NoEstimates Game Facilitator Guide

Explore sources of variation and alternatives in forecasting

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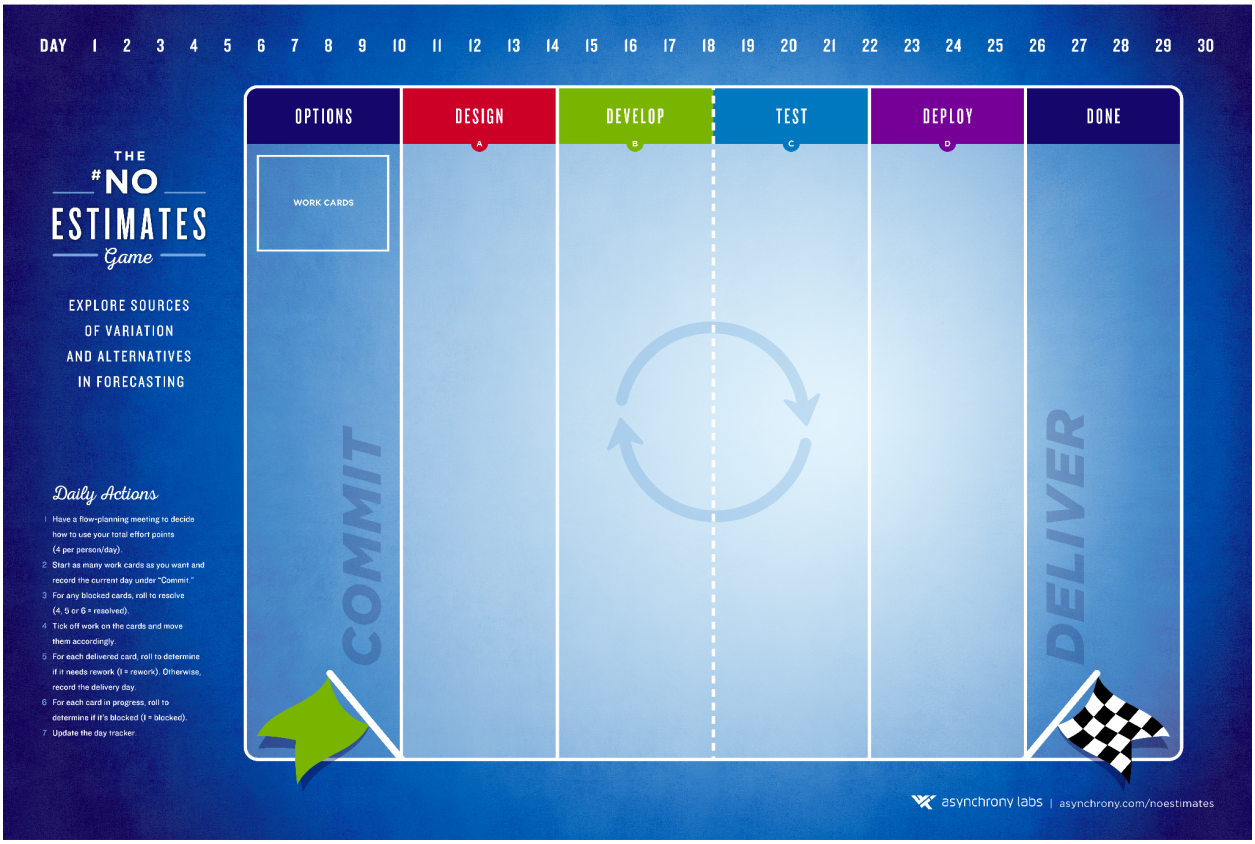


Objective: Learn what and how much different factors influence delivery time and understand options for forecasting

- Total time: 90-120 minutes (includes debrief)
- Teams: 2-8 teams
- Players: 4-50 people
- Inspired by Vasco Duarte's NoEstimates book and Russ Healy's GetKanban Game

Game Contents (per team)

- Team name placard
- Game board
- Work cards (face down, in the Options area)
- Event cards
- Role name tags (one per person)

- Role cubes (four per person)
- Scorecard
- Six-sided die
- Day-indicator ring
- Dry-erase marker
- Mini Post-it notes (for blockers)
- Team-dependency cards (remove the team's own color and shuffle into others so that each team's stack should not have its own color)

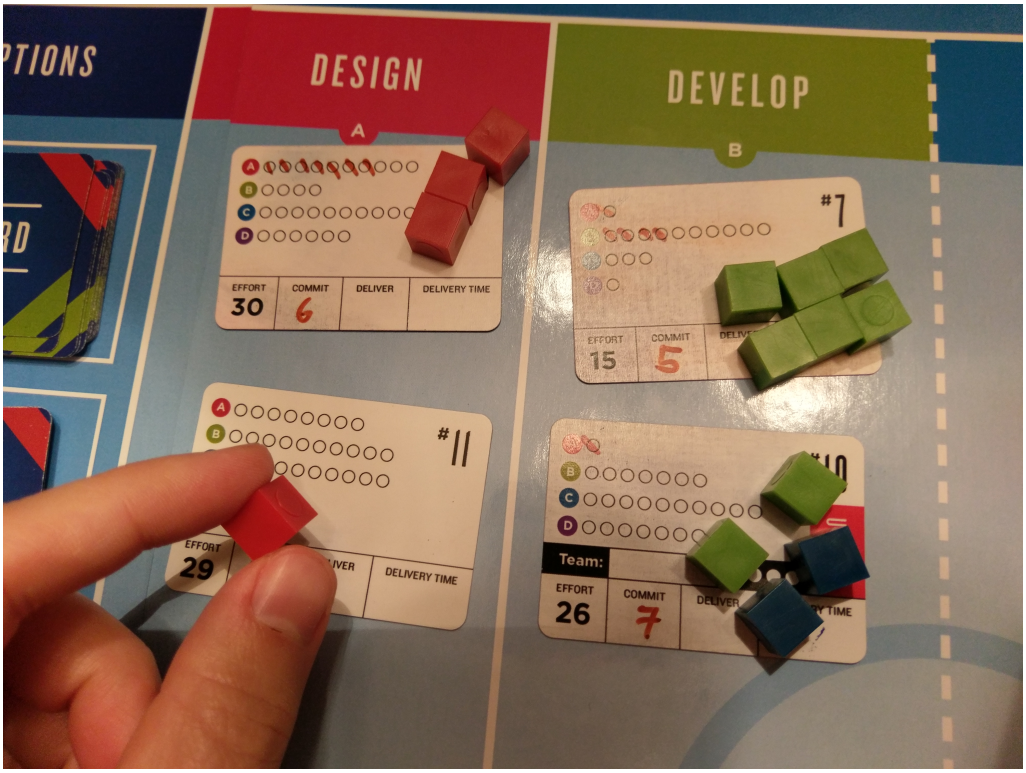
Overview

Spend about 10-15 minutes walking through the slides to explain the rules (following). Give the teams a solid 60 minutes of game play (or enough for each team to complete at least Day 10). Then spend 15-30 minutes debriefing. Each team has more cards than they can complete, so the facilitator should stop the game based on time remaining for the debrief rather than have the teams complete a certain number of days or cards.

Facilitator Script

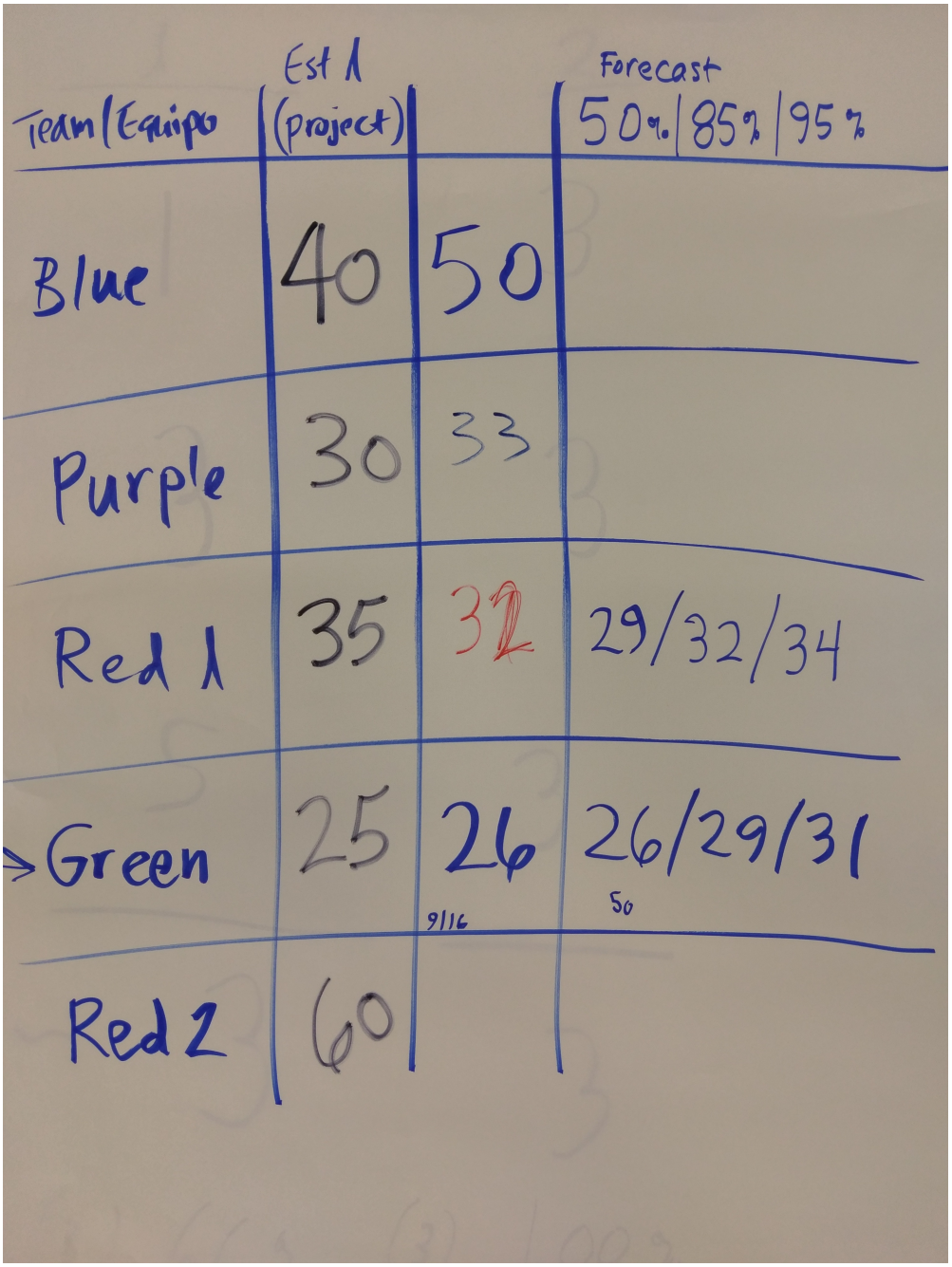
1. Welcome everyone to the game.
2. Walk through the presentation slides.
3. When you ask the group to decide teams and roles, tell them that their signal to you that they are ready will be when each player is wearing a role name tag (Designer, Developer, Tester, Deployer)

4. Remind them that teams can use “matrixed” workers (a.k.a. people who are not dedicated to a single team but split time across multiple teams). Encourage teams to be non-uniform, comprised of different numbers of people or even a team with all the same specialty.
5. You may optionally share the following work notes, which may influence their decisions (e.g., they might share a designer because it doesn’t have as much total work):
    a. Only 75% of cards have Design work
    b. Dev and Test together accounts for ~ 2/3 of total effort
6. Tell them that the plastic cubes represent their daily effort, and that each person should take four cubes of the color corresponding to his or her role specialty. They can then place those cubes on cards to help them during their daily planning meeting so that they don’t have to keep track of their allocation in their heads.



7. Before starting, give the teams a few minutes to provide an up-front estimate on how many days it will take them to complete the project. Write them on a

white board or easel.



8. Teams can now begin play!
9. Let them play as many days as they can, while allowing time for the debrief.
10. At the end of day 10, each team should ask the facilitator to visit their team (prompted by the Event card). The event card requires them to provide a new estimate of the entire project. The facilitator should also at this time create a probabilistic forecast (using their delivery-time data), which they will be able to compare with their estimate.

11. It's not necessary for all teams to remain on the same day cadence, but they need to maintain the integrity of each day's work allocation (e.g., one worker can't spend more than his or her daily allocation) – that's why the colored cubes are helpful.
12. As teams start to complete stories, go around to each team and record in a spreadsheet their delivery data:
    - Start date
    - Delivery date
    - Estimate
    - Card #
13. At conclusion, enter the data into your favorite probabilistic forecasting tool (recommend Troy Magennis's tool or Dan Vacanti's Actionable Agile tool)

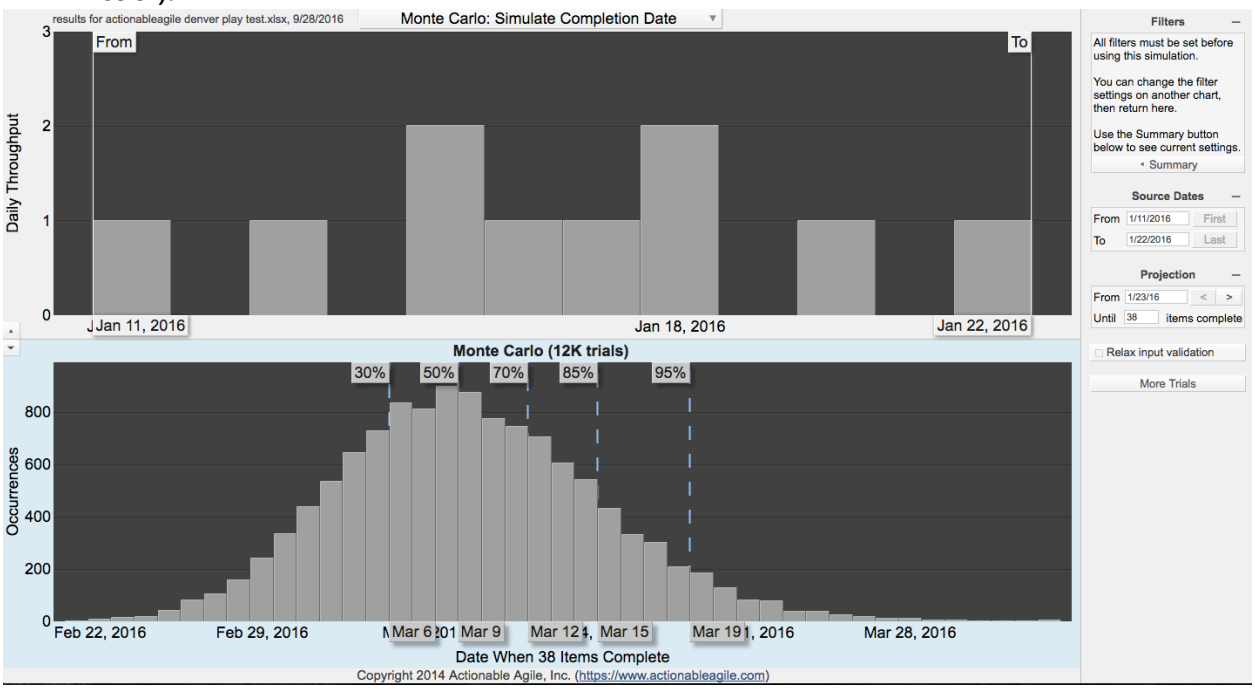
Debrief and Discussion Questions

- In this game, you had "perfect estimates" of effort; that is, the cards told you exactly how much effort each required. And still, you were not able to estimate very well up front. Why not?
- What sources of variation did you experience? Some that people may have experienced in the game:
    - Context switching (Duarte calls this "focus factor")
    - Work in progress (strong *lead* indicator)
    - Team dependencies
    - Team composition
    - Availability of specialists
    - Rework
    - Blockers
    - Selection policy (urgent cards "jump" over other WIP, incurring flow debt)

- When we estimate, what is the underlying assumption about its relationship to delivery time?
- What was the correlation of delivery times and estimates? Show correlation numbers from spreadsheet (perfect correlation is 1 or -1; good correlation is at least .5 or -.5; expect low correlation, such as .4 or less)
- What was the best strategy?
- How do we reduce variation? Reduce variability by leveling out demand (e.g., small user stories), heijunka
- Who followed a policy (formal or informal) of maximizing utilization? How did that work out for you? Or did you choose to limit WIP and have less overall

utilization? (Notice whether any team had a smaller average WIP than number of players – "Could you do this in real life?")

- Did you choose to invest in automated deployments? What was the effect? In real life, how would that impact predictability?
- How did you calculate your original estimate? Your MVP?
- How did you estimating/forecasting approach change? (Usually, teams in the game follow the pattern of
    - 1. Estimate based on effort
    - 2. Estimate using data (they look only at how many cards they've delivered and extrapolate from that). Discuss how this approach, while an improvement insofar as it uses data, still relies on an average. Discuss the flaw of averages (Team A delivers stories in 1, 3 and 5 days, while Team B delivers in 3, 3 and 3. Both average 3 days but one has a 66% chance of delivering in 3 days, while the other has 100% chance.)
    - 3. Probabilistic forecast: Use date to create a probability and a range.
- Do we have better ways of forecasting?
- If estimates are unreliable, what options do we have?
- Show probabilistic forecasts of the teams' data (use Actionable Agile or other tool).



Vasco Duarte's Eight sources of variability

1. Technology

2. Domain or product
3. Team composition
4. User, client and client representative
5. Workload and/or focus factor
6. Market and competitors
7. Dependencies and specialization
8. Waiting for availability

FAQs

Can we pick the cards to play?
No. Assume that the product owner has prioritized these in the correct order. Teams only see the face of the card when they decide to pull (commit to) it, though they can pull as many as they like. (Though important, work selection, sequencing and scheduling is not an intended learning in this game.)

If our team doesn't have an actual person playing a particular role, do we get to use an "imaginary player" for that role and get four effort points to use?
No. Teams that do not have a role represented do not get to play with an "invisible" player!

If card is blocked, can you get another team's help on it or does it need to be unblocked first?
If a card is blocked, you cannot do any work on it (by anyone) until it is unblocked.

On day of estimation where they are locked in the room and not doing work, do they roll to block/unblock?
No, the team doesn't do any work that day, including rolling to unblock.

Do you actually use the $$$ for anything? Or just to get them to hurry up urgent tickets?
It's used to keep score of value delivered. But it's really meant as a way to provoke selection-policy decisions. In the debrief, we rarely discuss the scores but do talk about the impact of selection policy as a source of variation.

Does the player from another team have to be a certain role to help with the dependency work?
No. Help from another team to complete the team-dependency work can be from any role.

Optional Rules and Add-ons

Use the following rules if you have extra time or would like to introduce additional learning.

Customize the Probability of Events

At setup, ask the individual teams the following:

- How often do you have rework?
- How often do you have a blocker?

Depending on their answers, you can customize the game to reflect their real-life probability of events. For instance, the standard game rules have a 1 in 6 (17%) chance of rework and blockers occurring. But if a team reports that they have rework only 10% of the time, you might use a 10-sided die, with 1 being the “hit.” Or if a team gets blockers 33% of the time in real life, change the hit rate to a roll of a 1 or a 2 on a six-sided die.

Blocker Clustering

- Keep track of your blockers
- For each day that it is blocked, dot the card
- At the end of the game, count the blockers:
    - Number/rate of occurrence
    - Total number of days blocked
    - Reason for block