

# USD's Programming Challenge Draws A Crowd

By Sarah Wetzel  
For the Plain Talk

Vermillion youth once again proved they have what it takes to wow their elders last week, as 36 teams from 21 area communities met to compete in a robotics programming competition on the University of South Dakota (USD) campus.

When the competition was completed, the team from Vermillion High School ended up 13th with Yankton High School 14th.

The team seemed pleased with their performance.

"We beat Peter," said Adam Jensen of a friendly rival. "It's all good."

The students were faced with the task of programming a robot to navigate a maze without the aid of a remote control.

"The programming was a little difficult with the logic, fixing all the errors and getting it perfect," said Cyrus Albright. "The robot has to be perfect because if it's not, it keeps building up those errors."

The teams had to use algorithms, which they described as a formula of steps that take input from sensors attached to the robot. If the robot encounters a problem like a wall in front of it, the algorithm gives it a set of steps to accomplish in order to solve the problem.

Tim Goodman, physics teacher at Vermillion High School (VHS) coached the team.

"We programmed the robot with different sensors to help it navigate the maze," he said. "We came up with an algorithm that was pretty close to the algorithm that won. We just couldn't get our sensors to work. The maze was really tight."

The teams had no sure design on what the competition maze would look like according to Goodman, just an example on their website.

"They told us it would be similar but they would change some walls and they did," Goodman said. "You get points on how close you get to finishing the maze."

Goodman heard about robotics program from his father who works for the USD's computer science department.

By signing up early, Goodman and the VHS students received a free robot to assemble and program.

"To win this one, you have to have more than a good algorithm," Goodman said. "You need to make sure that every time you move your robot in a particular way it's dead on. Our program would run up to a wall and then adjust itself until it was head on with it



THOMAS HATZENBUHLER / FOR THE PLAIN TALK  
Students from Vermillion High School participated in a robotics programming competition at USD last week. The teens had to teach a robot to navigate a maze on its own.

and then turn. There's just a lot of real-life garbage that gets in the way."

What makes the members' performance in the competition so impressive is they did much of the work themselves.

"We would talk them through some algorithms, but mostly we left it up to them," Goodman said.

Students who have a knack for programming and robotics are who this competition was designed for.

"This contest is predominantly for students who have the talent but we want to give them a platform where they can launch their talent," said Naveen Rokkam, a graduate student in USD's computer science program.

The competition was deemed a success by Rokkam who assisted in planning the event.

"I'm happy so many people made it," he said. "One of the kids who almost dropped out ended up third."

By visiting with attendees, Rokkam received lots of feedback on ways to improve the competition next year.

"We're trying to do a balance between making it very complex and making it very easy," he said. "We designed the maze thinking it was a challenge, but doable. We put ourselves in the shoes of high school kids and tried to think if I was a high school kid, would I be able to do it?"

According to Rokkam, this is the first year doing a robotics programming competition. In previous years, it has been solely a programming competition.

"We had a new chair, Dr. QuocNam Tran," he said. "He felt like a program-

ming contest is good, but a robotic programming contest is awesome. With just a programming contest you're just sitting in front of the computer. With this contest you have the wow factor. You see these kids doing amazing things with these robots. There's nothing like this in this part of the country."

The high school students certainly exceeded expectations.

"It's really amazing that these people end up with all these beautiful ideas," Rokkam said. "We did the basic videos, like how to setup the robot and how to do some basic programming, but they came up with these innovative ideas on their own."

Rokkam was not the only one impressed.

"I have not judged anything like this before," said Shayla Gustaffon, Junior in Computer Science and judge of the competition. "I never even did anything like this in high school. It's a nice experience to see their talents and all the things they can do. I was really impressed."

The competition included presentations on USD's Computer Science program and optional campus tours.

"The whole idea was how can we increase the strength of the department," Rokkam said. "If they can do this without any background in computer programming, think what they could do if we could teach them the art of programming. That's the whole idea we're trying to enforce on them. If that sounds exciting then USD is the right place."

# National Park Service Looking For Feedback

By Elyse Brightman  
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The Missouri River Institute held its annual research symposium at the Al Neuharth Media Center on The University of South Dakota (USD) campus on Thursday, April 9.

The symposium allows the institute to present research education and outreach about the river.

"We've got talks today about research in terms of endangered species, hydrology, aquatic and terrestrial communities, ecological communities, human dimensions of management impacts, things like that," said David Swanson, USD biology professor and director at the Missouri River Institute.

The goal of these presentations was to help make the river more accessible to the public. The speakers included graduate students from USD and South Dakota State University (SDSU) as well as Nebraska Game and Parks and other government agencies.

"Some (projects) are really long term monitoring projects so there's anything from some research studies that take a year or two to some that have been ongoing to 30 years. So, it's a wide variety of different kinds of length of studies and different types of studies," Swanson said.

Lisa Yager of the National Park Service was there speaking about the national parks along the Missouri River National Corridor and the future

plans for those areas.

"We are looking to do a property management plan and, in that property management plan, we would like to figure out our management activities whether that be development or restoration for the next five to ten years," Yager said.

The National Park Service is looking for public comment on ideas on how make these parks more accessible and enjoyable.

"We are working on our draft plan and we are interested in whatever the public would like to see or what they would like to do at all of these different properties whether they'd like more camping, whether they'd like to hike, whether they'd like increased river access, those are all things that we are really interested in," Yager said.

The National Park Service owns three properties along the Missouri River National Corridor, Bow Creek Recreation Area near Wynot, Nebraska, the Mulberry Bend Scenic Overlook in Vermillion and Green Island near Yankton.

"The formal public comment period won't reopen until later this summer or fall, but we are always interested in hearing the public's comments or suggestions," Yager said. "We'd like these properties to be the best for the river but also be great for the public to use and to enjoy."

Those interested in commenting can contact the office directly or visit the website [www.nps.gov/mnrr](http://www.nps.gov/mnrr).

## CASA

FROM PAGE 1A

dren are doing. I especially have a priority to see that the children are safe, physically and emotionally."

CASA will be looking to recruit volunteers throughout Clay County and start assigning cases by July 1. People who apply to volunteer will go through an application and interview process before being assigned cases.

Lillivold started volunteering after his own children moved away from home and he was looking for "meaningful things" to do with his life and for the community. Once he heard about CASA, he was in the office the next day to apply.

"I was the first volunteer with this program," he said.

During the interview process, hopefuls are asked questions about what would make them a good CASA volunteer and go through three different background checks.

"In Clay County we're hoping to get at least three (volunteers) and hopefully we could get as many as six. We've had some people already express interest,"

Rodgers-Conti said.

After the vetting process, volunteers go through 30 hours of training over a weekend from a curriculum set by the national CASA organization. After training, a judge swears in the volunteers to make them eligible CASA advocates.

"We really have to find people who are there for the right reasons and who are going to represent the program well," Rodgers-Conti said. "(A volunteer's) role is finding out facts about the family so that we can report to the judge about what would be in the best interest in the child."

Samantha Kohnen has been hired on as the new program development assistant to be based in a Vermillion location. Kohnen, originally from Dell Rapids, will graduate from the University of South Dakota in May with a degree in psychology and criminal justice.

Southeast CASA is also expanding into Bon Homme County where they are expecting about 1-2 cases per year.

A full job description and application can be found at [southeastcasa.org](http://southeastcasa.org) and clicking on the volunteer section.

## Zoning

FROM PAGE 1A

county could not figure out how to classify them under the zoning ordinance.

"Between Cindy (Aden, Clay County Planning, Zoning, Veterans and Welfare administrator) and I, we couldn't figure out what the ordinances said," Mockler said. "We were calling the state. After three weeks, we ended up giving it to our states attorney. He came back with what he thought the intent was, but his personal opinion of the document was that it was poorly written."

Following the meeting Aden expounded on the issues she had been dealing with.

"Two years ago we made a few changes to the regulations, as zoning administrator I was having a terrible time interpreting the regulations and figuring out how to administer it," she said. "It has been more than just the once case. Most of the time, nobody wanted to deal with the issues of getting a zoning permit once we started discussing the regulations for a CAFO. I have one person who stuck with me and we worked through it. It took us nearly six months just to begin the process and he could start building anything."

In all, more than 30 community members addressed the board including, Jim Auen, operational manager for Lewis and Clark Regional Water (LCRW) who expressed concern on behalf of LCRW that the proposed changes could affect the water supply of more than 300,000 people.

"Projects like the Lewis and Clark Regional Water system are being built to support agriculture. In that regard, we are supportive of CAFOs as long as they follow the appropriate approval process and the public has ample opportunity to provide input," he said. "That being said, we do not know for sure whether it provides enough coverage for our wellhead protection area."

He went on to say the LCRW is urging that the zoning board delay changing the ordinance until the time that studies, scheduled for this summer to test the well field influence, can be completed.

"The tests are scheduled to be completed by this August and then must be submitted to the EPA for approval," Auen said. "If action on this cannot be delayed, then Lewis and Clark Rural Water has no choice but to express our opposition. ... I want to reiterate, though, our opposition is a matter of timing with regard to identifying our wellhead protection area and is in no way related to the development of CAFOs."

In addition to LCRW, Clay Rural Water System manager Greg Merrigan also addressed the panel expressing concern about the potential changes to zoning in two aquifer areas of the county and the impact the reduction in setbacks could have on water supplies.

Several area farmers addressed the panel expressing their hopes that the changes would be accepted.

Reed Jensen, said that the current limits may be contributing to the reduction of family farms, as they are not able to sustain more than one family due to input

costs. He added the farmers are great stewards of the land and it is in their best interests to take care of the water, because they rely on it, as well.

While several community members spoke on both sides of the issue, the planning and zoning commission members decided to table the issue to process what they had heard.

Mockler said the public hearing was much calmer than he had expected because there is usually very little common ground with an issue like this.

However, he said there is more at stake than just livestock numbers and locations.

"To me this isn't just a livestock issue, this is an economic development issue," Mockler said. "The city of Vermillion is trying to grow. We lost out on the cheese plant because we don't support what supports them. We have a 27 percent poverty level in Vermillion. We need jobs to correct that. We educate two graduating classes out of USD every year, as soon as we give them their diploma, we also tell them to leave because we have nothing here for them. I don't want that to happen to my daughters. I don't want to have to get on

a plane to go see them five hours away. If I don't start now, it will be too late. It might already be too late, because this isn't going to happen overnight."


Aden said no matter what decision the planning and zoning commission comes to, it will not be a binding rule of law as they are an advisory panel. Its decision will be sent to the full Clay County Commission where they will hold hearings, as well, before coming to a final decision.

"(Planning and Zoning Commission) will have another meeting on April 27," said Aden. "As the group just voted to table the issue we will bring it back up on April 27. Those are open to the public, as well."

Once a decision is made the Clay County Commissioners can accept the recommendation of the planning commission as presented, they can reject them or fall somewhere in between, Aden said.

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