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Gaming an Education

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GAMING AN EDUCATION

Professor of Computer Science Dr. Kari Sandouka is challenging her Information System Design students to view the computer game Minecraft in a new way: as an educational tool that can allow them to practice building information systems, or systems that collect, process, store, and distribute information.

"Over the past few years, I have noticed a strong interest in Minecraft; it is something that my students often play and talk about," says Sandouka. "I wanted an analysis and design project that would capture the creativity and interest of my students but also be flexible to challenge the diverse skills of the students in the course." As she researched project options, Minecraft kept popping up. After reviewing the options for Minecraft Education, she decided it would be a good project for her analysis and design course.

Sandouka received a grant to support the development of this Minecraft project from the Kielstra Center for Research and Scholarship at Dordt.

The project has three parts that span the fall 2020 semester. Students spent the first weeks of the semester acclimating to "Minecraft: Education Edition," a version of Minecraft designed to be used in a classroom setting. In mid-September, students created their own short Minecraft challenge, which involved a short set of creative tasks to complete in Minecraft. In the remainder of the semester, students worked with NOYCE Scholars—education majors who plan to teach science, technology, engineering, and mathematics (STEM) and who will serve at least one year in a high-need elementary or secondary school—to create a full lesson plan in Minecraft for a STEM topic of their choice.

JAMIN VER VELDE ('99)

Previously, Dr. Kari Sandouka worked as a programmer at the John F. Kennedy Space Center.

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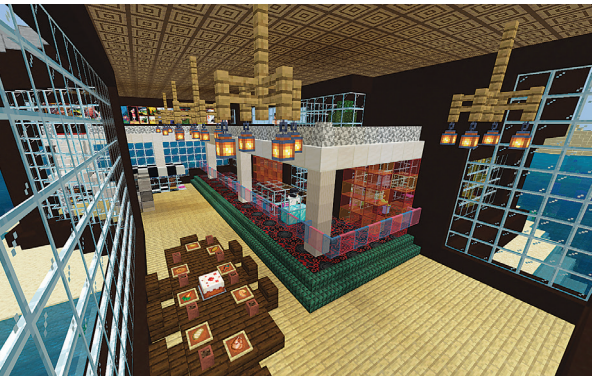
>
> **— Dr. Kari Sandouka, computer science professor**



Minecraft is a sandbox video game that was created in the Java programming language.

"I was very familiar with Minecraft before starting this project; I have been playing the Java version of Minecraft since I was 14," says Computer Science Major Peter Shippy. "I have appreciated how the Minecraft project allows us to put our classroom learning to work. Unlike a class project that will be forgotten or deleted a year from now, our Minecraft project has the potential to impact the learning of younger students through the NOYCE partnership. This is especially important during Covid-19, as Minecraft is a good medium for teachers to engage students who might be in quarantine or self-isolating."

Data Science major Karen Reynolds, who was new to Minecraft, agrees: "I really appreciate that this project will be used by others," she says. "The purpose of this assignment is not simply to give us a project with which to learn the process of software engineering, but to give someone else a gift in what we make."

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