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Sprint Lego Game

FACILITATION GUIDE

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Sprint Lego Game

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Introduction

It can be challenging helping a team understand ways to handle various types of adversities that occur during a sprint. Teams are always challenged with balancing their workload when stories become blocked or new critical production issues suddenly pop up or a team member unexpectedly becomes unavailable. Teams struggle with determining how to deliver value without increasing WIP. With all these challenges, how can a team remain focused on business value and eliminate producing waste? This game was designed to address these challenges in a fun and exciting way. The game will simulate blocked stories, capacity reduction, interruption of work and the art of negotiation. Through this game, your team will learn new and valuable ways to spend their time without creating waste.

Learning Objectives:

- Team experiences and can articulate the importance of limiting WIP.
- Team discovers new ways to deliver value within a sprint when bottlenecks occur.
- Team experiences how to collaborate to increase their ability to self-organize.
- Team becomes motivated to decrease dependencies in their backlog by focusing on delivering independently shippable value slices.
- Team learns ways to handle various adversities within a sprint.

Observation Points:

- How the team leverages self-organization to their advantage.
- How the team collaborates to create more value without increasing WIP.
- The activities team members choose to do rather than start a new story.
- How the team handles returning to finish a blocked product once it's unblocked.
- How the team handles interrupts and sudden changes in capacity.

Game Preparation

1. Acquire 2000 – 5000 Lego pieces (dependent on team size and the quantity of prototypes).
2. Build a backlog of prototypes of varying simplicity and complexity. See Appendix B for examples.
3. Make sure there is additional product built to represent unplanned/interrupt work.
4. Game requires about 90 – 120 minutes to play.

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Product Owner Role

Acquire someone to play the role of the Product Owner. This person will/can:

1. Inspect products and confirm they meet acceptance criteria and are ready for Sprint Review with stakeholders.
2. Negotiate with the team when inventory becomes an issue.
3. Alter the business value or acceptance criteria of any product built.
4. Answer any questions about the product.
5. Set a specific ROI target for each team prior or during sprint planning.
6. Leverage the power of "No" with any request to build more product or change color schemes.
7. Introduce an interrupter during Sprint 4.

Game Instructions

1. Ask team to organize into small groups of 2, 3 or 4 people.
2. Build the Product:
    a. Each team will select 4 – 5 products from the product backlog to build (**Note**: best to have more product than people on the team).
    b. Products built must replicate the prototypes in shape and height, i.e. products are built with the exact piece sizes/length found in the prototype.
    c. Replicating the color scheme of the prototype is optional. Team can select an alternate color scheme but each product built must match in color, i.e. if car prototype is all red and team chooses to build the car blue, all cars built must be blue.
3. Game Rules:
    a. No hoarding pieces!
    b. Teams may disassemble pieces to re-build products if a shortage of pieces occur. PO must accept and award business value points prior to disassembly.
    c. Team will plan their sprint and forecast how many of each product they plan to build (**Represents sprint planning**).
    d. Sprint is timeboxed to 15 minutes, including sprint planning.
    e. Start the timer once the team begins to select product from the backlog.
4. Award points for accepted/completed products in the following way:

Completed Products	
High complexity	5 to 8 points
Medium complexity	3 to 5 points
Low complexity	1 to 2 points
Unfinished product	-3 points
Over production	-3 points

5. Scoring System
    a. Team Cost = Sprint Length X Team Size
    b. ROI = (Total Business Value – Waste – Team Cost)/(Waste + Team Cost)
    c. Explain the scoring system to the teams and document after each Sprint.

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Sprint 1: Experience Utopia

A. Allow the teams to build products with no obstacles or adversities.
B. Allow the team to over produce product.
C. Once Sprint 1 is done:
    a. PO award points for completed, unfinished over produced products.
    b. Calculate ROI.
    c. Conduct Retro:
        i. Discuss overproduction, impact on ROI, reasons to avoid and mitigation.
        ii. Allow team to dismantle built products and return prototypes to the backlog.

Sprint 2: Lego Contamination

A. Allow the team to select new product from the backlog (avoid selecting the same prototypes from Sprint 1 if possible).
B. 3 - 4 minutes into the sprint, pick a color for **two** products per team and announce the colors have become contaminated.
    a. Production of affected products must stop until the problem is fixed (**Blocked item**).
    b. Make sure each team has **two** products impacted by the contamination.
    c. Colors can be different for each team, that is one team could have blue and red while another team has yellow and grey.
C. 1 – 3 minutes later unblock **one** of the team's product by announcing production can commence.
D. Once Sprint 2 is done:
    a. PO award points for completed, unfinished over produced products.
    b. Calculate ROI.
    c. Conduct Retro:
        i. Discuss the new adversities, the impact on the Sprint and ROI and mitigation.
        ii. Allow team to dismantle built products and return prototypes to the backlog.
        iii. Discuss "could do" activities noted in Appendix A.

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Sprint 3: Capacity Reduction (Can Skip and Replace with Sprint 4)

A. Allow team to select new product from the backlog (avoid letting team select same prototypes from Sprint 1, 2, or 3 if possible).
B. 3 - 4 minutes into the sprint, a color for **two** products and announce the colors have become contaminated.
    a. Production of affected products must stop until the problem is fixed (**Blocked item**).
    b. Make sure each team has **two** products impacted by the contamination.
    c. Colors can be different per team, that is one team could have blue and red while another team has yellow and grey.
C. 1 – 3 minutes later unblock **one or both** of the team's product by announcing production can commence.
D. Any time after contamination, a team member suddenly wins a 3-day trip to Lego Land and leaves; pick a team member at random to take a break. (**Reduced capacity**).
E. Once Sprint 3 is done:
    a. PO award points for completed, unfinished over produced products.
    b. Calculate ROI.
    c. Conduct Retro:
        i. Discuss the new adversities, the impact on the Sprint and ROI and mitigation.
        ii. Allow team to dismantle built products and return prototypes to the backlog.

Sprint 4: Sprint Meltdown (Optional)

A. Allow team to select new product from the backlog (avoid letting team select same prototypes from previous sprints if possible).
B. 3 - 4 minutes into the sprint, a color for **two** products and announce the colors have become contaminated.
    a. Production of affected products must stop until the problem is fixed (**Blocked item**).
    b. Make sure each team has **two** products impacted by the contamination.
    c. Colors can be different per team, that is one team could have blue and red while another team has yellow and grey.
C. Any time after contamination, a team member suddenly wins a 3-day trip to Lego Land and leaves; pick a team member at random to take a break. (**Reduced capacity**).
D. In the middle of the sprint, announce production is down and needs a part built immediately. Introduce a new product per team to build. Request 2 - 3 products built (**Introduce unplanned work**).
E. 1 – 3 minutes after blocking a story, unblock **one or both** of the team's product by announcing production can commence.
F. Once Sprint 4 is done:
    a. PO award business value, count waste and/or overproduction.
    b. Calculate ROI.
    c. Conduct Retro:
        i. Discuss the new adversities, the impact on the Sprint and ROI and mitigation.
        ii. Allow team to dismantle built products and return prototypes to the backlog.

APPENDIX A – Additional Guidance

Discussion Points

During the retro you may want to ask some of these questions:

1. What was it like to have no disruptions during the sprint?
2. What would have to happen for us to experience a Utopian sprint? What's the first step we can take to get there?
3. When/Why would producing more product than requested be considered waste?
4. What impact was there when you lost a team member? How did you recover?
5. How can we handle sudden reduction in capacity better?
6. Why is it better to finish more stories than we start?
7. What makes innovation valuable for the product owner?
8. What does delayed value mean?
9. How should we handle stories in progress when another story becomes unblocked?
10. What are some other activities we can do that provide value besides working on stories?

"Could Do" Activities:

Backlog Refinement – review prototypes in the backlog.

Cross training – teach team members how to create a product they haven't built before.

Process Improvement – devise a new approach to help the team build the product faster/more efficiently.

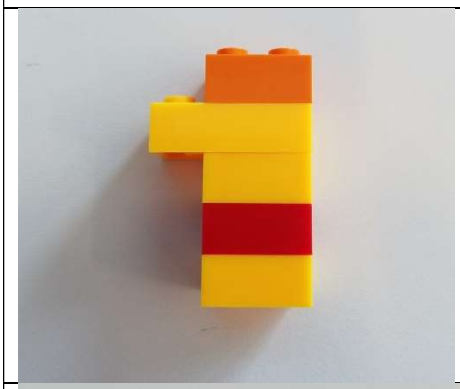
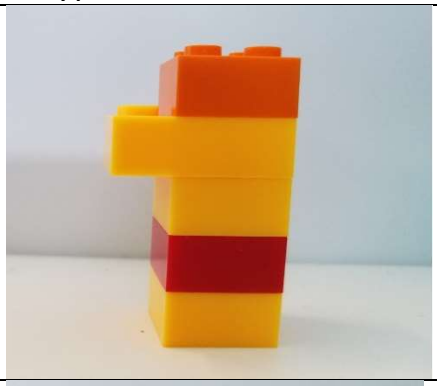
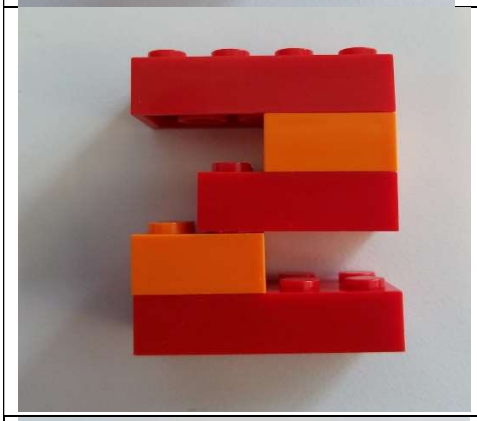
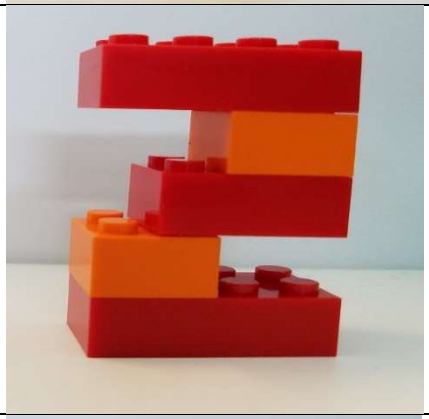
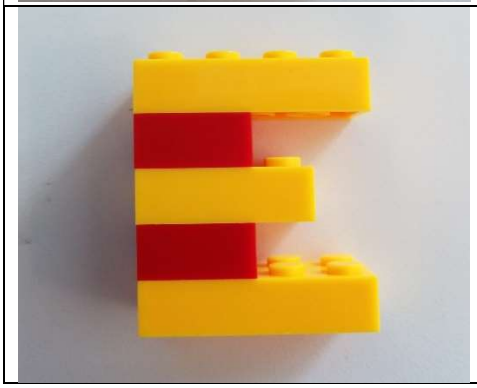
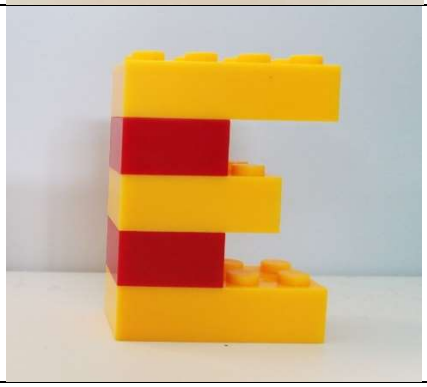
Innovation – improve/create a product; socialize your ideas with the product owner.

Tech Debt – find out why pieces are becoming contaminated & prevent contamination.

APPENDIX B – Example Backlog Prototypes

R.B.V. = Recommended Business Value

See Appendix C for additional assistance with piece descriptions.

Product Prototypes	Piece Types
 	Name: The “#1” R.B.V. = 1 Pieces: 4 – 2x2 1 – 2x3
 	Name: The “#2” R.B.V. = 2 Pieces: 2 – 2x2 2 – 2x4 1 – 2x3
 	Name: The “#3” R.B.V. = 2 Pieces: 2 – 2x2 1 – 2x3 2 – 2x4

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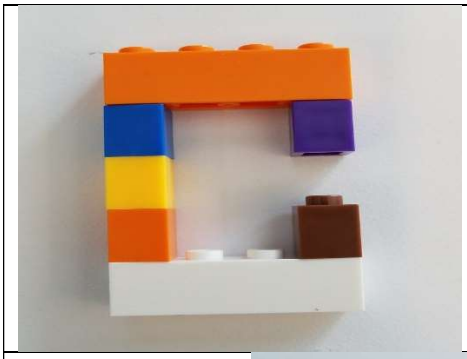
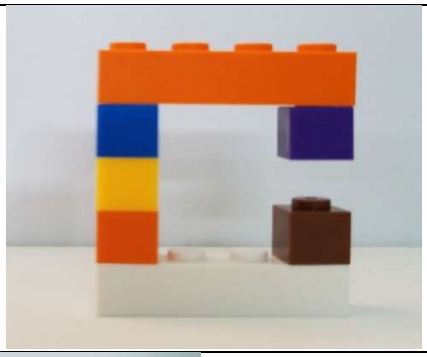
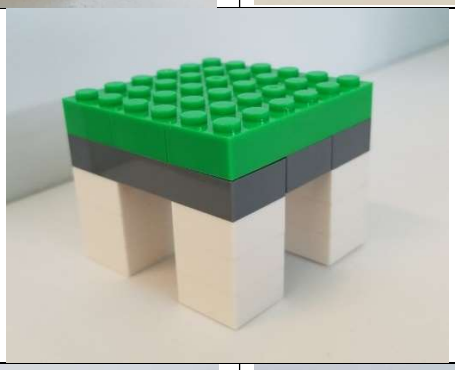
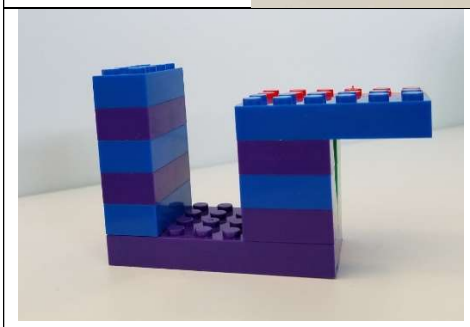
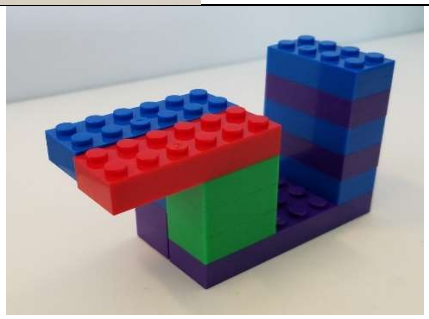
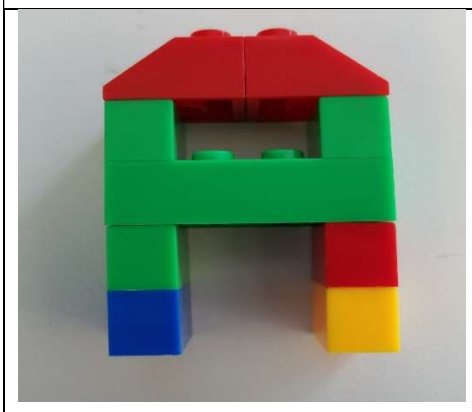
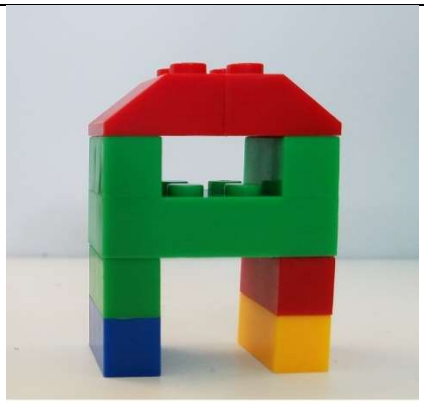
		Name: The Letter “C” R.B.V. = 1 Pieces: 5 – 1x1 2 – 1x4
		Name: The “Chair” R.B.V. = 3 Pieces: 12 – 2x2 6 – 2x6
		Name: The “Thing” R.B.V. = 3 Pieces: 5 – 2x4 6 – 2x3 2 – 2x6 2 – 2x8
		Name: The “House” R.B.V. = 3 Pieces: 6 – 1x2 1 – 2x4 2 – Slope 45

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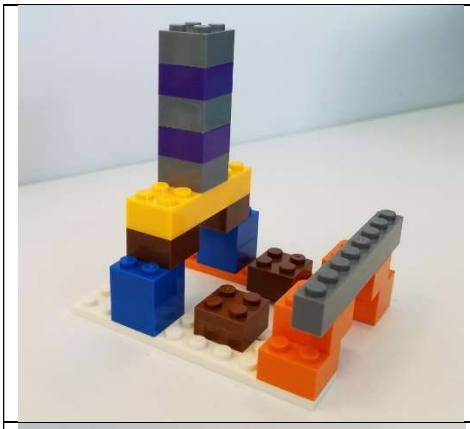
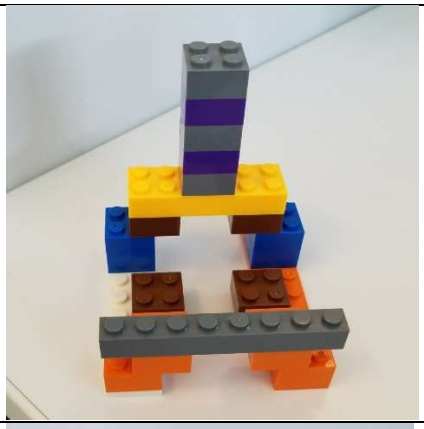
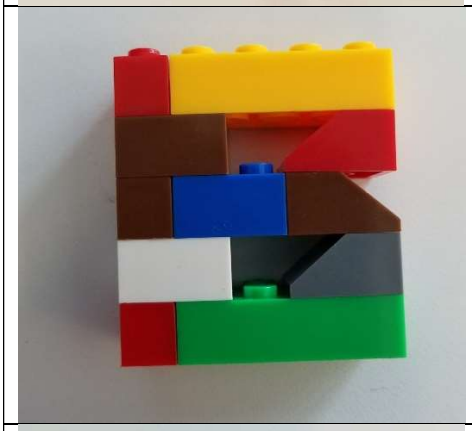
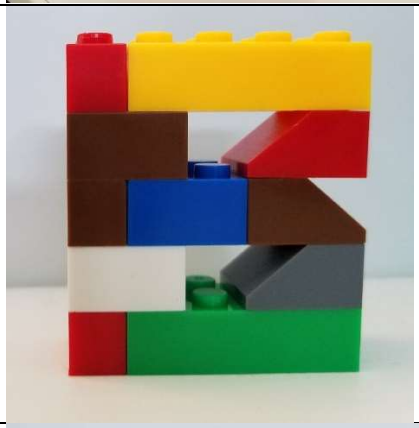
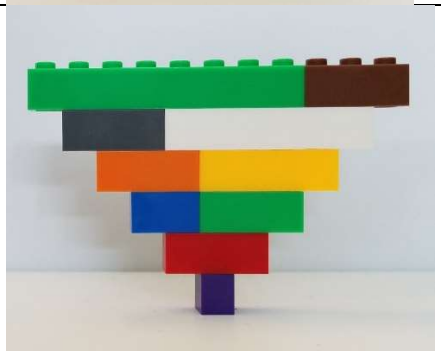
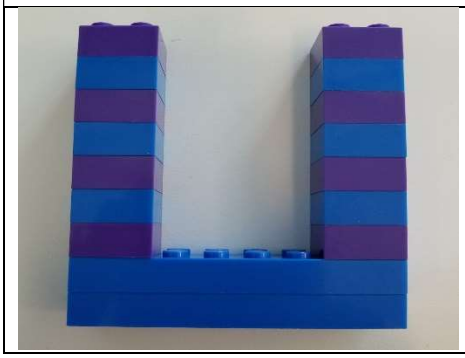
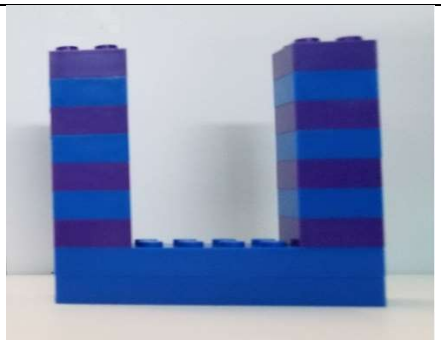
		Name: The “Platform” R.B.V. = 8 Pieces: 2 – 2x10 plate 1 – 1x8 17 – 2x2 1 – 2x6
		Name: The “Maize” R.B.V. = 5 Pieces: 3 – Slope 45 3 – 1x2 2 – 2X4 3 – 2x2
		Name: The “Triangle” R.B.V. = 8 Pieces: 1 – 1x8 1 – 1x1 5 – 1x3 1 – 1x4 1 – 1x6
		Name: The “U” R.B.V = 5 Pieces: 14 – 2x2 2 – 2x8

APPENDIX C – Lego Brick Guide