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Effective Remote Work

For Yourself, Your Team, and Your Company

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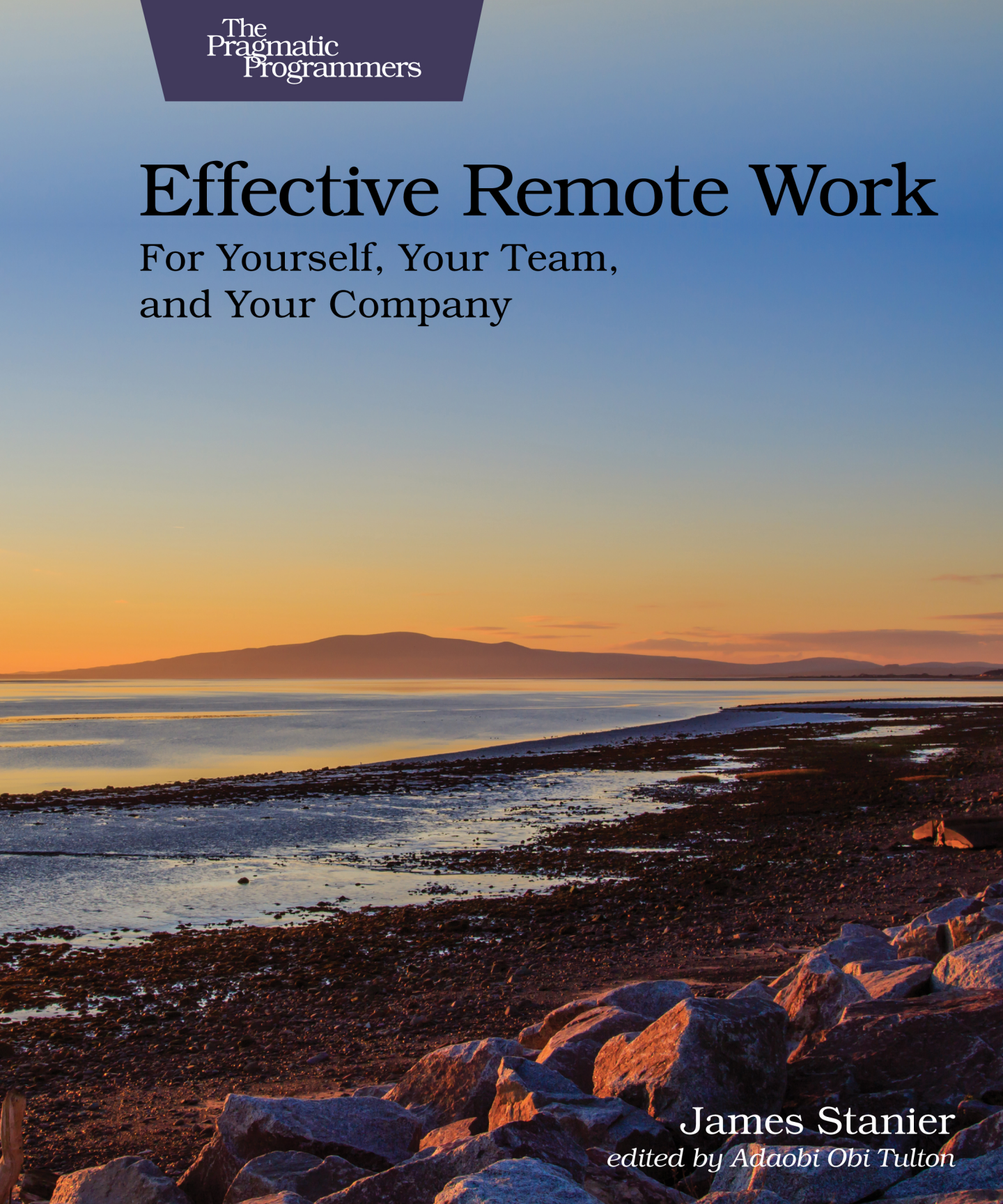
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Effective Remote Work

For Yourself, Your Team,
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Comparing Artifacts

When it comes to the creation and consumption of different types of artifacts, we are going to concern ourselves with three categories. If we were being picky, there would only be two, but because we are creating software, it is worth having a third category to describe special types of communication around producing code.

These are the three categories:

- *Written artifacts.* The most powerful tool in the remote-work arsenal is the written word. We'll cover different ways of using writing to document meetings, formulate and spread your designs and ideas, broadcast news, and store permanent useful information.
- *Codebase artifacts.* Because we're creating software, we'll cover everything to do with checking into your codebases, from commits to pull requests to README files and architecture decision records.
- *Recorded artifacts.* When we treat everyone as remote, we also encounter new opportunities to create recordings of audio and video. We'll cover recording and archiving meetings, creating asynchronous presentations and updates, and using video to annotate written communication.

Before we dive into each of these categories, we should cover something first. Given that we're engineers and we're interested in being efficient in our communication as well as our programming, what's the best way to create and consume information? Is it writing, listening, or watching? Well, like most things in life, the answer is always "it depends."

Consumption Considerations

What's the best medium to use if you want to consume information? According to research, it's reading. A study published in *Human Factors* [Zie98] showed that while proofreading, people are able to read English at 200 words per minute (wpm) on paper and 180 wpm on a computer monitor.

In comparison, in a paper published in *Proceedings of the Human Factors and Ergonomics Society Annual Meeting* [Wil98], audiobooks are recommended to be listened to at 150–160 wpm, and the same figure is given for the average conversation rate in the United States.¹ If you're watching a lecture or presentation that has slides, the recommended rate is 100–125 wpm, according to

1. <http://www.ncvs.org/ncvs/tutorials/voiceprod/tutorial/quality.html>

Linda Wong in her book [Essential Study Skills \[Won14\]](#). So reading is faster than listening.

In addition to speed of consumption, another factor is even more important: retention. If you're spending your time consuming some piece of information, the longer you can retain it in your memory, the better. A study in the [Journal of Advanced Student Science \[UXBB13\]](#) showed that visual stimulation is more effective than audio stimuli at achieving higher memory retention and recall. It's also worth mentioning that it's easier to get distracted while listening to audio or watching videos in comparison to reading.²

So when it comes to consuming information, both for speed of input and retention, the written word wins. But what about producing information?

Production Pondering

Empirical measurement of the production of artifacts via writing or speaking is somewhat more difficult to quantify. Although an average professional typist types at around 50–80 wpm, and some highly skilled typists achieve speeds above 120 wpm (as noted in [On the Reappraisal of Microeconomics: Economic Growth and Change in a Material World \[Ayr05\]](#)), this doesn't really help us answer the question of whether it's faster and more efficient to capture our ideas as written or recorded artifacts.

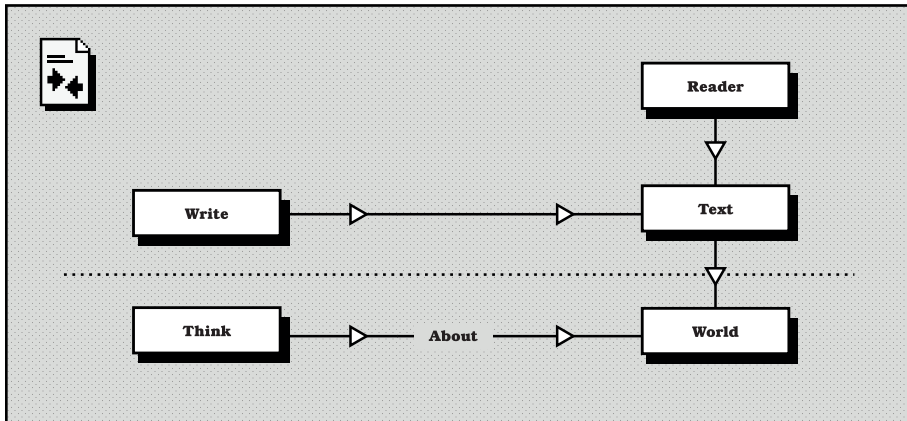
Some people struggle with writing. Others are able to write coherent sentences at the same speed that they're able to think of them. Conversely, some people are fantastic at articulating themselves clearly while speaking in an improvised manner, while others shudder at the thought of speaking in front of a large group. They're fundamentally different skills to be mastered independently.³

Regardless of whether a piece of writing or a recorded talk is being worked on, both require preparation to be effective. In fact, if you're working on a sufficiently complex idea—which is likely, given that you're working in technology—the act of producing the artifact is a key part of developing the idea in the first place. You can't get there by thinking alone. How often have you written up your thoughts on how to design a new feature only to realize while doing it that your original solution is suboptimal and needs some improvements? Likewise, how often have you made an outline of a presentation only to completely change the narrative by the time you write it and practice it several times?

2. <https://news.ycombinator.com/item?id=16603454>

3. <https://scottberkun.com/2012/on-writing-vs-speaking/>

This process is entirely natural and, in fact, should be fully embraced to make better artifacts. Those who aren't aware of this process produce ineffective artifacts. How many times have you read a design document at work only to be put off by what seems like a jumble of ideas that don't fit together as one narrative? How many presentations have left you confused? It's not your fault. The author just hasn't finished their work. The University of Chicago Writing Program uses the following diagram to explain this process.⁴



To think about the world and develop an idea, you need to write about it. This is true of a written artifact or presentation. You can't work through the entire design in your head. The writing process allows you to reflect on the idea as it materializes and then further improve upon it. This produces an artifact as a side effect of you developing your thinking process.

However, this same artifact you create to develop your idea is going to be the same thing your audience is going to consume to understand it. It's the barrier between your view of the world and the reader. The problem is that the artifact you produce to develop your idea will use language and structuring that primarily supports your idea generation rather than readability.

This means that to ensure your audience is going to understand it, you need to further refine it, often by simplifying, rephrasing, and reordering the information so that they're able to see the idea in the same way you imagined it in your head. You need to turn the artifact into a narrative that makes sense to the reader the first time they come across it. Many people are unaware of this second phase, and their readers are left confused as a result. If you've been left bewildered by a written document or presentation, it likely isn't your fault. The artifact has just gotten in the way of the author's idea.

4. <https://www.youtube.com/watch?v=vtIzMaLkCaM>

Your Turn: Inspecting a Bad Artifact

Can you remember the last time you interacted with an artifact at work that was thoroughly confusing? Perhaps it was a design document that made no sense, or a newsletter that was so long and boring that you never finished reading it. If you can, find it.

- What is it about this artifact that makes it bad for the reader? Was it written with you in mind, or does it look like it primarily serves as a way for the author to organize their own thoughts?
- Think about how the artifact needs to change to make it more impactful to you as the reader. Does it need to be structured differently, or does it need different language and terminology so it's clearer?
- If you had to write this artifact again, how would you do it?

We've established that regardless of whether you're creating a high-quality written artifact or a recorded artifact, it's probably going to take an equal amount of effort to produce. So neither format wins for speed of production. In the case of a tie, you should do whatever is generally most suitable for your audience, who we know can consume written artifacts faster and retain them in memory for longer. And it turns out that there are additional benefits to doing this.

Searchability Scrutiny

What good is speed of reading and rate of retention if nobody can find your artifact in the first place? Search engines are excellent at indexing written documents so that users can find them based on keywords. The same is not true for audio and video. It's likely that the system that you use for hosting your shared documents at work has search functionality that does a decent job if you're looking for keywords in the title or the body of a written document; but it may be harder to find that video you vaguely remember that contains the reference to that database table.

If you do create many non-written artifacts, ensure that they're easy to find. It's highly likely that your colleagues would be unable to find your video presentation from three months ago unless it had an explicit link or was stored in a predictable filesystem location.

In addition to being easier to discover, written artifacts have excellent searchability within them. If you were looking for the part of the document that mentions the production database, you could just search for it by name. Conversely, even if you managed to find the video that contained the information about

the production database, you'd have to skip around the content manually until you stumbled across the right part in the timeline. It's likely that you'd give up and try to ask the author directly, defeating the purpose of the artifact existing.

There are other usability factors to consider when choosing writing or recording for your artifacts. Remote working allows people from all over the planet to collaborate, and often you won't have the same native language. Written documents allow those with different native languages to use translation tools to help them understand complex sentences. This isn't possible with recorded video. More importantly, written artifacts provide solutions to visually impaired colleagues via the use of screen readers, but recorded artifacts offer no reliable equivalent for deaf colleagues. Even if you have access to software that automatically produces text transcripts, it can be inaccurate and frustrating to the user.

So when it comes to technological assistance, written artifacts also come out on top. This means they're faster to read, better for retaining information, equal in preparation time to recorded artifacts, and have better tools available to help non-native speakers and those with visual impairments. Surely then, we should only produce written artifacts and ignore everything else? Well, not quite.

Convenience and Humanity

There are three main scenarios where recorded artifacts are worthwhile:

- *When they take almost zero effort to produce.* Recording a meeting requires little more effort than clicking a button and then uploading the video file at the end. This can provide an archive of your regular meetings to anyone who was unable to make it that day. This supports those who work flexible hours or different time zones with little extra cost. Imagine, for example, how much time it would take to write a detailed summary of the meeting instead.
- *When they supplement another artifact.* As we'll see later in the chapter, a recorded artifact can be an excellent guide to longer and more complex written artifacts. A detailed written design of a new piece of architecture could be overwhelming to many readers; however, an accompanying five-minute video that walks through the main points can greatly reduce the barrier to entry.
- *When they give an opportunity to feel connected to other humans.* As we saw in [Chapter 4, The Spectrum of Synchronousness, on page ?](#), there

are occasional times and places to forget about efficiency or the right way to do things and instead break the rules to feel more connected to others. The same applies here. Creating a recorded artifact allows someone to hear and see another human being, which can be beneficial when talking through an exciting announcement or giving a monthly update. So, from time to time, substitute a written artifact for a recording to remind people that they are still working with other humans, and not robots.

When you're remote working, we highly recommend creating written artifacts as your first choice. Use recorded artifacts as supplements or archives of synchronous events, or use them sparingly for occasions where the positive effects of feeling connected to other humans outweigh the negatives of the format.