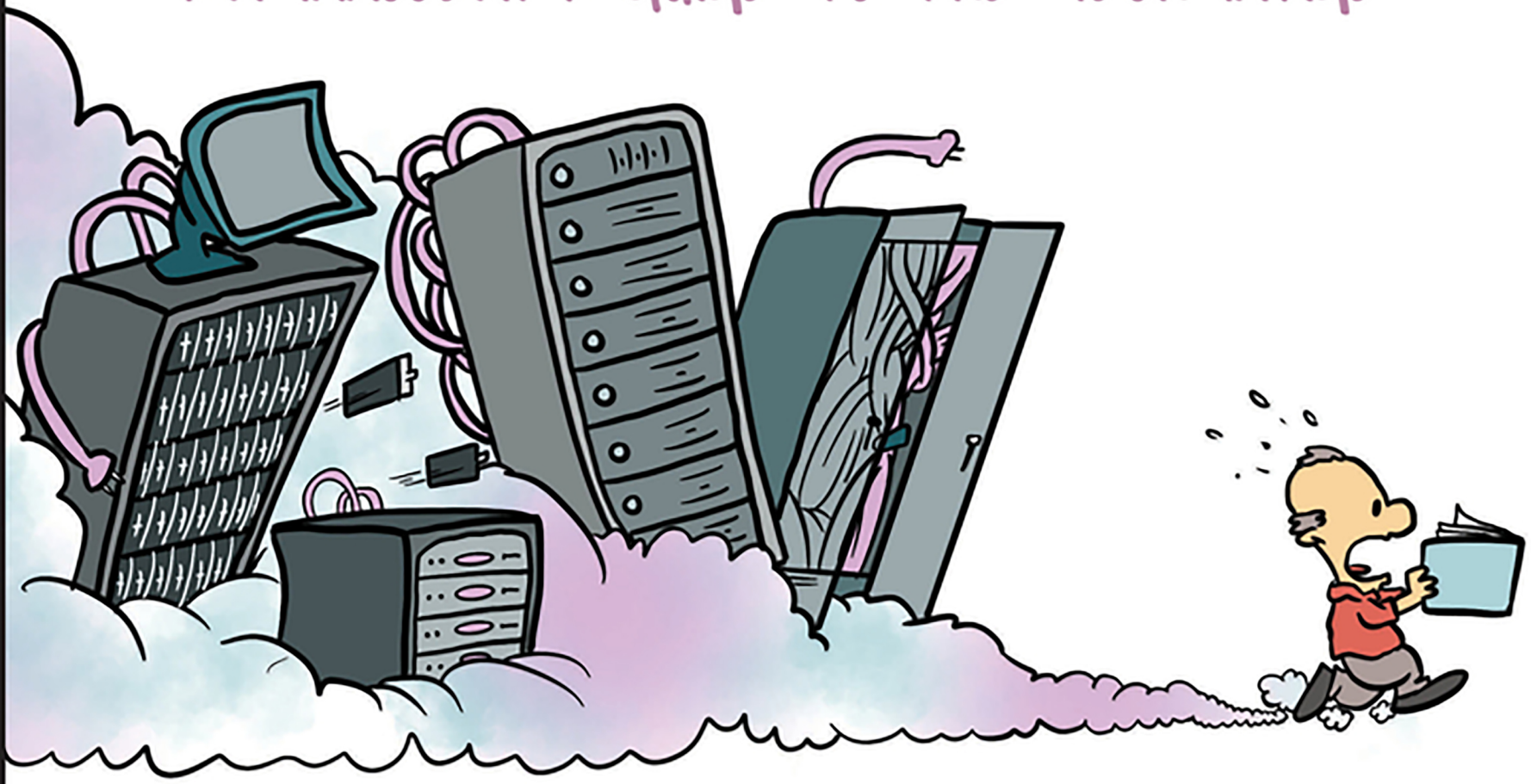
The Read Aloud Cloud

An Innocent's Guide to the Tech Inside



Forrest Brazeal

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For the cloud folks.

About the Author

Through a decade in the tech industry, Forrest Brazeal has installed software updates during a live cataract surgery, designed robots that perform machine learning on pizza, and kept his sense of humor the whole time—even while rapping about serverless technology in front of hundreds of developers.

Now a senior manager at A Cloud Guru, Forrest has been named one of Jefferson Frank's top seven global AWS experts. In 2018, Amazon Web Services recognized his community work by naming him one of the original AWS Serverless Heroes.

His webcomics about life in the cloud reach hundreds of thousands of readers and have been cut out, tacked up, reshared, and PowerPointed at workplaces from Google to Disney. He also speaks at public and private events around the world on the business and technology of cloud computing. *The Read Aloud Cloud* is his first book.

Forrest has a master's degree in computer science from Georgia Tech and a postgraduate certificate in nonsense from wherever Dr. Seuss did his doctorate. He lives near Charlotte, North Carolina, with his wife, two children, and an unmanageable collection of old books.

Acknowledgments

There comes a dark point in the development of any book, but particularly one so bizarre as this, when you become convinced that you have jumped the rails and created something that nobody in their right mind would ever want to read. This is where it helps to have deadlines pushing your shapeless hunk of nonsense back on track. So: thank you, deadlines.

The entire team at Wiley embraced the challenge of publishing whatever this book is, but none more so than Devon Lewis. Devon immediately "got" this strange project and championed it from the very beginning, providing a tireless flow of ideas and support all the way through the production process.

My employers at Trek10 and A Cloud Guru warmly encouraged me while I was writing. I, in turn, warmly encourage you to patronize Trek10 and A Cloud Guru.

My friend, mentor, and colleague Drew Firment never let his enthusiasm for this book flag, even when I did. Thanks, buddy.

My technical reviewers—Jared Short, Corey Quinn, and Ken Winner—willingly exposed themselves to early, unstable doses of this book, for which we can all be grateful. Any misrepresentation of the cloud that remains is mine alone.

The deranged Roomba on page 3 is probably Ben Kehoe's fault.

Many of the prehistoric computers in Chapter 2 were drawn from "live models" at Seattle's marvelous Living Computer Museum. My thanks to the AWS Hero program, and particularly the indefatigable Rebecca Marshburn, for making that cross-country field trip possible.

Emily, Kenneth, and Joanna tolerated this project longer than any reasonable humans should. Thank you for everything. I promise I'm done now.

Foreword

Cloud computing and related shifts such as serverless are major changes running through the tech industry. As with all such major changes, this comes with opportunities (often involving the gnashing of teeth and pulling out of hair), challenges (the gnashing of hair and pulling out of teeth), and—if we're very lucky—humor. In the past, tectonic shifts in technology—from the office PC to the smartphone—have brought us stalwarts such as Scott Adams (Dilbert), Randall Munroe (xkcd), and GapingVoid. I am delighted that our industry continues its tradition of poking insightful fun at itself with the addition of Forrest Brazeal to that pantheon.

In the cloud, serverless, and DevOps world, there has been no one more insightful and "incite-ful" than Forrest. Cutting through the trees to see the wood, Forrest's wit has become a guiding light. His cartoons have not only delighted but meaningfully questioned our approaches—all good humor is based on truth—from the tribal nature of DevOps to the building of Towers of Babel such as OpenStack. The skill and technological knowledge required to understand a technological change, to pinpoint its failing, and to devastate an entire edifice of marketing and a bastion of management consultants with a single cartoon should not be underestimated. It also requires an element of bravery to poke the massive capitalist bear with a stick of truth. Forrest has that skill, he has that bravery, and he frequently uses it. We praise him.

And praise is the right word. I am delighted and honored to call Forrest a friend, but more than this, his work has helped transform an industry, putting it on an even keel. In this world of billion-dollar acquisitions of small tech startups, we technologists can often get carried away with ourselves. The ability to create a virtual world quickly translates to a belief that we can solve world hunger through the excellence of our minds and the alteration of a few digits in a line of code. Such delusions regularly need to be brought back down to Earth and our own hubris and fallacies bared naked for all to see. This is a service that Forrest provides. I cannot tell you how many times I have laughed, cried, and held my head in my hands muttering "oh my God" at one of Forrest's cartoons.

It is that art of using humor to hold up a mirror to our own ego, our runaway beliefs, our inflated self-confidence, and the ability to ask that one question that sets Forrest apart. Technology, as with many other industries, often breaks down into collectives, into warring tribes, each convinced of

our own rightness as we face each other down across the blinding light of our blazing production environments. Forrest simply shows us how comical the situation is, how comical we are, and how a different perspective is possible. And so, with no more egging of the pudding and no further ado, it is my pleasure to introduce you to the delightful world and work of Forrest Brazeal.

—Simon Wardley

Researcher, Leading Edge Forum.

Chapter 1

WHAT IS “THE CLOUD”?

I've looked at clouds from both sides now,
From up and down, and still somehow
It's cloud illusions I recall...
I really don't know clouds at all.

—JONI MITCHELL

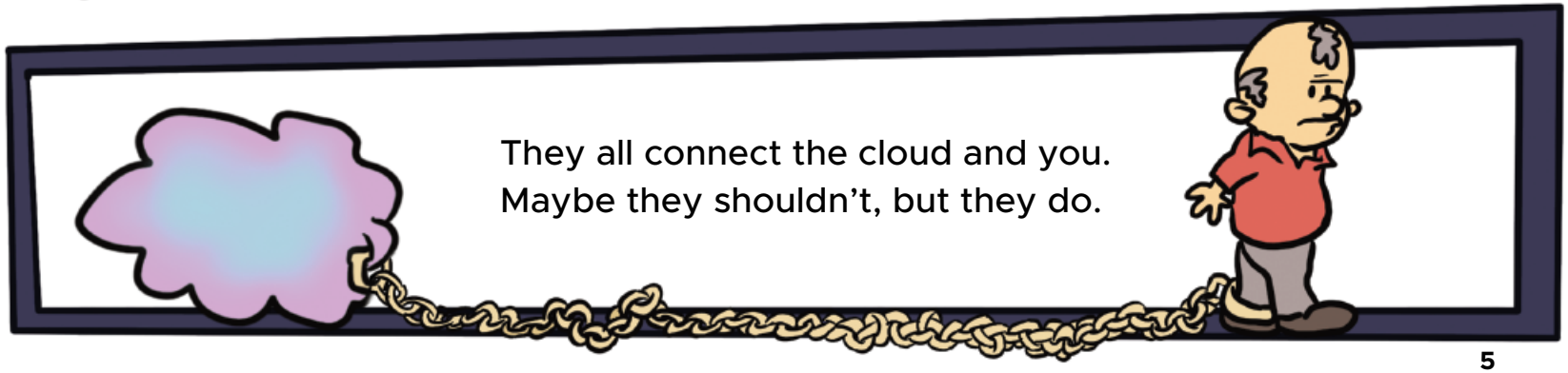
So the cloud...is my data, like, up in the sky, or what?
Ha, ha, ha! Pass me that bag of chips.

—YOUR UNCLE MIKE

What is the cloud?
Is it here or there?
Should it be allowed?
Should you even care?

Yes, you should care. Yes, yes, I say!
The cloud affects you every day.
Your pictures, movies, songs, and shows
Would all, by now, have hung or froze
Without the cloud from whence they stream.
And when you look beyond the screen...

Your doorbell,
toothbrush,
thermostat,
The vacuum that
attacked your cat,



Now, each day brings new tales of hacks
—the data leaks, the bot attacks—
Or buggy apps that will not load.
And, helpless, you lurch down the road.

"It's in the cloud." (You wave your hands.)
"That thing that no one understands."
Because you've learned to raise your guard:
The cloud is weird, remote, and hard.