

Agile in 160B Gallons



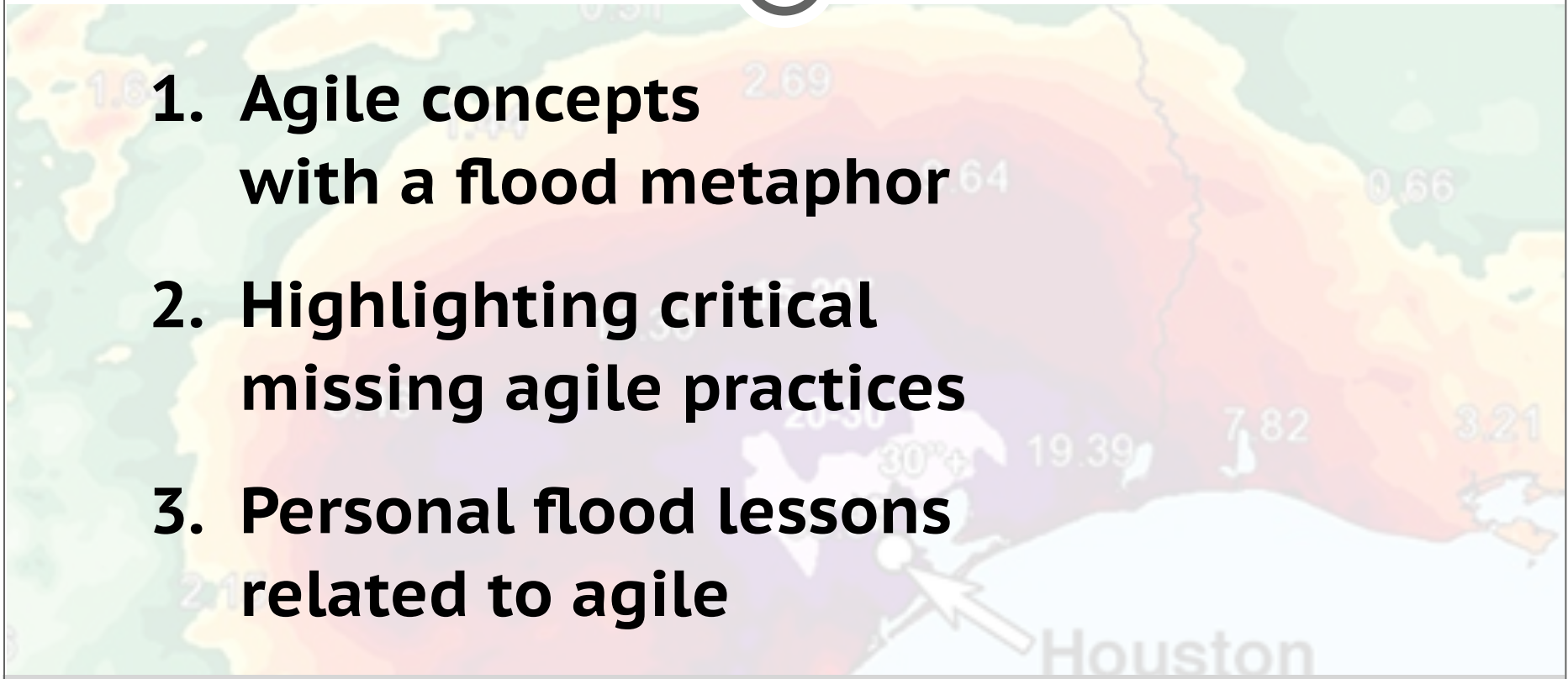
**WHEN AGILE PRINCIPLES
OCCUR DURING A DISASTER**

Drew Shefman
@dshefman

**During a disaster, like a flood,
natural tendencies gravitate
toward a more agile approach;
not waterfall.**

**Without intentionality,
key agile practices might get
overlooked.**

The Plan

- 
- 1. Agile concepts with a flood metaphor**
 - 2. Highlighting critical missing agile practices**
 - 3. Personal flood lessons related to agile**



Waterfall

The waterfall model is a **sequential design process** in which progress is seen as flowing steadily downwards (like a waterfall) through the phases of conception, initiation, analysis, design, construction, testing, production, and maintenance.





Agile

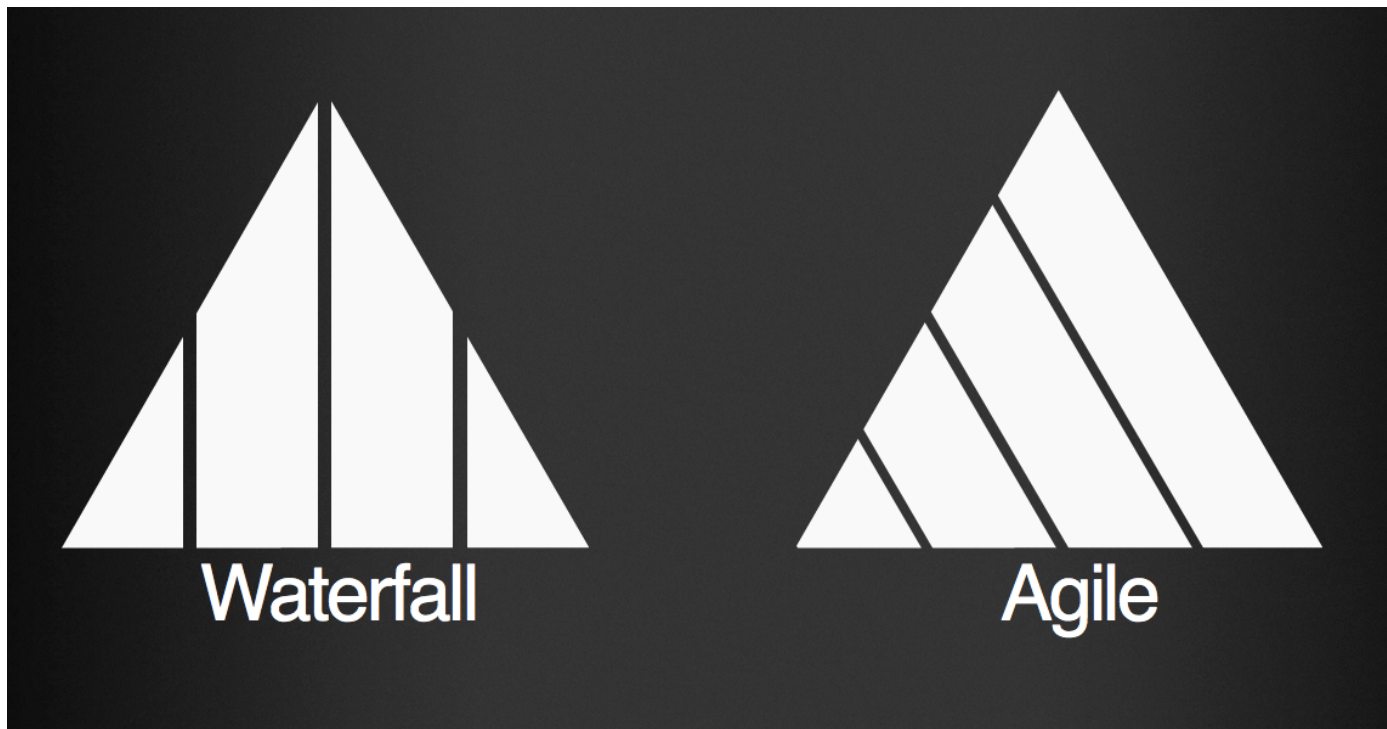
Agile software development describes a set of values and principles for software development under which **requirements and solutions evolve** through the collaborative effort of self-organizing cross-functional teams.



Waterfall vs Agile



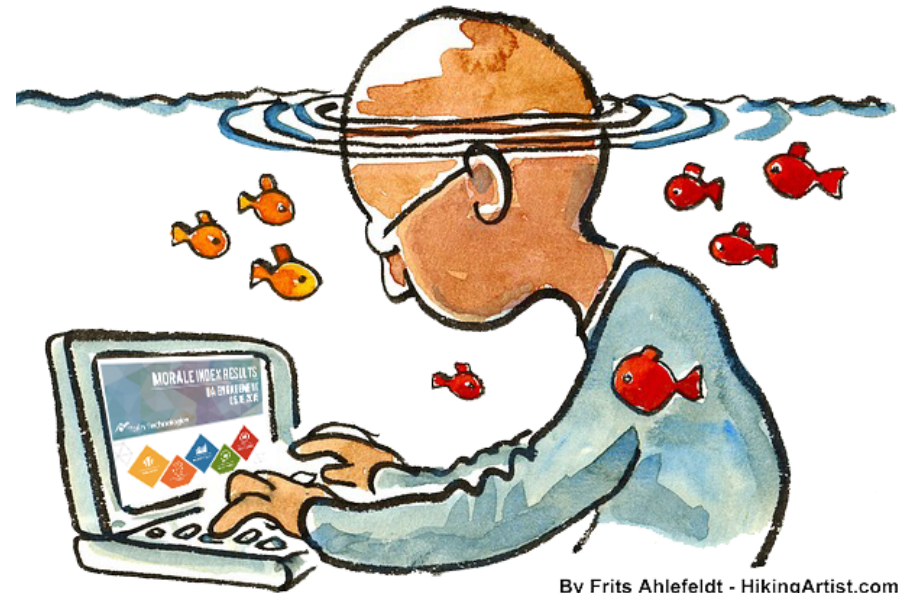
There is no way to know if a house will flood, or how high the water will rise.



Drew Shefman

- 27” Memorial Day 2015 (162 Billion Gallons)
- 13” Tax Day 2016 (240 Billion Gallons)
- -5” Harvey 2017 (9 Trillion Gallons)
(Elevated house 1 day before)

- 22 years software development
- 18 years as an Agile Advocate

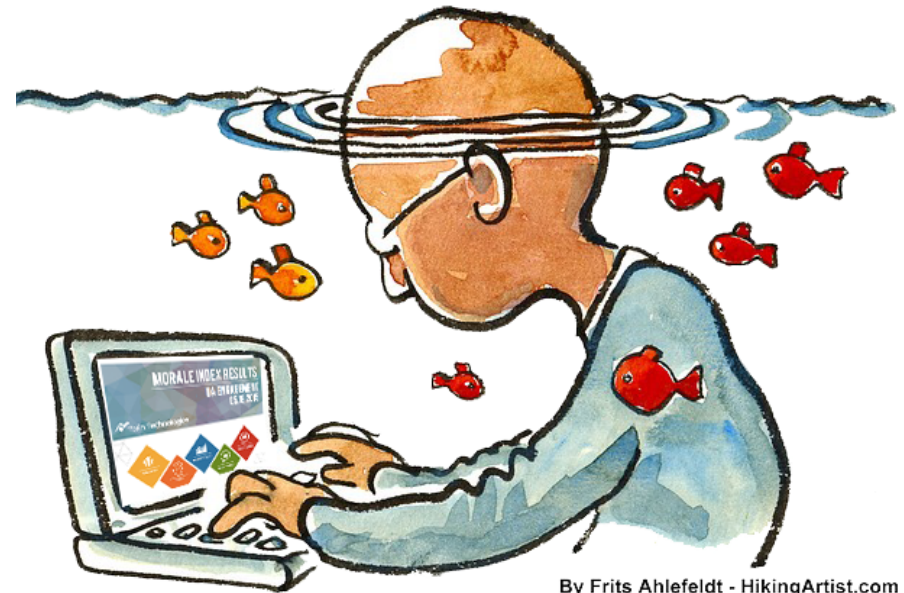


By Frits Ahlefeldt - HikingArtist.com

Drew Shefman

Each time it flooded we got better...

- Luck
- Planning
- Experience
- Introspection

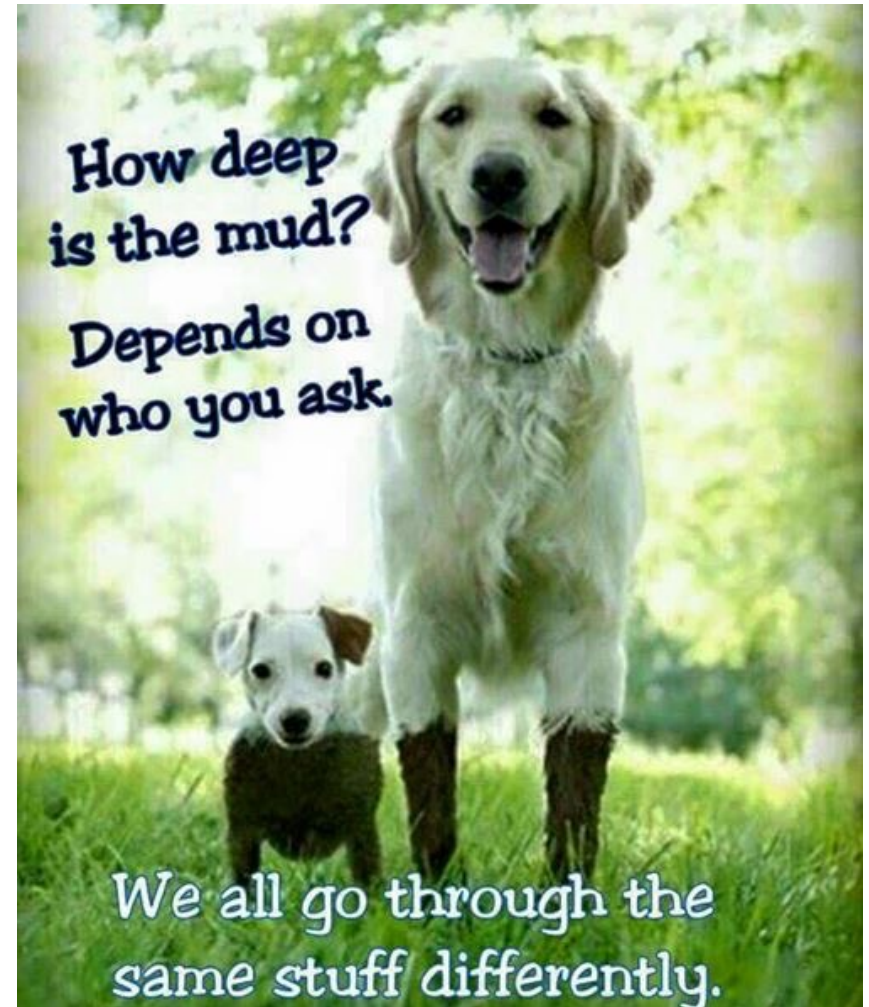


By Frits Ahlefeldt - HikingArtist.com

Flood Stories

Everyone I've talked to has a flood story.

And every story is completely different.



Survey



Have you been personally impacted by a flooding event?



Survey



How many people experienced rising water in or around your home?



Flooding Context



Just so we are all on the same page...
Here are some home flooding images...

Trigger Warning









Survey



If you flooded, or can imagine these images as your house, what would you do during a flood?



Agile Concepts with Flood Metaphor

- **NATURALLY OCCURRING**
- **PARTIALLY PRESENT**
- **RARELY APPLIED**

DURING A DISASTER

Introducing the flood metaphor



Introducing the flood metaphor



The Business

as it relates to whom
we do work for



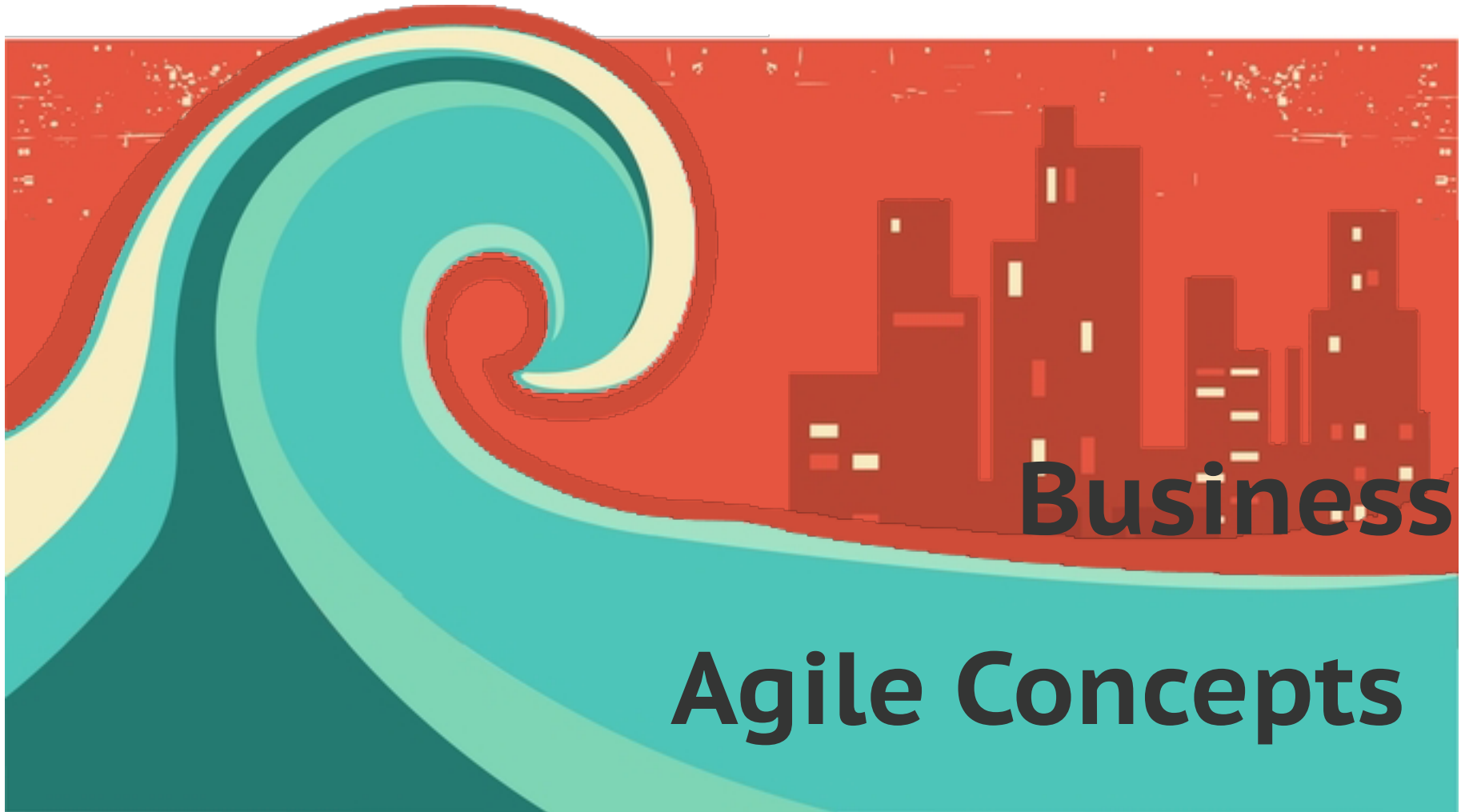
Introducing the flood metaphor



Agile Concepts

as it relates to the way
we get the work done

Introducing the flood metaphor

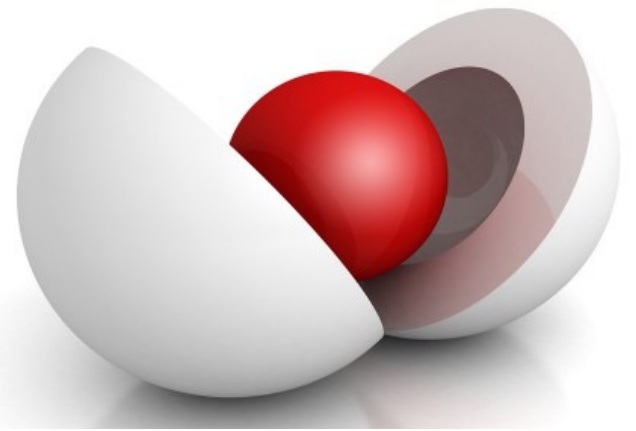




Business

My House

My house's core
function is to be
my home



Product

Should support the core of the business

The product during a flood is to preserve the items that support my home's purpose:

- Sleeping
- Eating
- Working
- Relaxing
- Security
- Storage



Deadline

Water is in the house



Market Variability

How high
the water will rise?

The product is only as
good as its planning for
variability.



Naturally Occuring Concepts

- Backlog
- Prioritized Backlog
- YAGNI
- Frequent Team Communication



Backlog

A backlog is a list of features or tasks which the team maintains and which, at a given moment, are known to be necessary to complete a project



For me, rising water means that I prepare to
Save Our Stuff





Backlog

How would you attack a backlog of your household items during a flood?





Prioritized Backlog

How could you order a backlog?

- Floor -> Counters
- Irreplaceable -> Common
- Expensive -> Cheap
- Useful -> Unnecessary
- Nearest -> Farthest
- Front of House -> Back of House



Prioritized Backlog

How should you
order a backlog?

Highest Value



Lowest Value



Prioritized Backlog

Be aware of implicit
and explicit
prioritization





Prioritized Backlog

Implicit Priority

Ordering the backlog correlated toward **easiness** or **convenience**.



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Implicit Priority

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Prioritized Backlog

Explicit Priority

Ordering the backlog correlated with the **value** it delivers to the business.



Prioritized Backlog

Explicit Priority

Ordering the backlog correlated with the **value** it delivers to the business.

- Irreplaceable -> Common
- Expensive -> Cheap
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YAGNI

You Aren't Gonna Need It

It is a mantra that some capability that could be built for the future should not be done now because "you aren't gonna need it" (yet).



YAGNI

You Aren't Gonna Need It

It is a mantra that some capability that could be built for the future should not be done now because "you aren't gonna need it" (yet).

There were some things that were not worth saving.



YAGNI



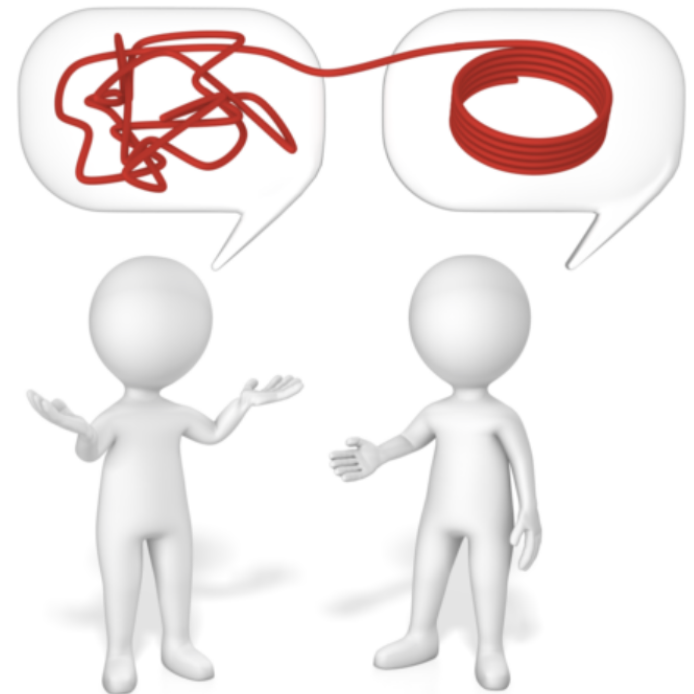
YOU AIN'T GONNA NEED IT

Don't waste resources on what you *might* need.



Frequent Team Dialog “Standup”

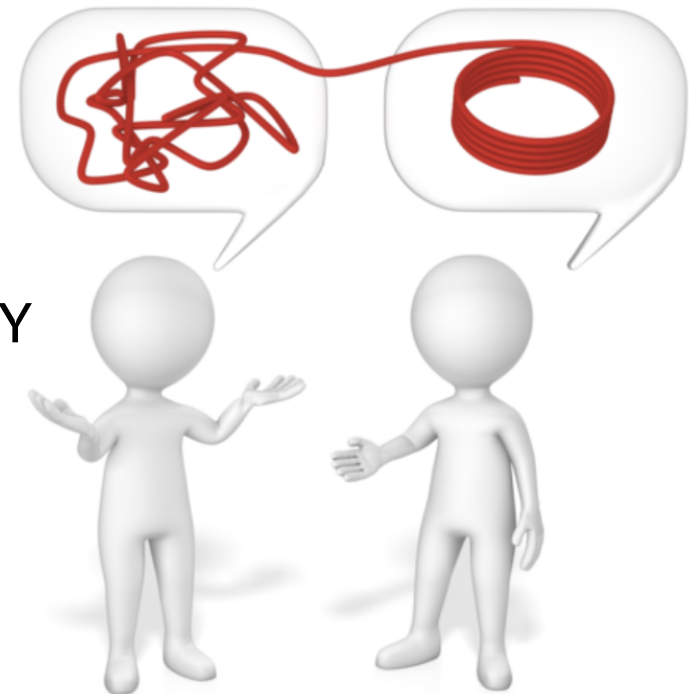
Frequent and regular communication about work accomplished, immediate goals, and blockers.



Frequent Team Dialog “Standup”

Frequent and regular communication about work accomplished, immediate goals, and blockers.

- X is done
- I'm cleaning up Y
- I need help moving the Z



Partially Present Concepts



- Self Organized Cross Functional Team
- Iterations



Self-Organized Cross Functional Team

Self Organized

A group of motivated individuals, who work together toward a goal, have the ability and authority to make decisions, and readily adapt to changing demands.





Self-Organized

Cross Functional Team

Self Organized

For us, our kids worked with very little guidance.

We defined priorities, then let them take care of their rooms and their stuff.



Self-Organized

Cross Functional Team

Self Organized

For us, our kids worked with very little guidance.

We defined priorities, then let them take care of their rooms and their stuff.

Caution: This only works if the goal of the product and how it supports the business, is well defined and understood

Self-Organized Cross Functional Team

Cross Functional

Cross-functional just means that the team as a whole has all skills needed to build the product, and that each team member is willing to do more than just their own thing.





Self-
Organized
**Cross
Functional**
Team

Cross Functional

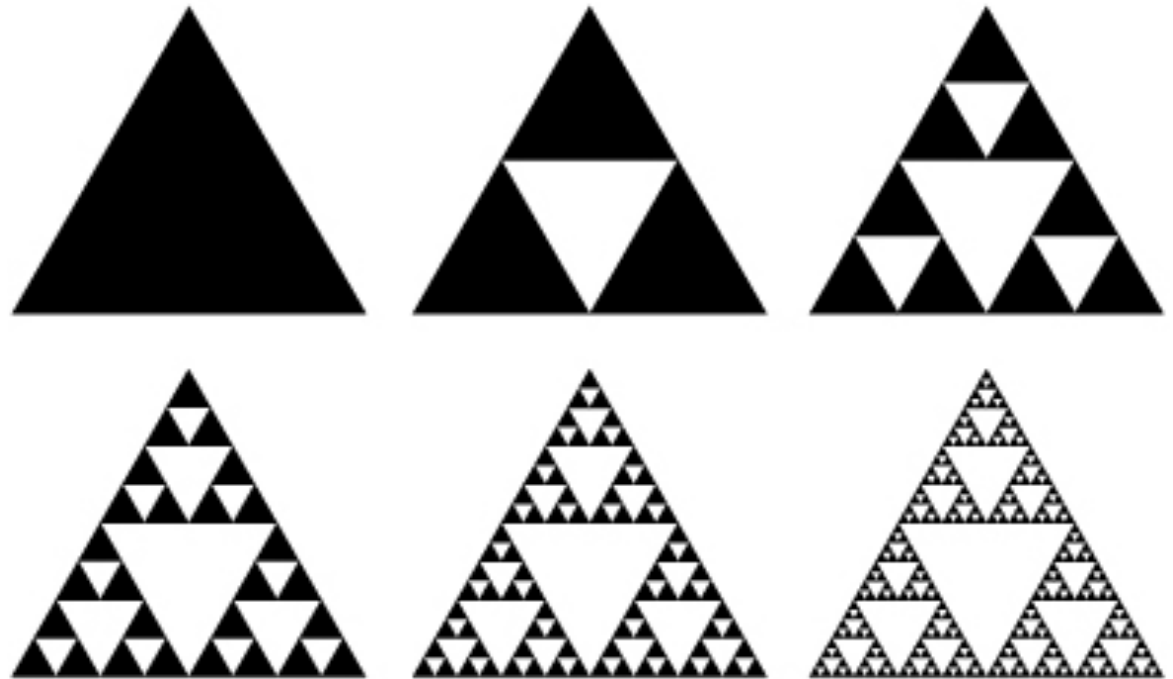
For us, we have two people strong enough and tall enough to make put things up high.

Our kids are also expert fort builders and can stack and climb if needed



Iterations

A repeating set of work to get done before reflecting on the progress, objectives, and external influences



Iterations

Produce Potentially Releasable Products

It doesn't mean that the product is going to be released at each iteration, but it is at a done enough state that it could be and it would have value.



Iterations

Produce Potentially Releasable Products

At a indeterminate deadline, the most valuable items are complete and the product is “released” by that time.



Iterations

Produce Potentially Releasable Products

If more iterations happen a better product with even greater value is created, but the understanding is that each iteration could be the last one.





Iterations

Produce Potentially Releasable Products

When water is in the house, the most valuable items from the prioritized backlog are saved.

Iterations: Concrete example

Prioritized Backlog (Usefulness)

- Working
- Sleeping
- Sitting
- Eating
- Clothing
- Art

Iterations

- Laptops, cell phones, chargers
- Mattresses
- Chairs and sofas
- Tables
- Other furniture
- Shoes
- Floor statues

Rarely Applied Concepts

- Demo
- Sprint Planning
- Retro



Demo

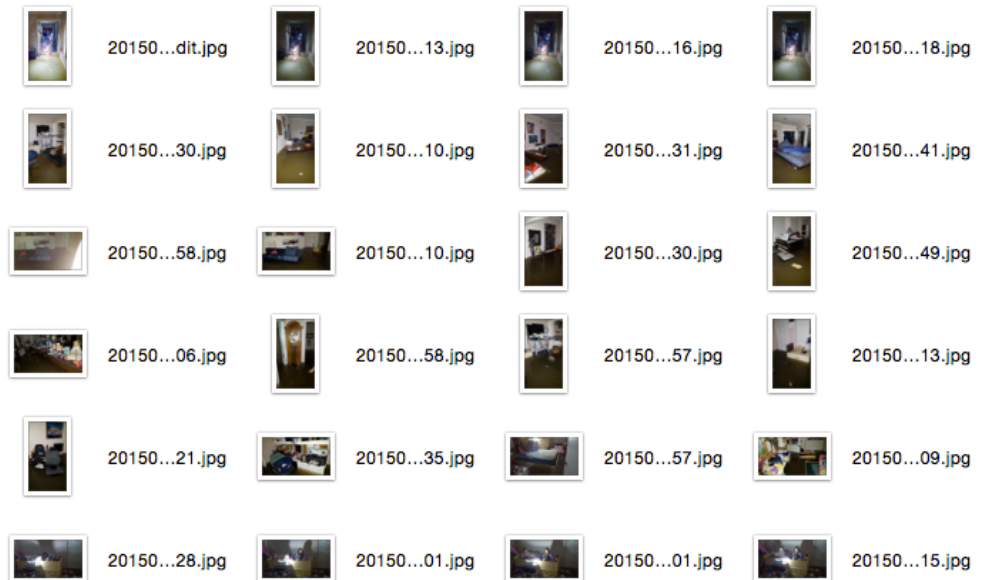
An activity at the end of an iteration where the completed (done) product backlog items are demonstrated with the goal of promoting an information-rich **discussion** between the team and other stake holders.





Demo

At the end of each iteration was our chance to take photos and assess the house to see if we missed anything that should have been in that round of “saving”





Demo

During flooding, the demo is also a chance to post to social media.

It wasn't our intention but we got lots of feedback during the process which was helpful.

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“Call insurance”

“Start calling apartments”

“I know a good contractor”

Sprint Planning

A time-boxed meeting where the next highest priority items are reviewed and the team **commits** to which items are going to be finished during the sprint





Sprint Planning

Determine the plan based on data



Sprint Planning

Determine the plan based on data

- Radar
 - Current
 - Future
- Rain accumulation
- Bayou water levels
- Visual checks
- Social media updates



Sprint Planning

Determine next round of work



Sprint Planning

Determine next round of work

- Does it need to be saved?
- How is it going to be saved?
- Where was it going to go?
- Is refactoring involved (moving already positioned furniture to accommodate next sprint)?
- Anything require 2 (or more) people?

Retro

During the retrospective meeting, the team reflects on what happened in the iteration and identifies actions for improvement going forward.





Retro

Issue: We are running out of high spaces to put things.



Retro

Issue: We are running out of high spaces to put things.

Solution: Bring in outside furniture to use as supports, then create platforms using interior doors.



Retro

Issue: Dining room table is huge and will keep a lot of things up high, but legs will be in the water.



Retro

Issue: Dining room table is huge and will keep a lot of things up high, but legs will be in the water.

Solution: Trash bags and duct tape around the legs.

Agile: The Critical Practices



**WHY ARE THE DEMO, RETRO,
AND SPRINT PLANNING
CRITICAL PRACTICES?**





WHY ARE THESE CRITICAL?

Demo

Retro

Planning

Summarizing agile
broadly comes down to:

- Transparency
- Inspection
- Adaptation



WHY ARE THESE CRITICAL?

Demo

Retro

Planning

During a crisis or critical deadline, I found from informal polls, that most often the immediate task remain exclusively in focus.

- Decisions / outcomes frequently lacks inspection
- Constraints / challenges frequently lacks adaptation



QUESTIONS TO ASK

“Am I doing the right task?”

Should I be saving all the things on the floor first, or are there more important things to save?

Demo

Retro

Planning



QUESTIONS TO ASK

“Am I doing the task right?”

The countertops had existing clutter, therefore there was minimal elevated space to save the next iteration of things

Demo

Retro

Planning



QUESTIONS TO ASK

“Can I do this task better?”

Demo

Retro

Planning

I can save countertop space, if
the couch spans from the sink
to the island



QUESTIONS TO ASK

“How do I adapt to a
challenge?”

Demo

Retro

Planning

The kids can't lift furniture;
have them on documentation
(take pictures of everything)



QUESTIONS TO ASK

Demo

Retro

Planning

“How do I navigate a
constraint?”

Running out raised real estate;
bring in outside chairs and use
doors for make-shift tables



QUESTIONS TO ASK

“What should I do next that adds the most value?”

Demo

Retro

Planning

Maybe I should pack a “to-go” bag incase I can’t stay at my house.



WHY ARE THESE CRITICAL?

Demo

Retro

Planning

No matter the crunch of the
deadline,
time needs to be taken
to inspect and adapt

Personal Lessons Learned



- **WATERFALL VS AGILE STRUGGLE**
- **SELF ORGANIZED VS NON-ENROLLED TEAMS**
- **EXPLICIT PRIORITIZATION**
- **FOLLOW THE PLAN**



Non-enrolled team

The whole team did not understand or support the goal of the product.

In 2015, we didn't get to a self-organized state.



Non-enrolled team

The whole team did not understand or support the goal of the product.

In 2015, we didn't get to a self-organized state.

Exchange teacher sleeping on table



Implicitly prioritized backlog

Prioritizing from from the floor up, failed to deliver the MVP.

We saved legos, homework, and backpacks when we should have been saving beds, chairs, and shoes.



Follow the Plan



Once established,
follow the plan.
Adapt it at the
iteration boundaries.

Phase 1: Clean

Phase 2: Prep

Phase 3: Lift

Phase 4: Deadline



Follow the Plan

Watch out for siren songs.... follow the plan



Final Thoughts



During a tight deadline, remember to be intentional with all the agile practices



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During a tight deadline, remember to be intentional with all the agile practices

- Demo provides transparency
- Retro facilitates adaptation
- Planning utilizes inspection



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Agile

Today: Always improving



Questions



Questions



Q. Why do I still choose to live here?

A. In this context: Product is all or nothing - You don't leave work, you improve it.

Questions

Q. What about prioritizing risk first? The idea where you do the most risky or most unknown work first.

A. Totally agree. In this context that is the biggest and most functional furniture. If we can get the bed, sofa, and chairs up, then the rest is easy.



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