

Robotics And Beyond...

Robotics And Beyond Students Build a Minecraft Server for Library

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The [New Milford Public Library](#) now has its own server for the popular online world-building game Minecraft, thanks to [Robotics And Beyond](#) (R&B). A team of four middle school students, guided by two high school age mentors, built the computer that hosts the server and then created Minecraft mini-games for the library's Minecraft club to play. Young adult services librarian Valerie Fisher says, "I hope the server provides an added dimension to our [monthly Minecraft Club](#), so everyone can play together."

This is the first collaboration between the library and the nonprofit STEM educational group, although R&B executive director Paul Chayka notes that they have been looking to work together for a few years. The Minecraft server was Fisher's idea—she wanted the library's club to have its own server to play on. She saw that R&B offered a Server class, "so I spoke to Paul about what I wanted and he made it happen."

Chayka saw a benefit for the library and the community, and an opportunity for real-world experience for the students and mentors. He chose Schaghticoke Middle School students James Tillman and Alex Wagner (grade 7), and Nathaniel Smith and Taylor Briggs (grade 8) for this project because of prior experience learning about Minecraft servers in R&B's Afterschool Robotics program. "I knew this project would deepen the boys' understanding of servers, and give them leadership experience as the server administrators and game moderators for library gaming events," he explains.

Mentors James Mester, a New Milford High student aiming to study engineering in college next year, and Collin Lavergne, a home-schooled junior, brought the technical and teaching experience needed to make this project possible. This project was also a way for the mentors to develop team and project management experience. "They completely met my highest hopes for this project," Chayka notes.

James, Alex, and Nate had previous experience setting up a Minecraft server on an R&B computer. But this project had a bigger scope--the team first had to build a computer to host the server. Led by mentors James and Collin, the four middle-schoolers learned the basic components of a computer, including every part required for a server. Using what was on-hand at the R&B office, the team built the computer with minimal help from the mentors. The process included troubleshooting any problems with hardware function and making sure there was compatibility between parts and software. Building their own computer saved about \$500 in hardware costs.

The next step was creating the Minecraft server. The students set up the software, devised and configured a variety of mini-games, and set up permissions (what certain levels of players are allowed to do) within those games. After everything was ready to go, the team had to build the "maps" for their games—the locations players would play the game in. The prior experience of setting up a Minecraft server came in handy at this point.

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“The library server is similar to the R&B server, with multiple games running at the same time,” explains Chayka, “but with different worlds and games. It is also faster.” The added challenge of the library server is the increased number of players. “In past server classes at R&B, we’ve had about 4 students testing the server at once. At the library, there will be many more players at a time during game events,” he adds.

The Minecraft Club currently has between 10 and 15 participants, but Fisher hopes the new server will attract more players. The new server is capable of hosting a group of players from inside the library’s network and also from outside. “The Darien Library Minecraft server hosts players all over Fairfield County,” she says, “and in coming months I would like our server to fill the same role in Litchfield County.” For more information about the Library Minecraft Program call 860 355 1191 x 204.

The R&B team thinks that the new server can handle around 50 players. However, for a group that large, they want to have team members monitoring the games in case something goes wrong. James, Alex, Nate, and Taylor are also responsible for maintaining the server for the library, as well as creating new game maps and conducting the actual game events at the library.

In the coming years, these students will gain more experience by supervising the next server-building project, including identifying and training candidates for the next project. Overall, says Chayka, the project is an educational experience. “The boys meshed their high interest in Minecraft with real-life technologies to learn about server creation and management.”

Building the library’s Minecraft server provided a learning experience for the mentors as well. “We have a long-standing and incredibly effective peer mentoring approach that provides the foundation for the majority of our programs,” he adds. “We are always looking for ways to create experiences for students and mentors that are as relevant as possible to careers in all fields of STEM and design, and relevant to education paths toward those careers.”

About Robotics And Beyond

Robotics And Beyond is a New Milford, CT-based not-for-profit educational organization devoted to encouraging and supporting the next generation of STEM technologists, scientists and creative thinkers. It offers courses in STEM topics including engineering, science and design, for students from elementary school through high school. These courses include after-school programs, weekend workshops, robotics league, special events (such as Girls-Only Coding Nights and Minecraft Nights), peer-mentoring programs, and our long-running summer camp.

For more information about programs or to find out how you can help, visit www.roboticsandbeyond.org.