GDC Canada

Vancouver, BC

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Game Developers Conference® Canada
Vancouver Convention & Exhibition Centre

www.GDC-Canada.com

Advanced Scrum and agile development

Clinton Keith

This session

- Applying the "inspect and adapt" principle to the use of agile in making games:
  - What have we learned?
  - What is working?
  - What do we need to stop doing?
  - What do we need to start doing?

  - Real world challenges and solutions

Clinton Keith

Agile coach and trainer

- 24 years of development experience
- 15 years of game development experience
- 5 years of agile development experience in the game industry
- Introduced agile to the industry in March 2005

Agenda

- 3 minute tour
- Challenges & Solutions
- Summary
- Q&A

A 3 minute tour of Scrum

Scrum

24 hours

Sprint
2-4 weeks

Sprint goal

Jump

Crouch

Fly

Swim

Product
backlog

Sprint backlog

Fly

Incrementally
improved game

THIS SIDE UP
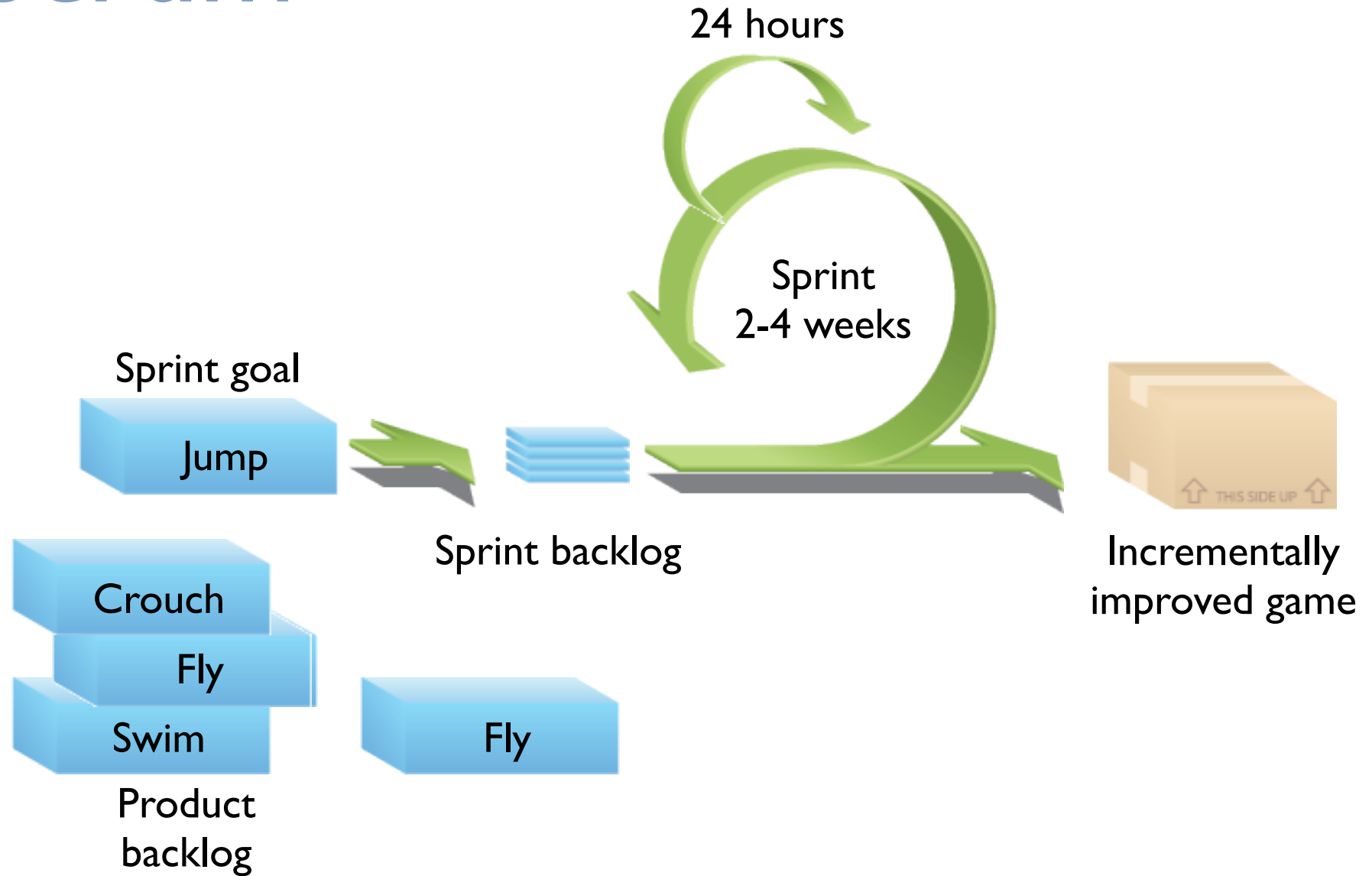
Putting it all together
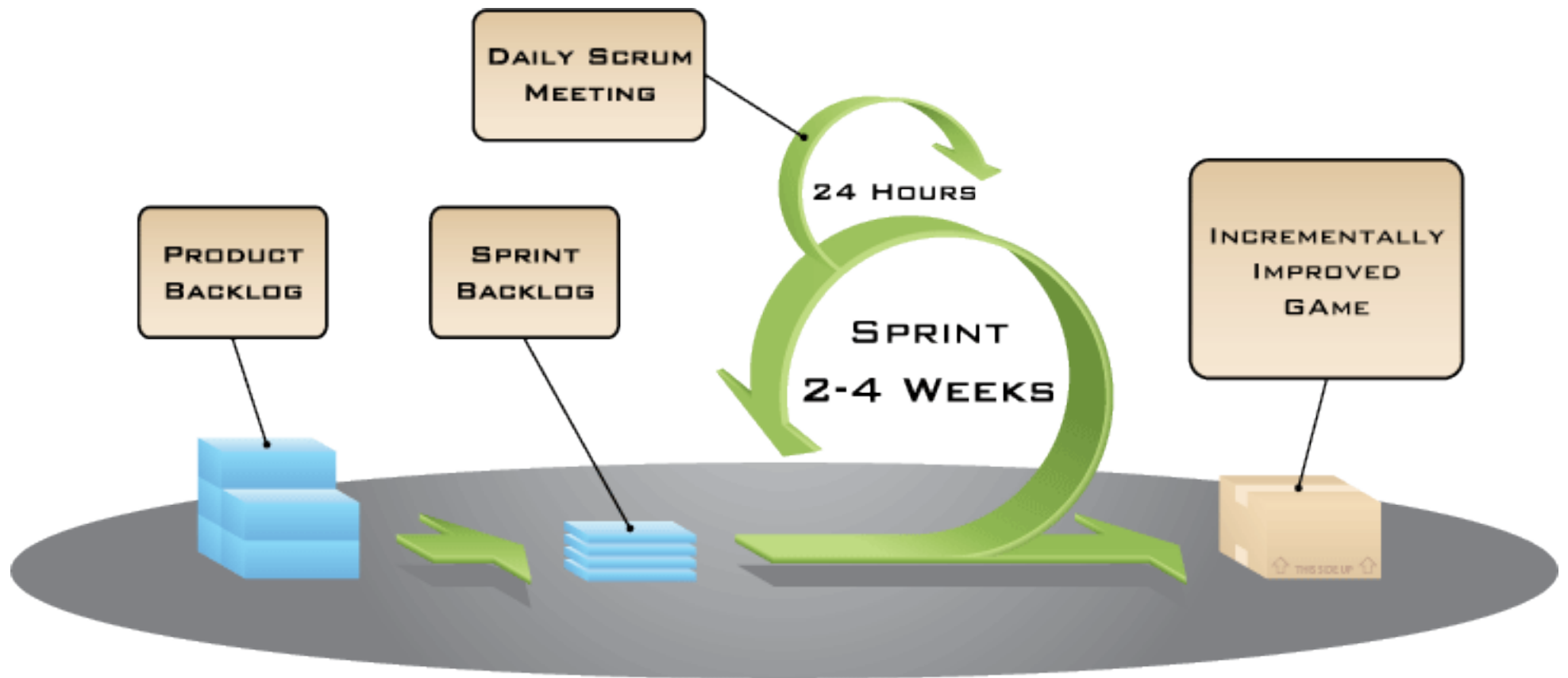
The Scrum project community

Internal director

Programmer Designer

Artist Designer

The team

Artist Programmer

Scrum Master

Product Owner

Publisher producer

Anyone (not an authority role)

Tester Animator

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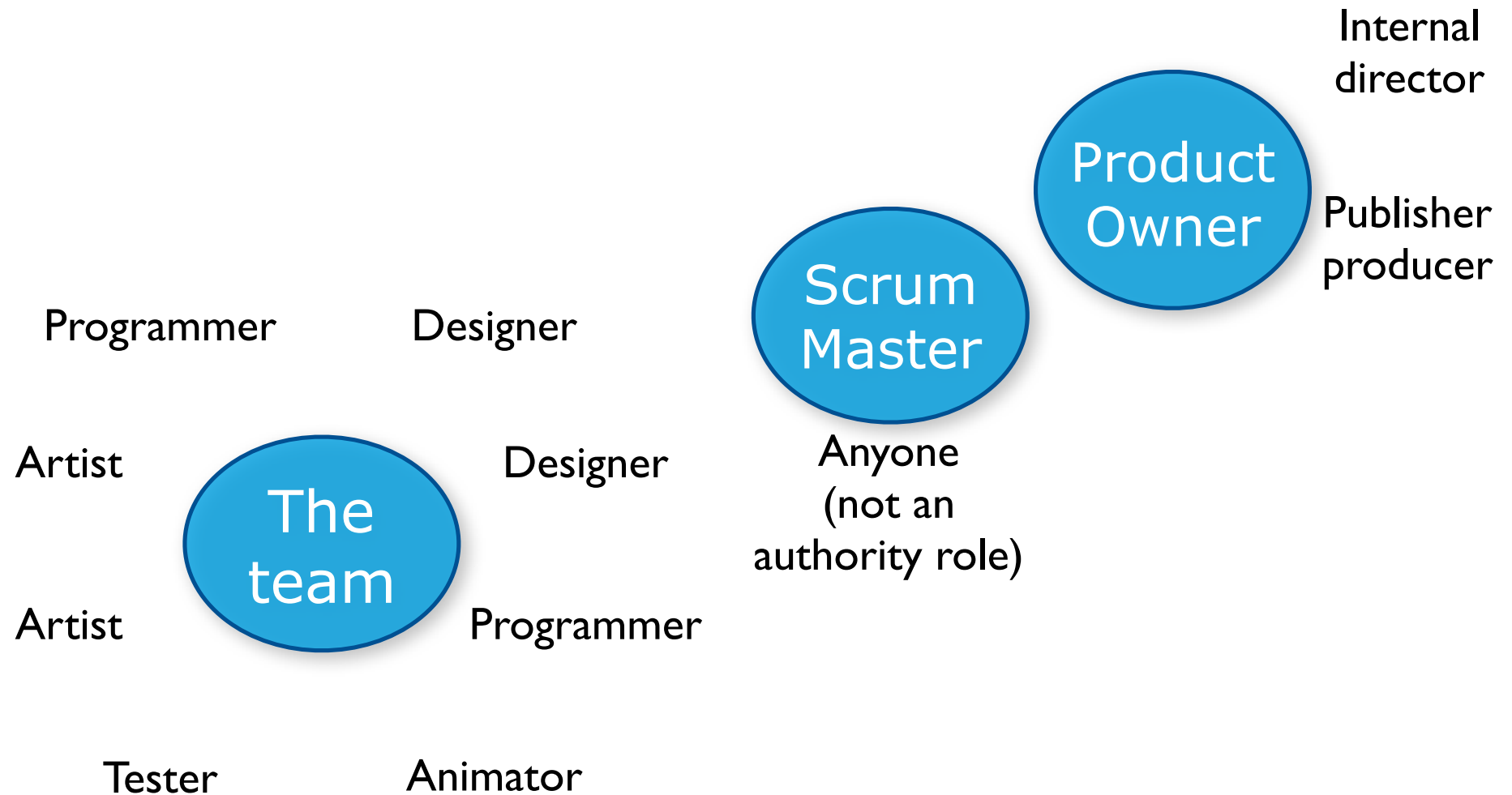
The Roadmap

Stage 2
- Journeyman
- 12-24 months
- Faster integrations
- Better testing
- Release planning

Stage 1
- Apprentice
- 3-12 months
- Daily Scrums
- Iterations
- "Done"

Stage 3
- Master
- Never ends
- Self organization
- Continuous improvement

Project Leadership

Facilitative / Coaching

Directed Management
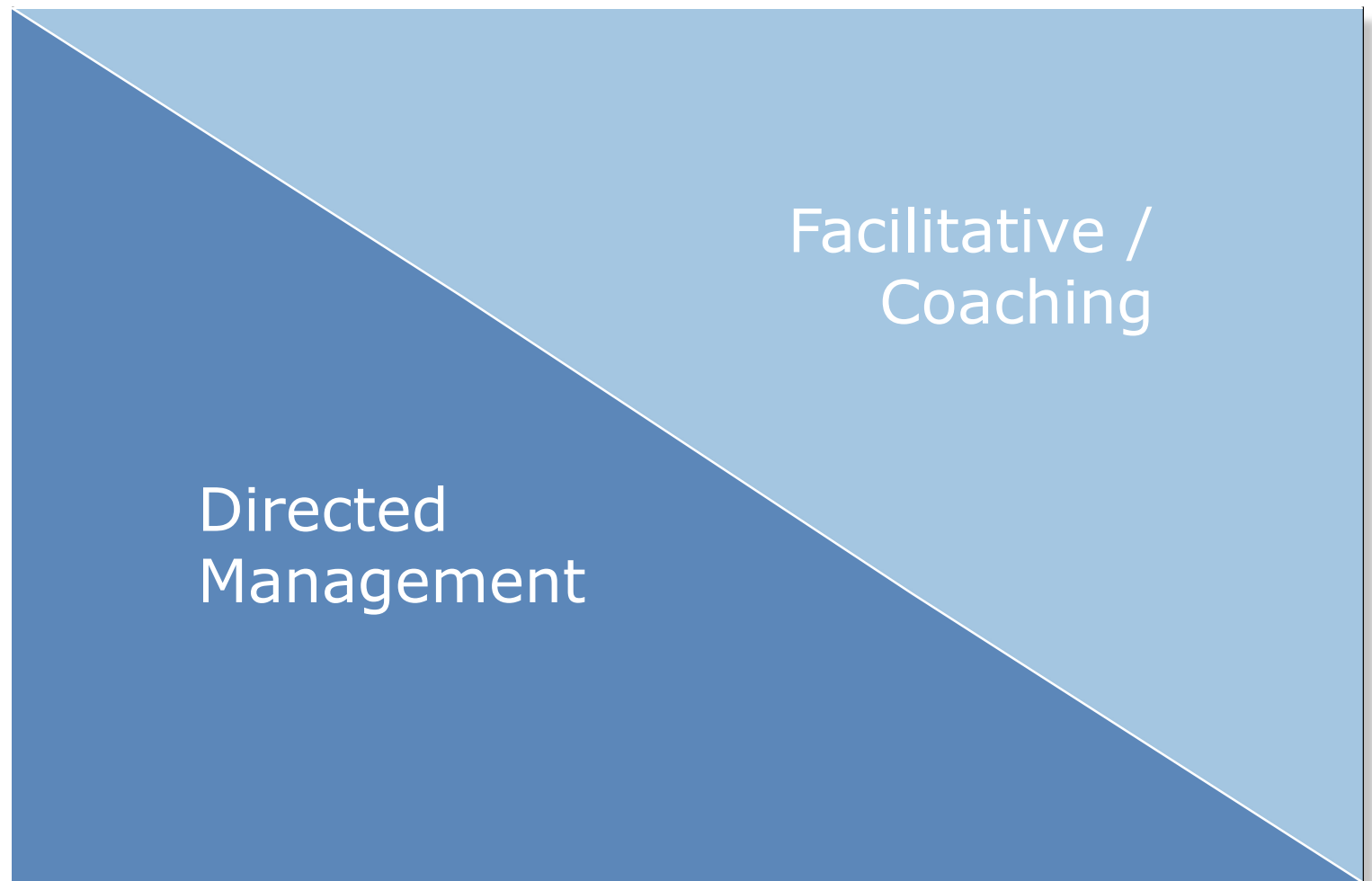
Time →

- 3 minute tour
- Challenges & Solutions
- Summary
- Q&A

Switching from a push system to a pull system

- What is a "pull system"?
- "Pushing" tasks through Scrum
- The challenge of pull systems.
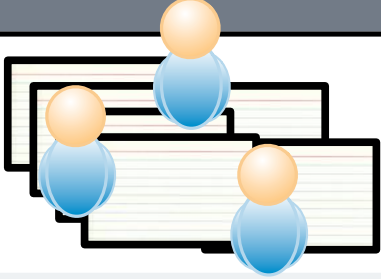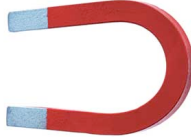- Defining done
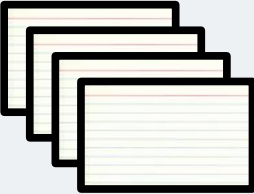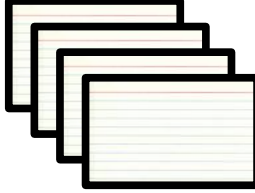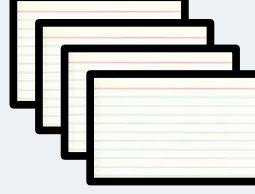
Scrum is a pull system

Sprint goal	Not started	In progress	Done

Why a pull system?

- "Done" is the goal, not task completion
- Creates a "real" pace
  - Minimizes debt
- Allows true velocity to be measured
  - Velocity is a better measure than progress against a schedule
  - Focuses on what is "on the screen", not progress against a schedule
  - Reality vs "the plan"

Burning down hours?

Work tracked in days not hours?
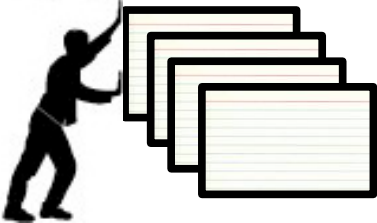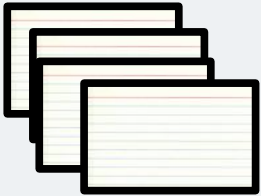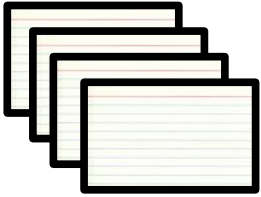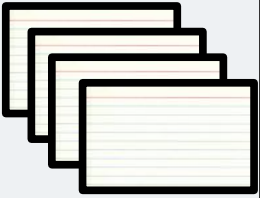
Tracking story points completed?
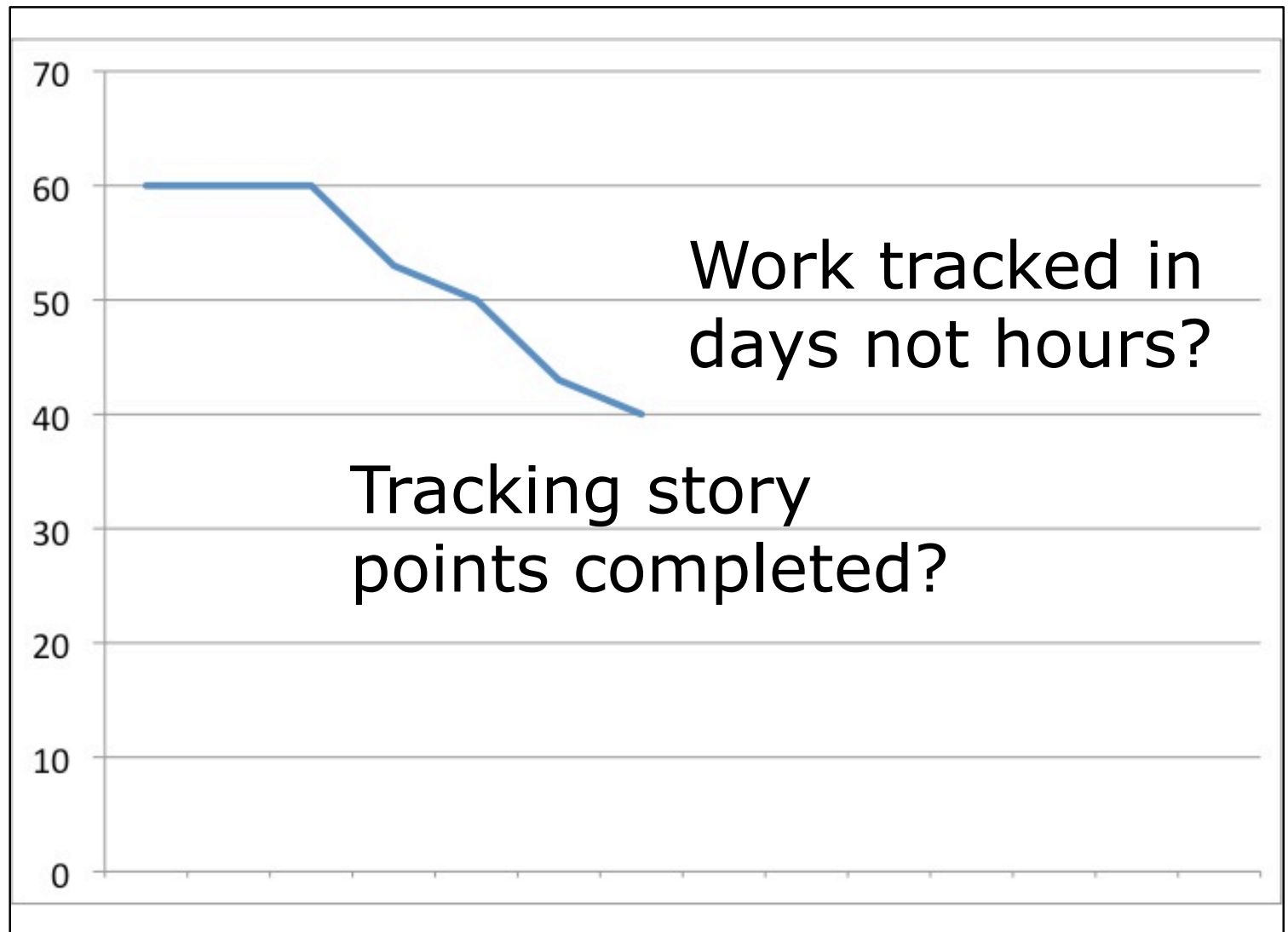
"Pushing" tasks through Scrum

Sprint goal	Not started	In progress	Done

Pushing tasks in Scrum

- Task completion is the goal
- Goals often left incomplete
  - Bugs
  - Missing, yet unstated, requirements
- Velocity is slower
  - Collisions at the end of the sprint
  - More multi-tasking
- Symptoms
  - Mini-crunch every sprint
  - Very few iterations on the sprint goal
  - Not much polish

The challenge with moving to a pull system in Scrum

- Over reliance on tools
  - Daily scrums are not status reporting meetings
- "Over managing" the team
  - Let the team manage the tasks (i.e. the path to achieving the goal).
  - Help them make the right decisions
- Teams not taking ownership or making commitments
  - Common for teams new to Scrum
- Defining "done"

Defining Done

Concept

Proof of concept

Visualization

Playable

Polish

Target 30 fps

Magazine demo

Online

Shippable
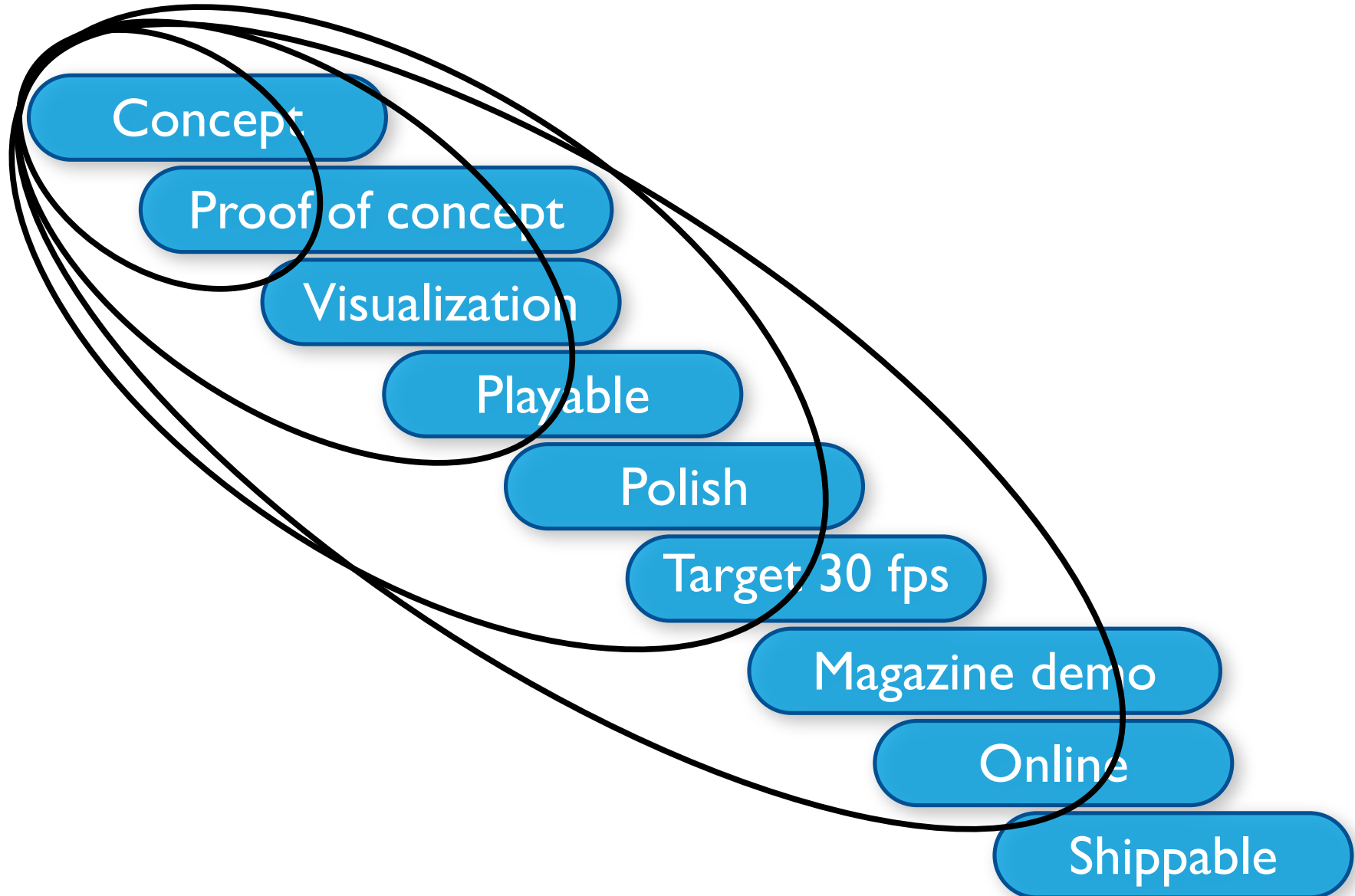
The product owner

The product owner

- Represents the customers
- One voice, even if not one person
- Usually an
  - Internal Director
  - Publisher Producer
    - Supplement with someone onsite
- Main responsibility is knowing what to build and in what sequence

Communicating vision

Executives

Marketing

Sales

Publisher PO

Developer PO

Team

Backlog
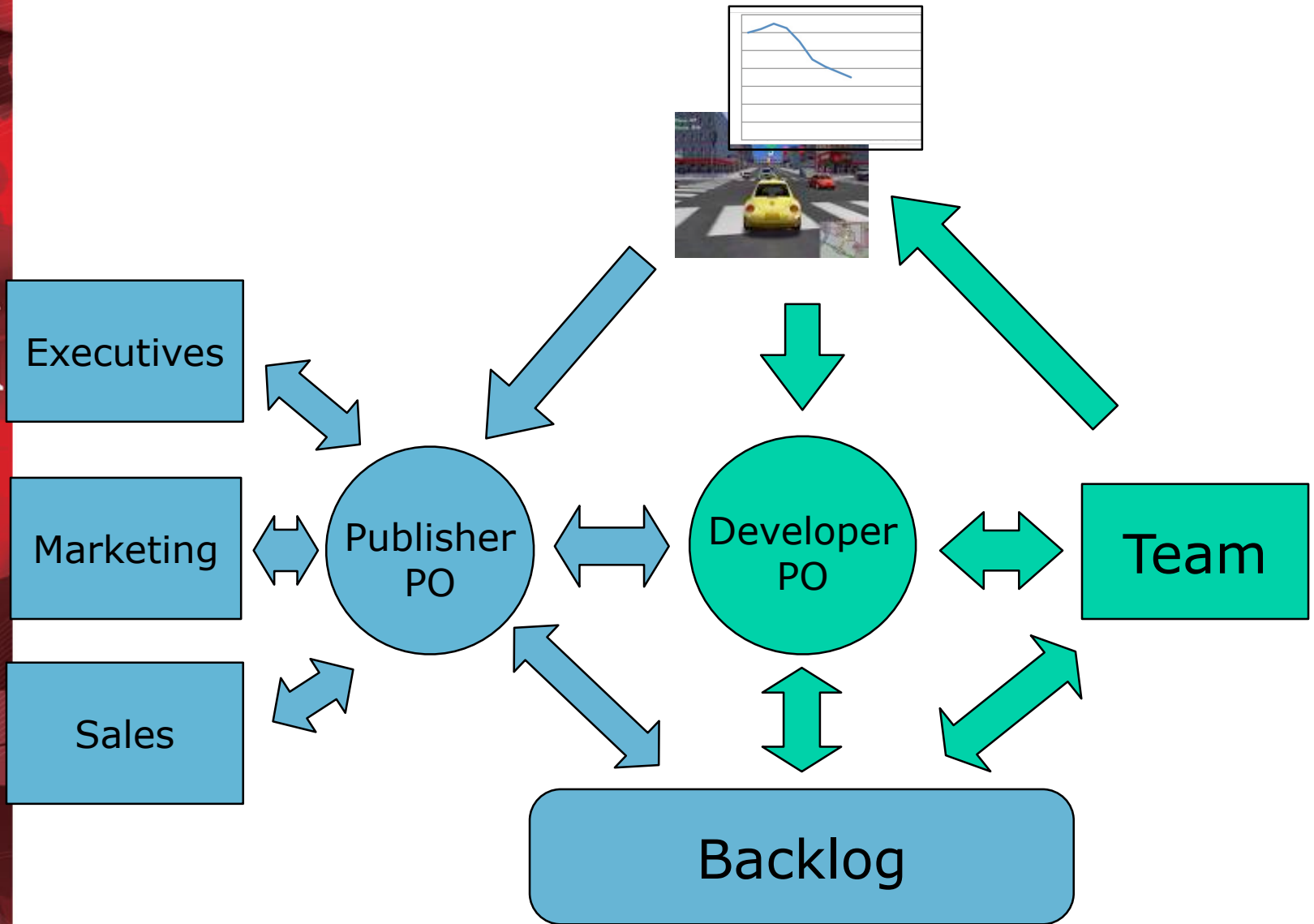
Parts on the garage floor

Leads to iterative and incremental death marches

Documentation has its place

Agile phases for game development

Agile is phase-less
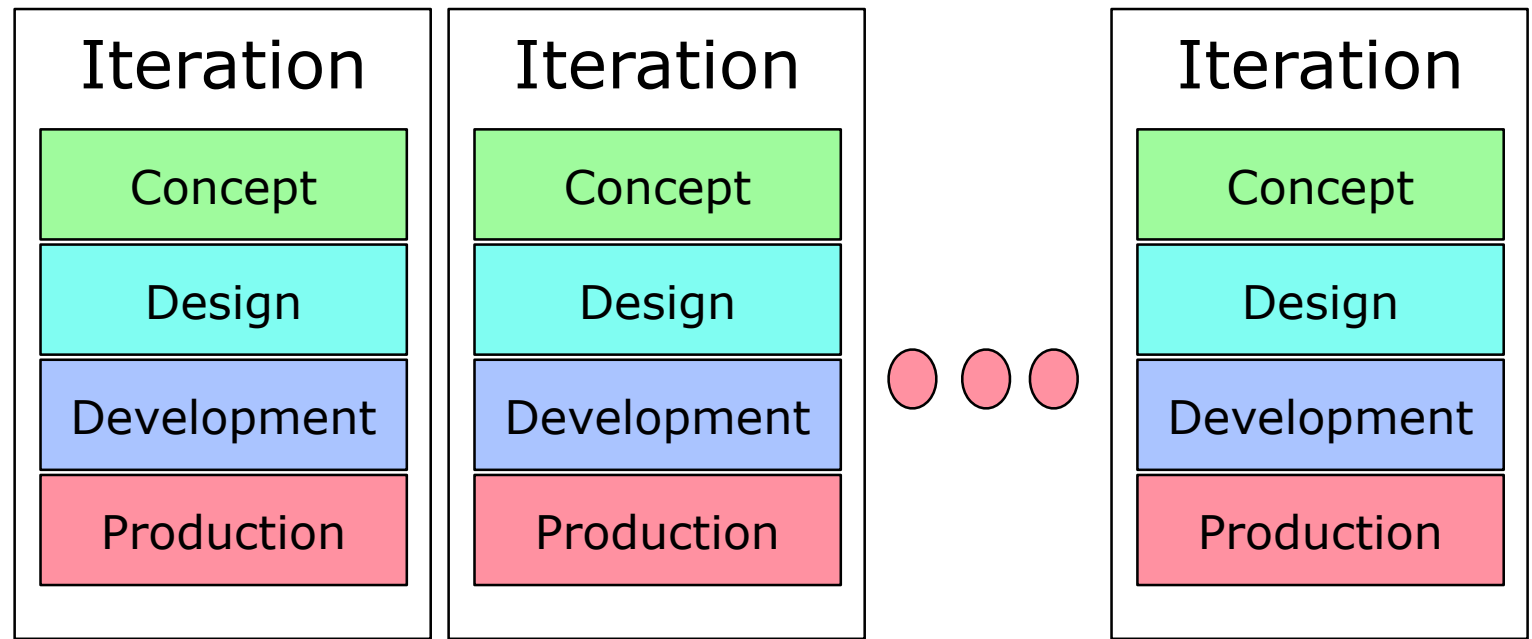
Iteration	Iteration		Iteration
Concept	Concept	● ● ●	Concept
Design	Design		Design
Development	Development		Development
Production	Production		Production

...is game development?

Not Quite
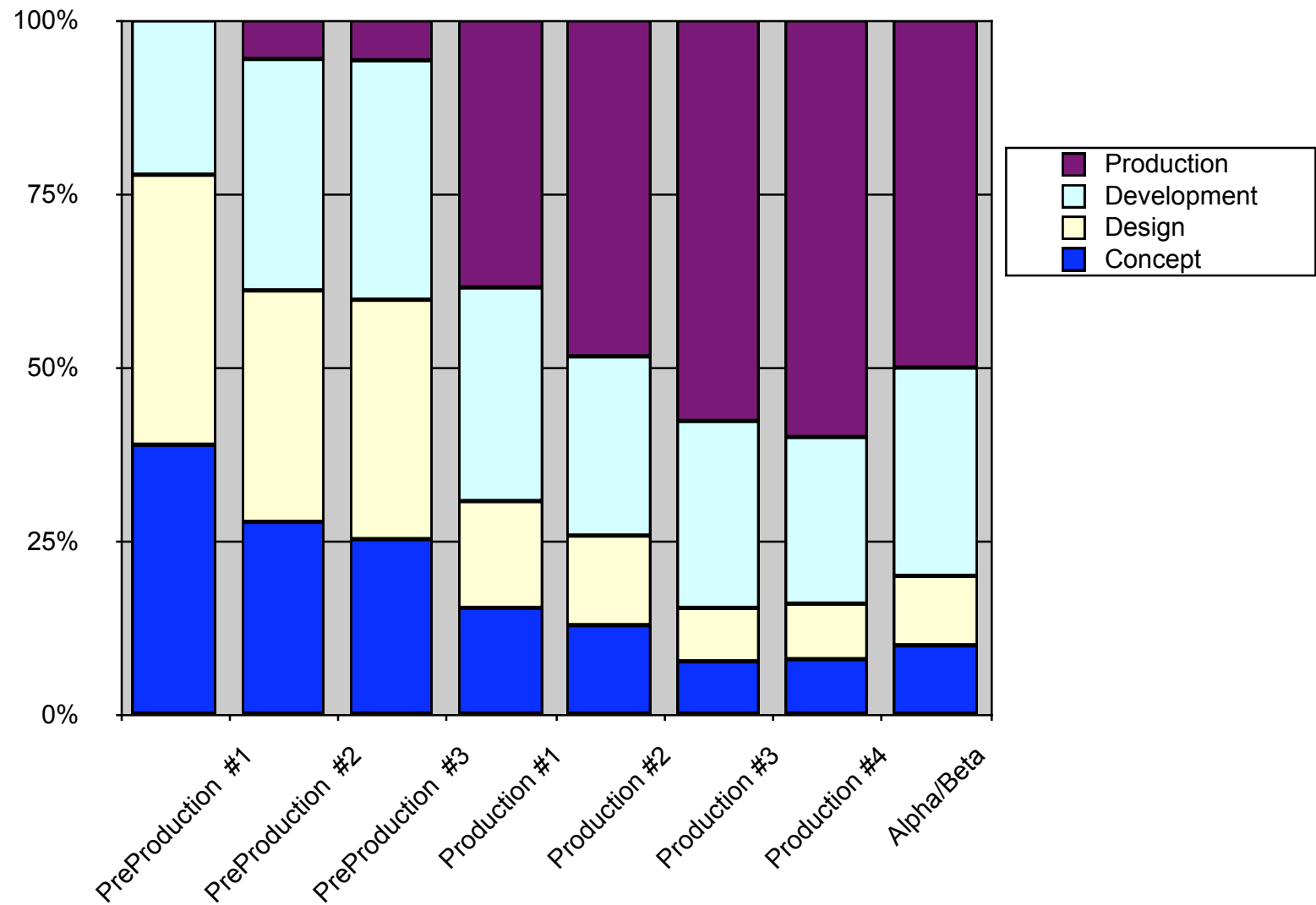
Preproduction vs Production

	Preproduction	**Production**
Questions or Statements	What and how?	Build it!
State of mind	Collaboration	Flow
Goals	Correctness	Efficiency

Which process?

Scrum   Lean

What and how?	Build it!
Collaboration	Flow
Correctness	Efficiency

What is Lean?

- Agile development methodology that is not as well known as Scrum.

- Focused on complex flow of work and pull systems to represent that flow.

- Are better suited to more predictable work-flow.

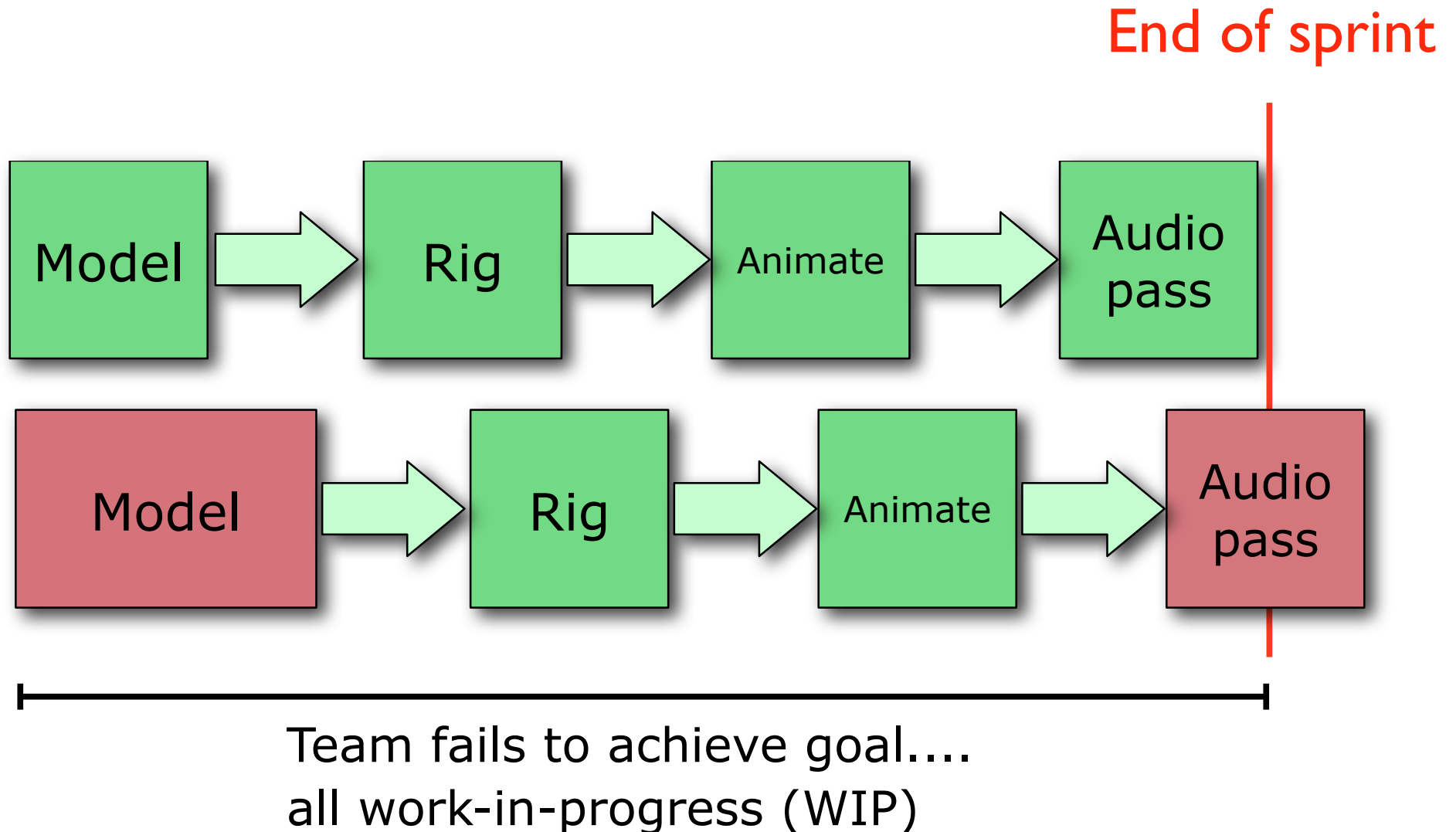# The problem using Scrum for production

Scrum does not represent multi-step workflow transparently.

End of sprint

Model → Rig → Animate → Audio pass

Model → Rig → Animate → Audio pass

Team fails to achieve goal....
all work-in-progress (WIP)

The problem using Scrum for production

Cross-discipline teams cannot share the work evenly

End of sprint

Model → Model?
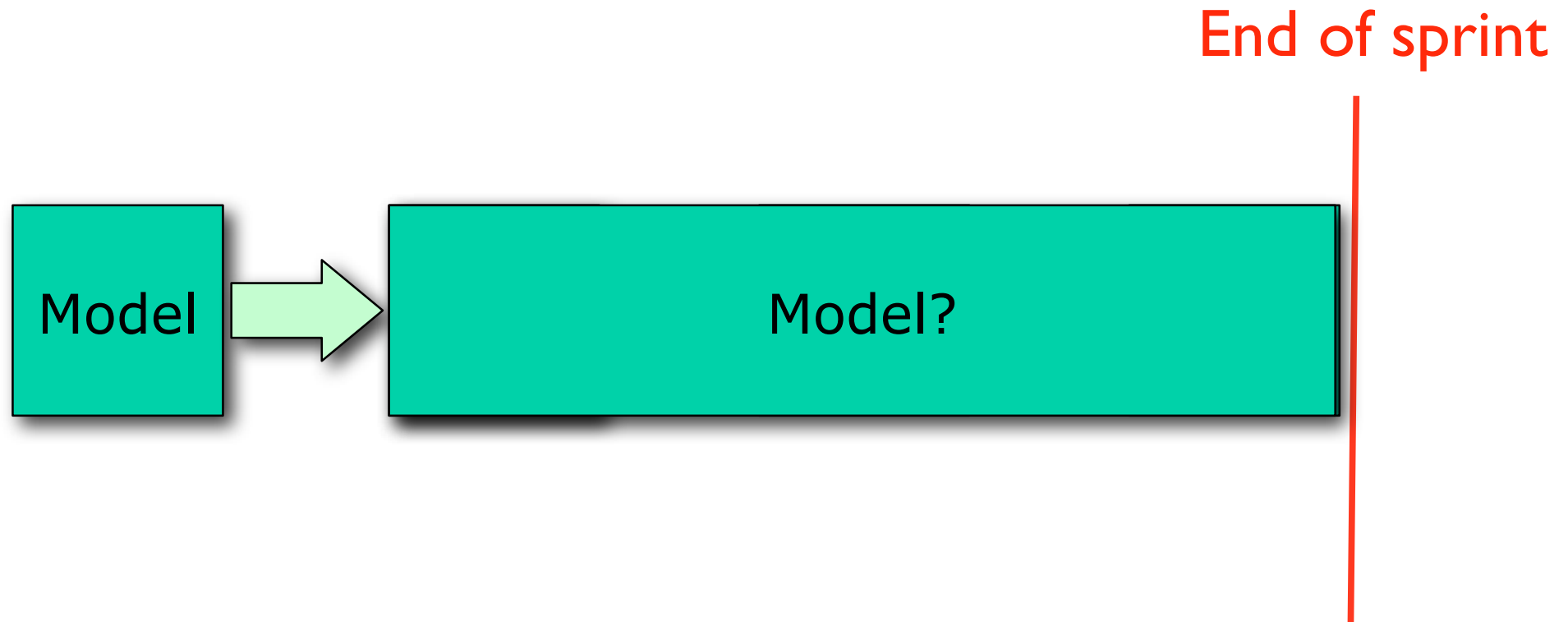
Discipline pools can help, but they promote local optimization, which works against flow

If the work is repeatable...

End of sprint

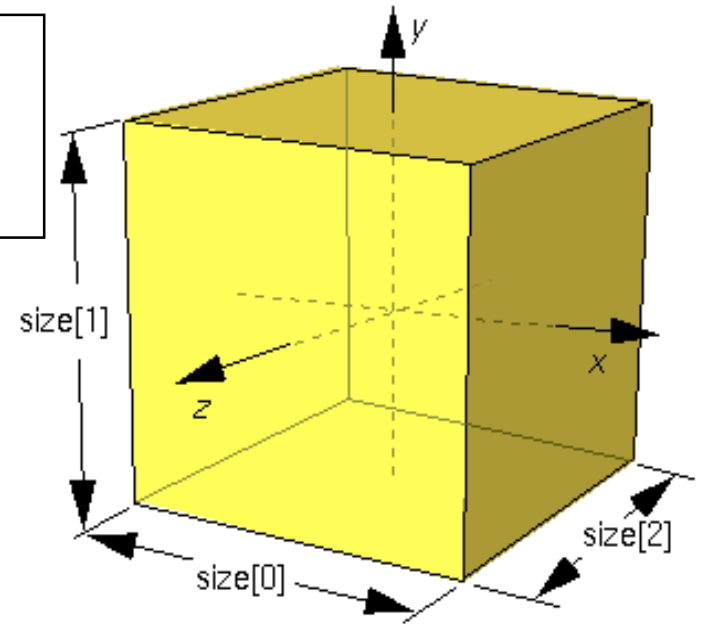| Model | → | Rig | → | Animate | → | Audio pass | | Done |
Audio pass	Done	Model	→	Rig	→	Animate		WIP
Animate	→	Audio pass	Done	Model	→	Rig		WIP
Rig	→	Animate	→	Audio pass	Done	Model		WIP
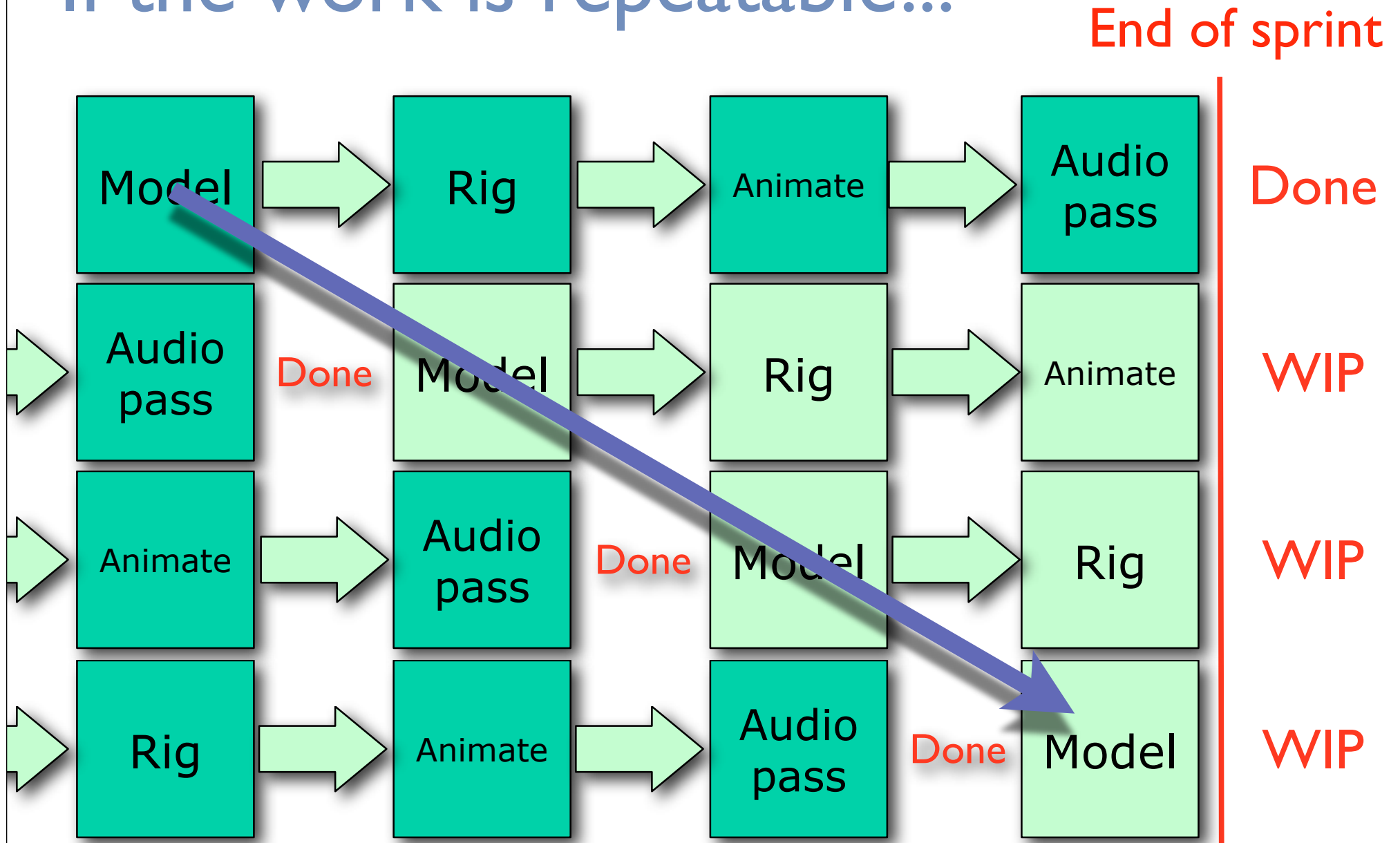
It should flow

Time-boxing Art

A time-box is a fixed length of time given to produce results. The results are variable.

"When forced to work within a strict framework the imagination is taxed to its utmost-and will produce richest ideas. Given total freedom the work is likely to sprawl."
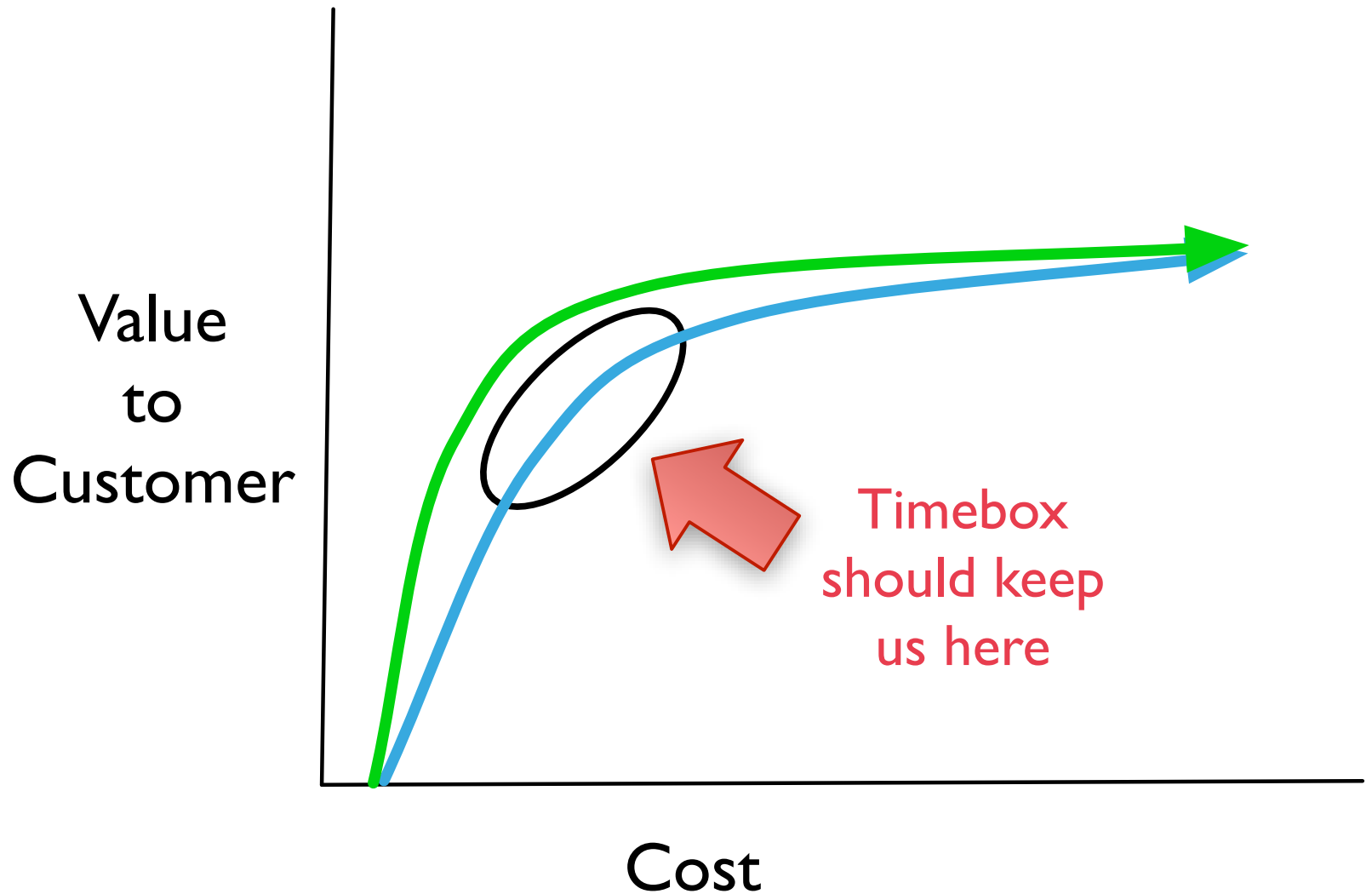
-TS Eliot

Finding the right timebox

Kanban Board

Concept	Low pass	High rez geometry	Audio layout	Gameplay tuning

Concept and Outline	Low Rez & Layout	High Rez	Audio	Tuning pass
Billy	Robert	R.J	Carlos	Mike
		Charles		
		Andrea		Scott
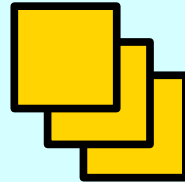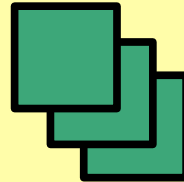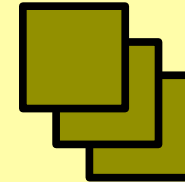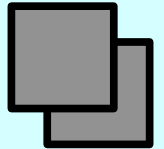
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Real world experiences

- Scrum teams experience less crunch, especially at post-alpha

  - If they establish a definition of done & share a vision

- Scrum game teams can miss release dates

  - #1 reason: production debt

- Lean is a better fit for production

  - It's compatible with Scrum

- Success is not determined by agile

  - Vision

  - Talent

  - Teamwork

  - Leadership

Agile Game Development book

- Fall 2009 release
- ISBN 0321618521
- Currently in 2nd draft
- Want feedback
  - See me after

Conclusion

- For more information
  - www.AgileGameDevelopment.com
  - www.ClintonKeith.com
    - Onsite workshops
    - Public classes
    - Coaching
    - Info up front
- CSM class with Mike Cohn in Boston
  - May 6-7
- Questions?