

# Delivering Value with Confidence

## “The Slack Time Pattern”

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*Many software development processes, such as agile and lean, focus on the delivery of working software that meets the needs of the end users. Many of these development processes help teams respond to unpredictability through incremental, iterative work cadences and empirical feedback. There is a commitment to quickly deliver reliable working software that has the highest value to those using or benefiting from the software. A key principle to the long-term success of a project is to have confidence that changes will not break important parts of the system. This is only done if there is time taken to build confidence into the process and architecture. To assist with this, it is important to allow for “Slack Time” to reflect on things learned and to experiment with ways to make things better. This paper will focus on the “Slack Time” pattern as a key practice to help sustain Quality Delivery with Confidence.*

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## Introduction

Many software development processes, such as agile and lean, focus on the delivery of working software that meets the needs of the end users. Many development processes help teams respond to unpredictability through incremental, iterative work cadences and empirical feedback. There is a commitment to quickly deliver reliable working software that has high value to those using or benefiting from the software.

Agile teams often focus on velocity and burndown as a way to measure success. It can become difficult to sustain delivery with a good velocity as the software grows and becomes more complex. Software projects can evolve quickly at first, but as the system grows, what once seemed like an easy task can become much more difficult to implement and deploy with confidence, specifically when there are many dependencies within the system.

There are practices that can be used during development to help sustain delivery at a good pace while maintaining confidence in the system. Some of these are related to agile or lean practices such as short delivery cycles, good testing, clean code, and continuous integration. Small delivery size with regular feedback through incremental releases has proven itself over the years and has become the de facto standard for most agile practices. Delivery of smaller pieces involves getting regular feedback so that adjustments can be made to problems noted earlier and fixed. Also, keeping your code clean by including refactoring and evolving your architecture has become accepted as a key principle of most agile practices.

However, blindly following agile practices isn't sufficient to help sustain delivering quality software at a good pace with confidence. Quite often, system qualities, such as reliability, scalability, or performance, are overlooked or simplified until late in the development process, thus causing time delays due to extensive refactoring and rework of the software design required to correct quality flaws. Other practices can help with this, such as reflection time, finding ways to improve, and building quality into the process and product from the start [YWA, YW, YWW].

If we deploy software more frequently, it is important to ensure stability and reliability in our systems. The goal is to be able to safely and quickly release our software in a sustainable way. Continuous Delivery and DevOps have focused on both automation and team practices that can help with this. Automation and a good pipeline that gives confidence have proven invaluable in helping sustain delivery with confidence.

However, to achieve long-term stability and confidence, it is necessary to develop ways to minimize the risk that changes will not break important parts of the system, and if it does happen, you know about it before they are released. This is only done if there is time taken to build confidence into the process and architecture. To assist with this, it is important to allow for "*Slack Time*" to reflect on things learned and to experiment with ways to make things better. This paper will focus on the "*Slack Time*" pattern as a key practice to help sustain Fast Delivery with Confidence.

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## Slack Time

*“The purpose of training is to tighten up the slack, toughen the body, and polish the spirit.”*  
— Morihei Ueshiba



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Successful software projects grow and become successful to the point where they receive so many requests that many improvements are put on the back burner. Ultimately, the system can evolve to the point where it can become very muddy and hard to maintain. A lot of time can be spent trying to keep it working. Even small new features can cause things to break, which can require a lot of work on putting out fires. The teams would like to innovate or find better ways to build the system, possibly even innovating.

**People on teams become very busy on projects dealing with everyday tasks of keeping the system going and attempting to add new features. There seems to be no time to deal with problems, reduce waste, or find ways to improve. How can teams improve or innovate given these issues?**



Businesses can get very busy trying to meet the requirements, where there is barely time, resources, or people to do what is needed to keep a project afloat.

Quite often, there is a culture in organizations that anytime we are not “focusing on the project,” we are not generating value for the business, thus wasting time. This can lead to people feeling guilty if they take time to think about other things or experiment with something that is not immediately apparent to fulfill the goals of the project. In agile, aren't we only supposed to work on tasks or features that are prioritized by the product owner?

Many organizations don't provide the atmosphere or environment to be creative. This can be a barrier to thinking and experimenting with new ideas.

Average companies get average people—it is the definition of average. Some people only want to be told what to do and when to do it. They are not interested in improvements but only in the minimum they need to do to get the job done.

Some software qualities require significant expertise to ensure they are specified, designed, implemented, and verified appropriately. If the focus is primarily on functionality, qualities can be deemphasized and ignored until late in the development phase. Many qualities require various expertise and this expertise is not always part of the agile team. If not enough focus is emphasized on quality and part of the complete process, trying to add these later can often lead to an unstable architecture that is hard to evolve and maintain.



**Therefore, allocate “*Slack Time*” to experiment, build quality into the system, and try new things. Create an environment to support slack time for your teams.**

*Slack Time* is crucial to innovate or to make any critical long-term improvements. Of course, this is easier said than done. Often, teams want and say they will allow more time in the next sprints or after the next release to do that needed refactoring or improvement. However, there are many forces that often go up against teams finding slack time without making tricky trade-off decisions, and often teams get stuck.

Successful innovators often take time to work on tasks that are less exciting than their great ideas. It's the mundane, less exciting jobs that really help make a project successful. Slack time may give you the opportunity to do those mundane tasks that are still key to the success of a project. These can often be little experiments where you try new ways to optimize the process or ways to build confidence about what is being worked on.

If you primarily focused on just efficiency to get as many tasks done as possible, or there is a lot of complaining about the delay of the last release, you do not have room to experiment. Efficiency can be very seductive, as you believe you are finding the least expensive way to do something. Tom DeMarco, in his book "Slack: Getting Past Burnout, Busywork, and the Myth of Total Efficiency", points out that there is a danger in focusing too much on efficiency, which can end up stifling the creative talent and reduce overall effectiveness [DeMarco]. You might end up micro-optimizing the ways you do tasks, but you could be missing a creative way that could be much better. This is similar to what Daniel Kahneman talks about in his book “Thinking, Fast and Slow” [Kahneman]. There is value in both kinds of thinking, and slack time allows for some “Slow Thinking” that can be quickly applied.

Those who work towards steady improvement know and understand the importance of having time to think and experiment. It helps when you have time to reflect on experiences and think about experiments to make things better. Unfortunately, many are not always capable of learning from our experiences. This can be because we do not have time for allowing a new process to mature and for new ideas to germinate. Slack time provides an environment and free time that allows us to perform activities that had not been scheduled, thus allowing ideas to germinate and to experiment with new ideas. It can also be used to address important qualities that should be addressed to help with confidence in the system.

It can be useful to have slack spaces. This can help provide the environment and motivation to spend time in activities we enjoy and that we can share with our colleagues. This space can also help create the space or attitude for creativity.

Finding slack time or where to have our slack spaces can be a challenge in itself. Some like to schedule it at the beginning of the day. Others like to schedule it at the end of the day, with a secondary goal of helping to make progress in tasks that have been put aside and finish the

day in a more relaxed way. You might need some slack in the middle of the day or when working on a project and getting stuck. It can be useful to take a break, go for a walk, or do something with others. Then you can come back invigorated with possibly new ideas. This can lead to an aha moment where you stop thinking about the problem in detail.

Some think it is a good option to plan what they are going to do in their *Slack Time* and space. For example, I know of one team that started their day with "Refactoring Exercises," doing a little cleanup before they got into the hectic part of the day. This is similar to stretch exercises before you run or morning meditation, which can help with the rest of the day.

There are many ways that a team can create slack time. You can create slack time through some of the following:

- Coding Dojos
- Training or Learning
- Morning exercises
- Open space
- Hackathons
- Google 20% time
- Going for a walk and/or playing games with colleagues
- Retrospective with time to reflect...but take action.

This list outlines some ideas you can try for creating *Slack*. There are, of course, many ways you might consider given your organization and teams. When done right, slack time can lead to positive consequences such as innovation, and building safety and confidence in the process and system. Also, it gives room to try things that normally would never be attempted. Additionally, slack time can be used to validate what you are doing or building and to find good ways to build quality into the system and process.

However, there can be negative consequences associated with slack time. For example, in the short term, it may appear you are not as productive. As time is spent experimenting or trying different things, some may believe that time was wasted on not releasing important features. Also, some might take advantage of slack time. They might use the time to goof off or to procrastinate. Possibly, it becomes a catch-up time for email or browsing the internet. They might use it to put off needed tasks they just do not want to do. When this is done, you will not receive the benefits of slack time. It is important not to have too much slack.

Slack time can sometimes be misinterpreted as being lazy or not getting important tasks done. However, this can often be seen as something similar to what some of us call the "lazy programmer." Some have said that lazy programmers are some of the best programmers. Not lazy in terms of doing the right thing, rather a lazy programmer will avoid writing monotonous, repetitive code, thus avoiding redundancy, which is the enemy of software maintenance and flexible refactoring. They often find a way to do the same thing that an average programmer can do in a fraction of the time, thus allowing more time to validate what they are doing and experiment with better ways to solve the problem with confidence in the solution.

## Summary

This paper presented the “*Slack Time*” pattern and the importance of allowing slack in teams' schedules so they can reflect on things and experiment with ways to make things better. This also allows teams to deal with uncertainty and with problems that arise during the normal development process. Teams should never try to estimate at 100% capacity and need to buffer some slack time into their schedules to deal with problems and to allow for teams to innovate. This is not a new idea, but it often gets forgotten about in today's environment, especially with a focus on speed, which can lead to problems like poor quality and challenges in managing change.

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