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## The Green Mission: Pat Pataranutaporn's Quest to Make Biotech Understandable

"I want to clone the dinosaur, and I think biotechnology can give me the tools to do that. This is my life goal."



Pat Pataranutaporn's game "The Green Mission" won Best Application at CodeDay Corvallis

Go to a [CodeDay](#) and you should expect to meet the students who'll soon be changing the world with code—it is **CodeDay**, after all. Less common are the students who'll be changing the world with biotechnology, but that's exactly the sort of thing Pat Pataranutaporn aspires to do.

(With specific regards to his goal to bring back the dinosaurs, Pat admits, "it's kind of funny.")

Pat, a high school exchange student from Thailand who attended CodeDay Corvallis in January, combined his love of biotech and code to create *The Green Mission*, a game about detoxifying the world with bioremediation which won "Best Application".

Bioremediation, explains Pat, is using organic compounds to fix the environment. "Like you use bacteria to degrade pollution like styrofoam, or you use plants to absorb cadmium or high toxic metals in the soil."

The idea for the game came from *Plants vs. Zombies*, "but I wanted to change the zombie to something which is bad for the world—like trash, like plastic bags, or something that is like that. Pollution."

Pat's interest in bioremediation? That comes from his education in Thailand.

Pat is part of a program called JSTP, created by the government of Thailand, which aims to create Nobel-winning scientists. Pat is one of only thirty students selected each year to join the program. “You will be there until you die—it’s a long, long-term program.”

“They enrich the students in a lot of ways, and one of the ways is to introduce the student to a professor in university who will be their mentor. That allowed me to work in a laboratory in university even though I’m just in high school.” Pat worked with his mentor to find bacteria which could decompose styrofoam, which served as the initial inspiration for the game’s story.

Pat’s wanted to be a scientist since being given a dinosaur jigsaw by his grandmother early in his life. “I asked my teacher, ‘if I’m interested in dinosaurs, what should I do,’ and she said science”, he explains. “So I thought, oh, science is cool! I want to be a person who gets to perform science so I want to be a scientist.”

“Coding is like, the tools for the people in this century.”

If he’s not aiming to be a programmer, what makes Pat interested in programming? “Coding is like, the tools for the people in this century. You need code to be able to control the computer effectively, so being able to code is important.” For example, Pat says, “when I have a science project I need to be able to create some kind of program to analyze my data.”

“When I have free time I can work on games, I can do a lot of things. Coding is, like, my hobby.”

*The Green Mission* is sure to attract players, not only because of the fun *Plants vs. Zombies*-style gameplay and how it explains an emerging subfield of biotech, but also because it is visually stunning.

Pat’s interest in art stems from the importance of making his research accessible to others. “If you have only a good project but you cannot explain it, it’s not really a good thing. That inspired me to study and work a lot on graphics and art.”

“The first thing that interested me about the dinosaurs was the pictures in the books or the jigsaws... the media. I felt that, because we cannot see dinosaurs right now, the people that can inspire us to love dinosaurs need to be really talented. So I got the idea that, if I want to do something, I should be able to explain it with graphics.”

“There is plenty of time. I don’t understand why people say they don’t have time. We have plenty of time to do a lot of things. I think that’s it.”

How does Pat find the time to be so productive in art, science, and technology? It’s just being effective, he says. “There is plenty of time. I don’t understand why people say they don’t have time. We have plenty of time to do a lot of things. I think that’s it.”

In Thailand, Pat attended school from 7 to 5 in the evening, in addition to working with the professor on his research project. He says he’s replaced a lot

of that time with programming. “In the US, I don’t have university to go to, so I’m working on my computer because I carry my computer with me. I cannot do any biotechnology stuff right now; what I can do is coding and creating websites.”

Pat says that, like all programmers, he deals with a fair number of problems with his code. “Coding is really difficult, when you’re stuck on a problem and you don’t think you can solve it.” Still, he says, this is what makes it fun.

“If you don’t have problems then life would be nothing.”

“It’s the same as when you play game and when you face a really tough boss. I don’t really know the feeling of that because I’m not really playing many games, but I think this is a good analogy because the problem is the thing that interests you to go over it. If you don’t have problems then life would be nothing.”

Since CodeDay, Pat has released a beta of *The Green Mission*, [available for download on his website](#).

While waiting for the bug reports to come in, he’s shifted his focus to a new project, a projected interface he’s named *Ozone*. “I want people to play my game and give me the feedback, so I’m going to go work on this which is just a prototype.”

As for the research project which inspired his game, Pat says he finished the lab work before leaving for the US, but is currently working on getting it published.

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Programming

Interview



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