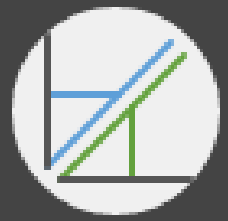

ActionableAgile
Take Control

Actionable Agile Metrics for Predictability

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First, let me set the record straight…

“When will it be done?”

“When will it be done?”

Date (number of days)

Elapsed Time

“When will it be done?”

Date (number of days)

Story Points / Velocity

Stop me if you've heard this one before…

“Relative Complexity is the best predictor of how long it takes an item to complete”

Year 2014

	Stories		Points		Average Days				
				InProgress	Ready for QA	QA	Ready for Aceptance	Aceptance	Holding	**Total Days**
Total Closed	157	Total Closed	182	2.82	0.57	1.34	0.53	0.04	0.55	**5.85**
0 Points	9									
Half Point	86	Half Point	43	0.95	0.48	0.59	0.47	0.02	0.35	**2.86**
1 Points	25	1 Points	25	2.60	0.56	1.40	0.36	0.04	0.44	**5.40**
2 Points	12	2 Points	24	5.50	0.42	2.00	0.33	0.00	0.42	**8.67**
3 Points	19	3 Points	57	8.00	1.21	4.47	1.32	0.05	1.95	**17.00**
5 Points	5	5 Points	25	9.20	0.40	2.60	0.20	0.00	0.60	**13.00**
8 Points	1	8 Points	8	25.00	0.00	2.00	0.00	0.00	0.00	**27.00**
12 Points	0	12 Points	0							

Why do we even bother with Story Points?*

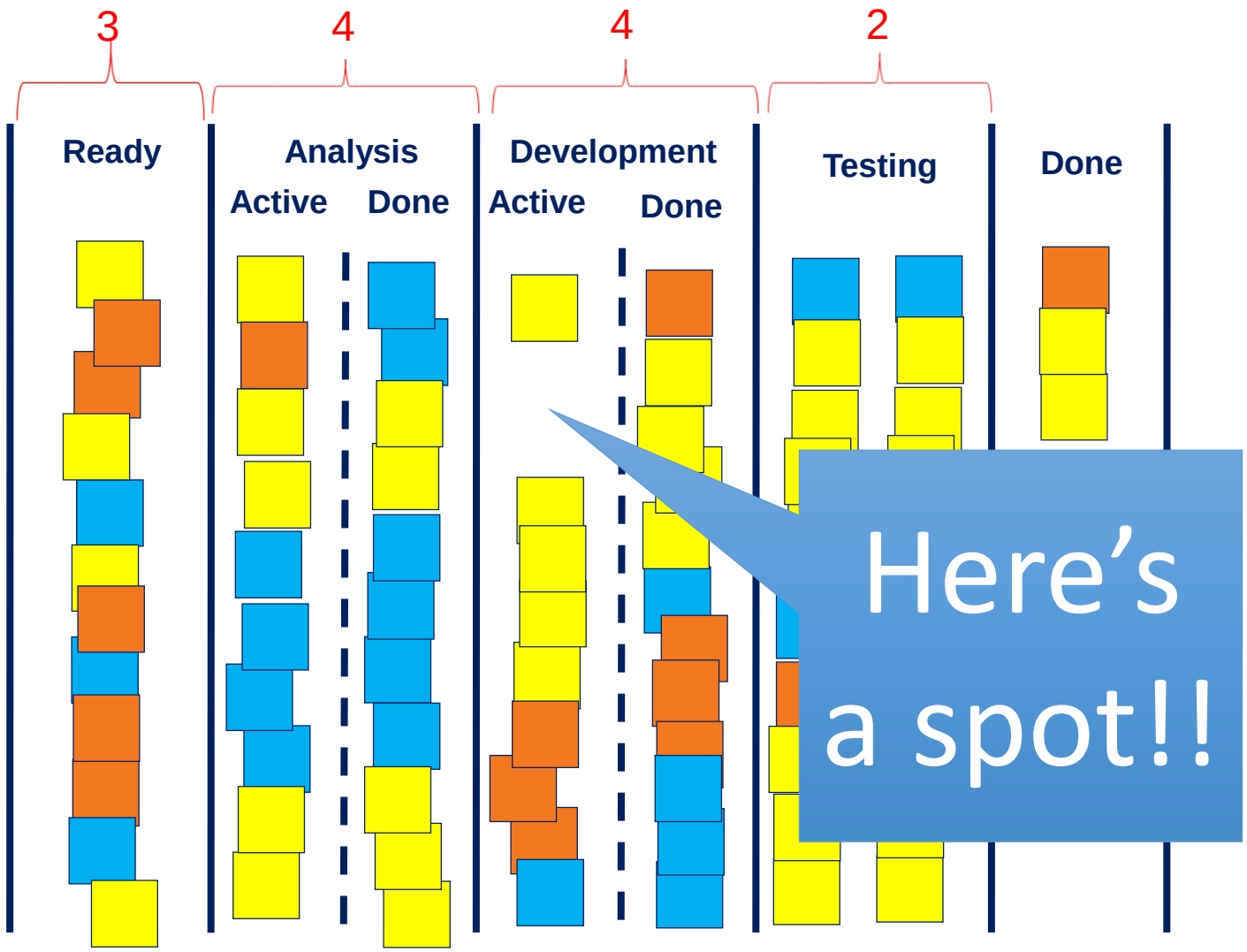
I’m going to suggest something radical…

As an example:

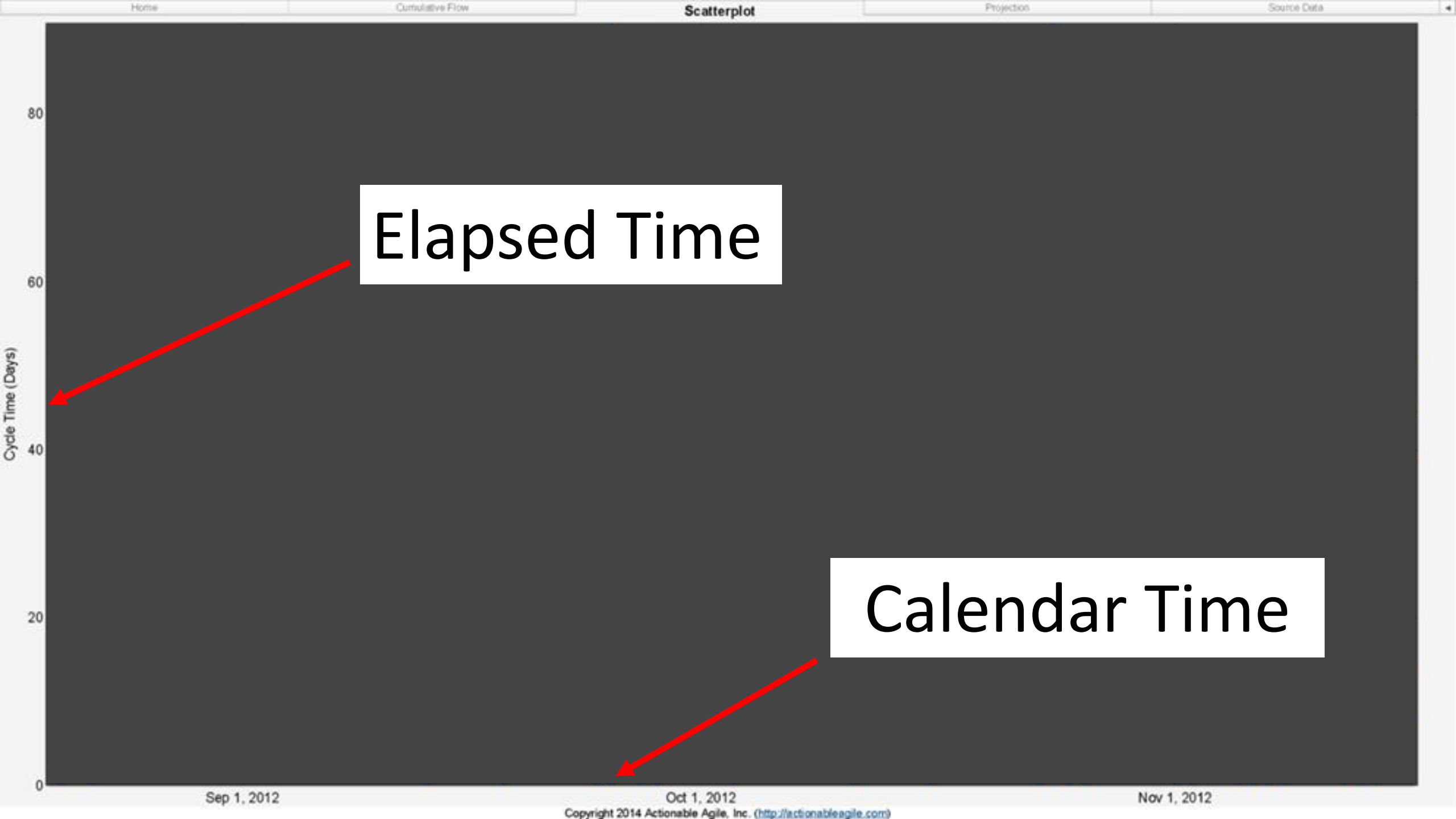
How long does it take you to get to work in the morning?

“It depends…”

Here's
a spot!!


3
4
4
2
Ready
Analysis
Active
Done
Development
Active
Done
Testing
Done
Here's a spot!!

Try an experiment for me…


Home
Cumulative Flow
Scatterplot
Projection
Source Data
Elapsed Time
Calendar Time
Cycle Time (Days)
80
60
40
20
0
Sep 1, 2012
Oct 1, 2012
Nov 1, 2012
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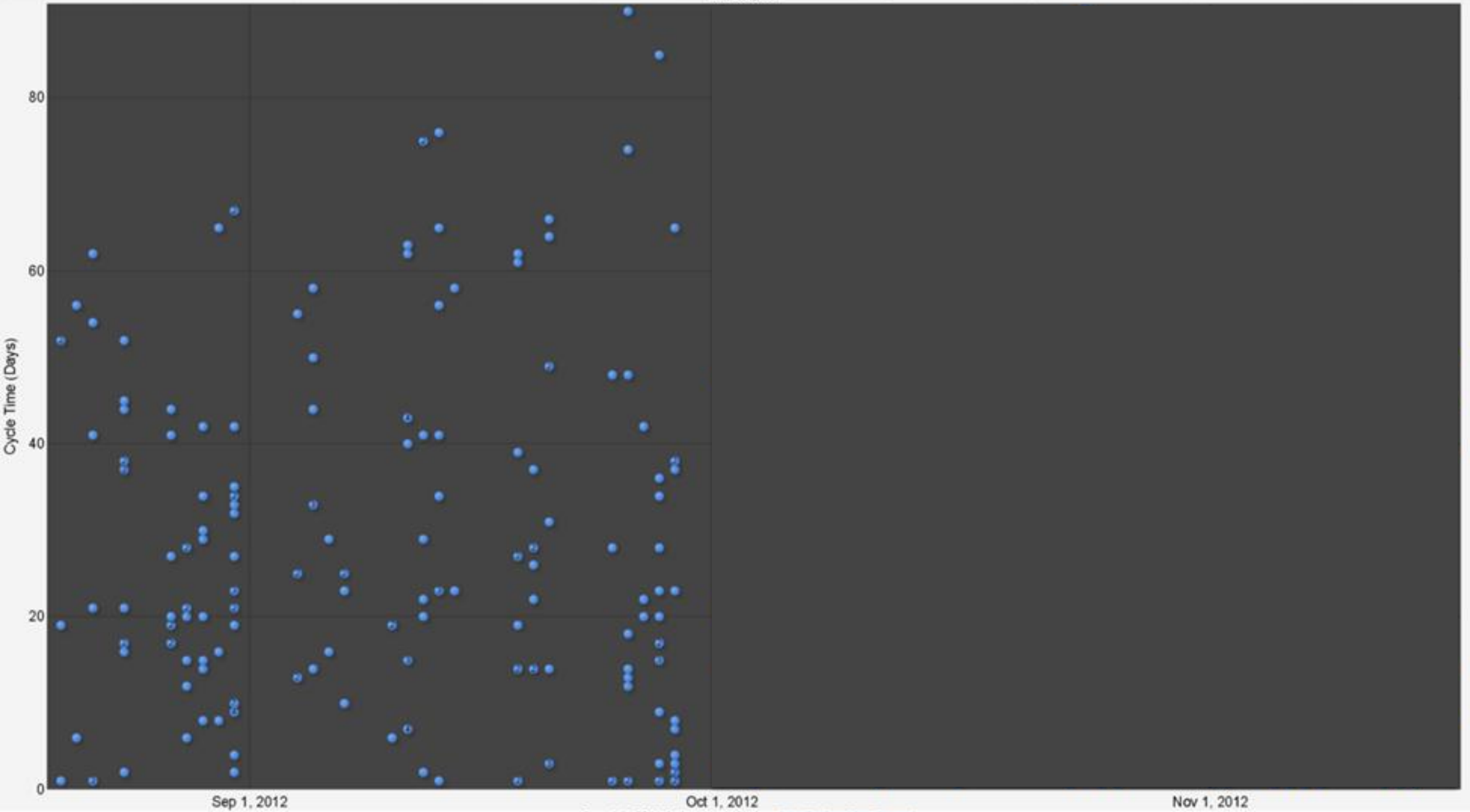

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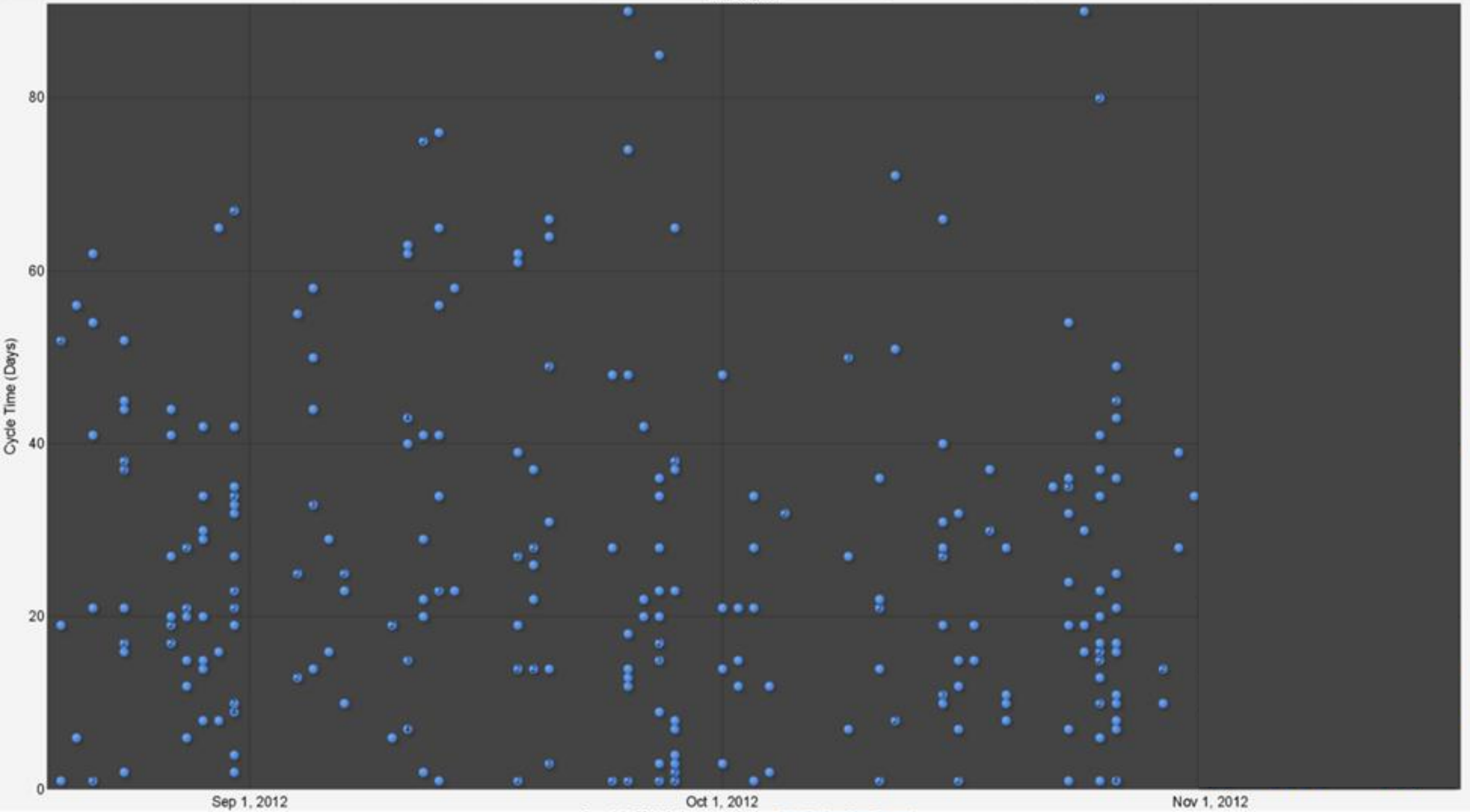
Scatterplot



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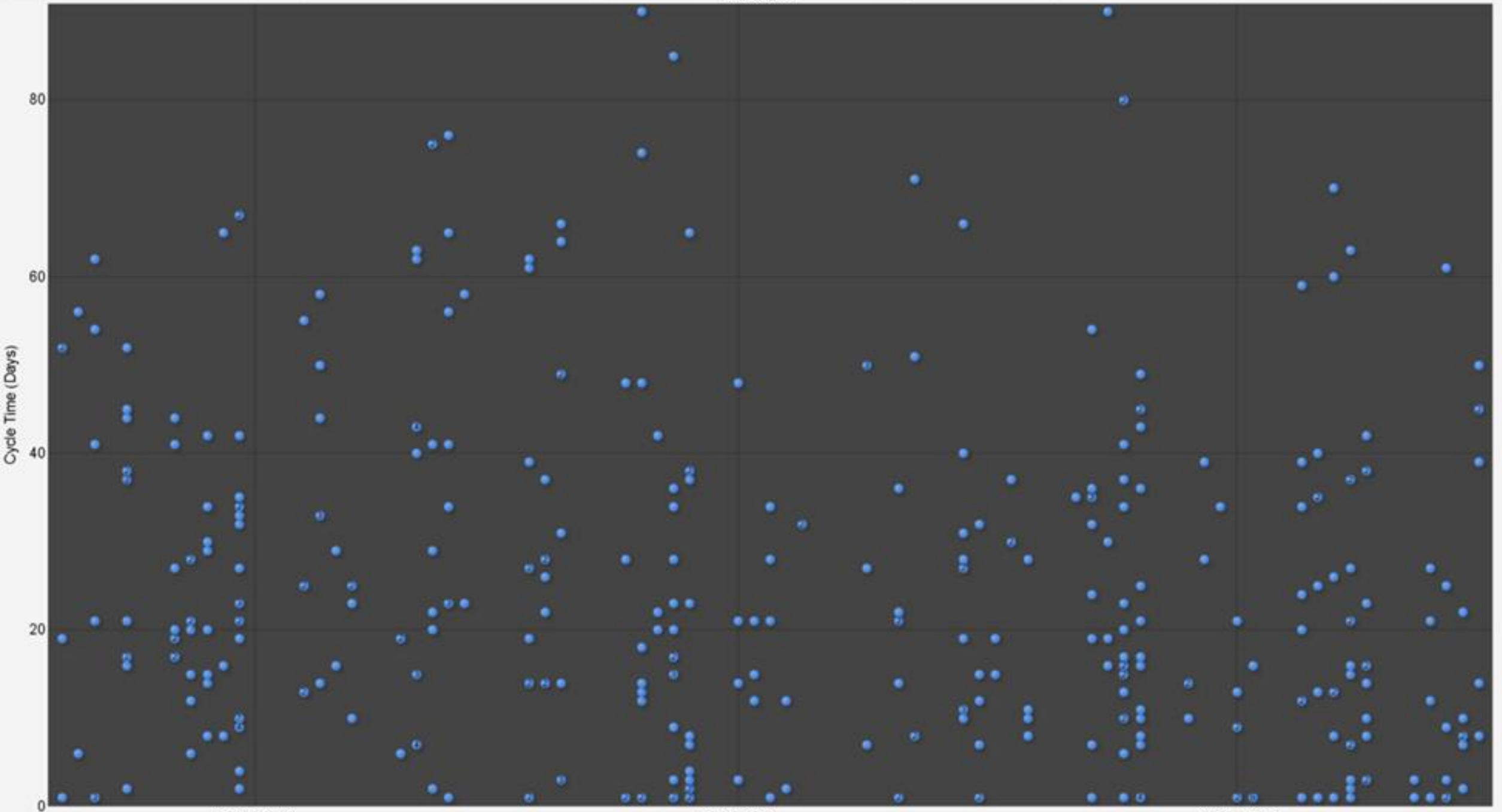

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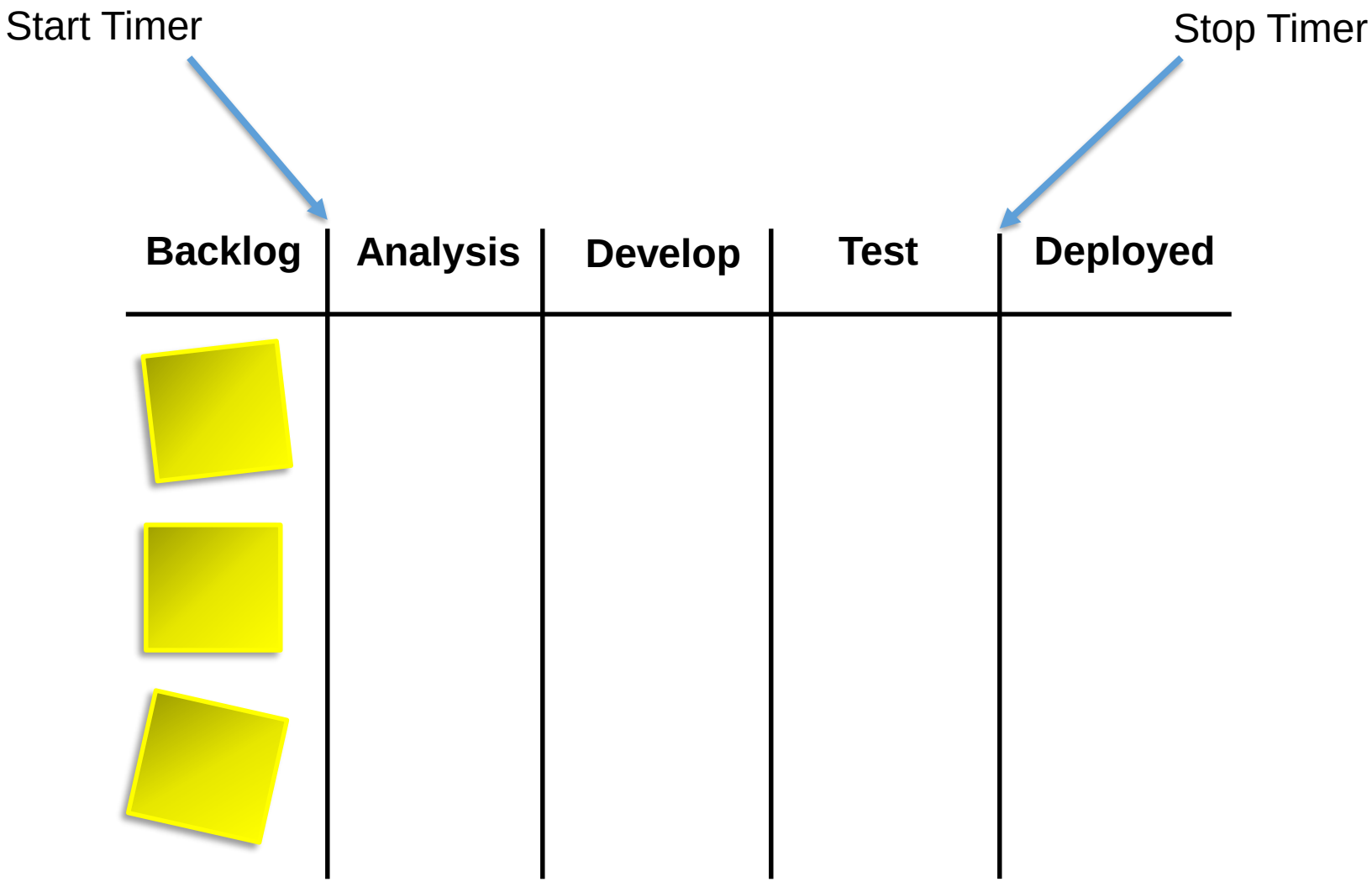
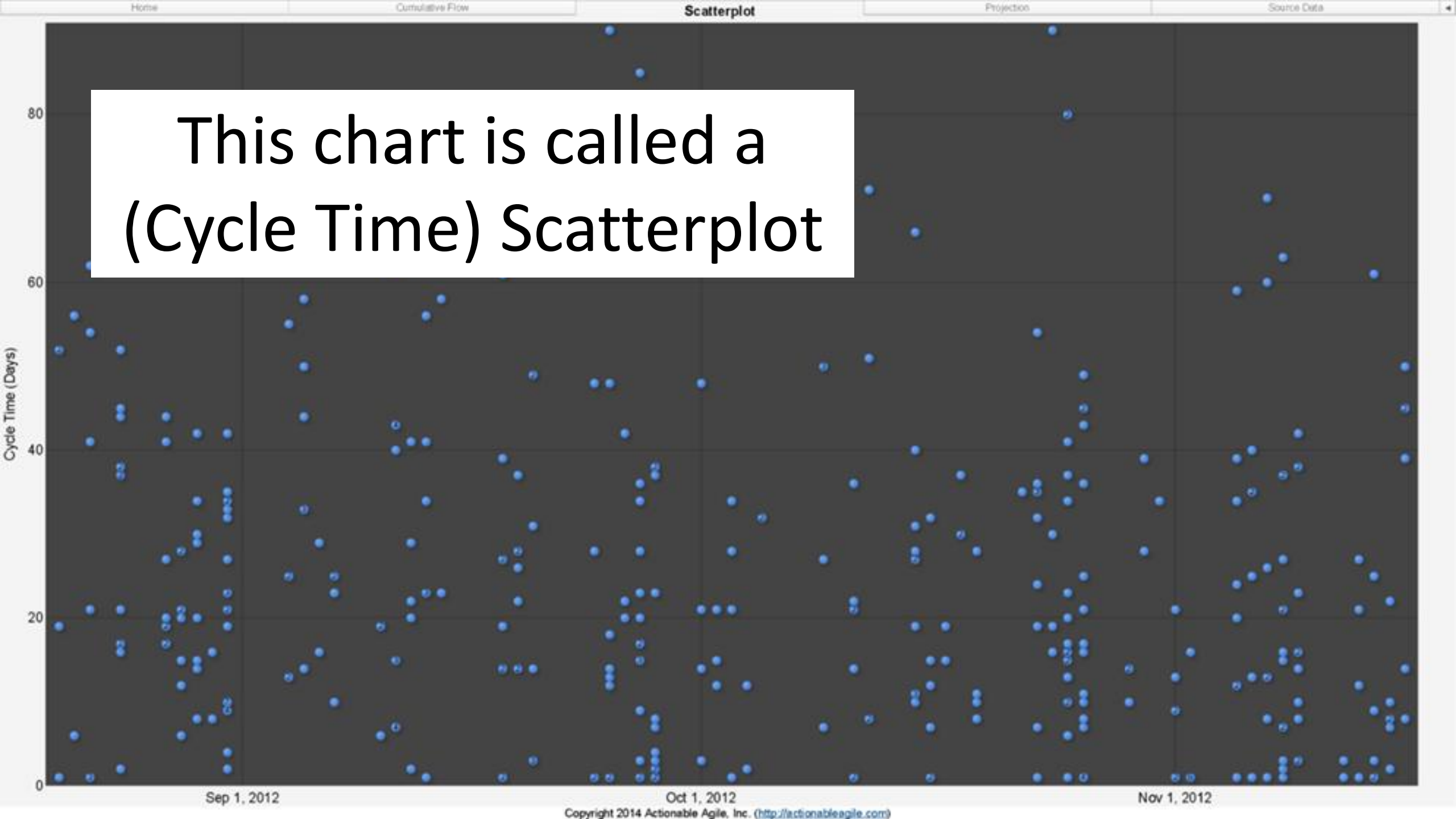
Try the same thing
for your process


Start Timer
Stop Timer
Backlog
Analysis
Develop
Test
Deployed


Home
Cumulative Flow
Scatterplot
Projection
Source Data
This chart is called a
(Cycle Time) Scatterplot
Cycle Time (Days)
0
20
40
60
80
Sep 1, 2012
Oct 1, 2012
Nov 1, 2012
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If you track nothing else, track the date that an item starts and the date that an item completes
(for all work items)

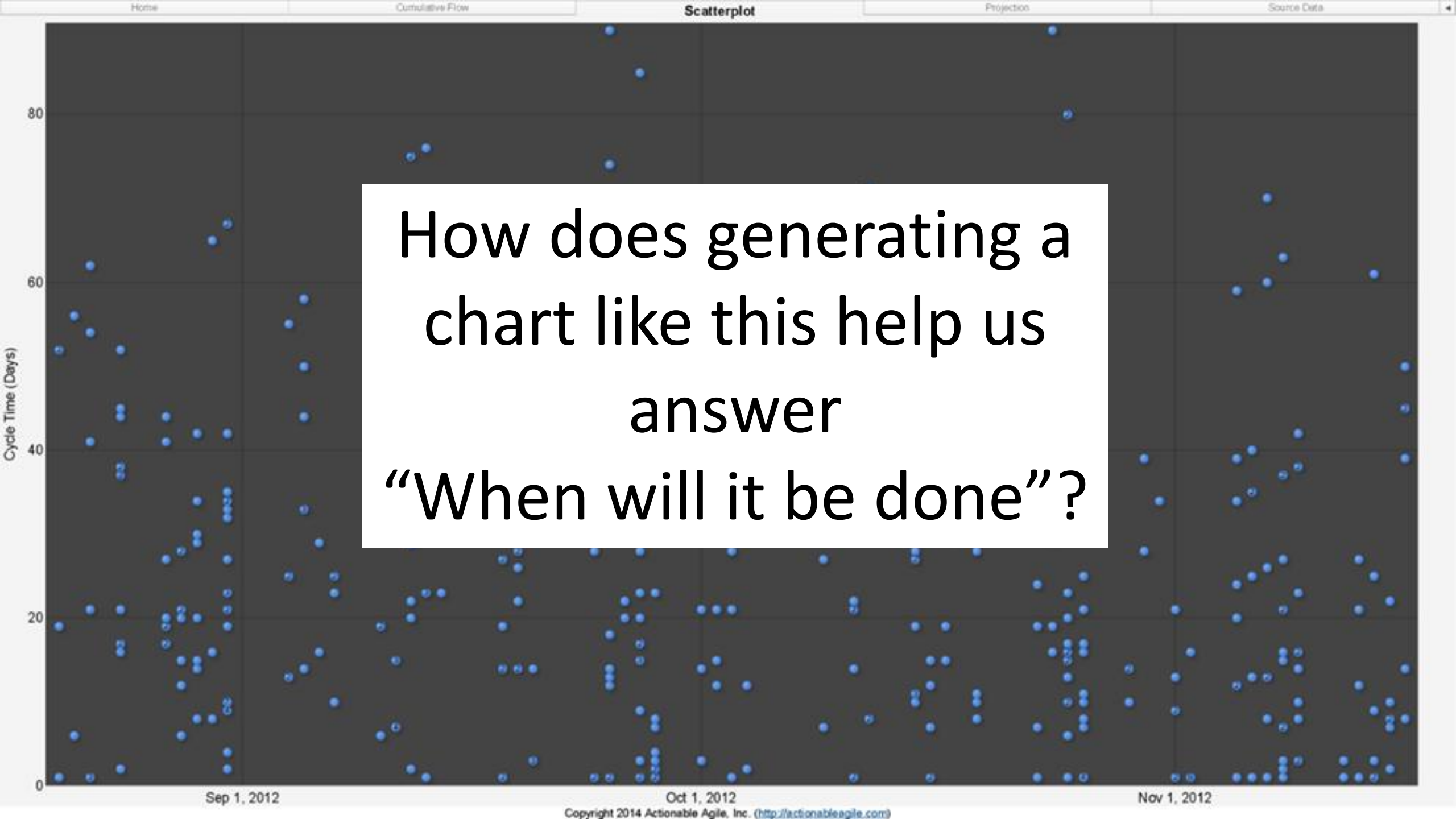
That will give you a measure of the flow metric of

Cycle Time

Cycle Time is the
amount of
elapsed time
it takes for a given work item
to complete

“When will it be done?”
for a single item is best answered
by
Cycle Time

“Huh?”


Home
Cumulative Flow
Scatterplot
Projection
Source Data
Cycle Time (Days)
0
20
40
60
80
Sep 1, 2012
Oct 1, 2012
Nov 1, 2012
How does generating a chart like this help us answer
“When will it be done”?
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Home
Cumulative Flow
Scatterplot
Projection
Source Data
Cycle Time (Days)
0
20
40
60
80
Sep 1, 2012
Oct 1, 2012
Nov 1, 2012
How do we make sense of this randomness?
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Your process is “random”.
Therefore, you can’t think deterministically.
You need to think probabilistically.

What does it mean to think probabilistically?

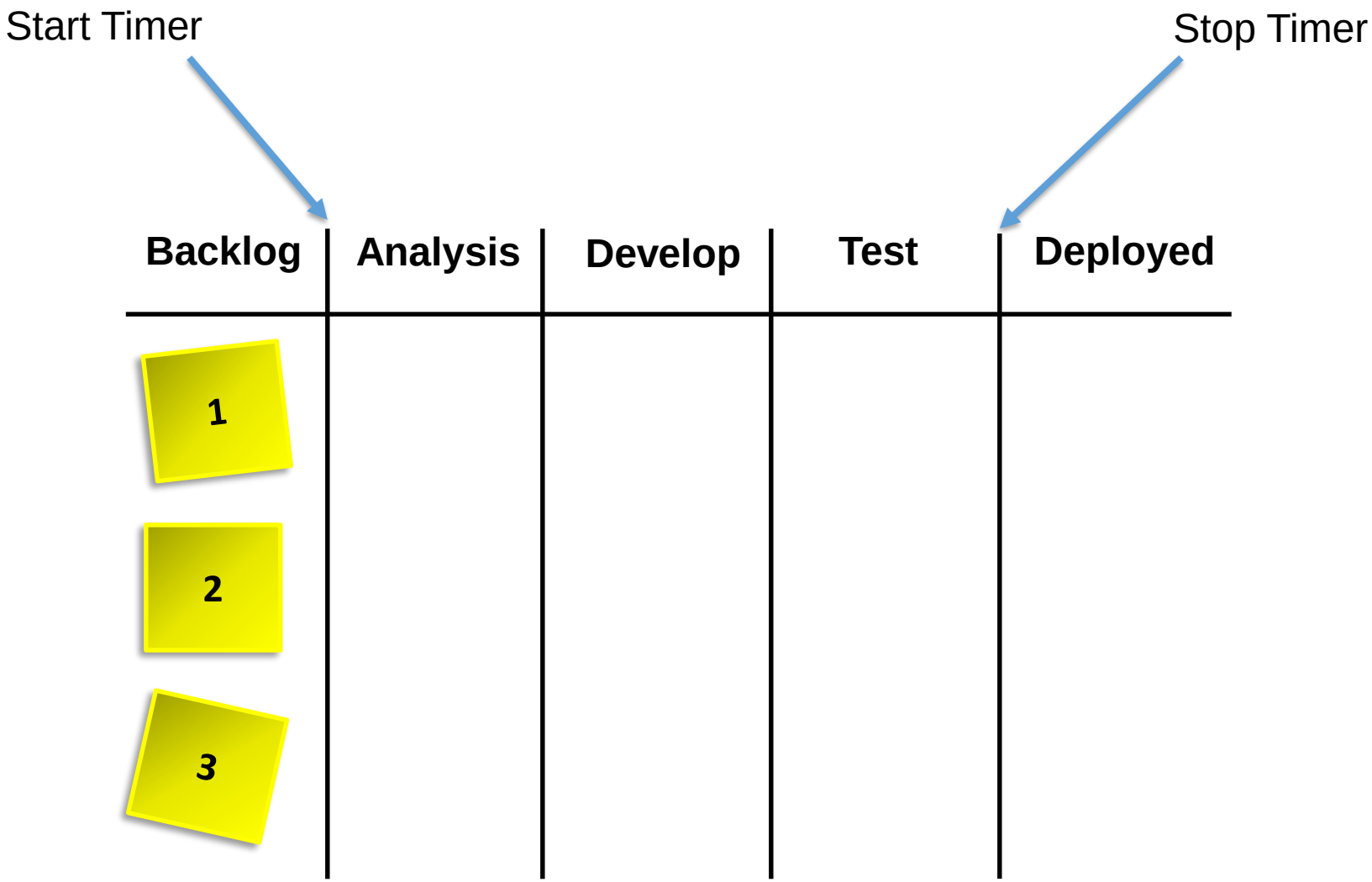
Let’s try another experiment…

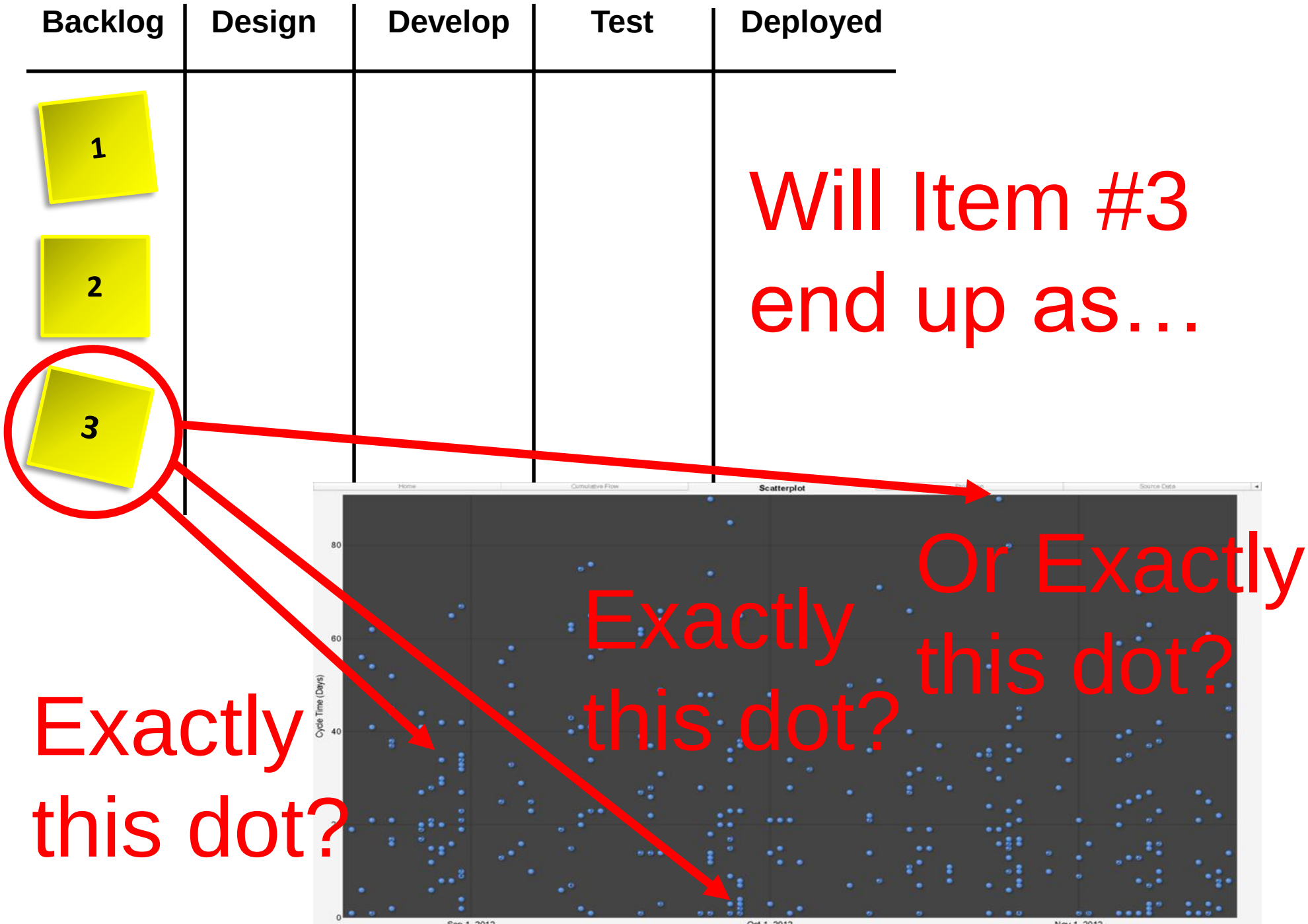
Thinking probabilistically means acknowledging that there is more than one possible future outcome

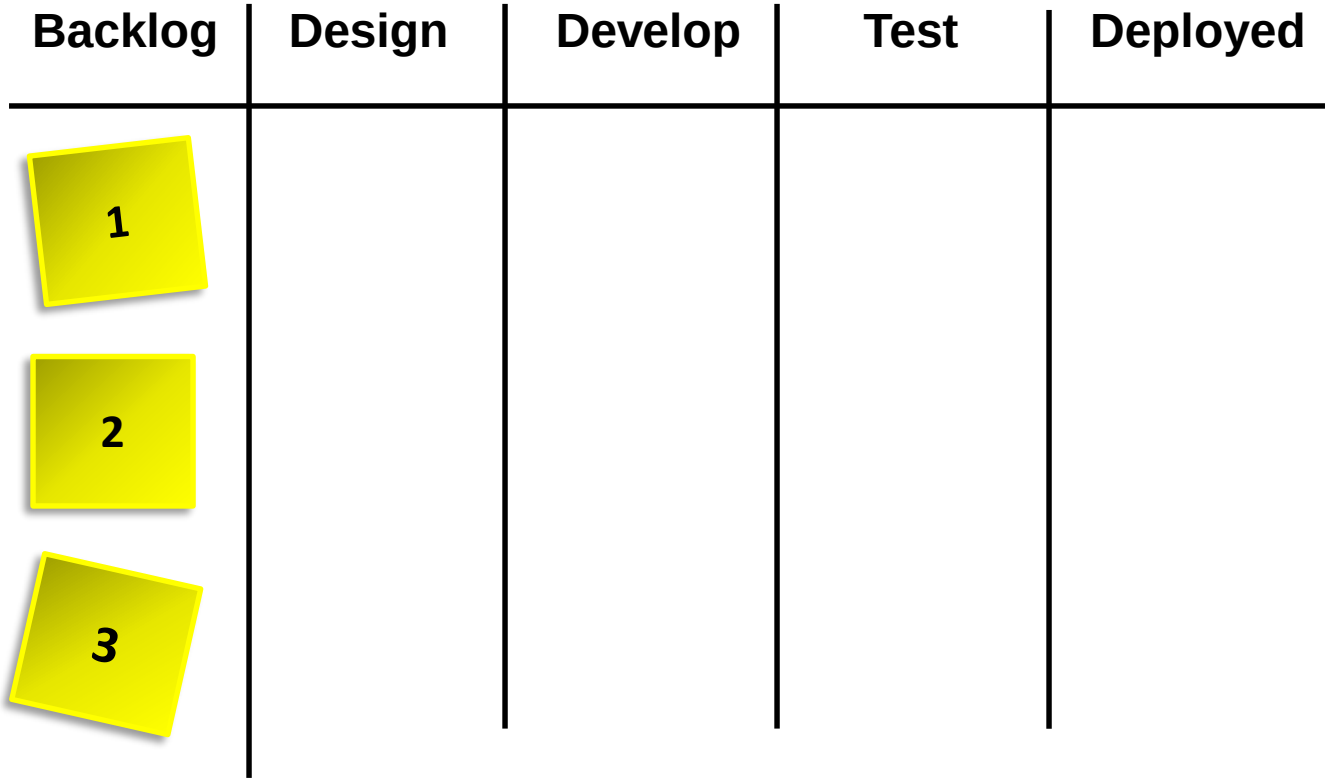
How many people can we “expect” to be standing after 3 flips?

12.5%

Does that mean 12.5% was the only possible outcome?


Start Timer
Stop Timer
Backlog
Analysis
Develop
Test
Deployed
1
2
3


Backlog
Design
Develop
Test
Deployed
1
2
3
Will Item #3 end up as…
Scatterplot
Cycle Time (Days)
80
60
40
0
Exactly this dot?
Exactly this dot?
Or Exactly this dot?



There is more than one possible outcome for Item #3 while it is sitting in the backlog

What are the possible outcomes?

Example Data
Cycle Time Scatterplot
Cycle Time (Days)
0
10
20
30
40
Aug 1, 2015
Sep 1, 2015
Oct 1, 2015
Nov 1, 2015
How do we make sense of this “randomness”?
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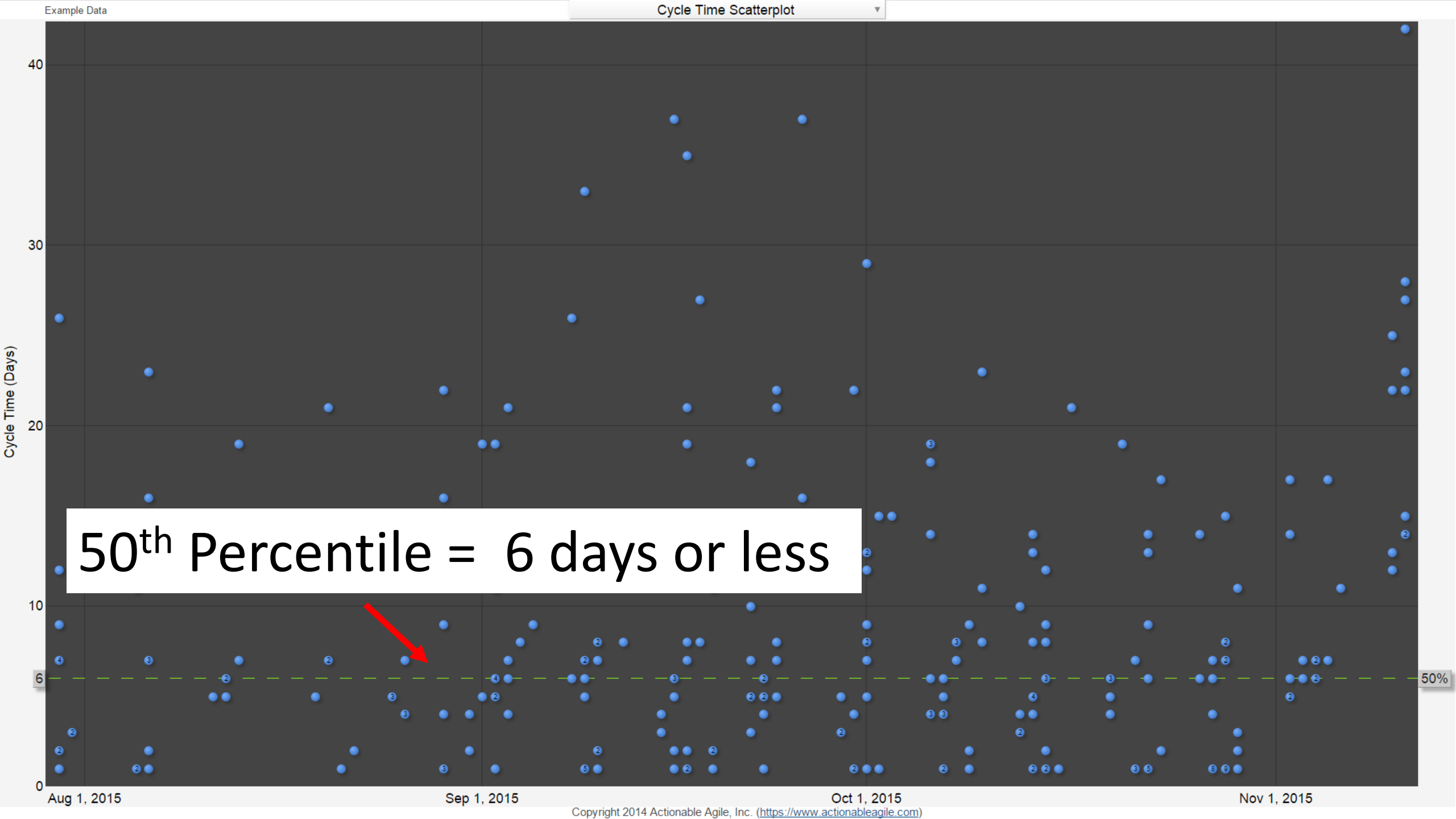

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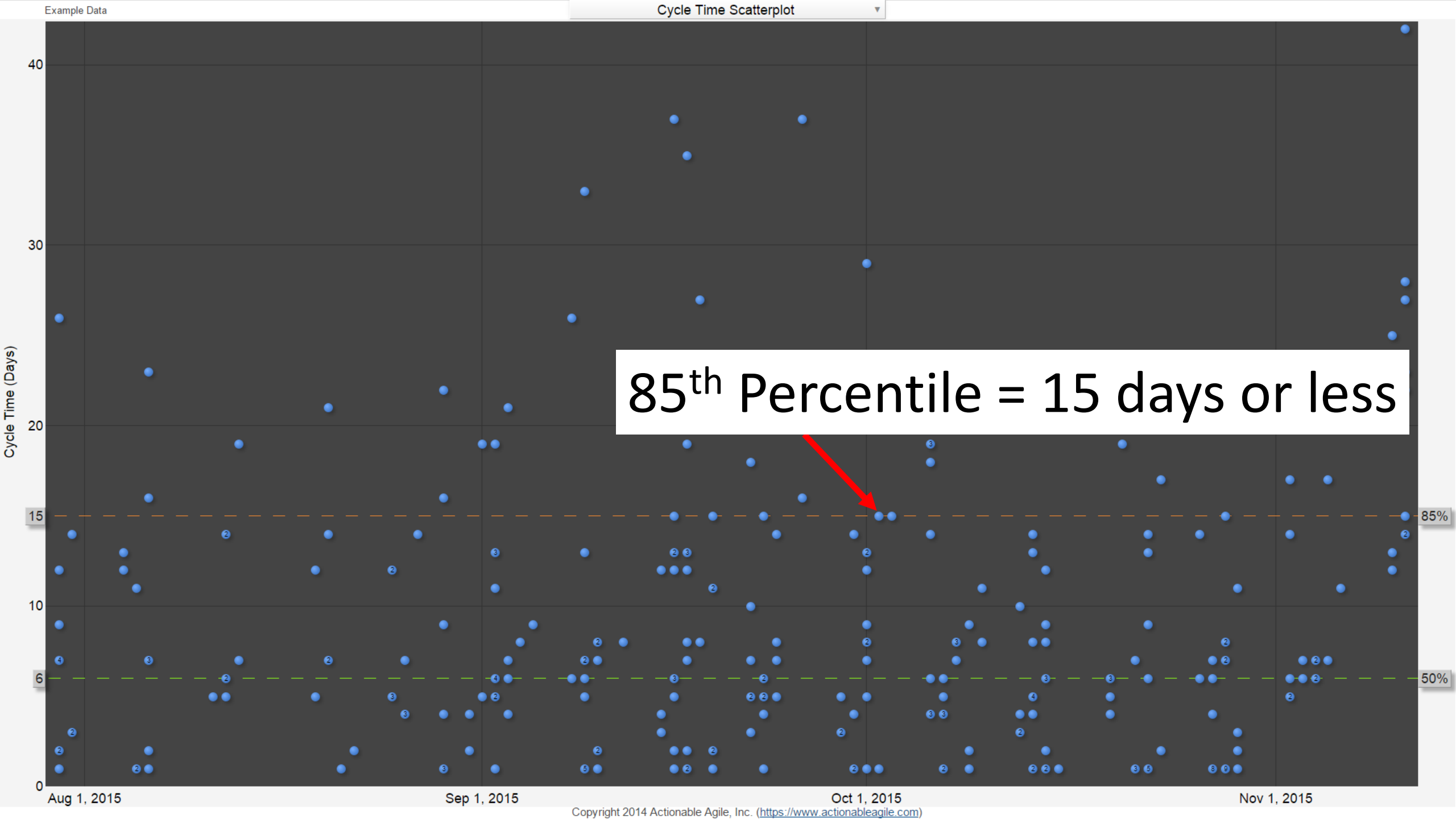

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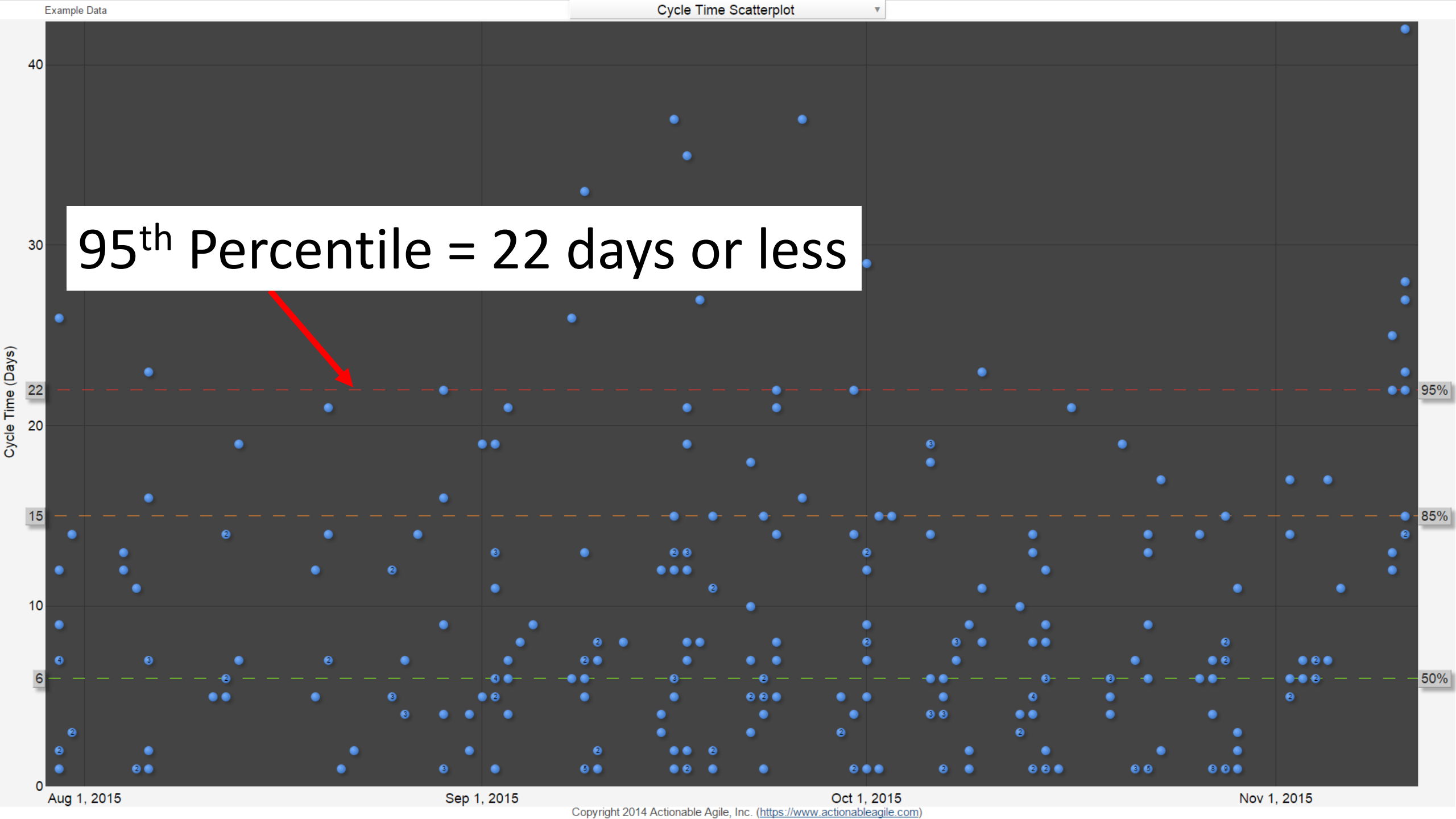

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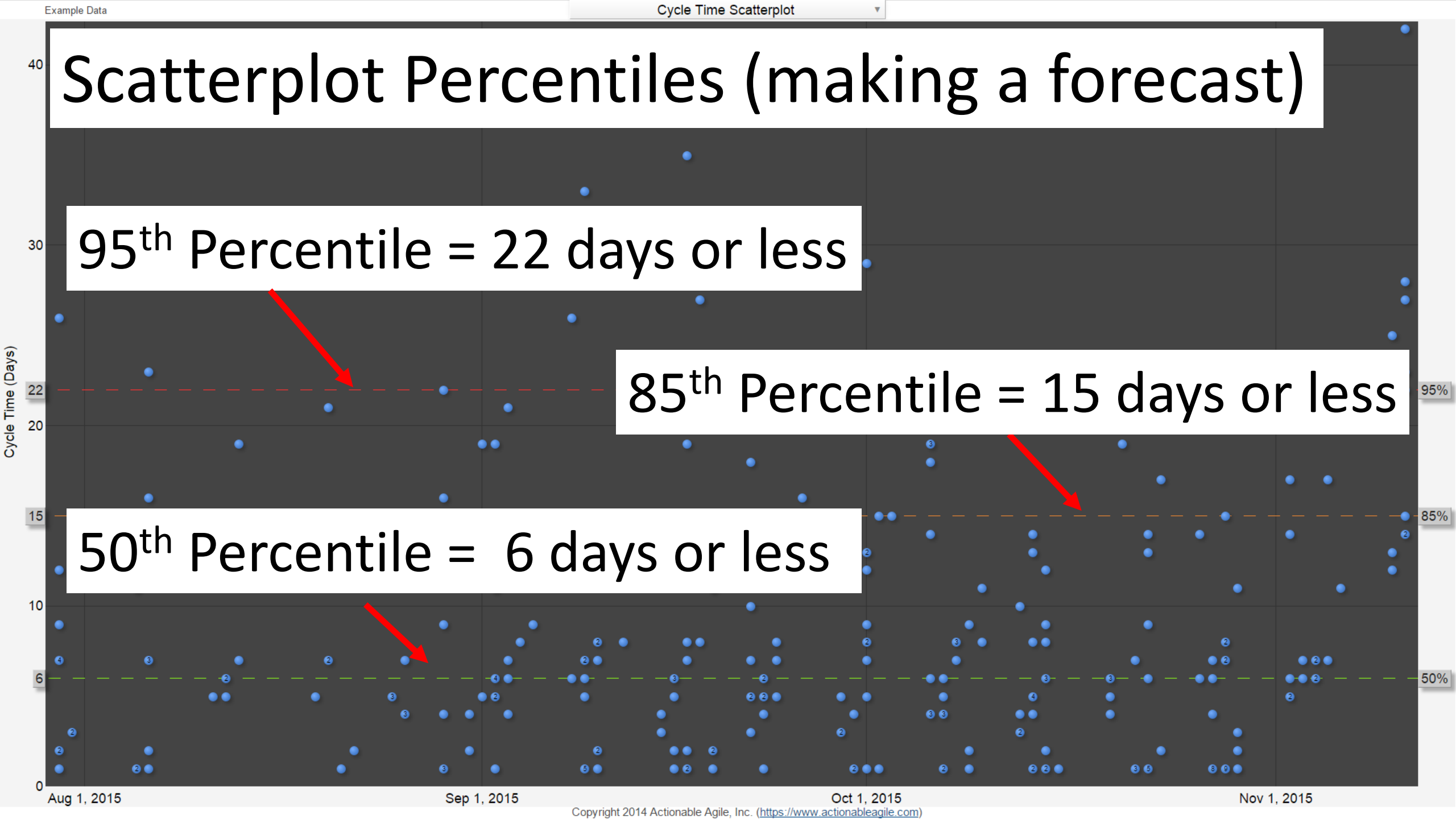

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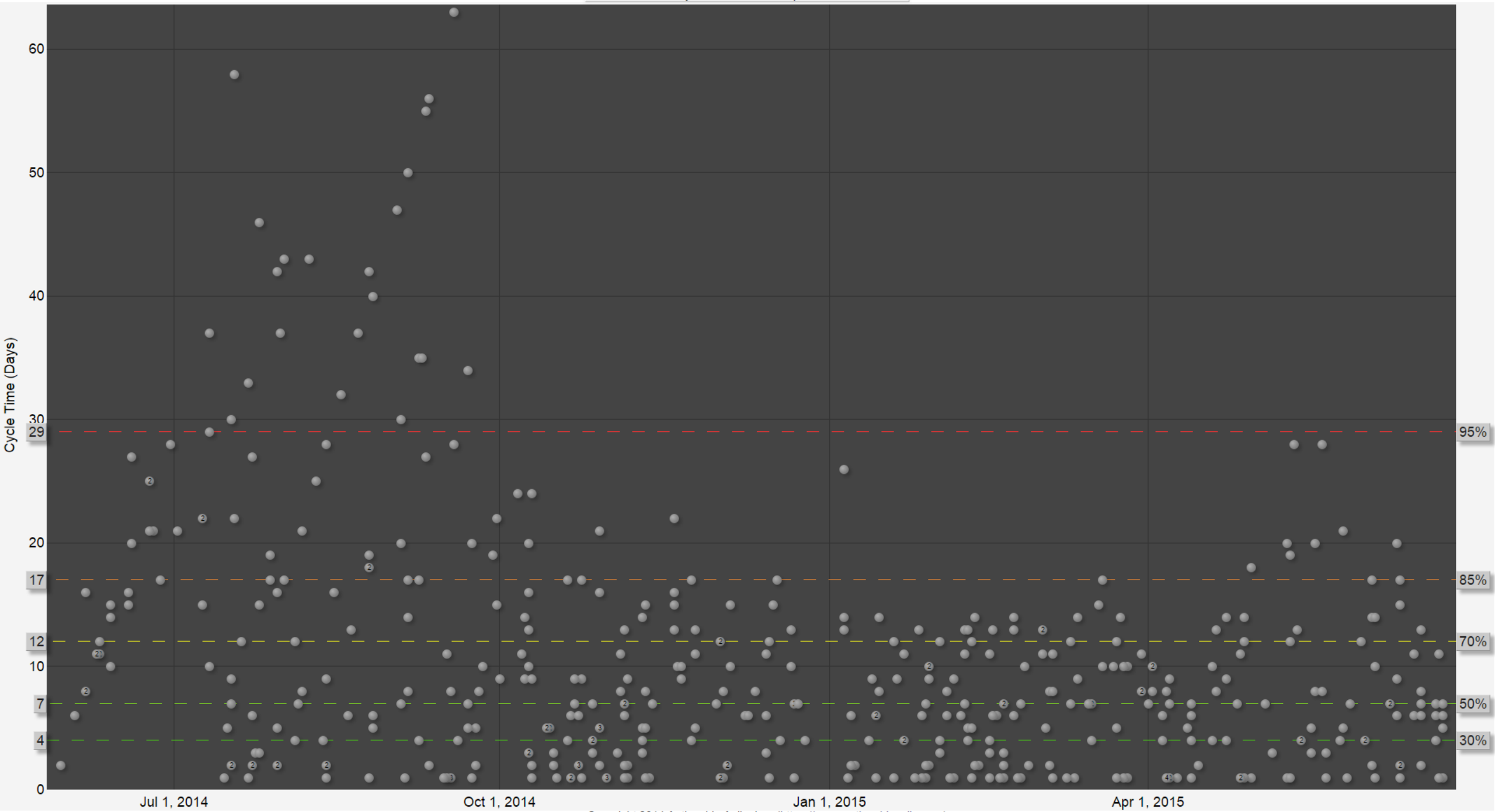
Aces Only.xlsx, 10/24/2015

Cycle Time Scatterplot

7 data errors



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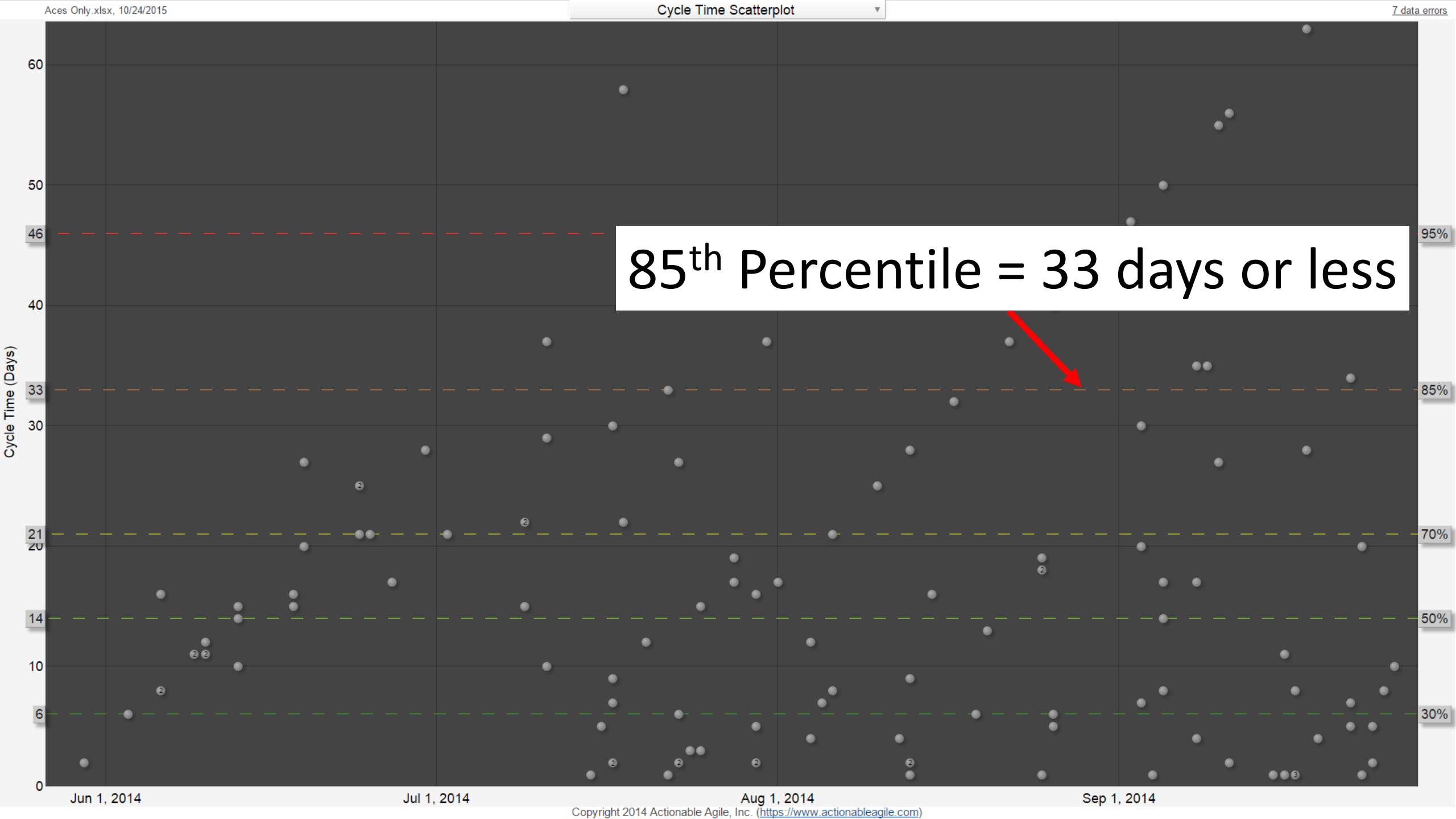

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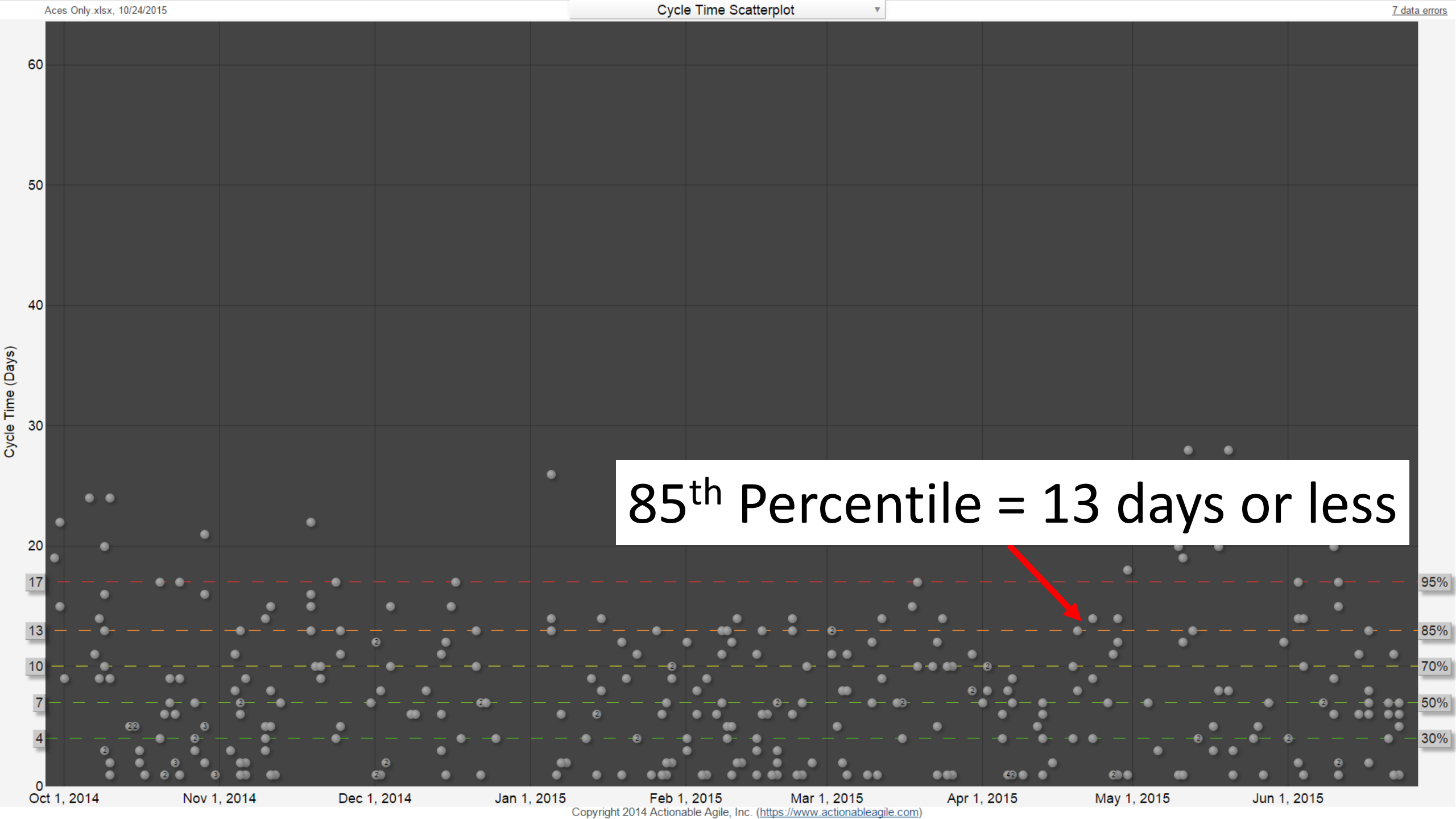
Aces Only.xlsx, 10/24/2015
Cycle Time Scatterplot
7 data errors
Cycle Time (Days)
60
50
40
30
20
17
13
10
7
4
0
95%
85%
70%
50%
30%
Oct 1, 2014
Nov 1, 2014
Dec 1, 2014
Jan 1, 2015
Feb 1, 2015
Mar 1, 2015
Apr 1, 2015
May 1, 2015
Jun 1, 2015
85th Percentile = 13 days or less
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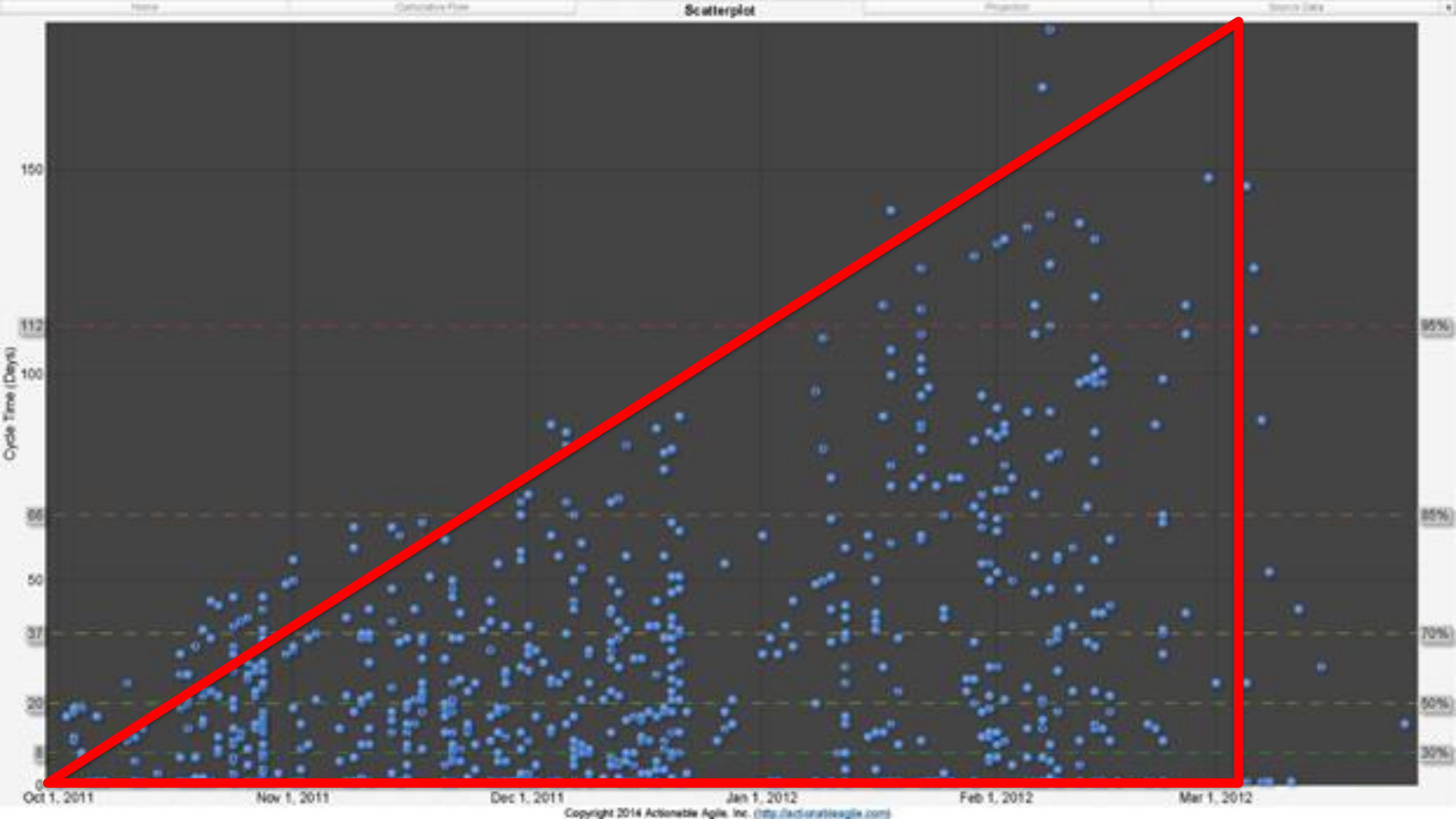

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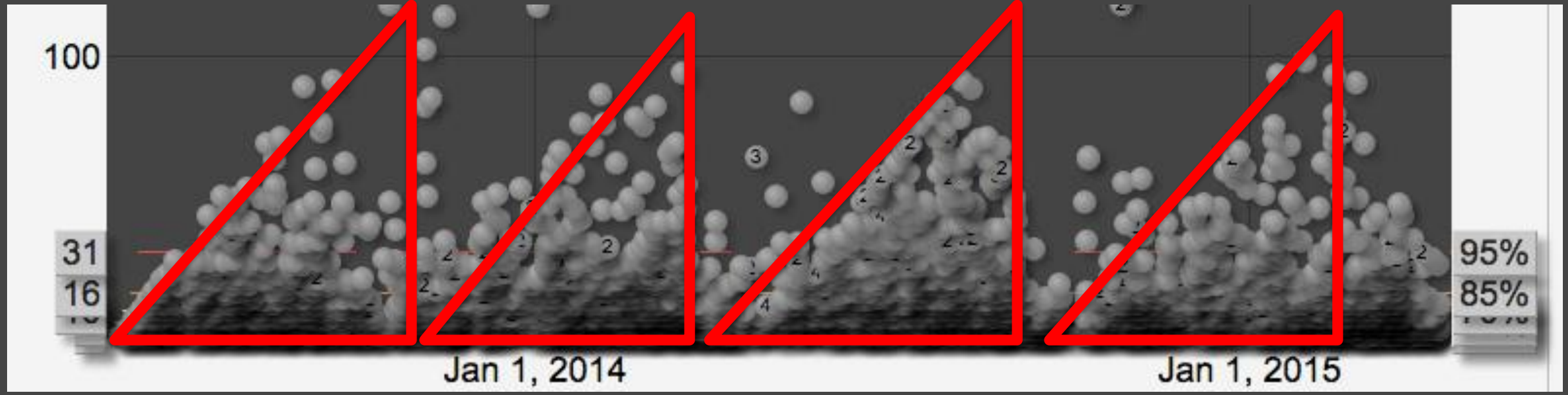

100
31
16
95%
85%
Jan 1, 2014
Jan 1, 2015

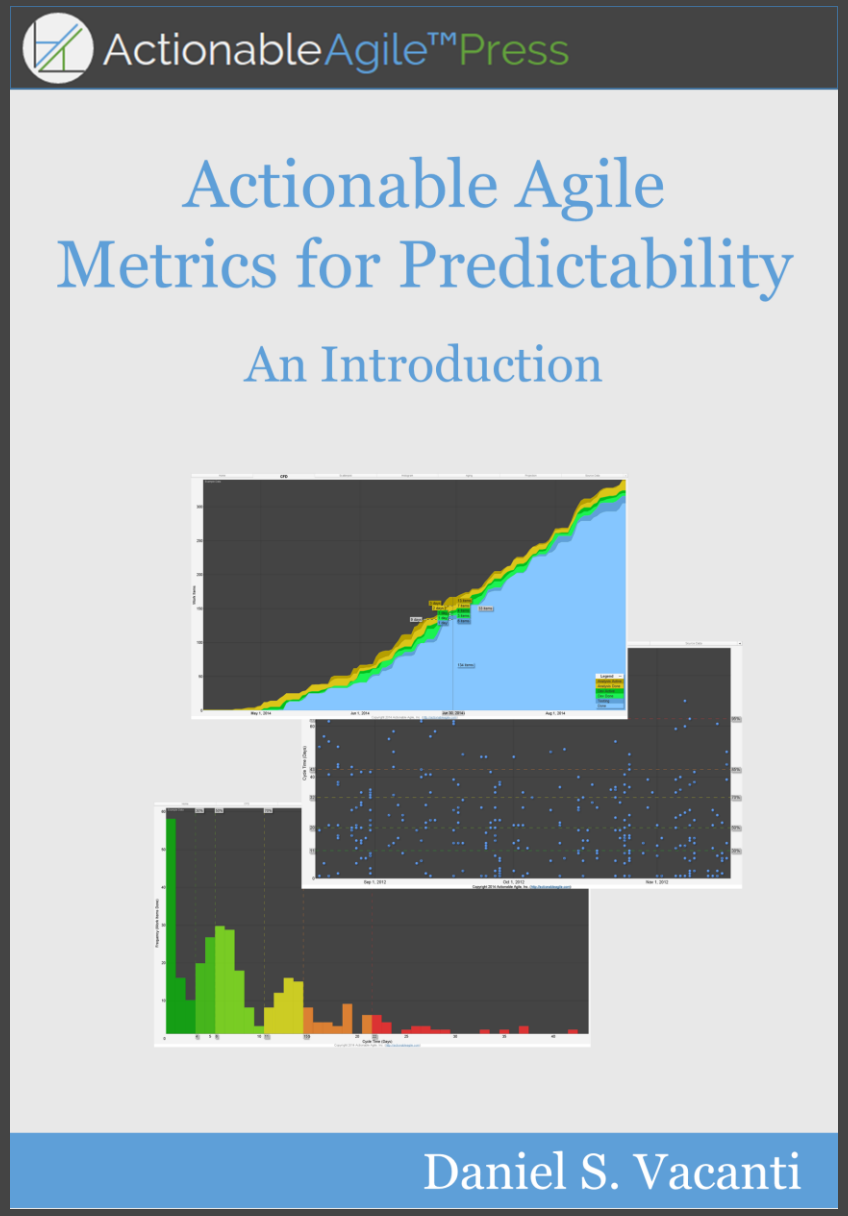
What factors affect Cycle Time?

WIP

$$\text{Avg Cycle Time} = \frac{\text{Avg WIP}}{\text{Avg Throughput}}$$

What else?

Poor Pull Policies,
Blockers,
External Dependencies,
...



“Actionable Agile Metrics for Predictability”

https://leanpub.com/actionableagilemetrics

For next time…

What does a 19th century Yorkshire cotton industrialist have to do with the Manhattan Project?

QUESTIONS?

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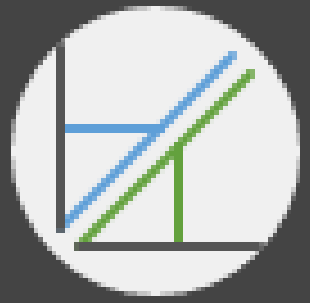
@danvacanti

Thank-you!

All charts created by:



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