

CONSTRUCTION SCRUM

How to Deliver Projects **Easier,**
Better, and **Faster**

Felipe Engineer-Manriquez
Foreword: Dr. Jeff Sutherland



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<https://constructionscrum.com/book-links>

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WARNING

Use of any portions of these principles and methods will result in increased capacity. More time to improve, optimize, and coach others will be YOUR challenge. If you are completely satisfied with your capacity, read no further.



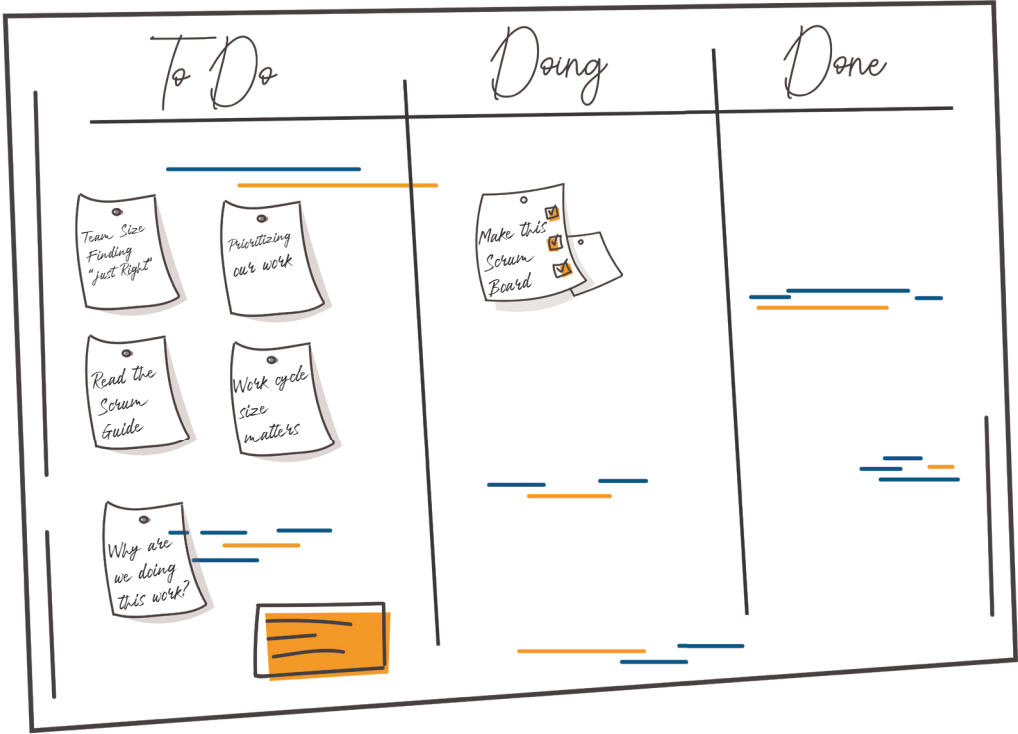


Figure 1.1


<i>To Do</i>	<i>Doing</i>	<i>Done</i>
<p>Set a goal for the week.</p> <p>Plan tomorrow's work.</p>	 <p>Read the Scrum Guide.</p>	<p>Attend the PE training webinar.</p> <p>Lead Monday safety huddle.</p>

Table 1.1

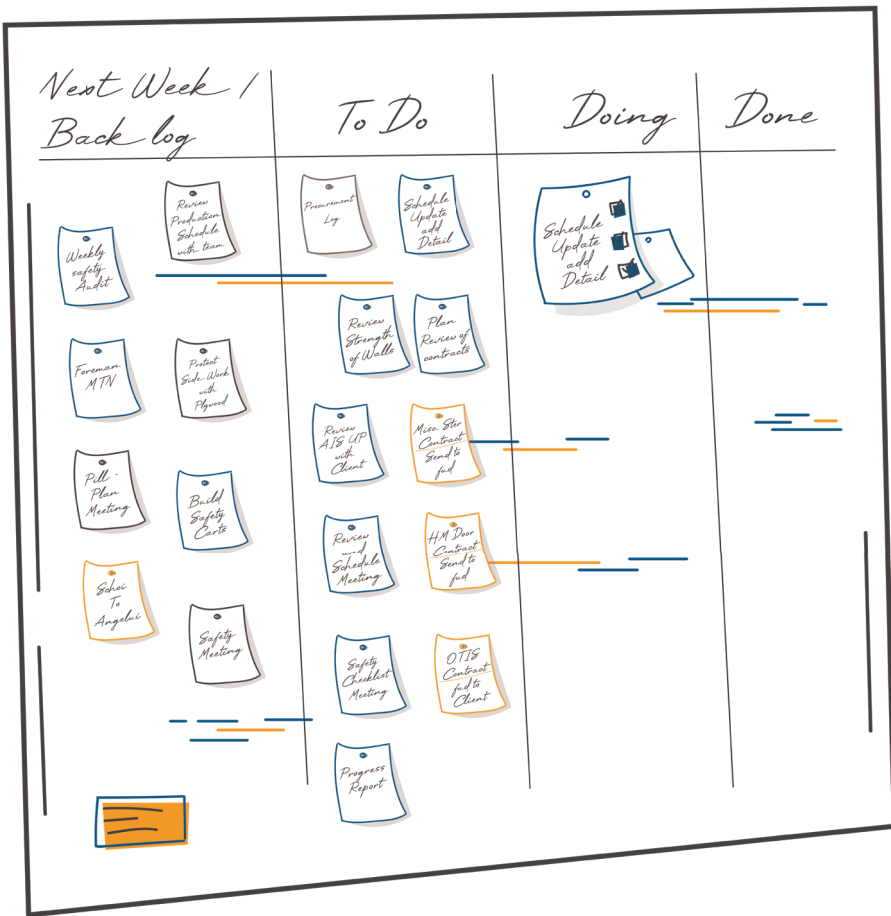
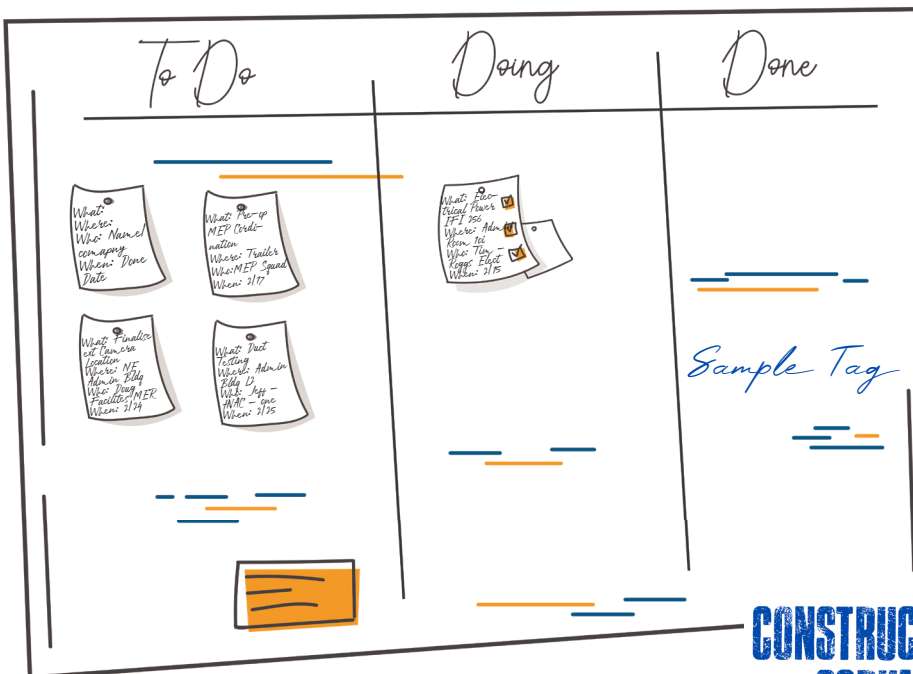


Figure 1.2



Meeting Minutes

Topic	Discussion	Responsible
Safety Inspections	Orientations are mandatory. Weekly reports are available on the shared drive	Alicia
Schedule	<p>Multitasking is a myth. If you think you are good at it, read this sentence while simultaneously remembering the last time you drove, talked on the phone, and didn't miss your desired exit. People really work on tasks one at a time. Scrum promotes this flow enabling good practice every time you move a sticky note from the Doing to Done column after the task is complete. Dual-Task Interference or Context Switching describes the mental process of changing between tasks, tools, or projects. Gerald Weinberg wrote about this in his book, <i>Quality Software Management: Systems Thinking</i>, back in 1991. Gloria Mark, Professor, and Researcher at the University of California at Irvine, reports real-world research findings that support Gerald's earlier observations that people lose more than 20% of their time by mentally switching from one task/project/mode of action to another. She has several published papers on this topic which you can learn more about here at the University of California, Irvine.</p> 	
Cost	Change order log reviewed, no open change orders	Kevin

Table 2.1

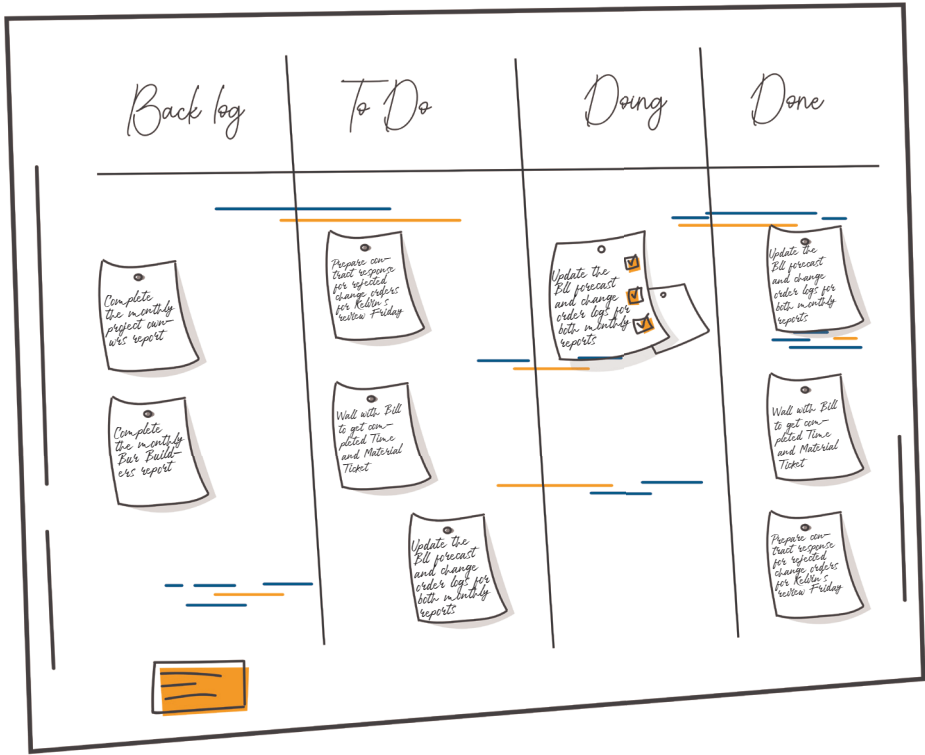


Figure 2.1

Defect ✓
 Overproduction
 Waiting ✓✓✓
 Non-utilized talent ✓✓
 Transportation ✓
 Inventory

Figure 3.1

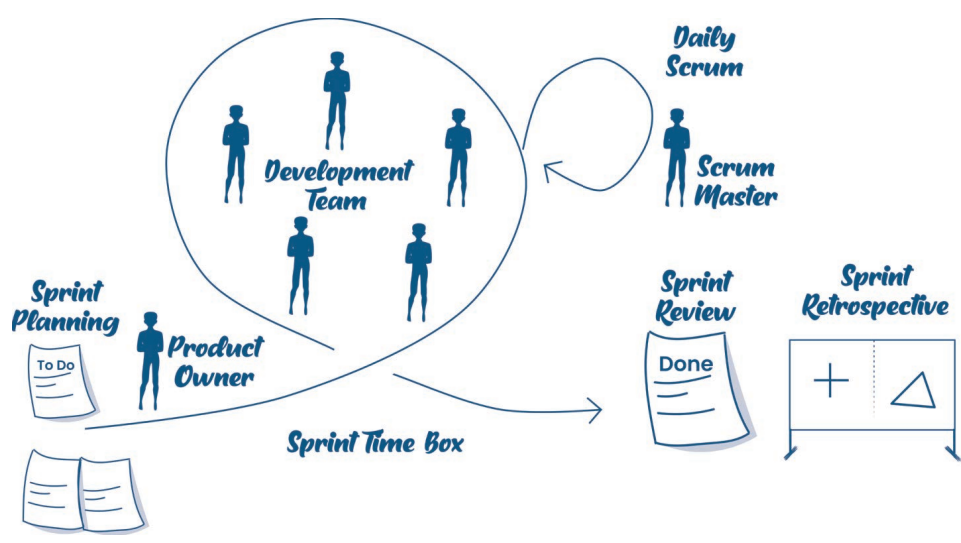


Figure 3.2

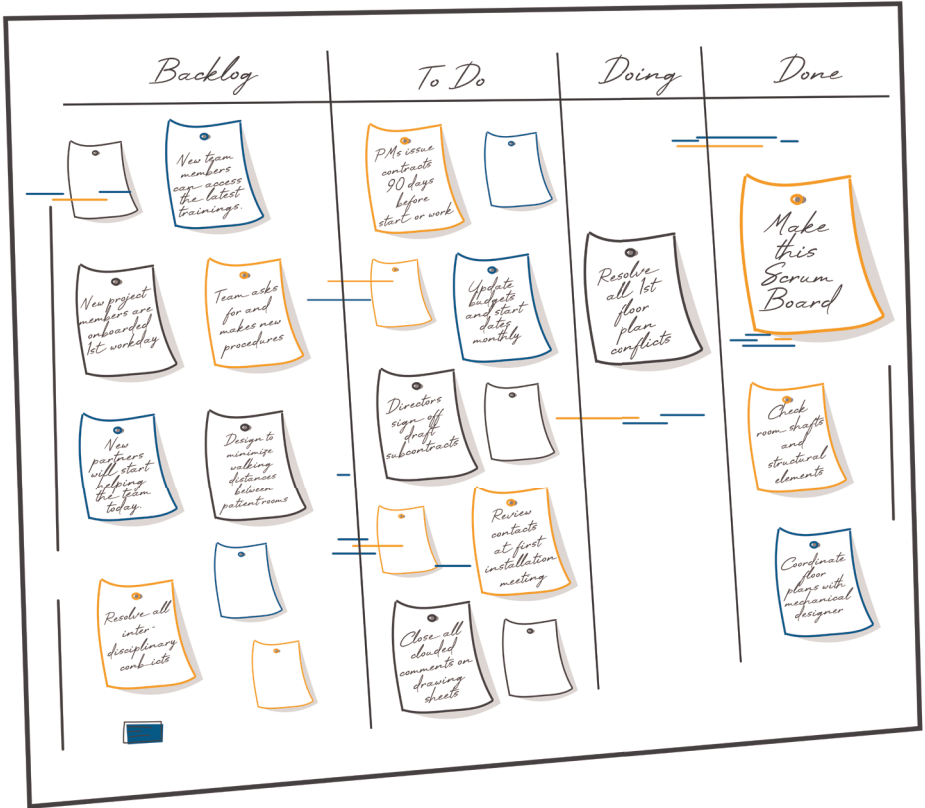


Image 3.1

New Team Member Onboarding Planning Meeting

To Do	Doing	Done
<p>Introductions</p> <p>Answer as a team how this new hospital delivers on the owner's needs for patients.</p> <p>Explore what metrics are important during design, construction, and future operations.</p>		

Table 4.1

New Team Member Onboarding Planning Meeting			Goal: Build a healthy place in Anytown, USA, that advances cures, prevention, and overcomes diseases through caring patient treatment.
To Do	Doing	Done	
<p>Introductions</p> <p>How does this new hospital deliver patient care?</p> <p>What metrics are important during construction and operations?</p> <p>What do we need for new project team members to experience on day one?</p>			

Table 4.2

CANDO	5S - English	5S - Japanese	Action Questions
Cleanup	Sort	Seiri	Are these things necessary, and, if so, how much is needed right here, right now?
Arrange	Set in Order	Seitōri	Where is a better place to locate these things, and how much of them should be here to be useful?
Neatness	Shine	Seiso	What cleaning methods are needed where, by whom, when, and how to keep the work neat?
Discipline	Standardize	Shitsuke	What standard do we need to maintain the needed conditions in response to the answers above and who will daily help us to avoid setbacks?
Ongoing improvement	Sustain	Seiketsu	What resources do we need to seek perfection, such as recognition for good housekeeping and resources, to support the implementation by leaders and team members, while keeping the creativity of all workers engaged, heard, and ideas implemented?

Table 5.1

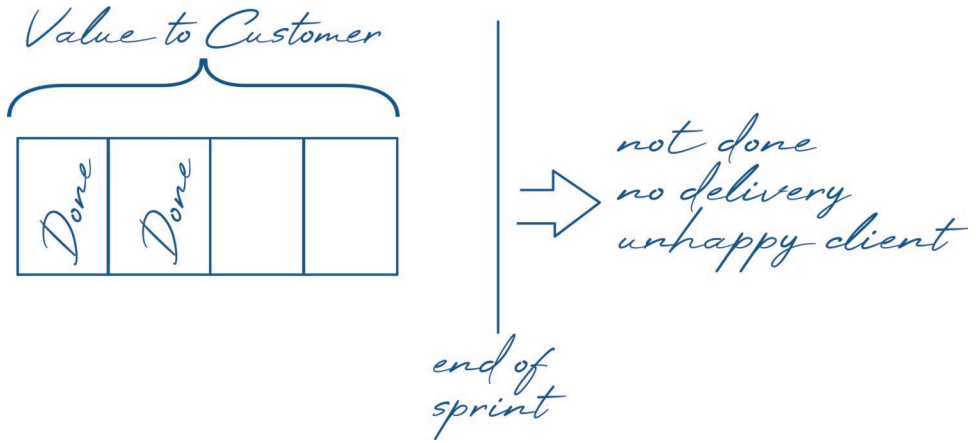


Figure 5.1

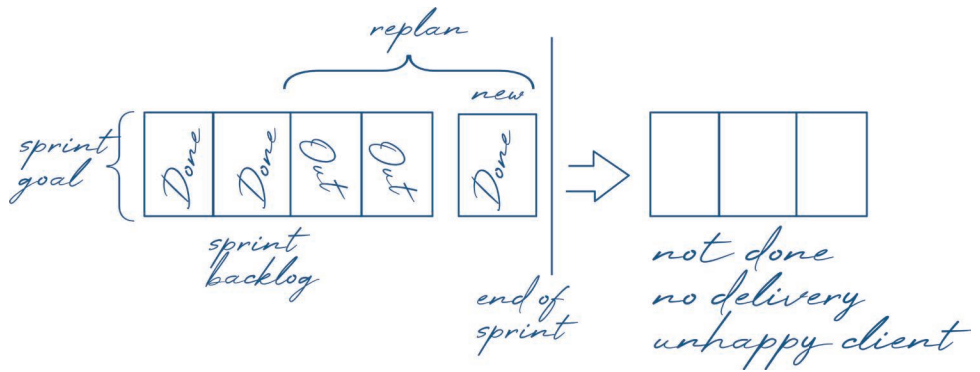


Figure 5.2

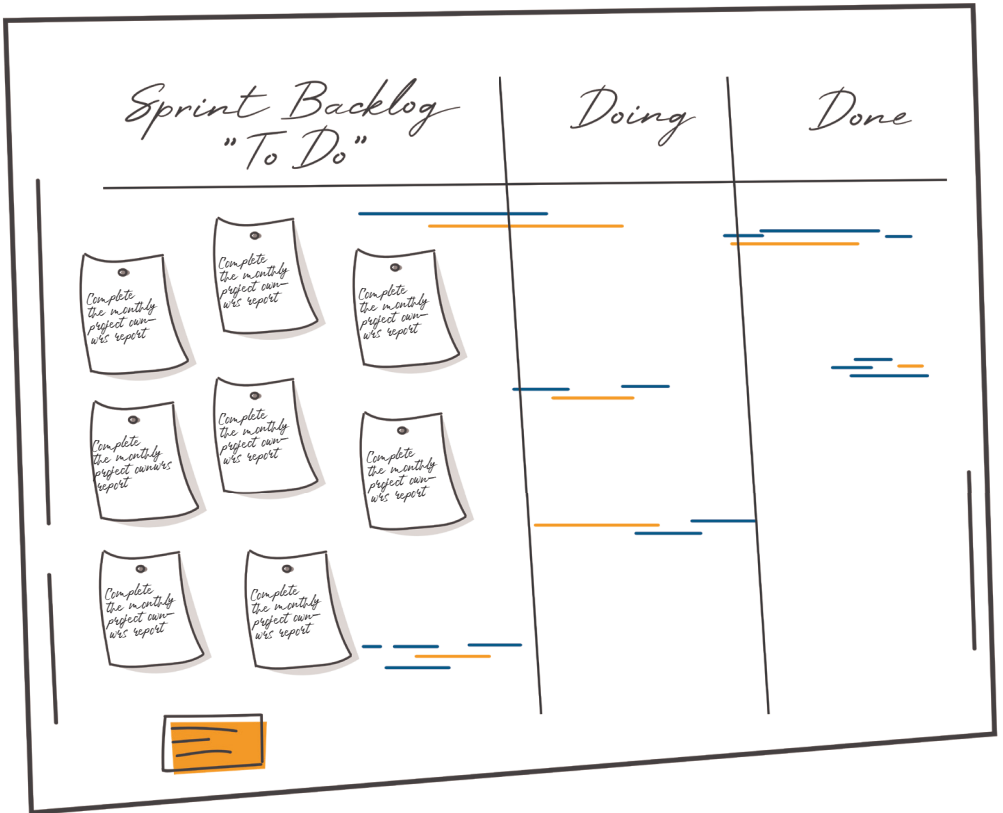


Figure 5.3

Start Your First Sprint and Keep it Simple!

11 main steps:

1. Pick a Product
2. Pick a Team
3. Pick a Scrum Master
4. Prioritize Backlog Items
5. Estimate the Backlog
6. Sprint Planning
7. Make your work visible
8. Daily Stand-up Meeting
9. Sprint Review
10. Sprint Retrospective
11. Repeat



Figure 7.1

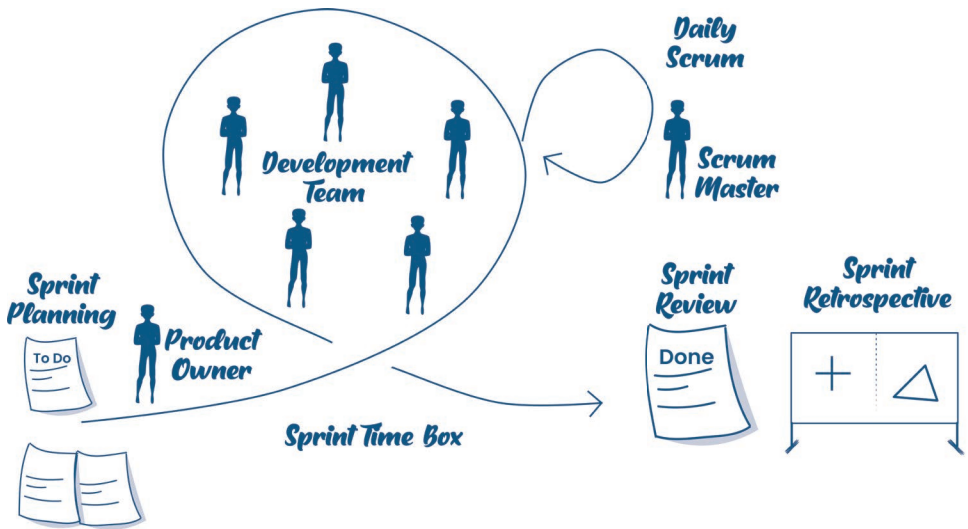


Figure 7.2

Before

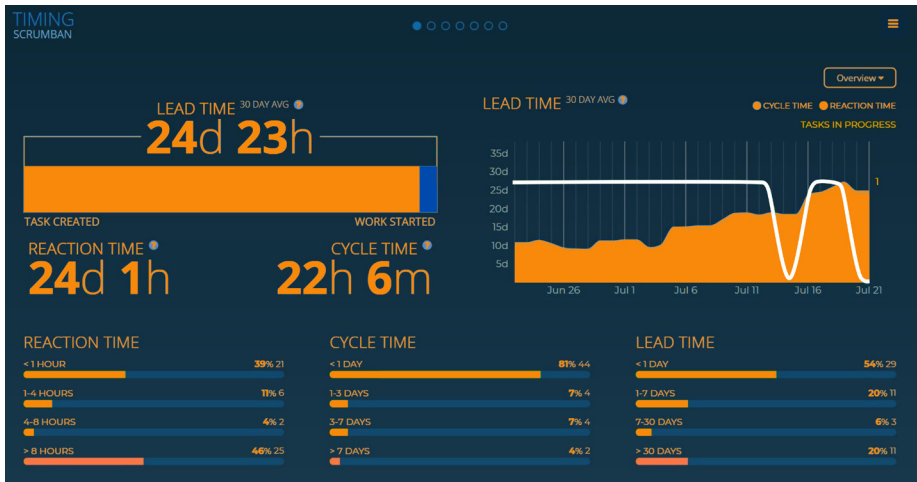


Figure 7.1

After

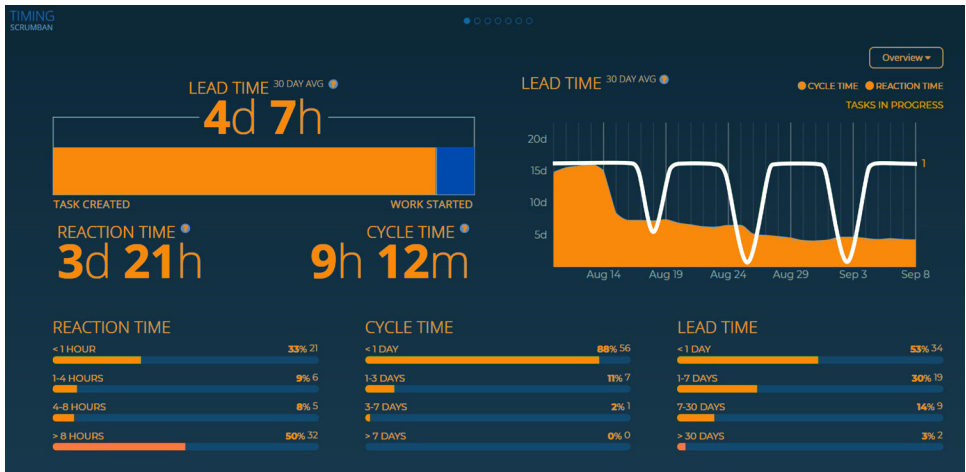


Figure 7.3

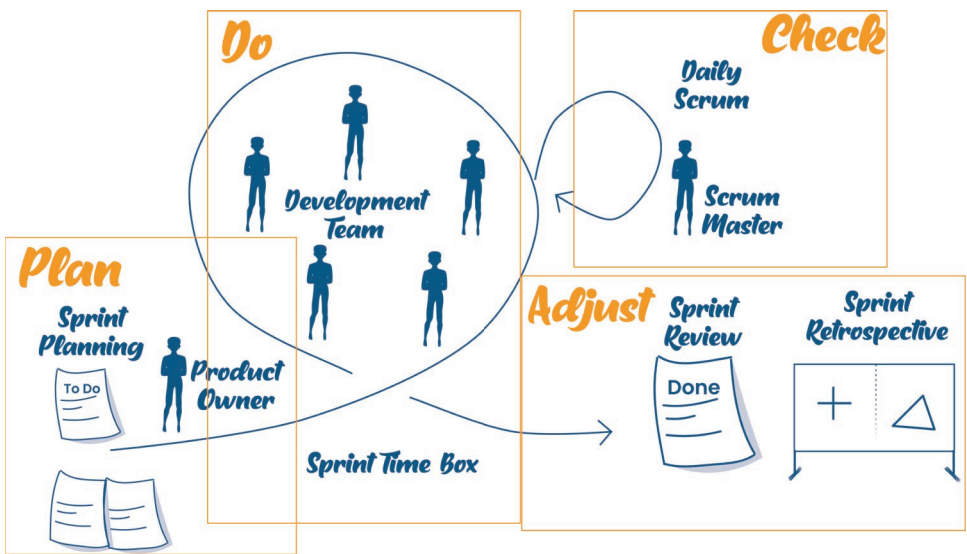


Figure 8.1



Figure 9.1


Backlog (Product Backlog)	To Do (Sprint Backlog)	Doing	Done
<p>As a new Scrum user, I want to use Scrum daily for a month so that I can make it a habit.</p>	<p>Watch this video from Scrum Inc.</p> <p>Intro to the Scrum Framework</p> 		

Table 8.1

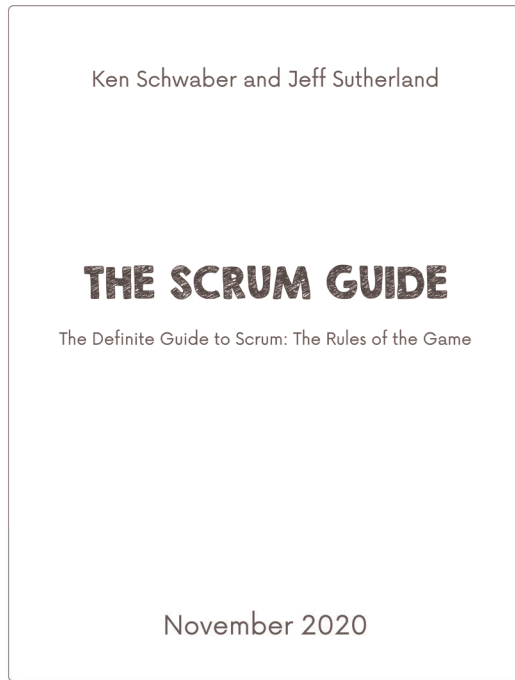


Image 8.1

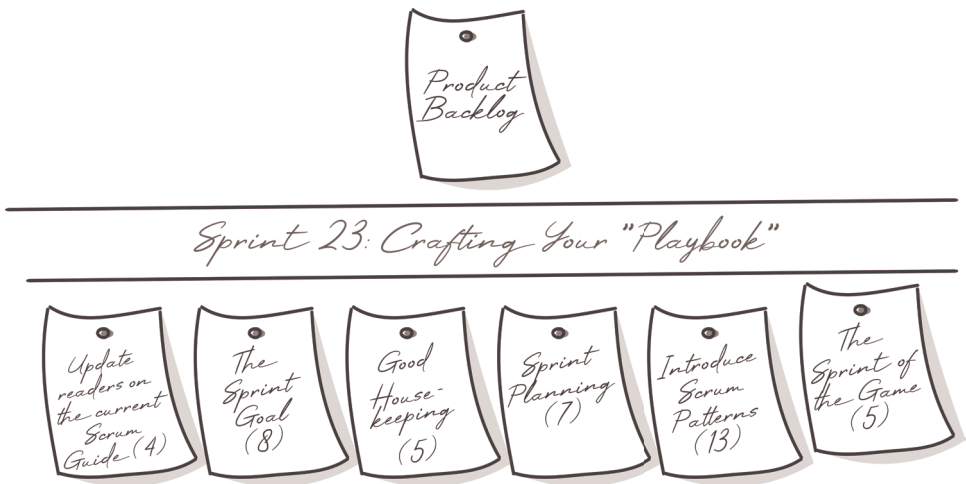


Figure 8.2

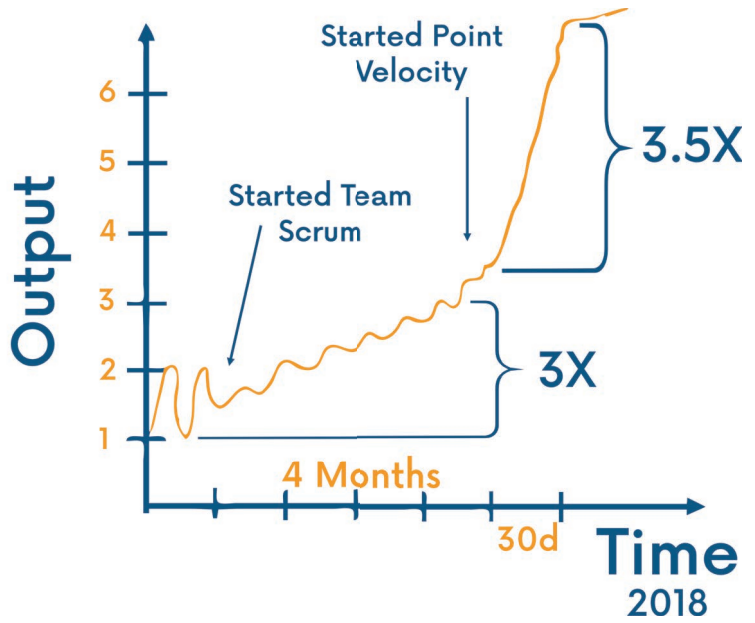


Figure 10.1



Figure 10.2

Chapter 12

Scrum & Lean: A Power Duo



Non-value-added work tasks	Minutes	Value-added work tasks	Minutes
<ul style="list-style-type: none"> ■ How much time did you spend in meetings where you did not contribute anything? ■ How much time did you spend answering emails (reading and marking emails for future action is non-value-added time spent)? ■ How much time did you spend on the job site versus the project office? ■ How much time did you spend updating a status report, spreadsheet, or reviewing timesheets? 		<ul style="list-style-type: none"> ■ How much time did you spend on communicating timely, accurate, appropriate, and relevant information to the project team? ■ How much time did you spend leading, guiding, motivating others to manage and overcome issues to achieve project outcomes? ■ How much time did you spend learning? ■ How much time did you spend managing the deployment and use of people, money, material, equipment, and methods for the project? ■ How much time did you spend on problem-solving, making judgments, and decisions to effectively direct the project through changes? 	

Non-value-added work tasks	Minutes	Value-added work tasks	Minutes
<ul style="list-style-type: none"> ■ How much time did you spend tracking the shipment of missing materials onsite? ■ How much time did you spend waiting for information or action from others? ■ How much time did you spend making meeting minutes or tracking down open issues log items? ■ How much time did you spend fixing the mistakes of others or your own? 		<ul style="list-style-type: none"> ■ How much time did you spend on improving the team’s culture of respect, responsibility, accountability, honesty, and trust? ■ How much time did you spend on planning and scheduling upcoming work? ■ How much time did you spend mentoring and coaching others on the team? ■ How much time do you spend collaborating on upcoming work with the project team? 	
Total		Total	
$\text{Value-added Time} / (\text{Value-added Time} + \text{Non-value-added time}) \times 100 = \text{Value Delivery Capacity \%}$			

Table 12.1

Reflection Questions	Felipe's Answers	Your Answers
What increment of value was completed?	25-person meeting preparation with executive sponsor and new meeting facilitator to create a digital engagement space that supports effective communication and engagement	
How long did we work to achieve that increment of value?	Three people working together for a single hour	
How much effort did we put in ? Subjective rating: Low - Medium - High	Medium	
What are we working on today that will help us achieve the next project goal?	Encouraging and supporting the team to make continuous improvement experiments	
Based upon our lean foundation, what change should we make now to enable easier workflow?	Collaborate in a shared document instead of using multiple platforms and resorting to emails and online chat	

Table 12.2



Before

After

Figure 13.1

Felipe's Scrum Trello Resources



Image 13.1



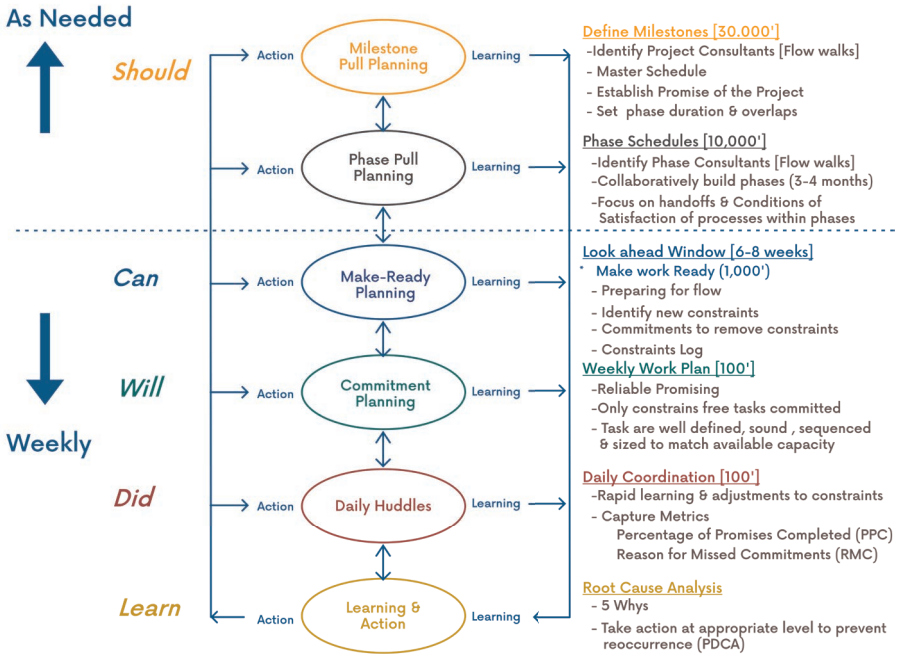
System	Last Planner System	Scrum
Definition	<p>The collaborative, commitment-based, planning system that integrates should-can-will-did-learn conversations to make more reliable promises and project delivery.</p> <p>LCI Glossary</p> 	<p>Scrum is a lightweight framework that helps people, teams, and organizations generate value through adaptive solutions for complex problems.</p> <p>Scrum Guide</p> 
Uses	Design and construction planning and scheduling	Many industries involve complex work such as product development, software, hardware, education, manufacturing, research, science, finance, business, design, construction, and more

Table 14.1



Creating an maintaining reliable workflow

Figure 14.1, LPS Schematic

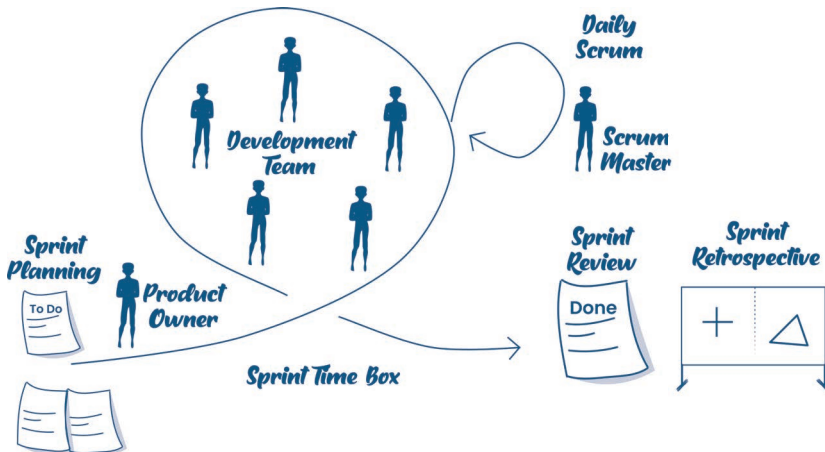


Figure 14.2, Scrum Framework

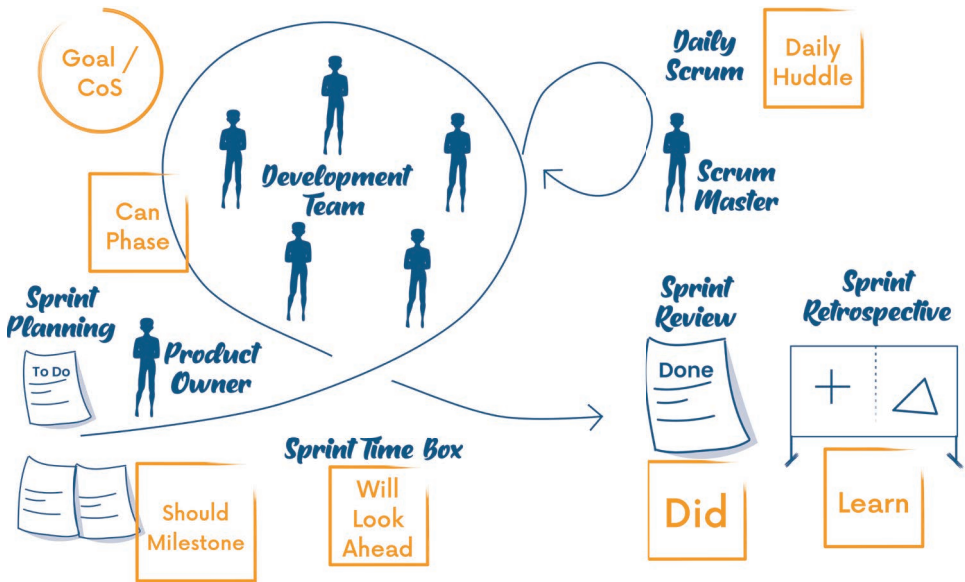


Figure 14.3, LPS Superimposed on Scrum

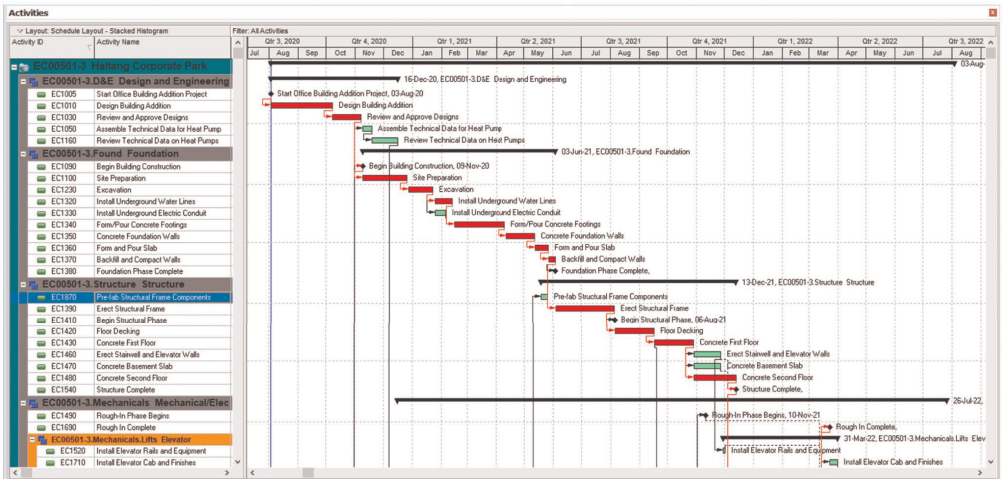


Image 14.1, CPM Schedule



Figure 14.4, Project Milestones



Figure 14.5, Milestone Scrum Board



Figure 14.6, Phase Pull Plan



Figure 14.7, Phase Scrum Board

	Low		Medium		High
Individual Awareness	1	2	3	4	5
Team Awareness	1	2	3	4	5
Organization Awareness	1	2	3	4	5

Table 14.2

System	Last Planner System of Production Controls (LPS)	Scrum
Definition	The collaborative, commitment-based, planning system that integrates should-can-will-did-learn conversations to make more reliable promises and project delivery.	Scrum is a lightweight framework that helps people, teams, and organizations generate value through adaptive solutions for complex problems.
Uses	Design and construction planning and scheduling	Design and construction planning and scheduling plus many other industries

Table 14.3

Continue Sprinting with Me

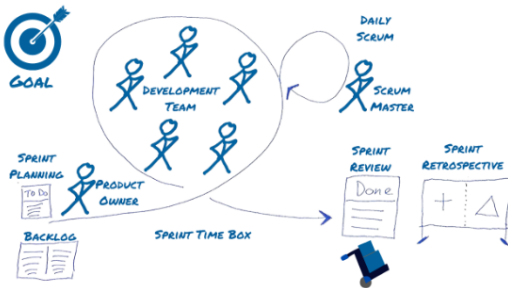
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