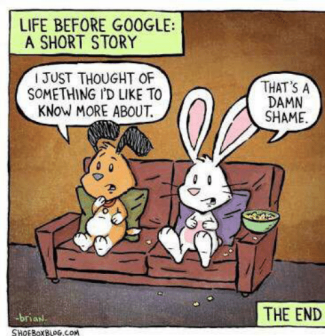# What Is Engineering?

Evan Keeton

What is Engineering? There are many ways to answer this question, but to me, the clearest answer defines this field by its input and output—in other words, the best way to describe engineering is as a function. Engineering as I view it is a process that takes two inputs (arguments)—scientific knowledge and human dedication and creativity—and creates one output—improved quality of life. Another way to put this is to say that engineers use their knowledge and skills to shape the way we live.

But not only is engineering the process of developing new technologies that make our lives easier, it is also about doing so in a reasonable and acceptable manner. Engineers are always looking for ways of doing something in a more environmentally-friendly way, in a way that is better for the human body, or in a way that is cheaper. (It should be noted that this "OR" is not an "XOR.") Arguably, this makes the process of engineering self-regulating, since engineers are not only looking for new ideas, but *better* ideas, as both of these can improve quality of life.

The output of engineering can be seen in many forms in everyday life. The tools we use to get work done every day rely on recent scientific advancements—the scientific knowledge argument of engineering—such as transistor action or information theory and *insanely* technical designs that tackle extraordinarily advanced challenges. For example, most of us, when we encounter something we want to know more about, simply type it into the Google search bar, and press `enter`.



Life before google: a short story

Yet behind the scenes, the computer must take apart the query, analyze it, package it, send it to the web servers hosting `www.google.com`, wait for a response, and then display the result—all in a fraction of a second. All of this is a process developed by software engineers to make our lives that much easier. (That's not even mentioning the process of sending information to a different computer without wires—the internet, a wireless marvel.)

In the end, then, maybe engineering cannot be simply defined as a function, but as a process: Engineering is the systematic creation of amazing leaps in technology from amazing leaps in scientific knowledge. But, no matter how it's defines, engineering has always and always will be the vision of the future.