The getKanban Board Game

Facilitator's Guide

Version 2.0

getKanban.com

Hello Facilitator

Thank you for your interest in The getKanban Board Game! I suggest that before reading this guide, you read through the Game Instructions, then look over the components of the game, particularly the board, the charts, the Financial Summaries sheet, the green Event Cards, and the story cards. After reviewing the components, and reading this guide, you might want to run through the game yourself.

The guide and instructions are very prescriptive to avoid ambiguity as you are starting out. If you facilitate the game often, you may wish to modify the startup procedure and the rules to your own taste.

I designed this game as a part of my Kanban training class. It proved to be such an effective way to teach the basics of Kanban, that I decided to make it more widely available. Please don't hesitate to contact me if you are interested in Lean and Kanban training or consulting, or if you have any questions about the game.

Kind regards

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Game Duration

It is best to allow 2.5 to 3 hours for a stand-alone session:

- 30 minutes for an introduction to Kanban;
- 90 minutes to play the game;
- 30 - 60 minutes for debrief and discussion.

Game/Team Size

The game is designed to be played as a team. It involves constant decision making, and can therefore suffer from lengthy analysis. To counter this, it is best when multiple teams play against each other, with a bonus on offer for the first team to finish, as described in the Game Instructions. This also creates a positive tension and a more memorable experience.

The ideal team size is about six players per game. There are four specific roles, as explained in the Game Instructions, each of which requires significant attention from the person playing it, so it is good to have an additional two or so players to operate the board. If there are more than eight players per game, some people may disengage.

Note that each team will need plenty of clear table space.

Approach

Introduction: 30 minutes

It is advised to briefly cover the basic mechanics of Kanban before running the game:

- the concept of limiting WIP to create a pull mechanism;
- how a simple Kanban board works;
- CFD and control charts.

There are a lot of details to pick up to play the game, and some understanding of the above makes the game start up a lot faster.

Game: 90 minutes

Form teams, and ask each team to choose a name.

1. Visible Scoreboard

Draw a grid in a visible space with the team names, and billing cycles, something like Figure 1.

Team \ Billing Cycle	9	12	15	18	21
Skylarks					
Fast Tracks					
Team Z					
The Indelibles					

Figure 1. Bonus for first team finished: $10,000

Throughout the game, the Financial Analysts will be telling you their team's gross profit. Post these values on the grid.

2. Hand Out / Set Up Kits

IMPORTANT: include only **two** (not three) orange dice when handing out the game kits to the teams. The teams will request the third orange die on day 17 of the game. The teams will also ask you to update their boards on day 15 to change the WIP limit on the Ready queue. There is a card in the kit with magnetic strips that they can place on the board to update it.

Hand out the game kits, and have them arranged as shown in Figure 2.

The story cards should be arranged in three decks: Standard (yellow), Intangible (green), and Fixed Delivery Date (purple). The decks should be ordered by story number, e.g: S1, S2, S3, …. The Expedite (white) story card should be at the bottom of the deck of Standard stories, hidden from view.

It is best if most of the team members are able to see the board oriented the right way up, rather than upside-down. The Financial Analyst should be near the right hand side of the board.

3. Read Game Instructions

Read the Game Instructions aloud. The teams can follow along with their own copies of the instructions. Answer any questions from the teams. Make sure the teams have primed their boards by placing stories S1-15 and I1-2 in the correct stations on the board.

The reason we prime the board in this way is to save time, and get straight into the learning opportunities. If we started with an empty board on day 1, it would take several days of playing before stories were completed, and cycle time could be calculated.

The boards should now look like Figure 3 in the Game Instructions.

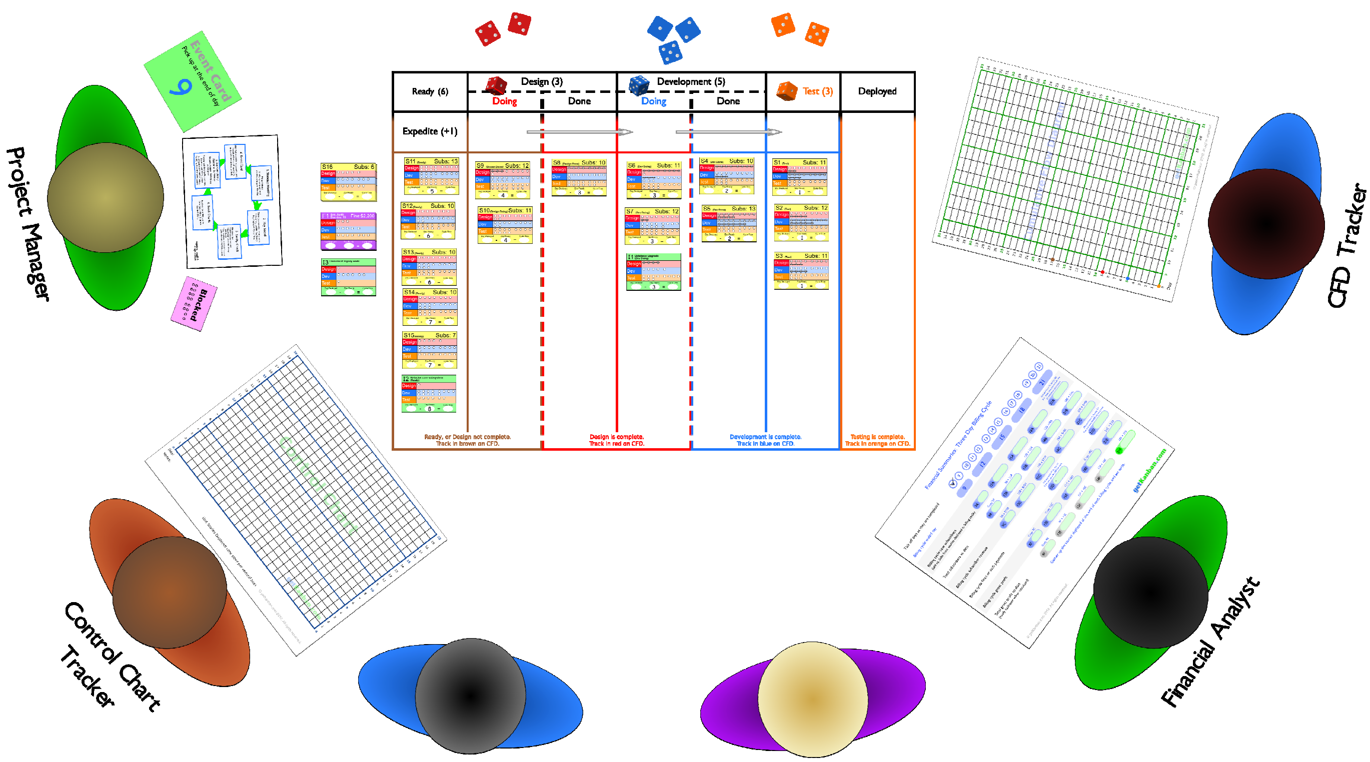


Figure 2.

4. Review the CFD

It is useful to explain the starting state of the CFD and how it relates to the stories on the board. There is an extensive explanation on the reverse side of the CFD in the section entitled *The Starting State.*

5. Guide Teams Through Day 9

You will now guide the teams through day 9, taking them through each step. All decisions for the day have been made. The teams will update their boards and charts according to your instruction to become familiar with the process. Ask the Project Managers to follow you on their Daily Steps chart. This is a script you can follow, you will no doubt adapt it as you become familiar with it.

1. Standup Meeting

"It looks like every specialization has plenty of work to do. There are no apparent bottlenecks or problems with flow. I am happy with the order the stories are in. We might be able to deploy our first story today."

2. Play Board

Alternative Rules

The following section of the script plays the dice in sets (one of each color until all dice are played) so as to simulate the passage of time during the day. This gives the teams more control (because they have more knowledge) and reduces jaggedness in flow. However there are more decisions to make, so the game takes longer.

An alternative is to require that the teams declare all dice at the beginning of the day, in the standup meeting. This will make the game slightly faster, but teams may try to game the system to use their dice most effectively – eg: do some work in Design before doing work in Development.

"I have picked up one die of each color, and have decided to play each die in its area of specialization to benefit from their expertise."

Roll the dice in the following way (a little acting might come in handy here):

Orange: 4 Blue: 3 Red: 5

"On my orange die I have rolled a 4. Since this die represents a Tester and we are playing it in Test, it counts for double points, so we have 8 points to spend in Test.

“All teams, please strike 8 points of Test work off story S1.

“On my blue die I have rolled a 3. Since we are playing this die in Development, it counts for double points, so we have 6 points to spend in Development.

“All teams, please strike 6 points of Development work off story S6.

“On my red die I rolled a 5, which gives us 10 points to spend in Design.

“All teams, please strike the remaining 6 points of Design work off story S9 and move it to Design Done.

“We have 4 points of Design work left to spend. Please strike 4 points of Design work off story S10.”

Now we need to roll the second set of dice.

“We have spent the work for the first set of dice, so I will put them aside, and pick one of each remaining color.

“Everyone still has plenty of work to do, so I declare that each die will be played in its area of specialization.”

Roll the dice in the following way:

Orange: 3 Blue: 2 Red: 1

“On my orange die I have rolled a 3, so we have 6 points to spend in Test.

“All teams, please strike the 3 remaining points of Test work off story S1 and move it to Deployed.

“We had 6 points to spend, we have 3 remaining. Please strike 3 points of Test work off story S2.

“Now update the Day Deployed field on story S1 to 9, and calculate Cycle Time. What is the Cycle Time? Yes, that’s right, 8.”

Story card S1 should now look like this:

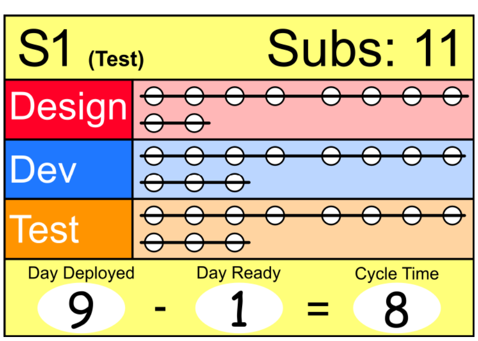


Figure 3.

“The Test station has a WIP limit of 3, and there are now 2 stories in Test. Pull story S4 from Development Done into Test.

“Development has a WIP limit of 5 and there are now 4 stories in Development (including both Doing and Done). Pull story S8 from Design Done into Development Doing.

“Design has a WIP limit of 3 and there are now 2 stories in Design. Pull story S11 from Ready into Design Doing.

“Pull story S16 from the backlog into the Ready queue, and update the Day Ready on story S16 to 9.”

Now we need to apply the remaining work from the roll.

“On my blue die I rolled a 2, so we have 4 points to spend in Development. Strike the remaining 2 points of Development work off story S6 and move it to Development Done.

“On my red die I rolled a 1. Strike 2 points of Design work off story S10.”

Now we need to roll the final blue die.

“We have spent the work for the second set of dice, so I will put them aside, and pick up the remaining blue die.

“There is plenty of Development work to do, so I will play this die in Development.”

Roll the die in the following way:

Blue: 4

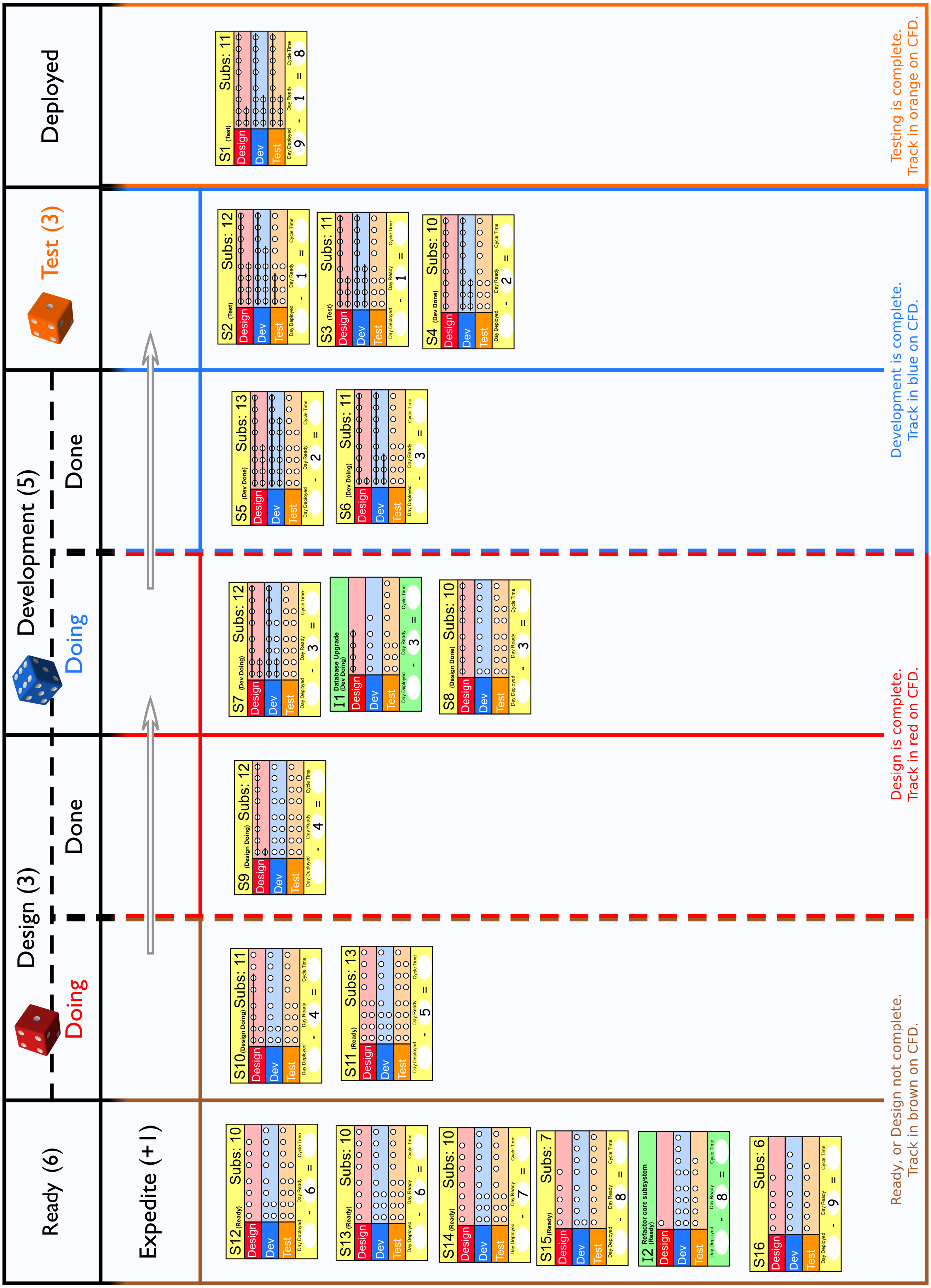
“I rolled a 4. Please strike 8 points of Dev work off story S7.

“We have now applied all of our work for the day.”

3. Sanity Check

“Project Managers, check your boards to ensure that WIP limits are honored, and all stations are filled to capacity. Check that Day Ready is updated on the new story S16, and that Day Deployed and Cycle Time are updated on story S1”

The board and the stories on it should now look like Figure 4.



Ready (6)
Expedite (+1)
Design (3)
Doing
Done
Development (5)
Doing
Done
Test (3)
Deployed
Ready, or Design not complete.
Track in brown on CFD.
Design is complete.
Track in red on CFD.
Development is complete.
Track in blue on CFD.
Testing is complete.
Track in orange on CFD.

Figure 4.

4. Track Charts

Ask the chart trackers to update their charts. On the reverse side of their charts they have comprehensive instructions, and illustrations of how their charts should now look. Wander around and check that the updated charts are correct. Trackers may have some difficulty understanding their charts and how to track them at first, so it is important that you understand this yourself.

5. Day Complete / Financial Summary

Ask the Financial Analysts to tick off day 9, and since this is the end of a billing cycle, to complete the first column of financial calculations. Each team should have $1,100 gross profit at the end of day 9. Update the visible scoreboard with this information.

6. Event Card

Ask the Project Managers to pick up and read aloud the Event Card for the end of day 9.

6. Let the Games Begin!

Ask if there are any questions. Remind the teams that the first team to finish the game receives a bonus of $10,000, and let them start. They will be starting on day 10.

It will pay to check the boards and charts for the first few days. Once the teams are comfortable playing, you may be able to highlight and comment on learning opportunities that come up during the game.

7. End of the Game

At the end of the game, remind the Control Chart Trackers to add a moving average line to their charts as described in their instructions. Don't forget to congratulate the winning team!

Debrief: 30 – 60 minutes

There are many learning points to benefit from, and discuss following the game. Make sure you elicit insight gained by the participants. A good way is to ask questions, rather than provide answers. The questions below might be a bit leading, but they give you somewhere to start:

- Several different events took place during the course of the game. Can you see the effects of these on the charts? Can you see immediate impact? Can you see longer lasting effects? What are they?
- What other kinds of information can be seen on the charts? WIP, cycle time, velocity/throughput, trends, outliers?
- What is the relationship between WIP and cycle time on the CFD, and how did WIP and cycle time change through the course of the game?
- Given our knowledge of cycle time from the Control Chart, if we were asked to provide an SLA for Standard stories with 90% confidence, what would a reasonable target cycle time be?
- What were the (opportunity) cost of delay curves for the two Fixed Delivery Date stories? What about the other stories?
- Did people begin to consider the whole value stream, rather than just one little part of it? Is this a good thing?
- Were dice able to be played mainly in their areas of specialization? Is this a good thing?
- Did people begin to think in terms of "pull" from the right? Is this the way we usually think about our work?
- Did we see "swarming" happening in the game? When did it happen? Was it effective?
- Was the work visualized and the status of work readily apparent?
- Was planning effective? What information was used on a day-to-day basis to make decisions?
- Were the retrospectives useful, or were issues made visible enough that they were addressed as they arose?
- What policies were made explicit? Did these help to streamline discussion?

Frequently Asked Questions

If questions come up, the answers are most likely provided in this document or in the other instruction documents.

One of the most frequently asked questions is what to do with any unused work – for example if WIP limits are reached, and no further work can be done. The short answer is that the work is lost in the game, but you might like to take this opportunity to discuss the value of slack time, and how this time might best be spent.

Questions that come up regularly will be documented and answered at:

http://www.getkanban.com/support/boardgame/faq

It might pay to have a copy of this page on hand while you are facilitating. If you come across questions that are not answered here, please ask your questions at the same address.

Caveats

- The Kanban board used is an example board, not "the definitive Kanban board." Each Kanban system should be designed for the context within which it is being used, and should evolve and improve over time.
- The game uses resource allocation exclusively to address bottlenecks. This is to keep the game simple yet maintain tension in the process. In reality, flow problems will need to be analyzed for root cause and addressed appropriately in the specific context. For example, it may be that quality at an upstream station is poor, and needs to be addressed.
- The real power of Kanban is that it makes impediments to flow visible, enabling us to do something about them. Without this appreciation, there is a risk that people understand the mechanism, but limit the value they gain from it.
- The activities of rolling dice, striking off work, tracking charts etc are overhead that does not exist when using Kanban in real work. There are software tools available, and we don't usually roll dice to get our jobs done!
- Kanban does not require that work remaining on individual items is burned down (as it is on the stories in the game) or reported, neither does it stop you doing this.

Further Resources

The book *Kanban, Successful Evolutionary Change for Your Technology Business*, by David Anderson is by far the best on the subject, and highly recommended. The colors used on story cards in the game are aligned with the book to simplify learning.

Additional resources can be found online. A good starting point is: http://www.limitedwipsociety.org/

Feedback

All feedback will be greatly appreciated!

Either email russell.healy@getkanban.com, or visit: http://www.getkanban.com/feedback/boardgame