS courses. Community members will continue to be asked to serve on the CS advisory committee to assist with the CS initiative within the school. Industry will be able to use the talent that we are producing at Monticello High School from our CS courses to grow their businesses not only locally but around the state of Arkansas.

Q15 Budget Proposal

2018 Innovation Computer Science Grant Budget.pdf (119.8KB)

2018 Innovation with Computer Science Grant Budget

Professional Development (local,state,national trainings)	$6,000.00
3-D printer	$1,300.00
Classroom sets of 30 Raspberry pi ($89.95each)	$2,698.50
Classroom sets of 30 Microbits ($49.95each)	$1,498.50
8 Lenovo ThinkPad E480 ($701.64 each)	$5,613.14
Materials & Supplies for project based learning Software licenses & App purchases	$2,889.86
TOTAL BUDGET	**$20,000.00**