


You've probably heard or seen the term "algorithm," but unless you've taken an advanced math course in school you may not be familiar with them or how they're used.

Formula for the Future



So, what exactly are algorithms? In their simplest form, they can be described as a series of "if ... then" instructions. When your Internet search engine lists results or your computer's spreadsheet program adds up nicely, there's an algorithm at work. If traffic is moving smoothly through city streets, thank an algorithm. And, when an elevator takes you efficiently to your destination, there's probably a variable algorithm behind the scenes.



Algorithms in action

A good example of algorithms at work can be found in Louisville, Kentucky, at the Humana Waterside building, originally constructed in 1923 and refurbished in 1985. According to Mike Roberts, workplace solutions operations manager, "At the time the building was refurbished, it accommodated about 3,000 associates, but today it houses almost twice that number. In fact, this 12-story building moves as many tenants as some skyscrapers." Steve Evans, associate experience leader, points out, "With an elevator system designed 25 years ago, it's easy to see why our Humana associates were at times forced to wait five, 10, even up to 25 minutes for an elevator to take them to their desired floor." John Brown, Humana's vice president of Medicare Service Operations, described the general situation as "chaotic." Beyond the obvious inconvenience, the problem was a loss of productivity, and the solution would be found in very sophisticated algorithms. ▶



The Humana Waterside building with nearby Louisville skyscrapers in the background



Photo left: The Schindler PORT terminal employs touch-screen and card reader interfaces. Photo right: PORT Technology adapts to passenger schedules and requirements.

- ▶ The first of these advanced algorithms was one used by Schindler ID®, which improves elevator service through destination dispatching by grouping passengers headed for the same or nearby floors together. This minimizes unnecessary stops and reduces passenger journey times. Now Humana has installed Schindler’s PORT Technology, short for Personal Occupant Requirement Terminal, which is the successor to Schindler ID that uses the newest generation of smart elevator dispatching systems.

Through a touch-screen PORT, the system recognizes building occupants and offers them a personalized menu of their most frequently visited destinations. When a floor is selected, the system provides passengers with a seamless journey, using the optimal route with the shortest possible time to complete it. When a building visitor selects a destination floor, the PORT Technology follows the same procedure, and adds the benefit of controlled access for enhanced security. The PORT system’s effortless touch-screen interface belies the complexity of the underlying algorithm that calculates innumerable “what if” scenarios at the speed of light. Mike Roberts adds, “We love the PORT system. Because of its cutting-edge technology, we’re using our elevators more efficiently, and we’re seeing real energy savings which support our ongoing sustainability efforts.”

Variety, the spice of algorithms

While many of us would not describe the language of mathematics as colorful, algorithms have some interesting names: backtracking, brute force, greedy, and divide and conquer. The algorithm behind Schindler’s PORT Technology might be best dubbed: Wow!

Photo below, top: Steve Evans, associate experience leader for Humana. Photo below, bottom: A Schindler technician inspects the PORT computer that controls the elevator destination-dispatch system.





Color This Technology Green

Schindler's PORT Technology brings abundant energy-saving features in addition to its advanced dispatching capabilities.

Each PORT terminal's proximity sensor tells it when to be active and at all other times puts it into low-energy consumption mode.

When the terminal screen illuminates, an ambient light sensor determines only the brightness level required, again optimizing energy usage.

The PORT Technology ensures elevator trips are as efficient as possible. This produces a very resourceful use of energy, even during heavy traffic.

During light traffic, the PORT Energy Control Option places nonessential elevators into an energy-conserving standby mode. ■
