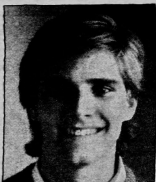


Engineering Undergraduate Experiments with Music

Adam Cain, Engineering

Well, it doesn't sound like Whitney Houston and it's not the kind of thing you find yourself whistling in the shower, says Adam Cain about the music he helps to create.

"Experimental music is a strange animal," Cain admits. "But



certain pieces make me think about things that I think the composer may have intended me to. So I like it."

As an undergraduate scholar assistant, Cain works in the studios of Kenneth Gaburo, professor of music. There, he aides David Muller, audio engineer, in using computers to describe and change the physical quality of sound.

"One thing that I find very interesting is interfacing the computer with the digital sound source so that you can record digital audio music onto a hard disk," he says. "Once you get that in memory, you can manipulate it, and that's the fun part."

Cain says the goal of the manipulations is to create "a studio within a computer."

"A lot of it starts with organic sounds," he says. "You take a microphone and say something and then feed that into the computer, or you feed in a piece of music, and then you can manipulate the sound in innumerable ways."

Cain, whose academic concentrations include a major in electrical and computer engineering and minors in computer science and Spanish, says much of his assistantship involves trying to put together the computer program that will be the studio within the computer.

"Through the assistantship, I can learn a lot more about the applications of what I'm studying in class," he says. "I would venture to say that I've almost learned more working in the studio about such things as wiring and computer programming than I have learned in classes so far. You get the ideal situation in class—how everything should behave and how you can deal with it—and then you see how people actually cope in real life where things don't always go so smoothly."

Cain's taste in music is as eclectic as his engineering /Spanish/ music emphasis at the University. He plays both the electronic synthesizer and the classical guitar. And when he puts on the headphones and settles in for a long night of studying electromagnetic theory, he works his problems to jazz.