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PORTALS

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Programming Contest Pits World's Top Geeks In Battles Over Coding

Imagine a reality TV show that combines the performance-under-time-pressure of "Iron Chef" with the scheming and psych-outs of "Survivor," then adds the soaring braininess of—well, that's the problem, really: There isn't anything this smart on TV.

In a world where everyone knew Java or C++, a show based on the weekly computer programming contests organized by an outfit called **TopCoder** would be a smash hit. Camera crews sometimes show up for the finals that these contests lead up to each year—the next one is in May in Las Vegas. But the weekly run-ups themselves take place in an obscure corner of the Internet, largely unnoticed except by the several hundred people taking part.

Which is too bad, because based on an evening spent with Oded Wurman, a recent Stanford University graduate and contestant, a computer-programming contest involving super-smart people from all over the world doesn't just offer white-knuckle tension. It can also teach us a thing or two about the often ruthless times we live in.

TopCoder attracts programmers by offering cash prizes and the chance for a job interview at a sponsoring tech company. In other words, if you prove yourself better than everyone else in the world—and please, don't feel any pressure here—you might get a job out of it. Incidentally, the contest could be another data point in the newly re-energized discussion of declining American technical competitiveness. Three years ago, 90% of the top 50 TopCoders were American. Now, the figure is 12%, and the U.S. ranks fourth, behind Russia, Poland and Canada.

Mr. Wurman, who is 23 years old, has been entering the contests for several years, and he has been ranked in the top 100 of the many thousands of entrants. A Silicon Valley geek, sure, but a lot more: For instance, he's a fully trained paramedic. And a nice guy.

Since its contestants live across the world's time zones, TopCoder contests occur at all hours. Last Monday's was at 6 p.m. in Palo Alto, Calif., where Mr. Wurman lives in a house with five other current and former Stanford students.

Each contest has three programming problems—none of which are easy to describe in a short amount of space—that must be solved in 75 minutes.

Mr. Wurman solved the easy problem, worth 250 points, relatively quickly. The intermediate one, worth 600 points, proved vexing. In fact, Mr. Wurman came close to giving up on it, but then, at the last minute, came up with an approach that seemed to work. After that, Mr. Wurman surprised himself with his ability to tackle the final, 1,000-point problem in a straightforward and methodical way—with several minutes to spare.

Even without knowing a line of computer code, you could follow the drama of the event on Mr. Wurman's face as he moved from puzzlement to insight to setback to eventual triumph.

And that was just Round One—which turns out to be the dull part.

In the 15-minutes of Round Two, the real fun begins. Contestants gain extra points by challenging the programs written by others. If you can come up with a scenario that will cause someone else's program to fail, you get 50 points, and the original programmer loses everything. But if the program withstands your challenge, you lose 25 points.

Those challenge points can add up; in theory, you can win a contest without writing a single successful program, instead just challenging the work of others. And thus, the guiding spirit switches from Von Neumann to von Clausewitz, or from the art of programming to the art of war.

A common strategy, explains Mr. Wurman, is to challenge every solution to a hard problem offered by newbie contestants on the assumption that they couldn't possibly have gotten it right. Another approach is to press challenges based on the assumption that if you ran into a blind alley, then others did too and are just faking it when they post their "solutions."

A programmer who is behind another on points might keep trying to attack the leading coder's program, hoping to somehow bust it—even while falling farther behind with each unsuccessful attempt. Indeed, says Mr. Wurman, some contestants spend much of round one not solving problems but preparing strategies and lines of attack for round two.

The upshot: To do really well in these competitions, you basically need to prove not only that you are good at programming but that others are bad at it. In fact, in some ways the TopCoder contest resembles the Darwinian global economy for which it is an enabler.

The competition is ultimately decided when TopCoder's computers chew over all the entries. Mr. Wurman ended up 126th out of 329 entries Monday, in part because he spent so much time explaining things to me. Which was fine with him, since he already has a good job at Nvidia, the graphics-chip company, and now enters the contest mostly for sport.

Besides, he says, "there are some really smart guys out there who can do this all so

quickly. I am just in awe of them."

Dude, imagine how the rest of us feel.

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