



Story Points VERSUS #NOEstimates



{

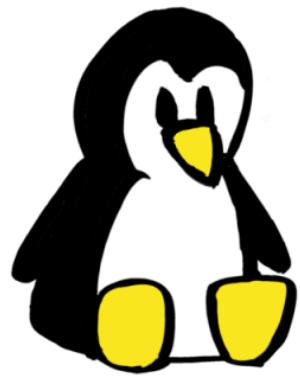
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LAMBRET

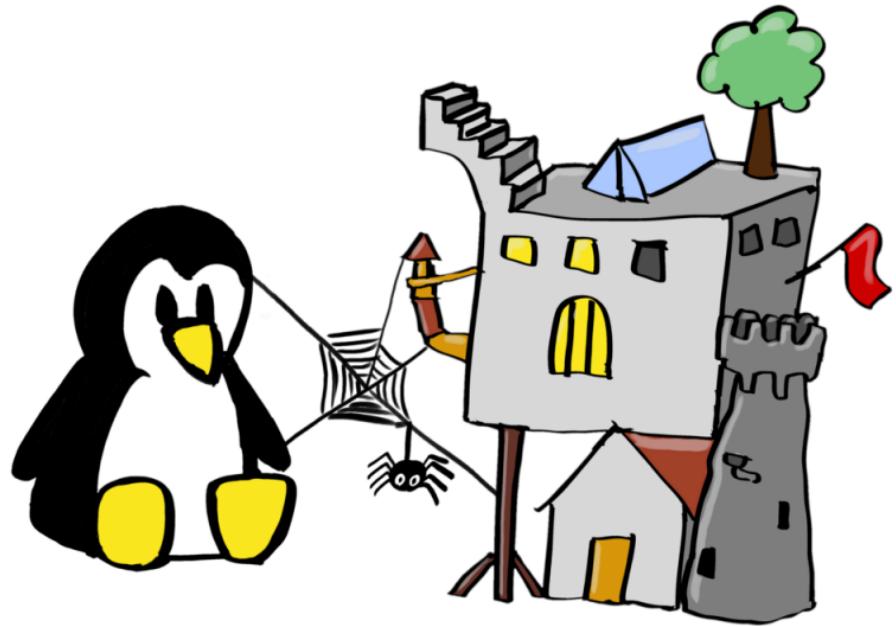
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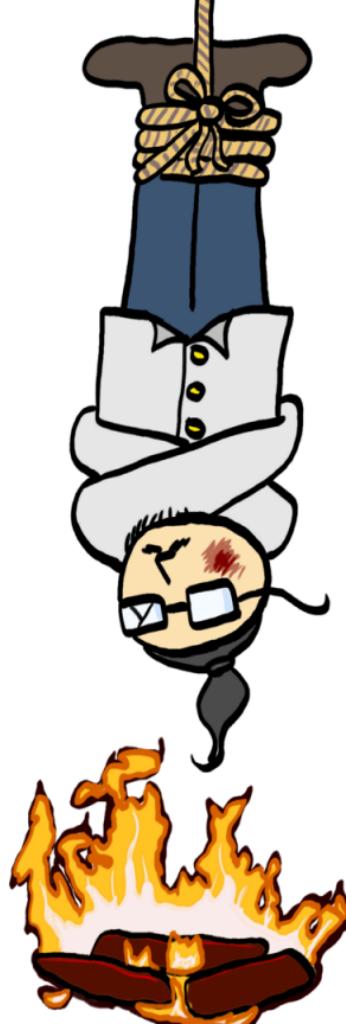
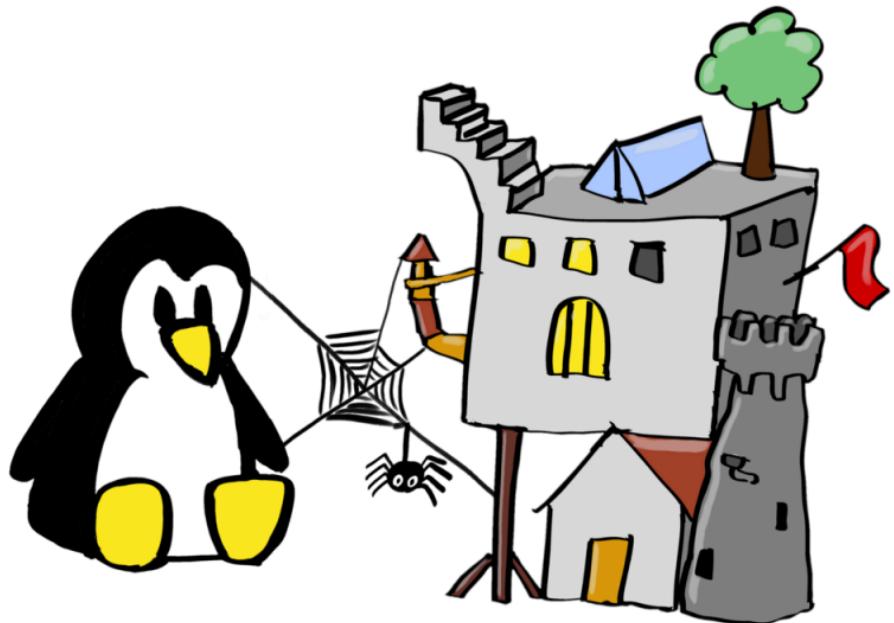
JOB: BACKEND
DEVELOPPER

COMPANY: AGICAP

}







WHY YOUR IT PROJECT MAY BE RISKIER THAN YOU THINK

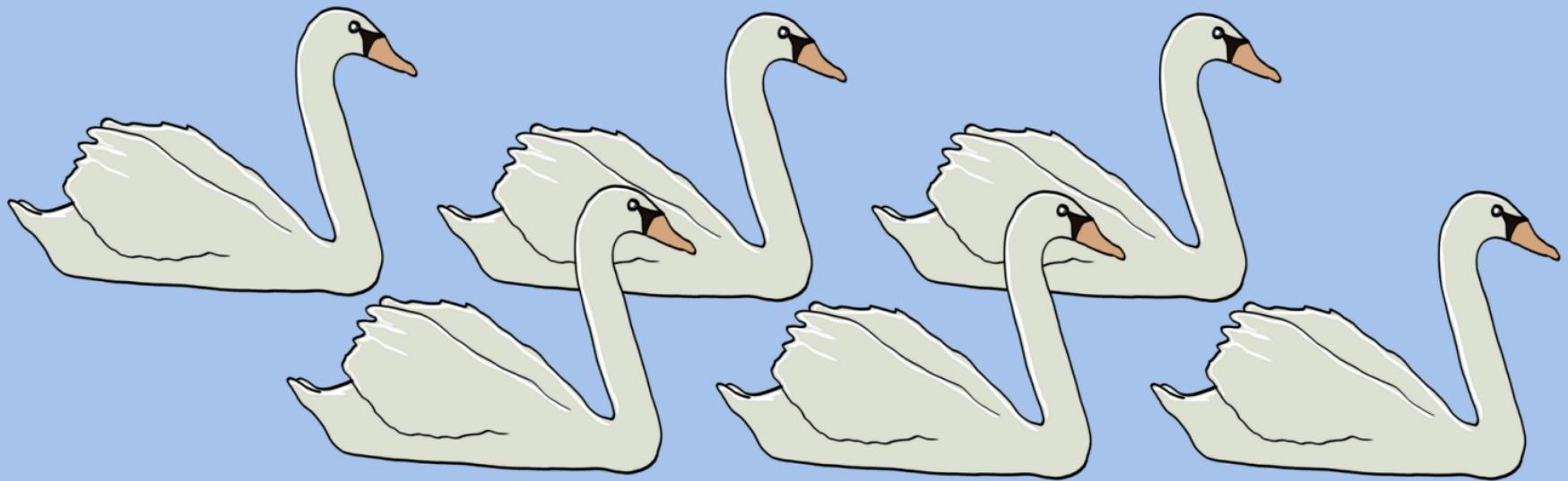


Flyvbjerg, Bent and Budzier, Alexander

2011 - Harvard business review

AVERAGE

+27%

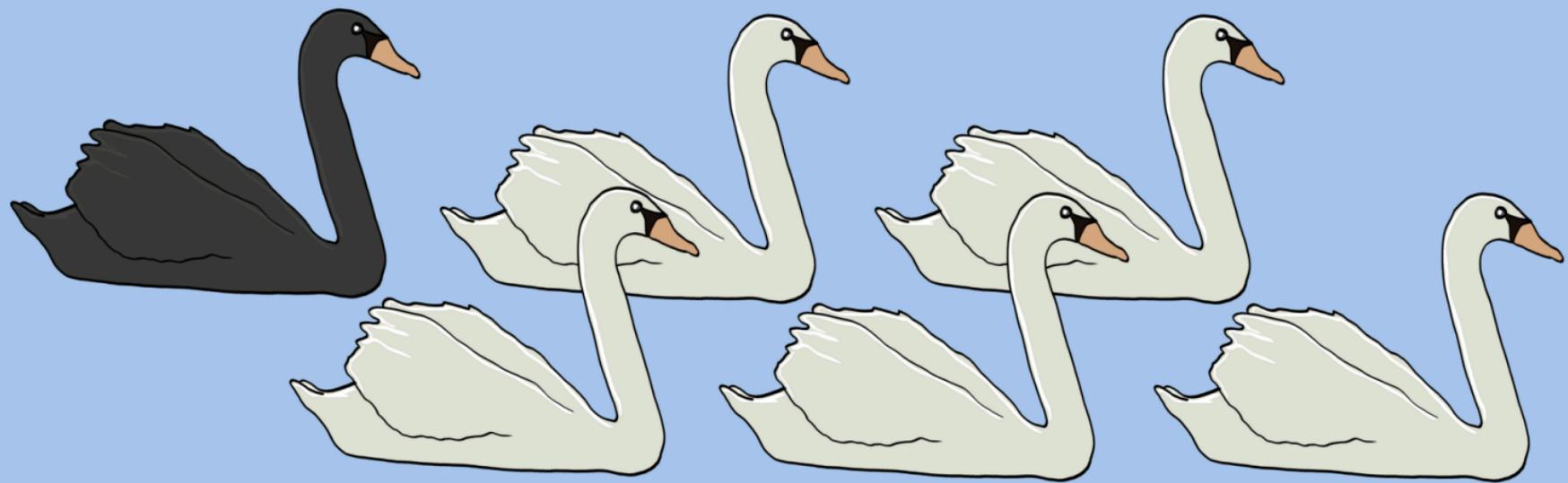


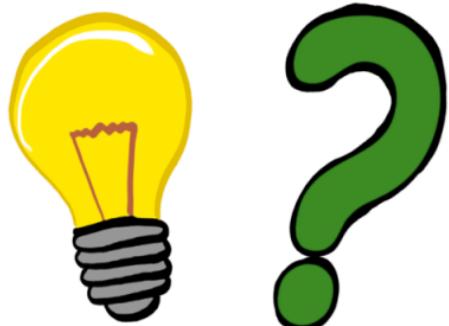
AVERAGE

+200%

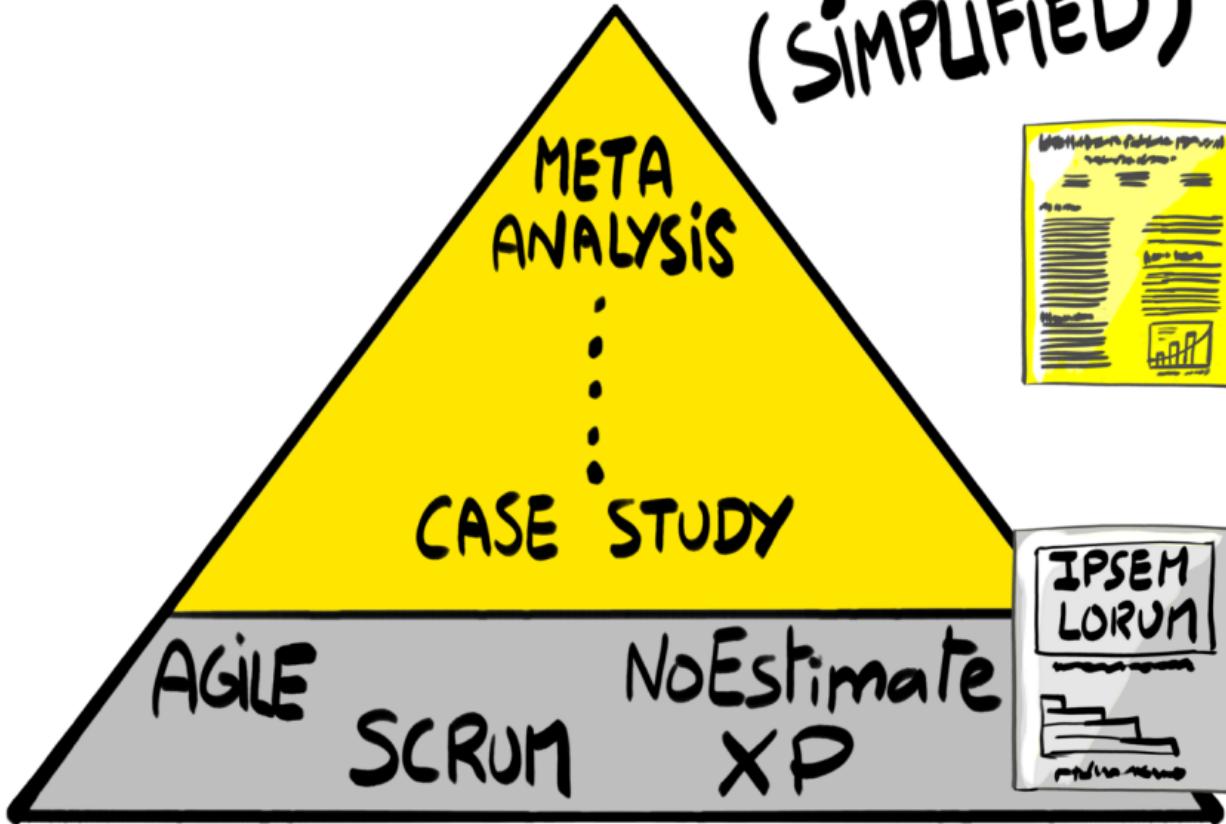


+70%





LEVELS OF EVIDENCE (Simplified)



ACADEMIC RESEARCH



(PEER-REVIEWED)

NON-ACADEMIC MATERIAL



(WIDER RANGE OF TOPICS)

I CONTEXT

II

III

IV

V

VI

VII

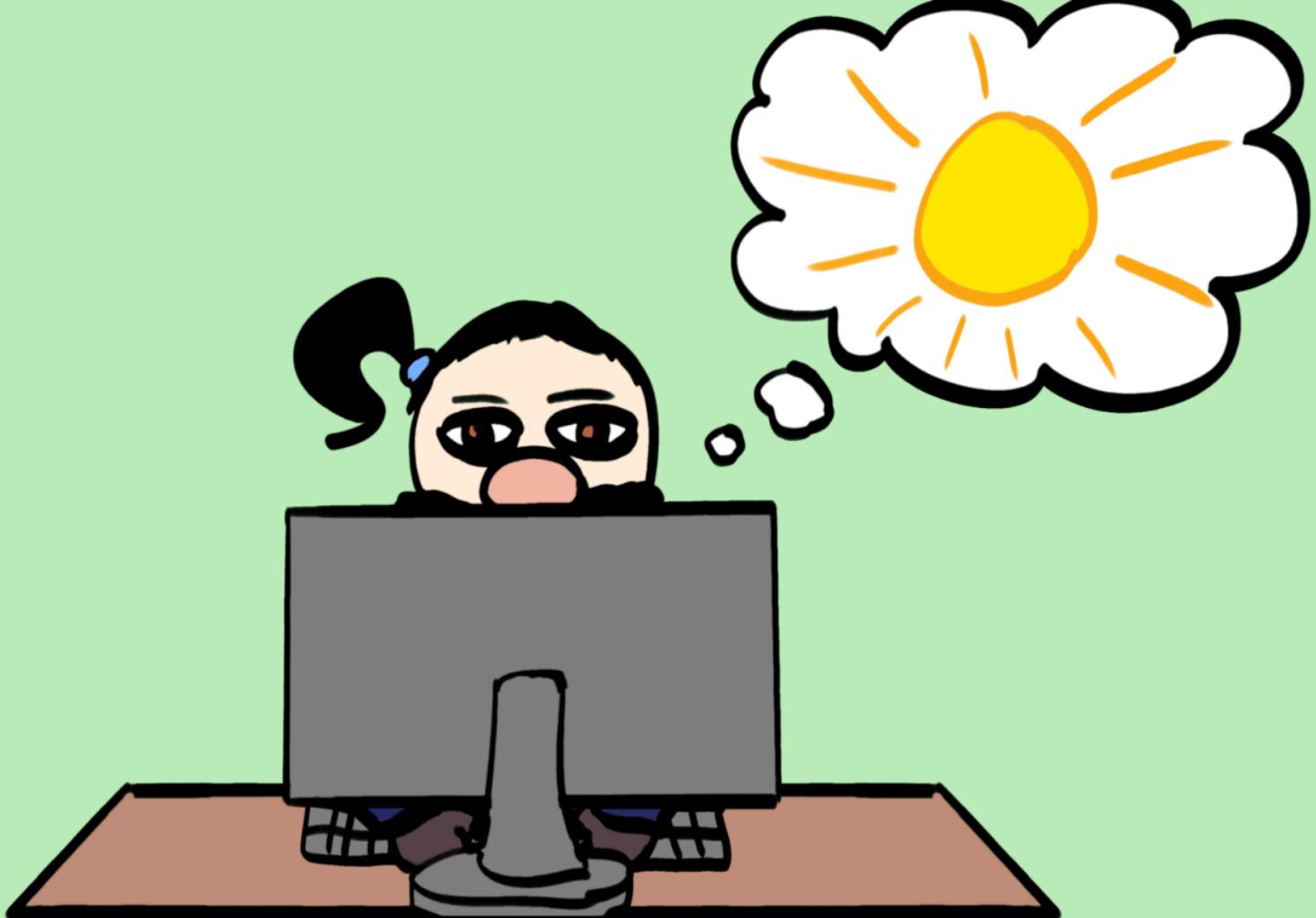


Story Points

EXTREME PROGRAMMING



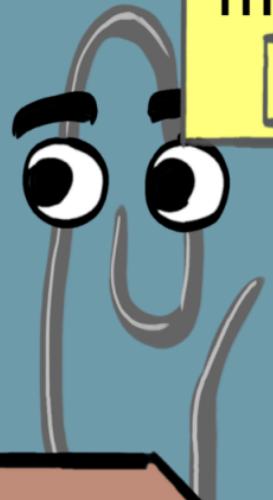
IDEAL
ENGINEERING
DAY



SORRY, BUT
THE PRODUCT
HAS CRASHED
AGAIN ...

IS IT
DONE ?

Would you
like help ?

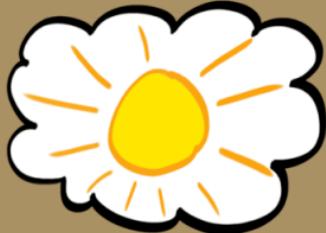


LOAD FACTOR



=





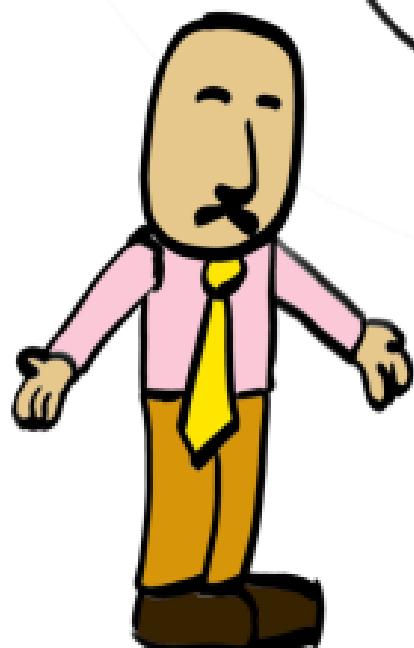
IDEAL
ENGINEERING
DAY

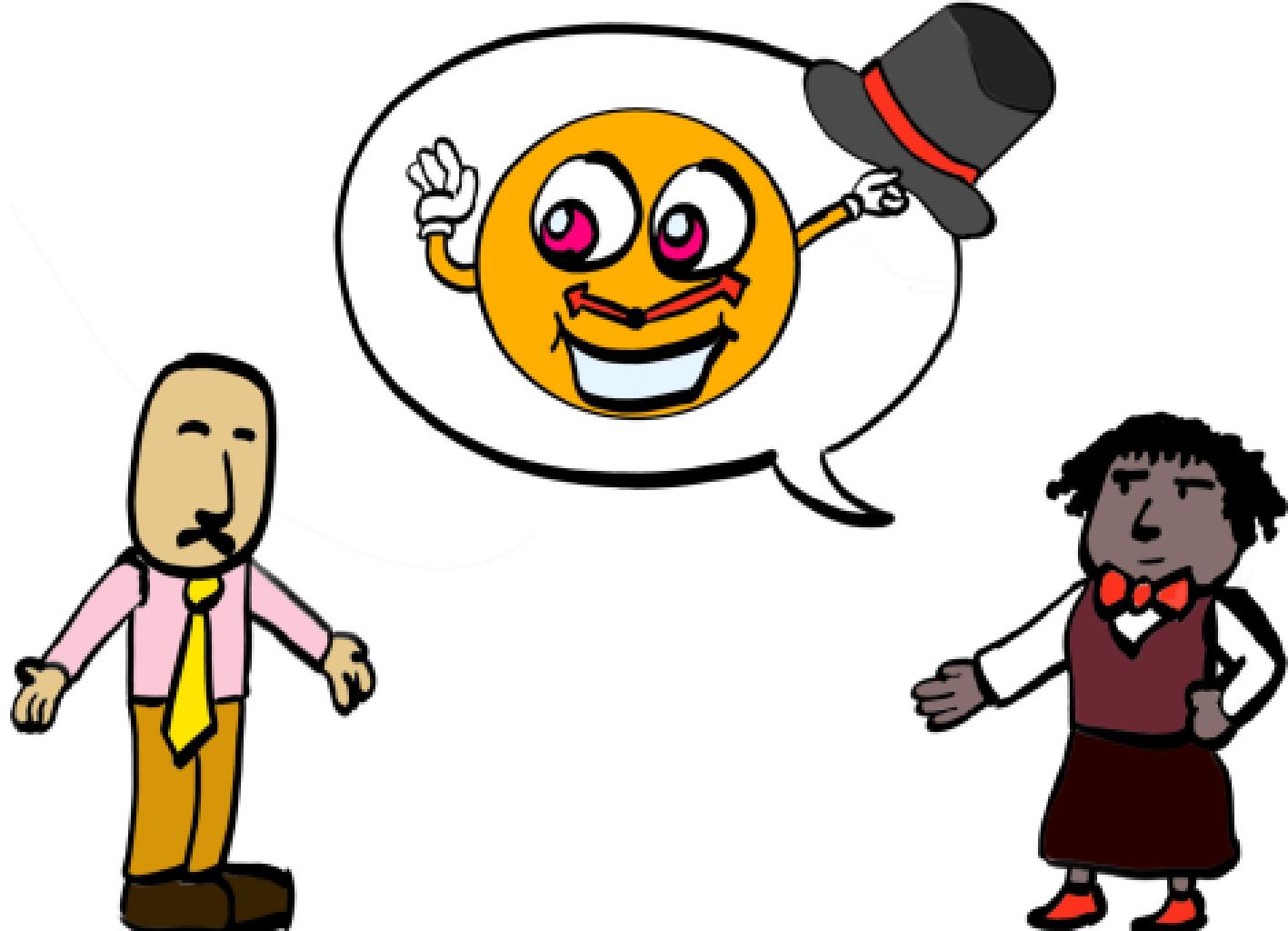


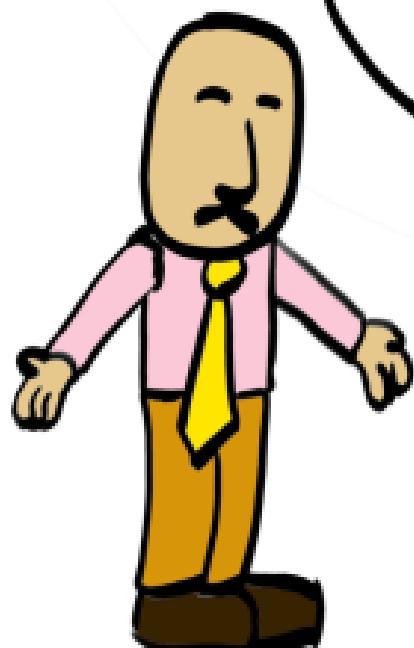
I
DEAL
GINEERING
DAY

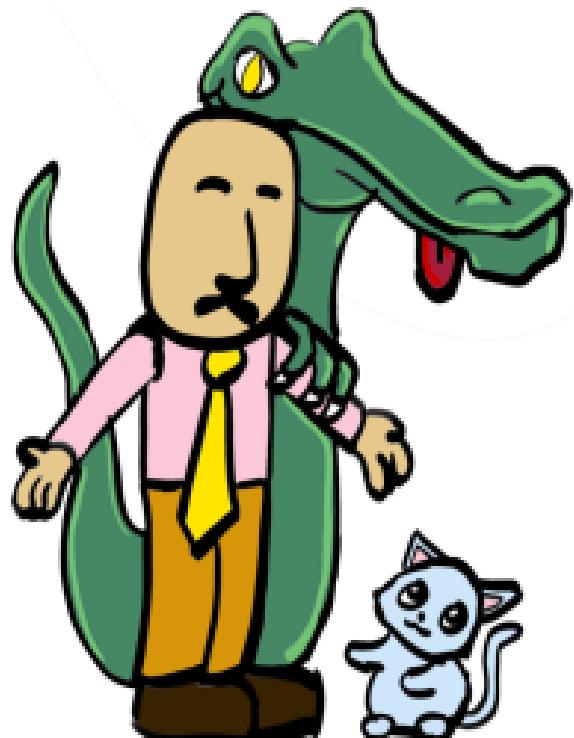


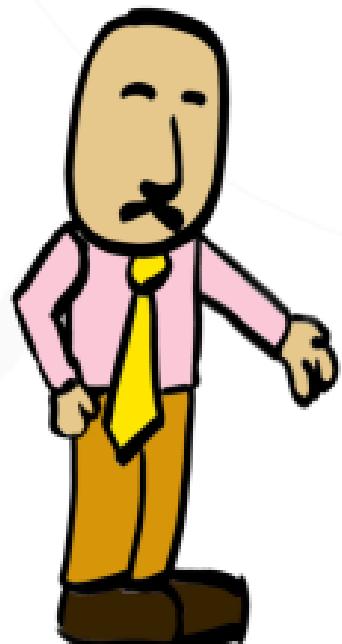
Ideal Engineering Daylines

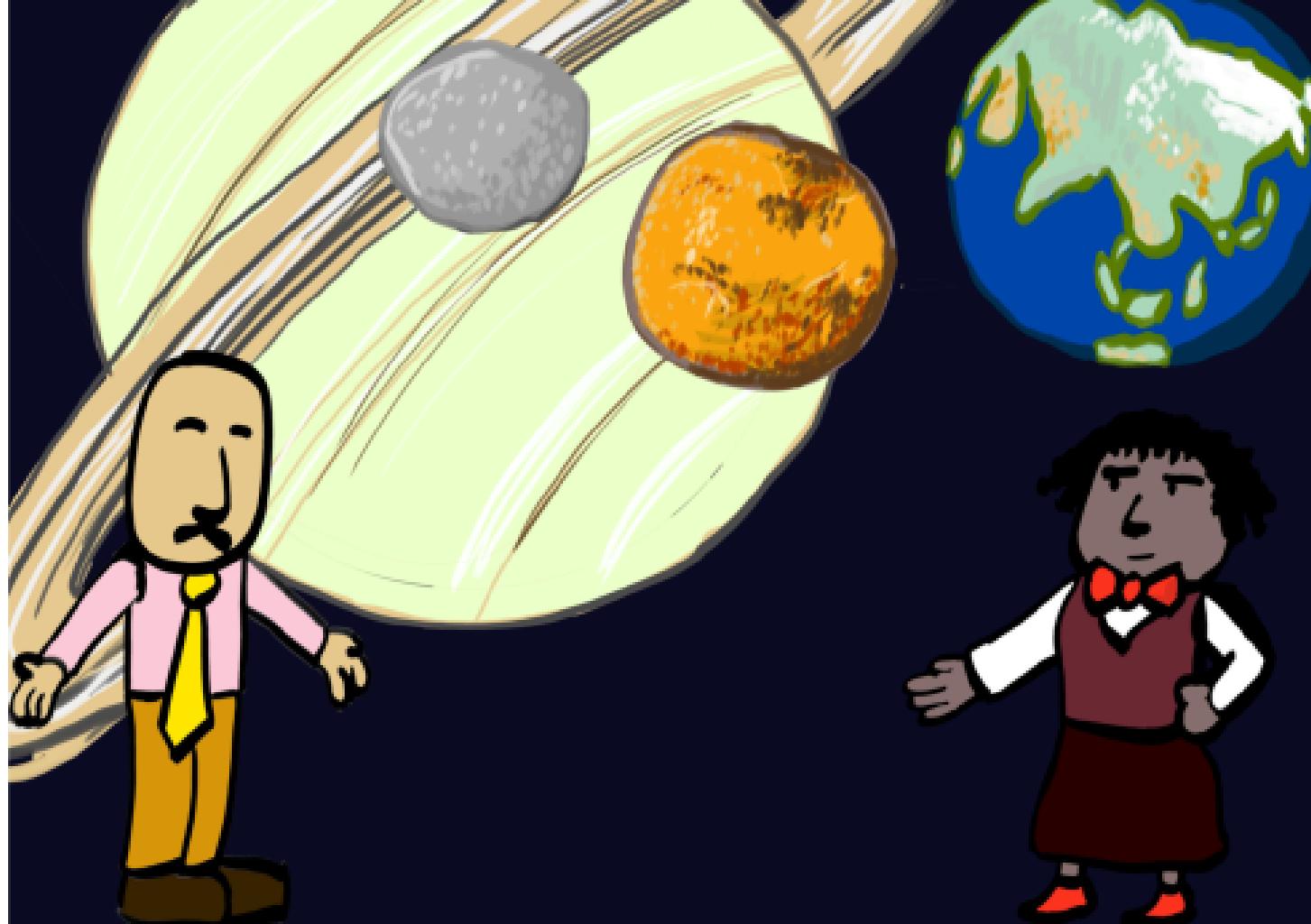






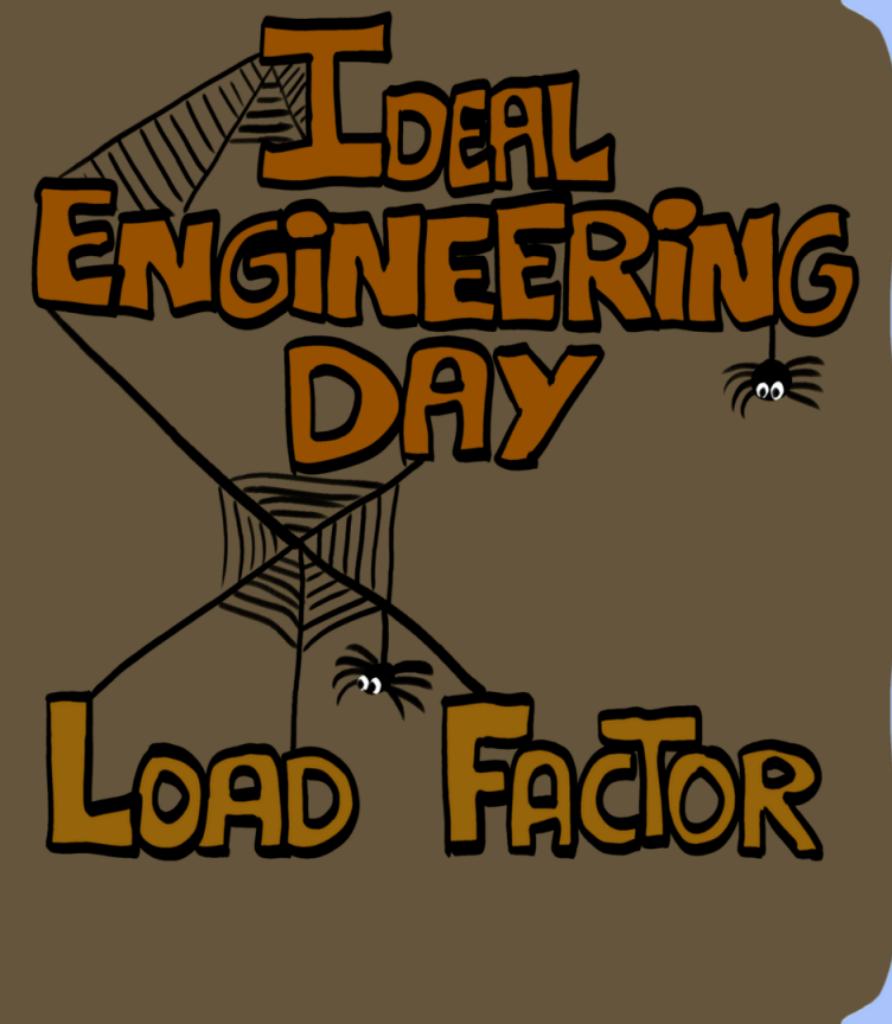








Ideal Engineering Day



Load Factor



Story Points

Velocity

EFFORT ESTIMATION IN AGILE SOFTWARE DEVELOPMENT: A SURVEY ON THE STATE OF THE PRACTICE



Usman, Muhammad and Mendes, Emilia and Börstler, Jürgen

2015

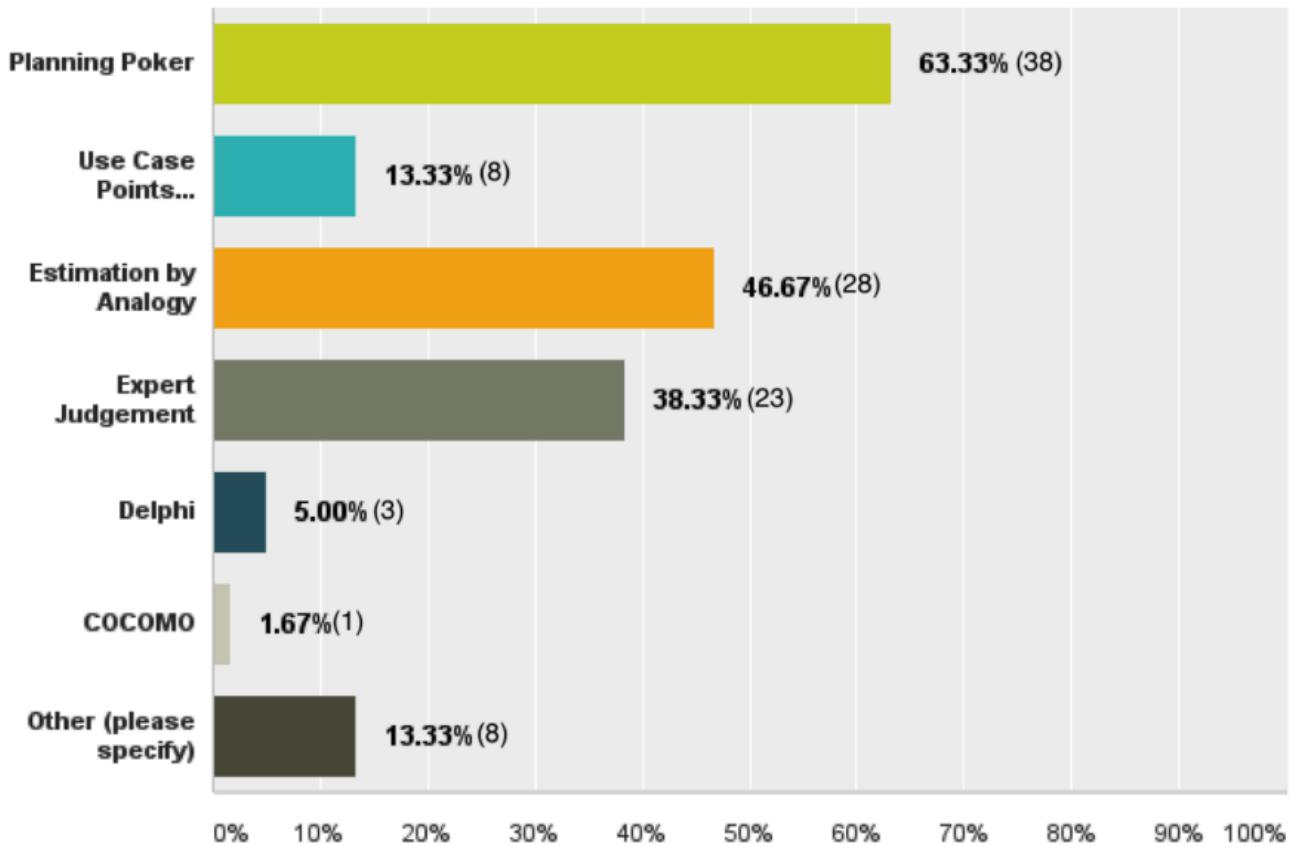


Figure 3: Effort Estimation Techniques

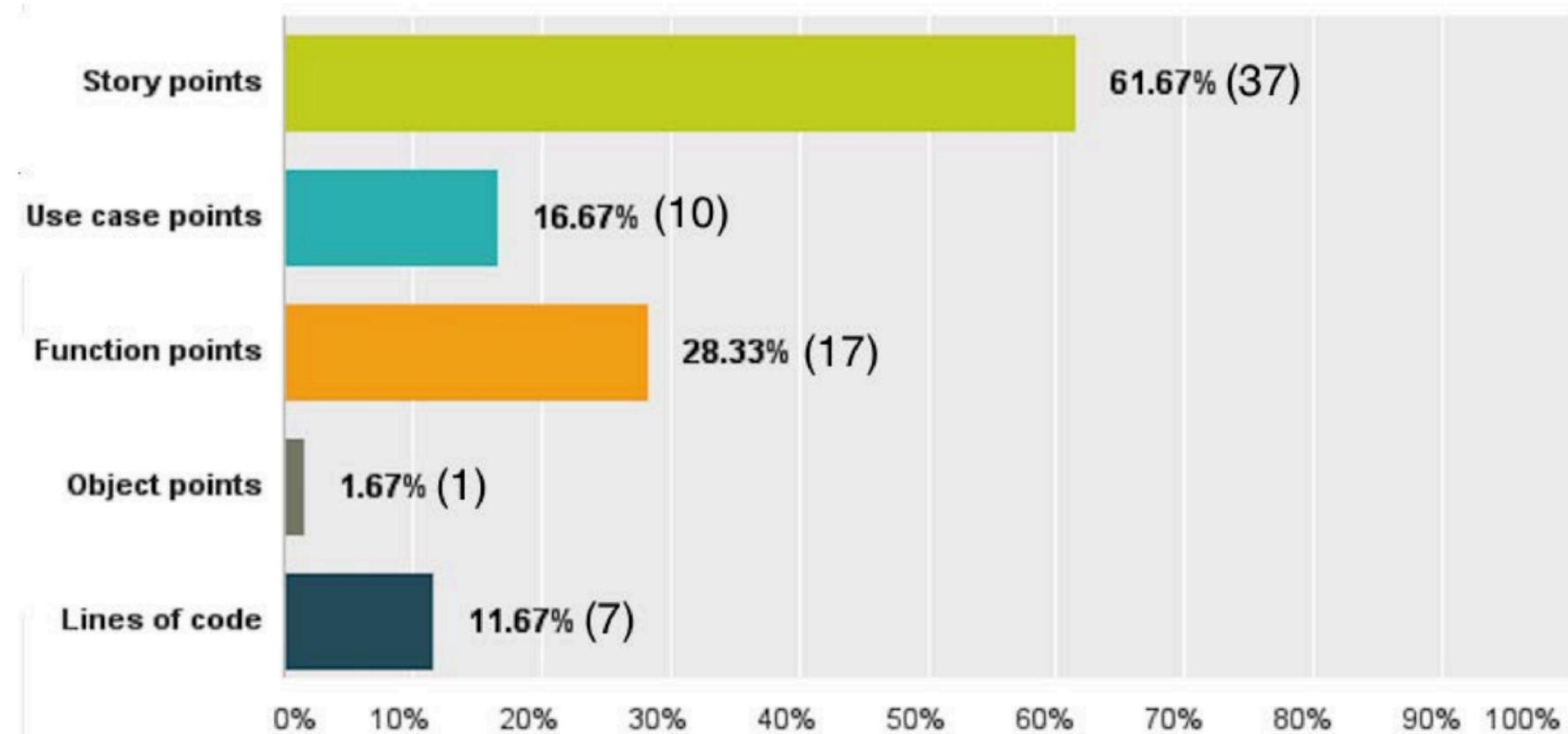
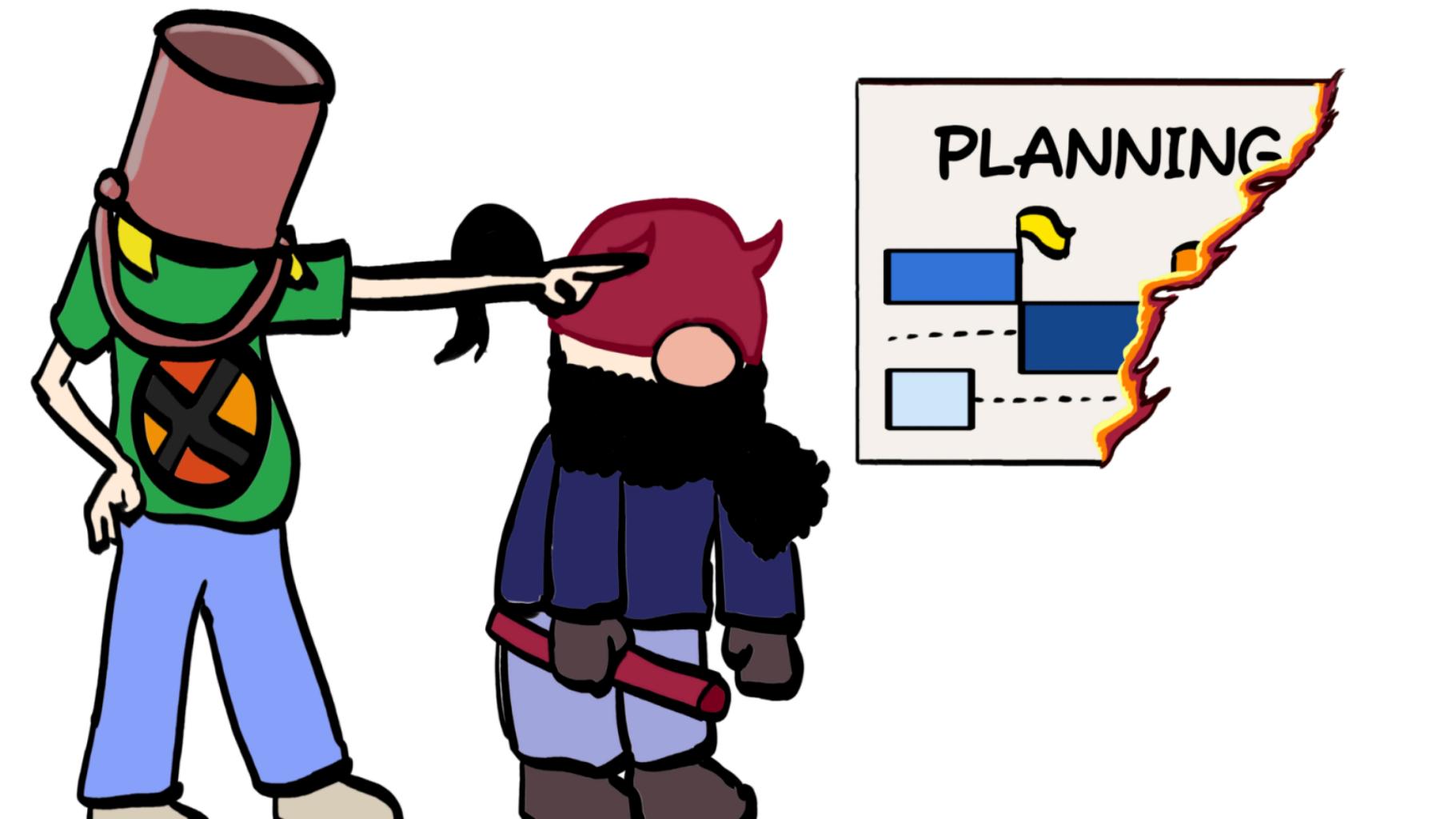


Figure 4: Size Metrics

#NOEstimates



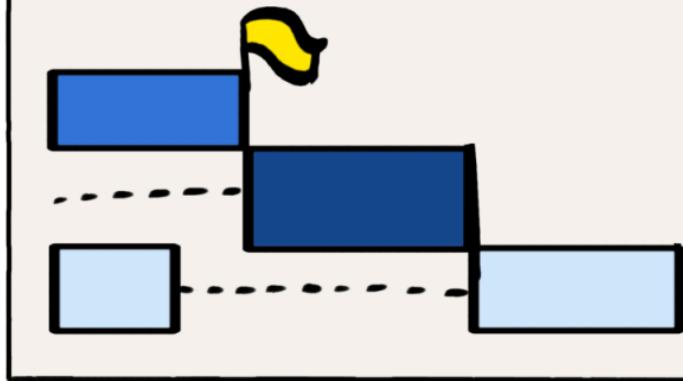
No Estimates



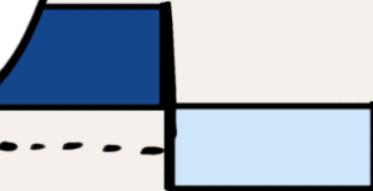
A cartoon illustration featuring two characters and a planning board. On the left, a character with a large red cylindrical hat and a green t-shirt with a black and orange 'X' logo points towards another character. This second character has a red beanie, a black beard, and a blue vest over a purple shirt, holding a red staff. To the right is a white rectangular board with a black border. The word "PLANNING" is written in bold, black, sans-serif capital letters at the top. Below the text is a diagram consisting of four blue rectangles arranged in a cross pattern. A yellow flag is positioned on top of the middle rectangle. A dashed line extends from the bottom rectangle through the center of the cross to the right edge of the board, where it meets a jagged, yellow and orange flame.

PLANNING

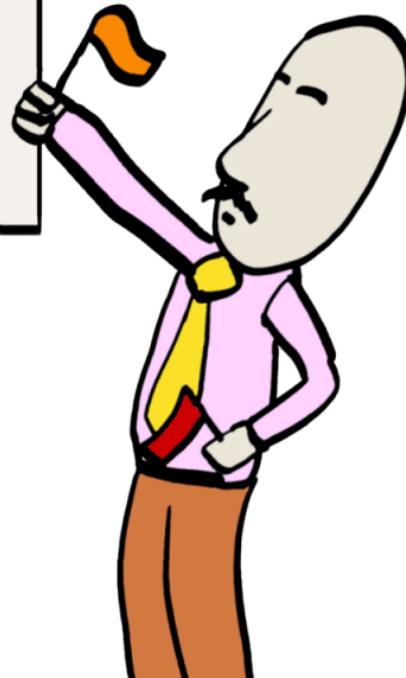
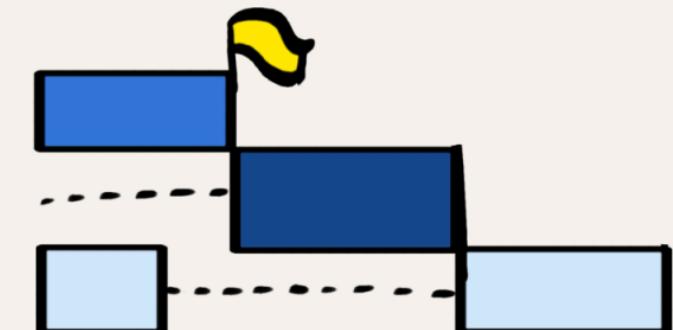
PLANNING



NING



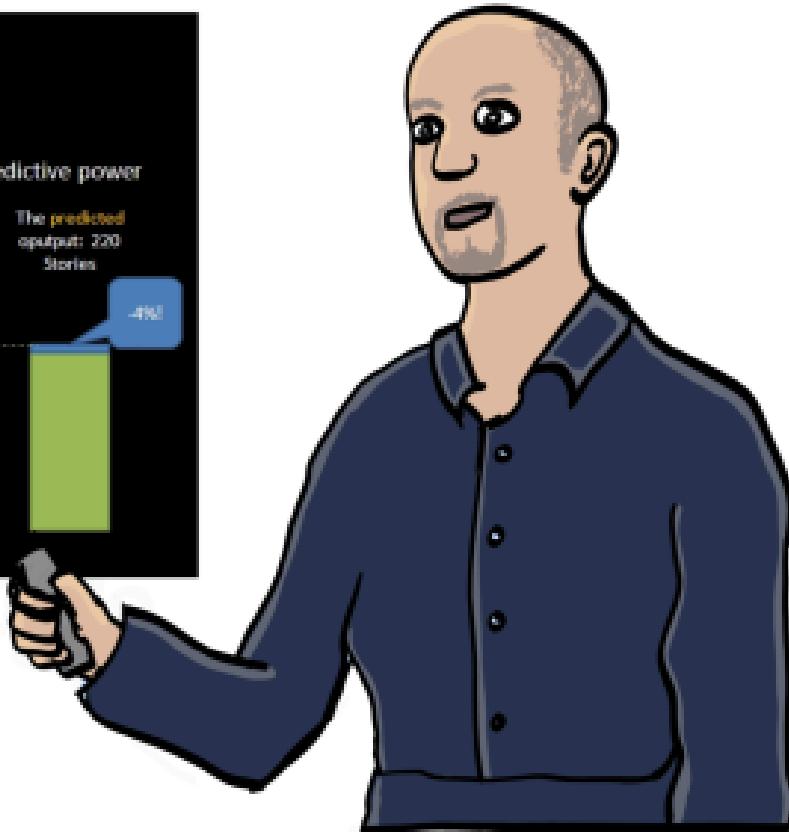
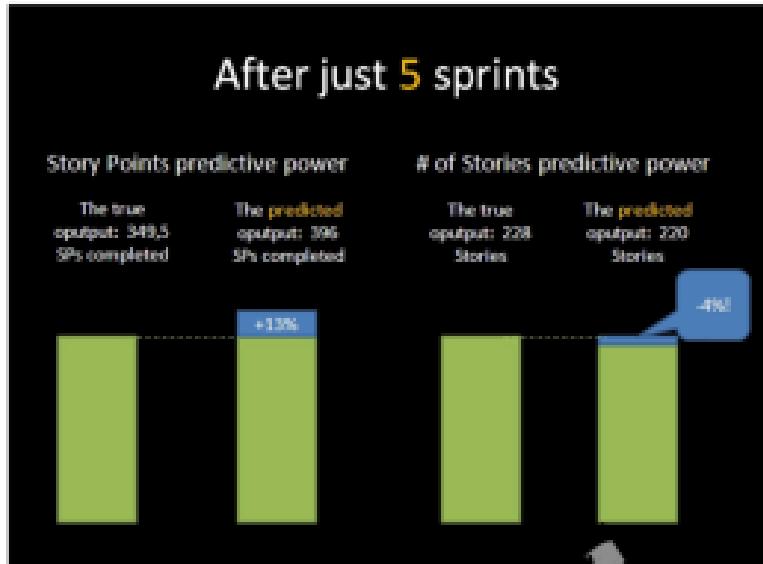
PLANNING

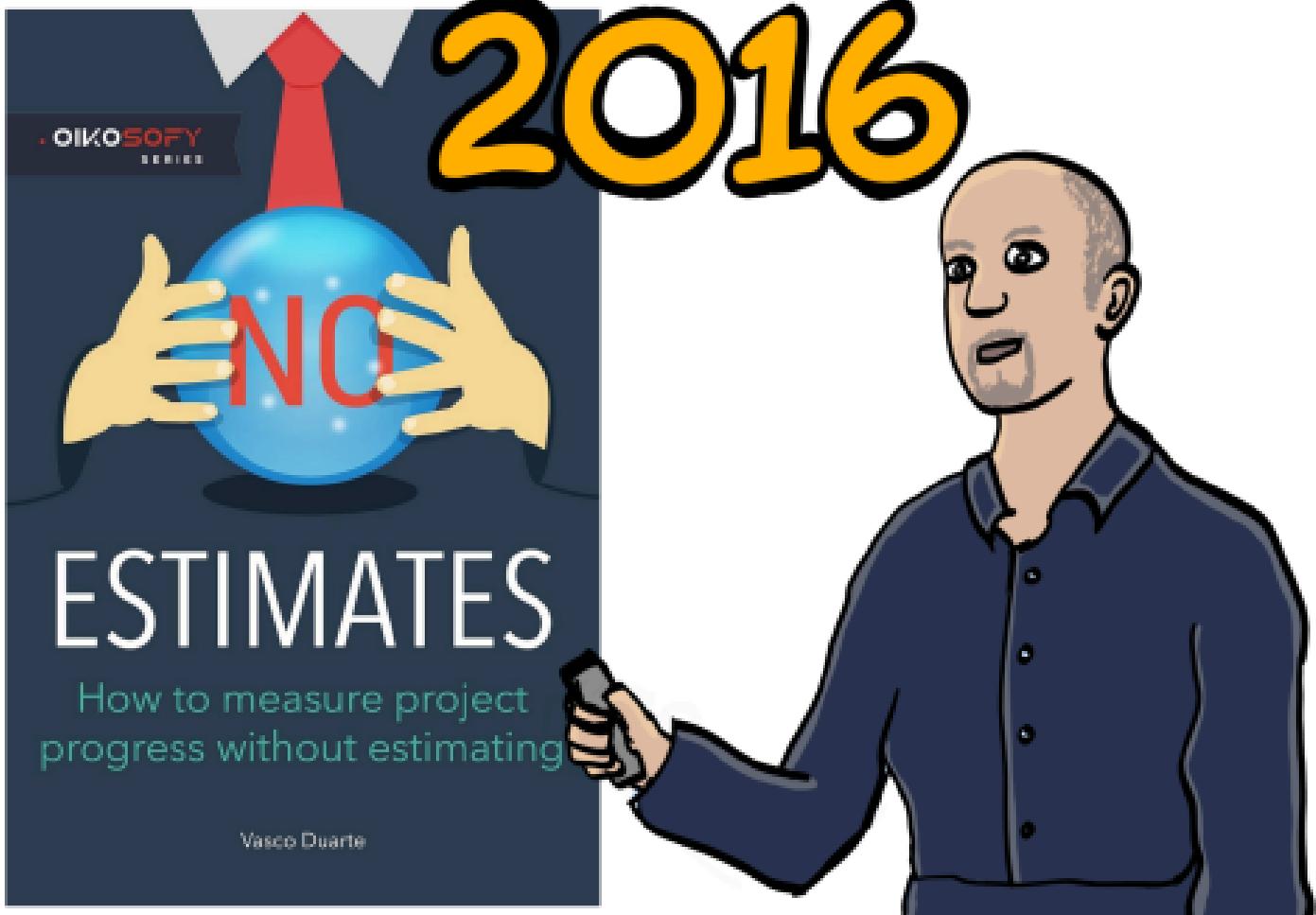


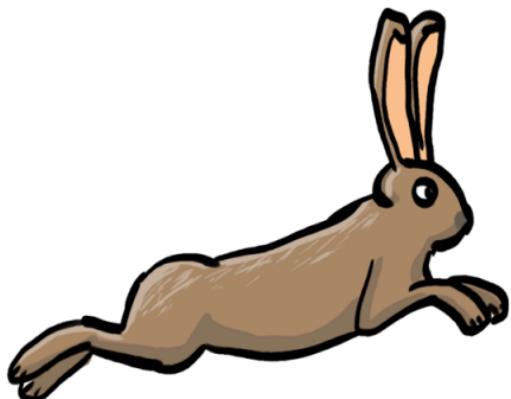
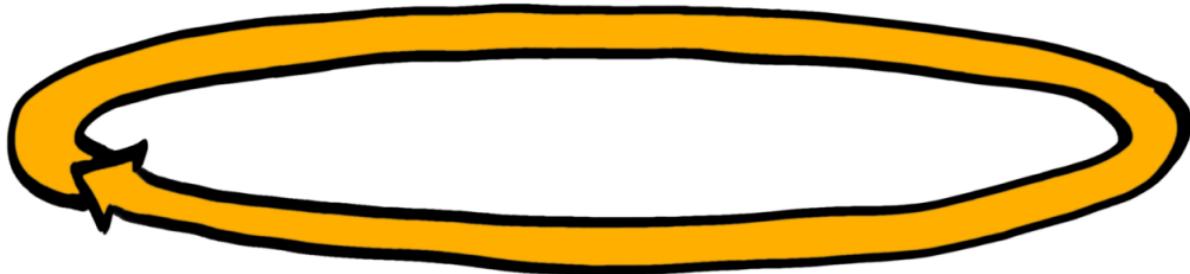
VASCO
DUARTE

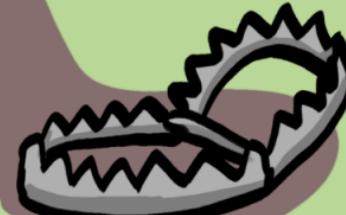
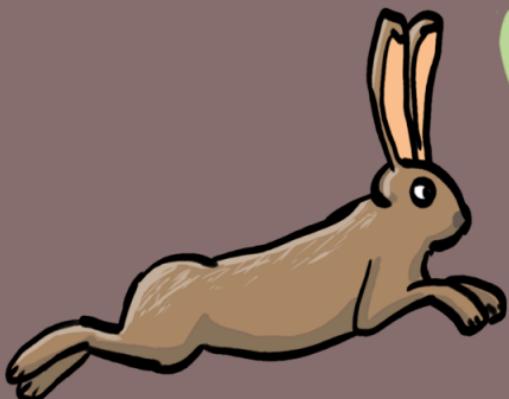


2012 A BETTER WAY TO PREDICT PROJECT RELEASE DATE!





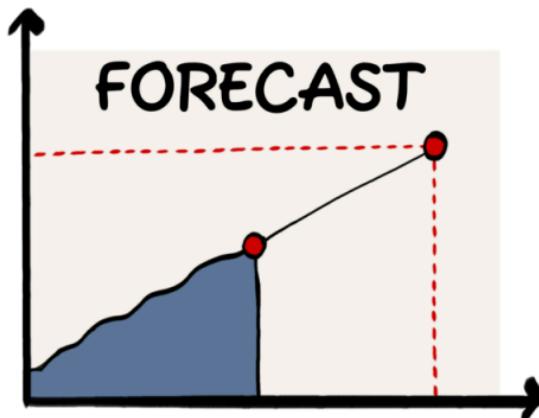






Story Points

#NoEstimates

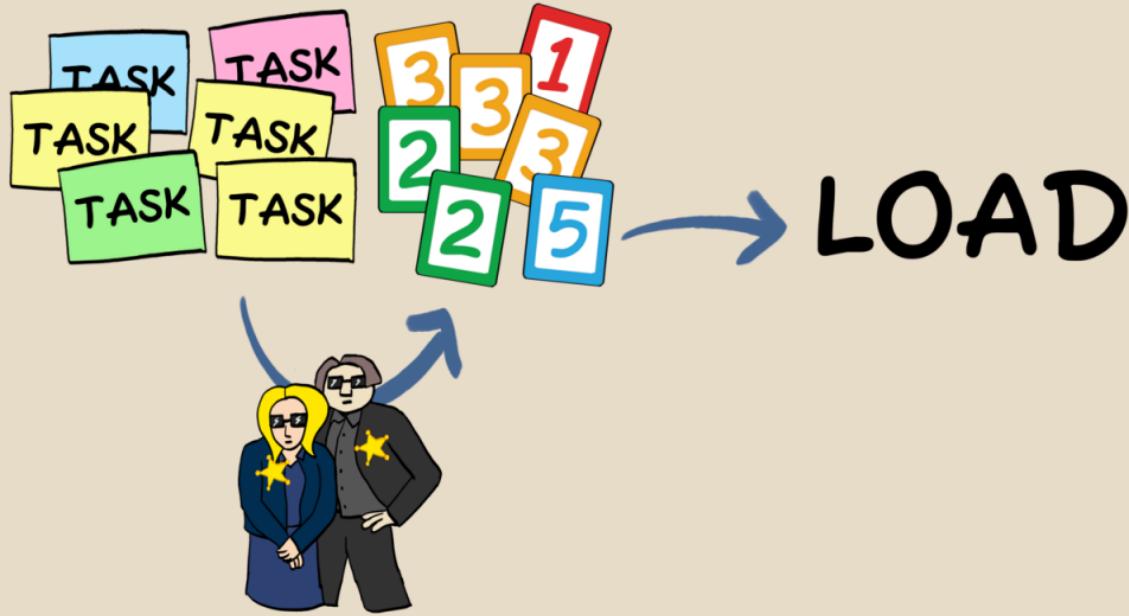




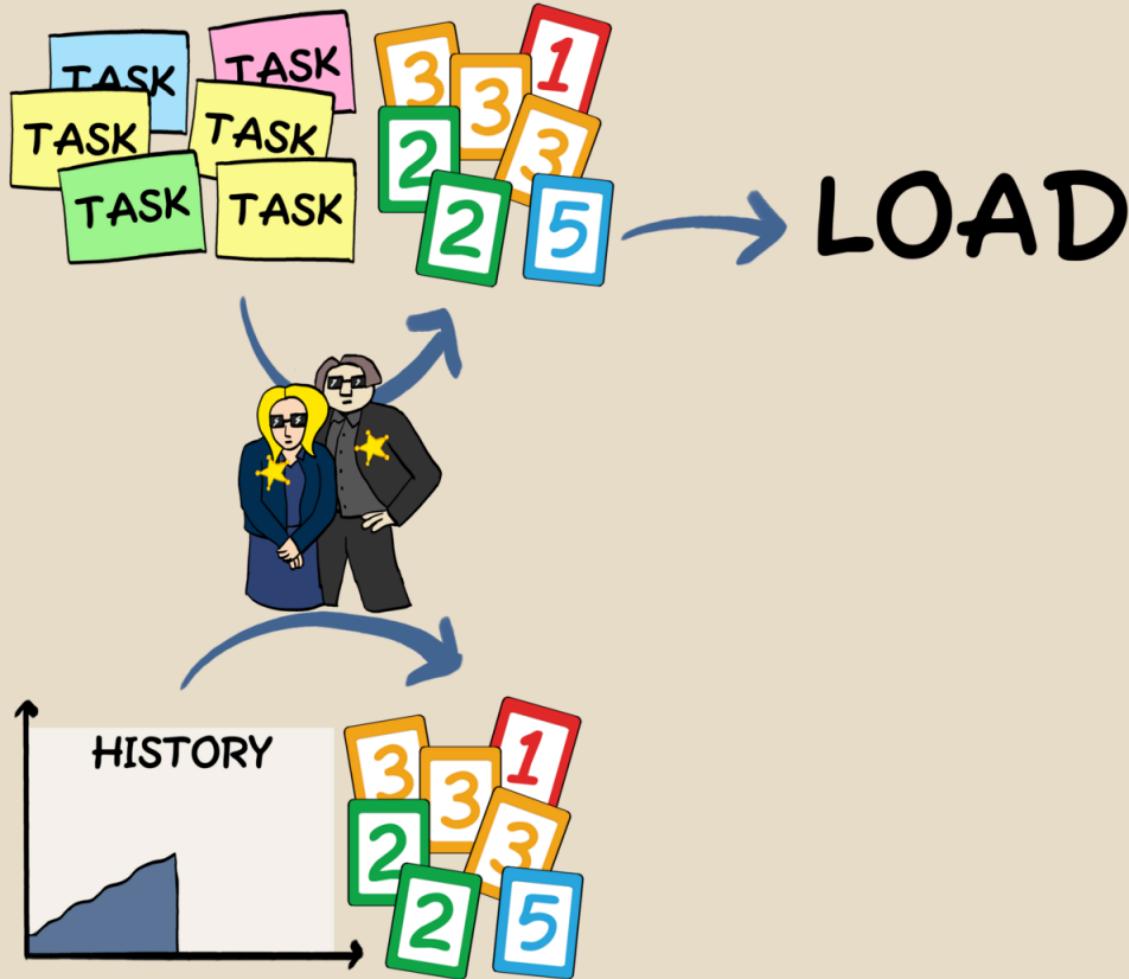


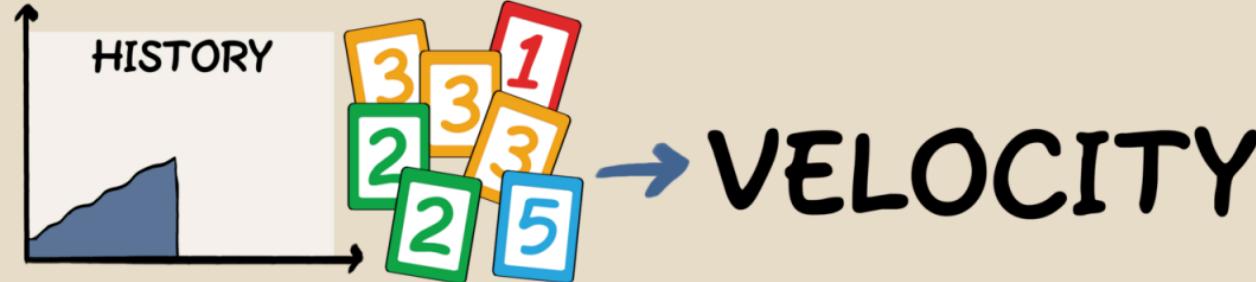


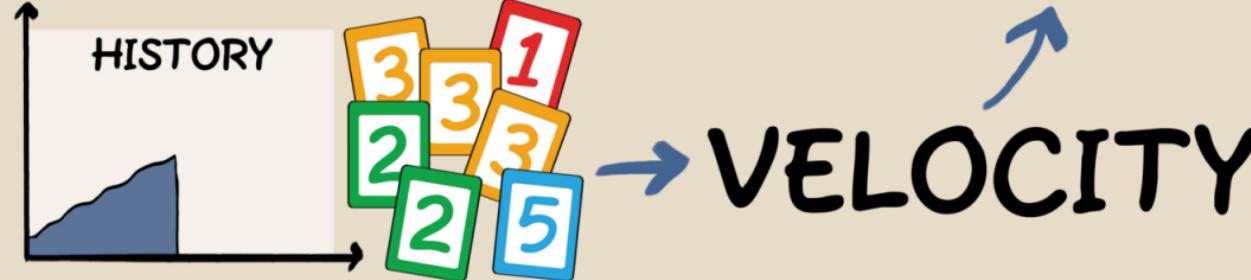
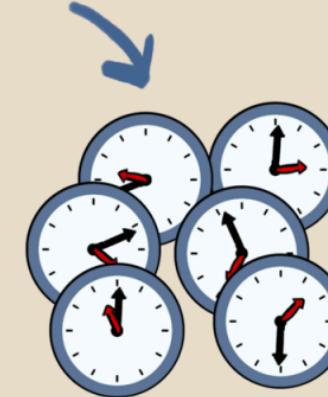
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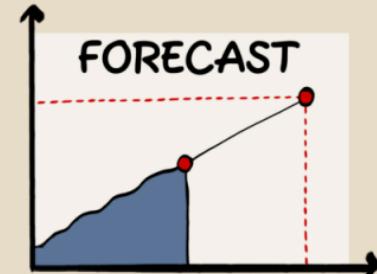
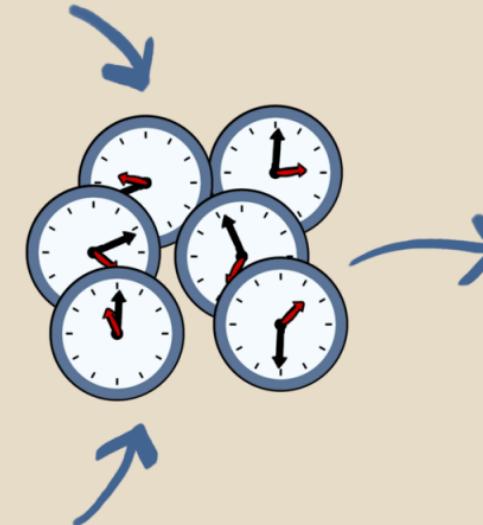
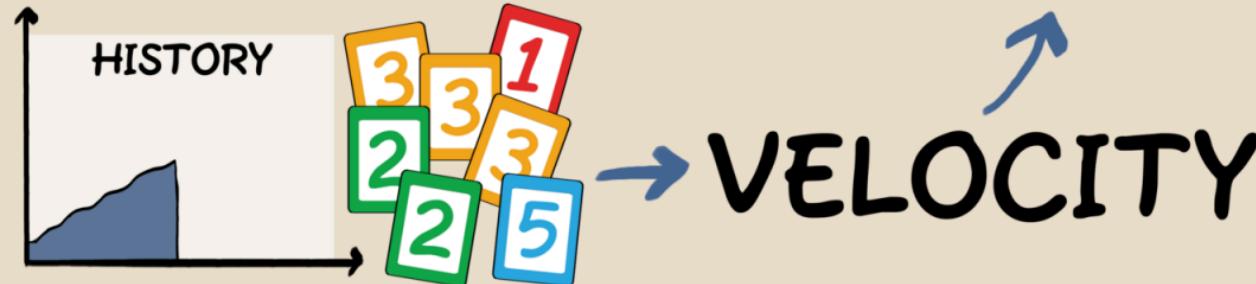


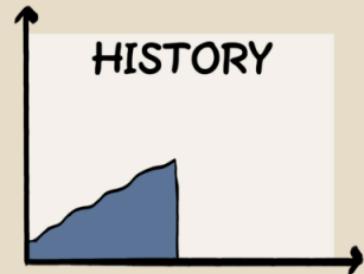
HISTORY

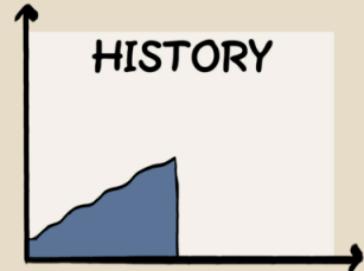


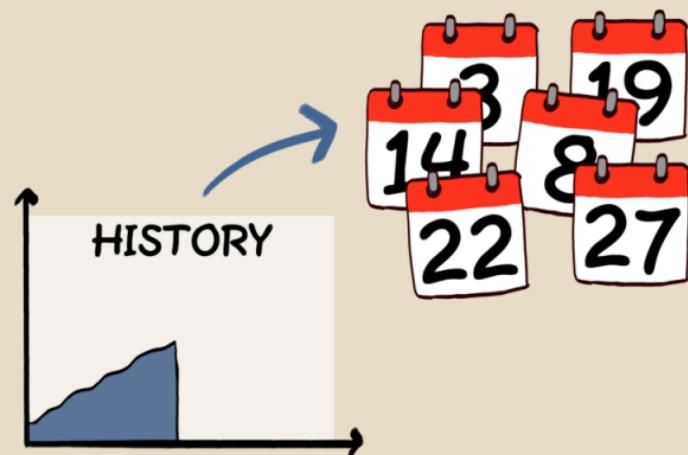
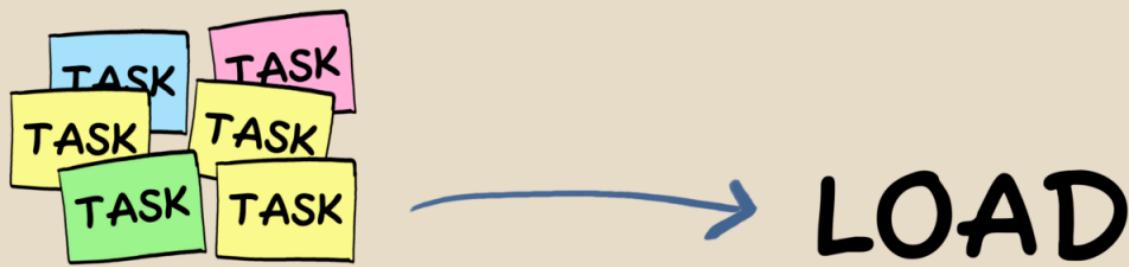


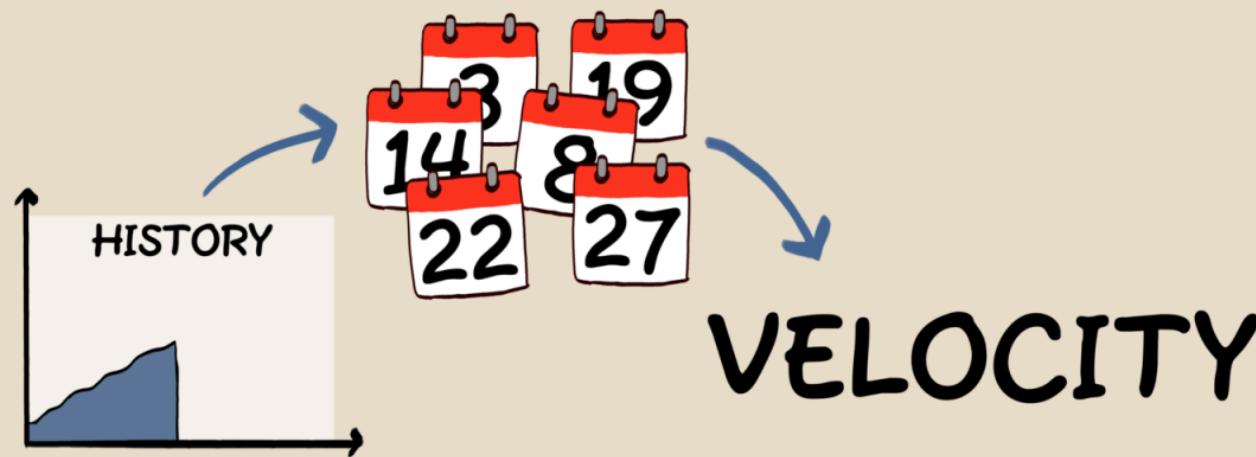
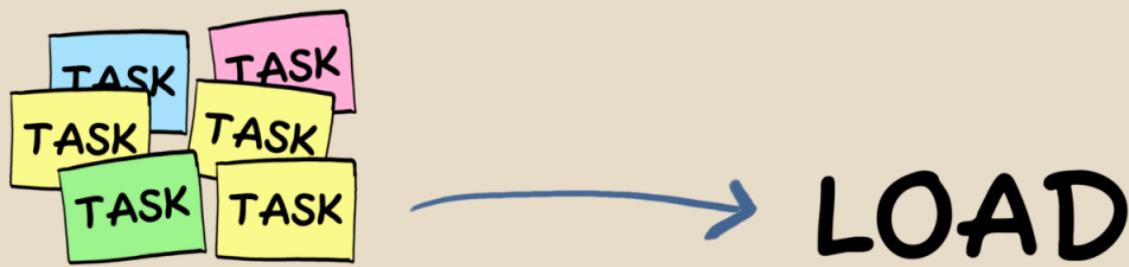


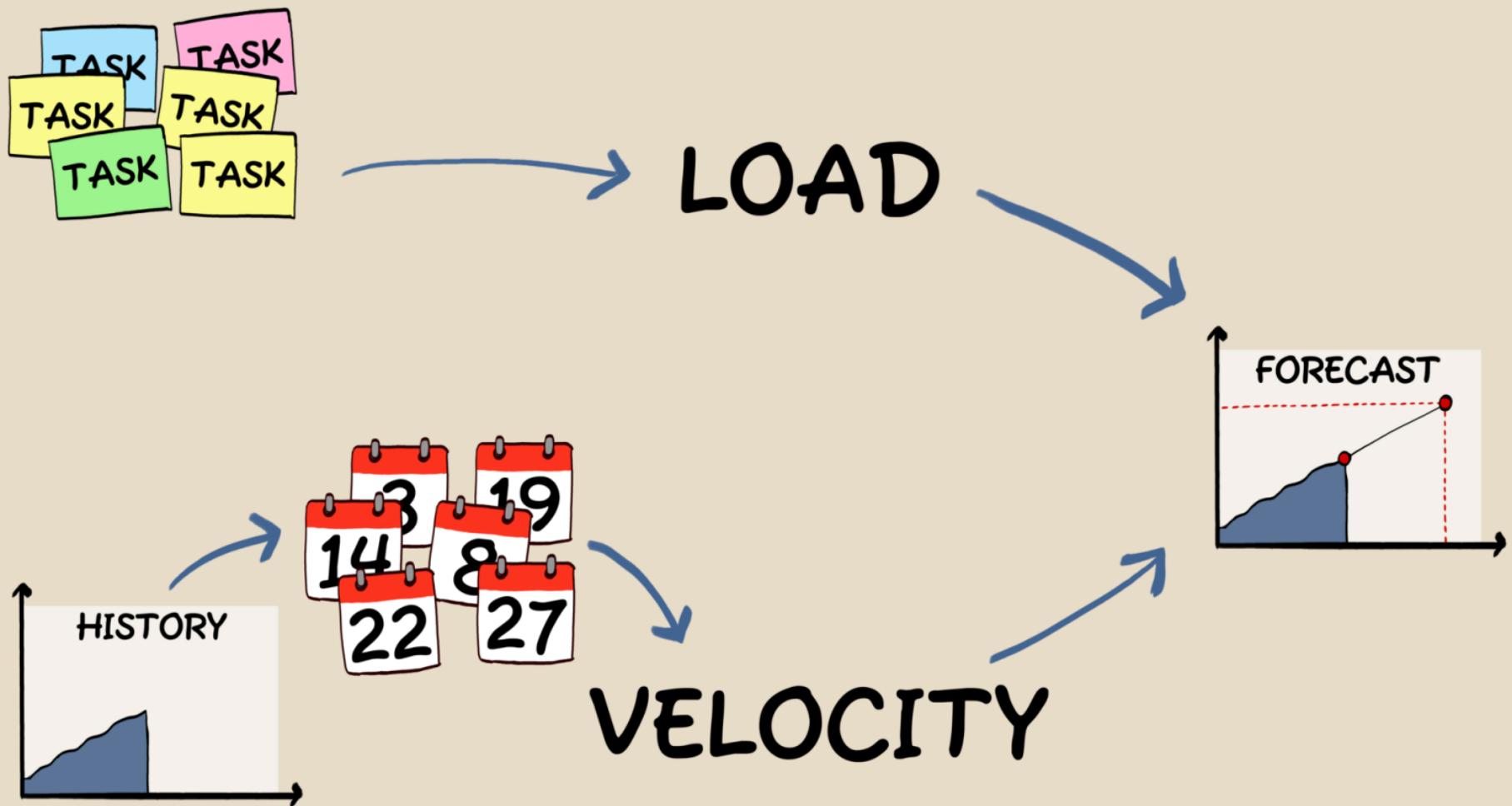


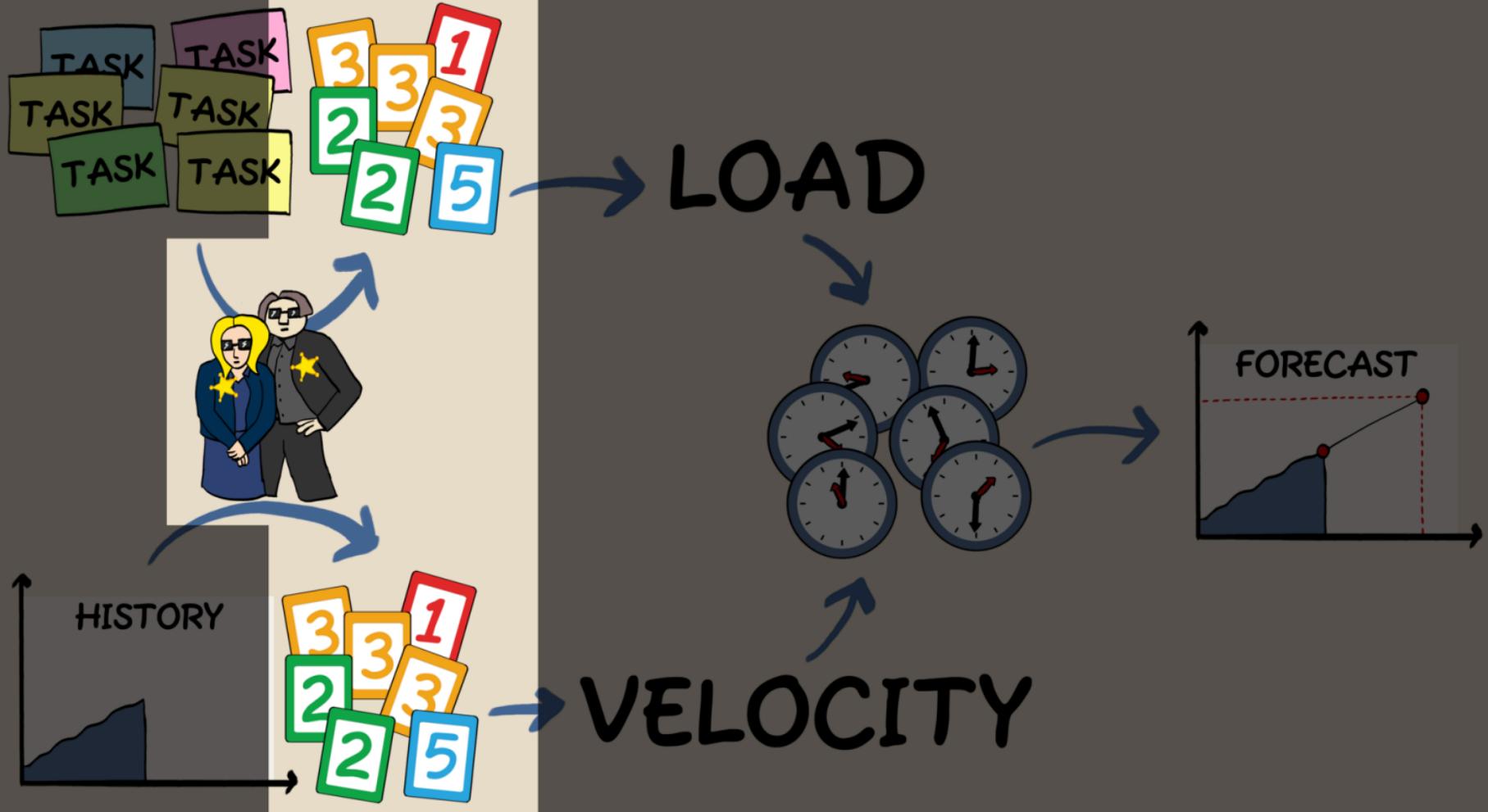


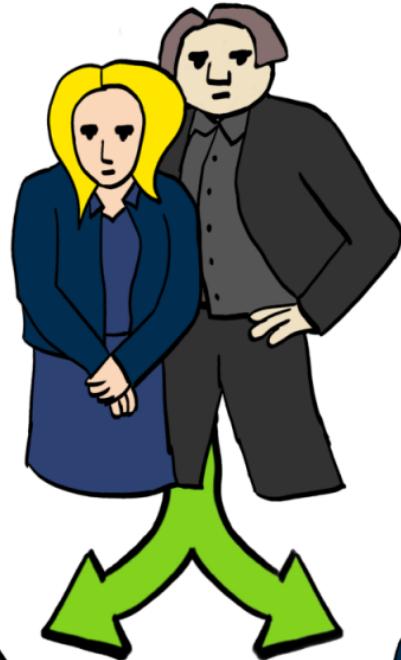
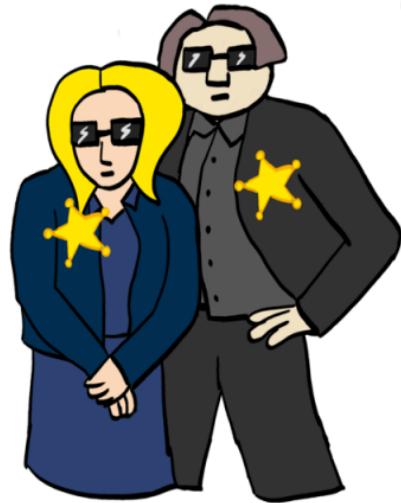












I CONTEXT

II STORY POINTS

III

IV

V

VI

VII

ON THE RELATIONSHIP BETWEEN STORY POINT AND DEVELOPMENT EFFORT IN AGILE OPEN-SOURCE SOFTWARE

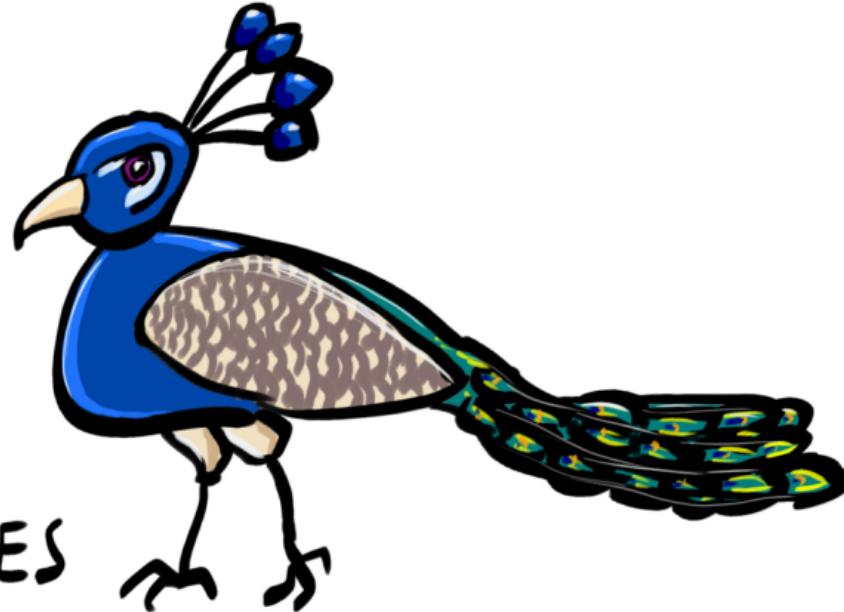


Tawosi, Vali and Moussa, Rebecca and Sarro, Federica

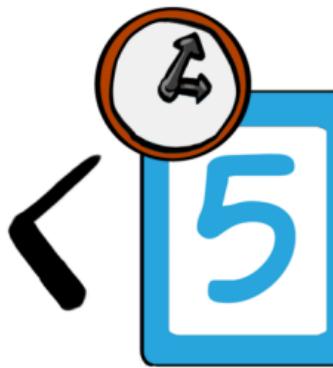
2022

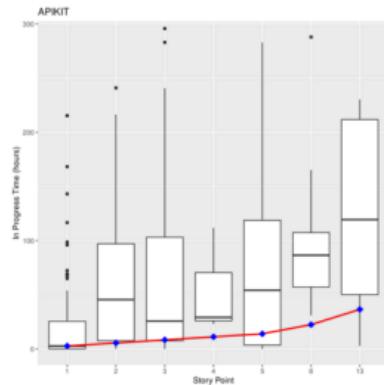
TAWOS DATASET

39 PROJECTS
~450 000 ISSUES

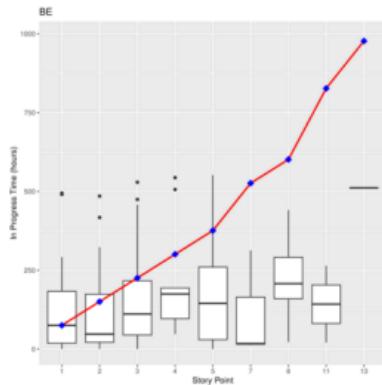


$$1 = 3 \times 3$$

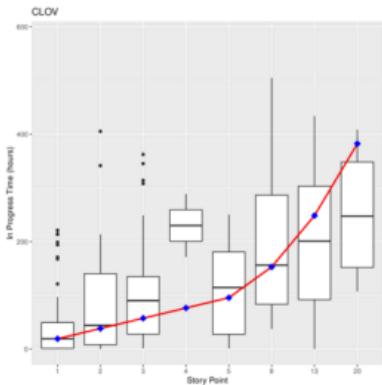




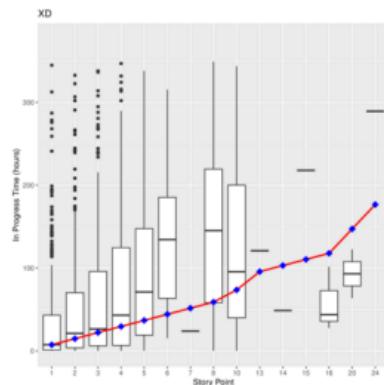
(a) APIKIT



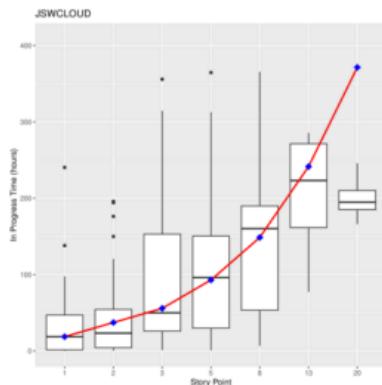
(b) BE



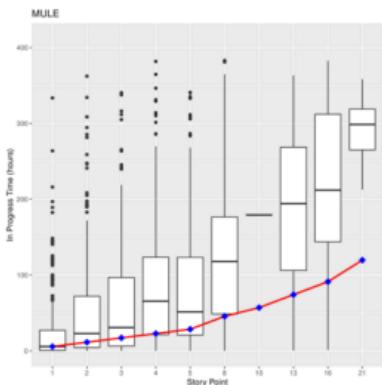
(c) CLOV



(d) XD

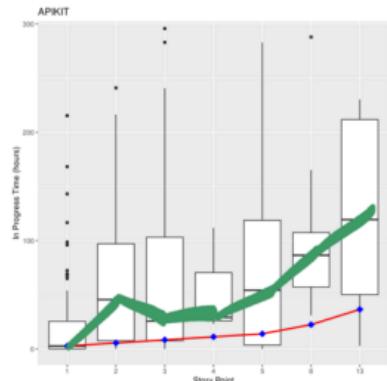


(e) JSWCLOUD

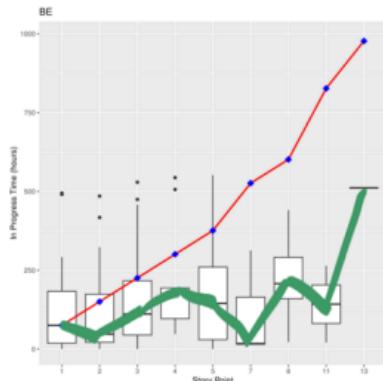


(f) MULE

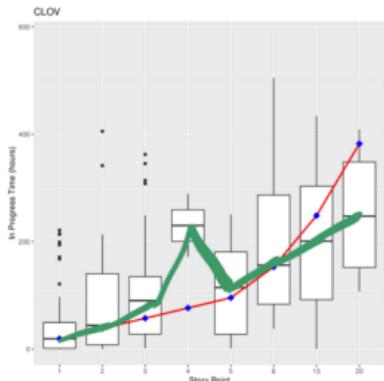
Figure 2: Boxplots of the distribution of development time per SP class for (a) APIKIT, (b) BE, (c) CLOV, (d) XD, (e) JSWCLOUD, (f) MULE. The red line depicts a project-specific baseline, drawn based on the median development time for one SP.



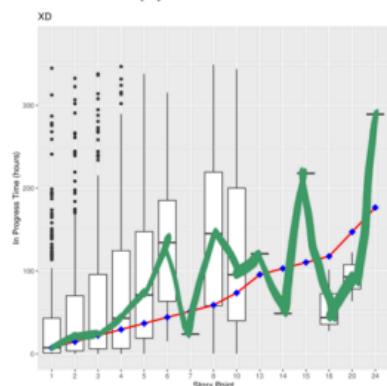
(a) APIKIT



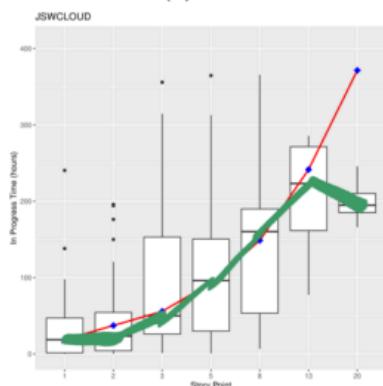
(b) BE



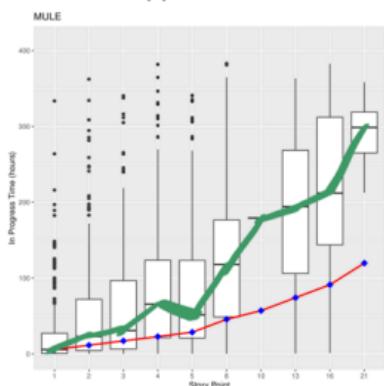
(c) CLOV



(d) XD



(e) JSWCLOUD

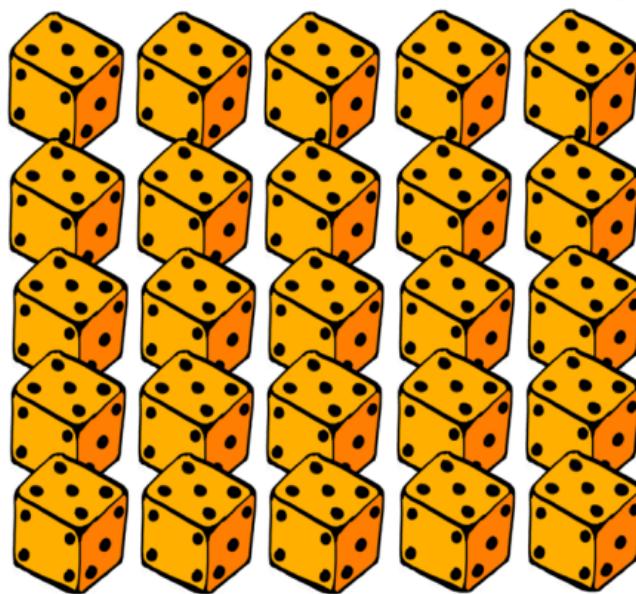


(f) MULE

Figure 2: Boxplots of the distribution of development time per SP class for (a) APIKIT, (b) BE, (c) CLOV, (d) XD, (e) JSWCLOUD, (f) MULE. The red line depicts a project-specific baseline, drawn based on the median development time for one SP.

32 PROJECTS

25



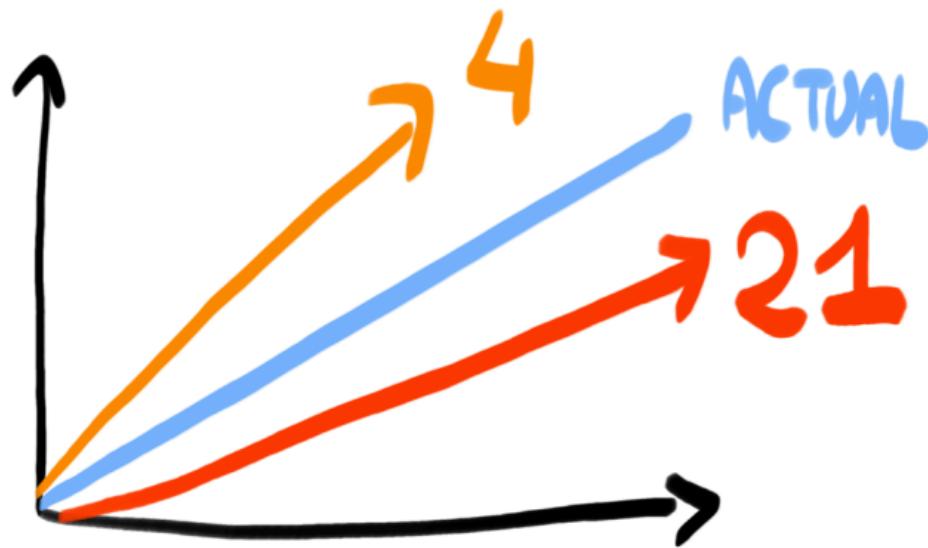
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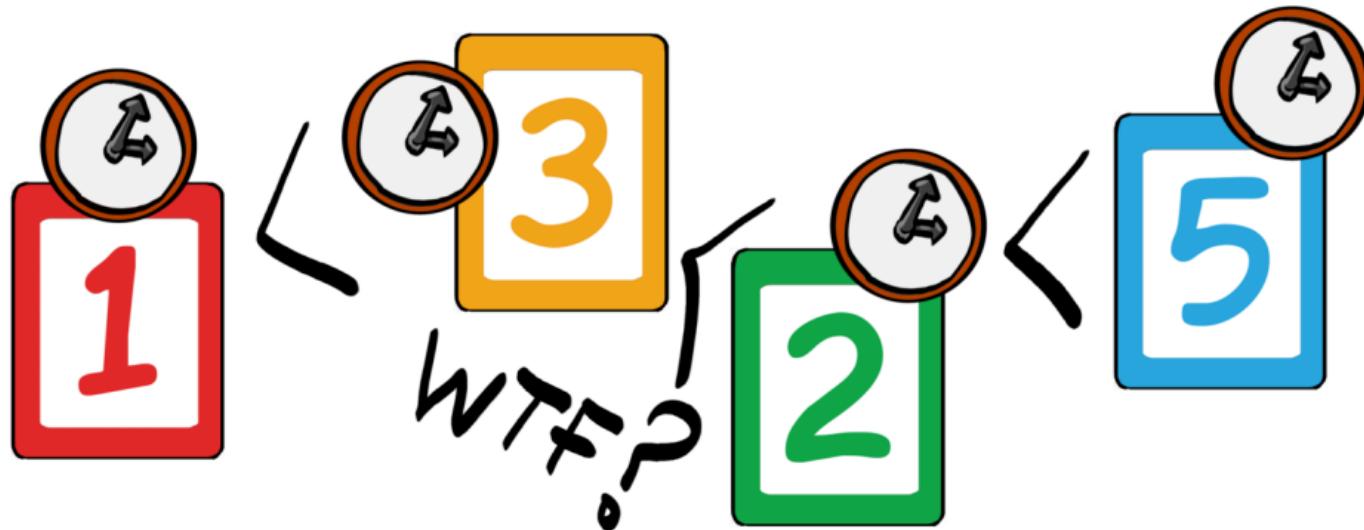
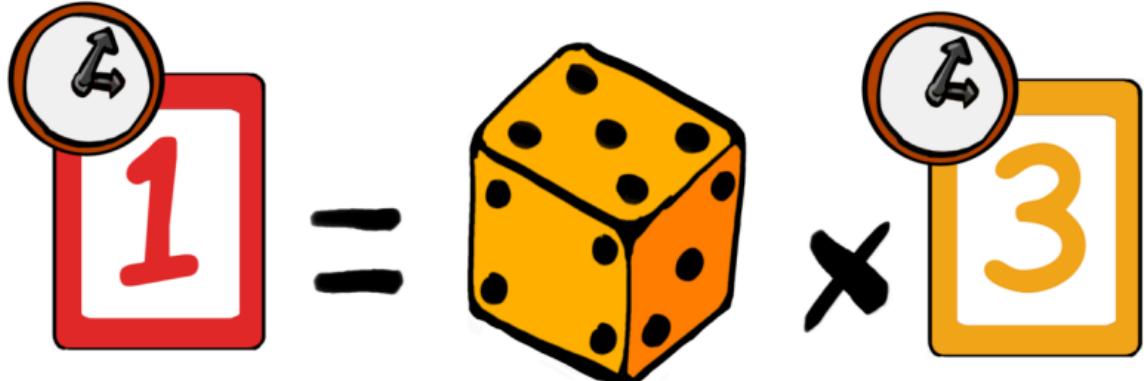
32 PROJECTS

25

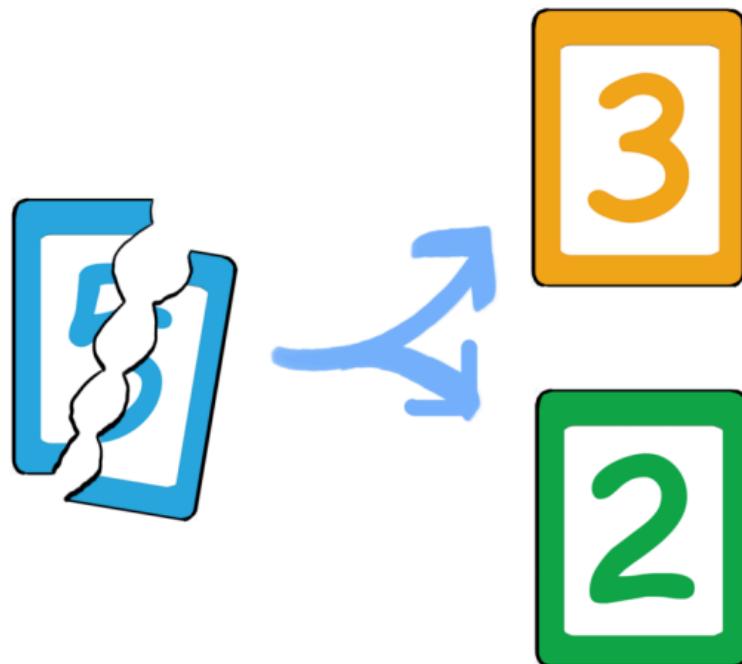
7



$$1 = 1 \times 3$$









SP showed a low (50%) or medium (25%) correlation with Timespent

SEXTAMT: A SYSTEMATIC MAP TO NAVIGATE THE WIDE SEAS OF FACTORS AFFECTING EXPERT JUDGMENT SOFTWARE ESTIMATES



Matsubara, Patrícia and Gadelha, Bruno and Steinmacher, Igor
and Conte, Tayana

2021 - Journal of Systems and Software

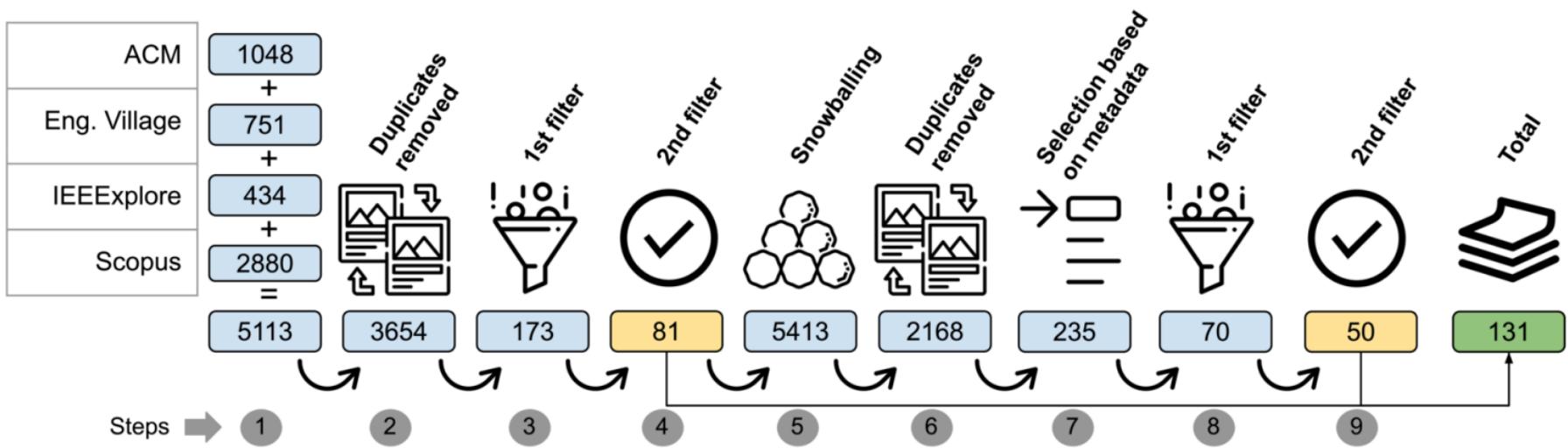


Figure 1 - Search and selection results

235 FACTORS
69 EXPLORED SEVERAL TIMES

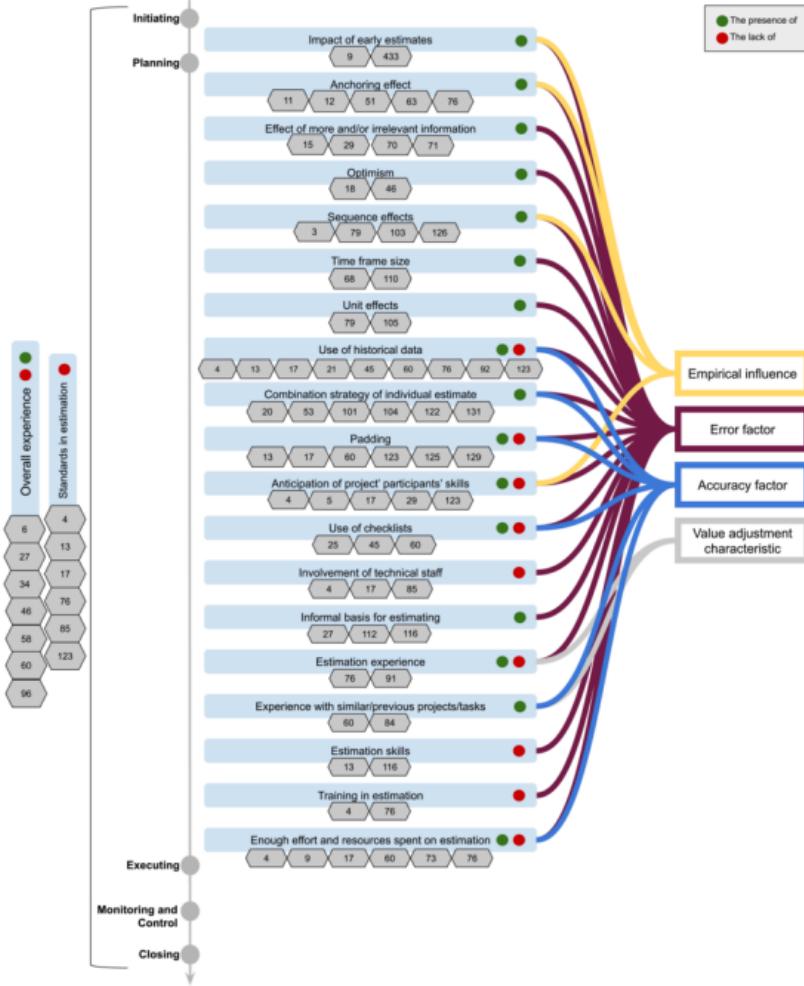


Figure 9 - Factors related to Estimators



NEW
FUNCTIONALITY



NEW
FUNCTIONALITY



TASK

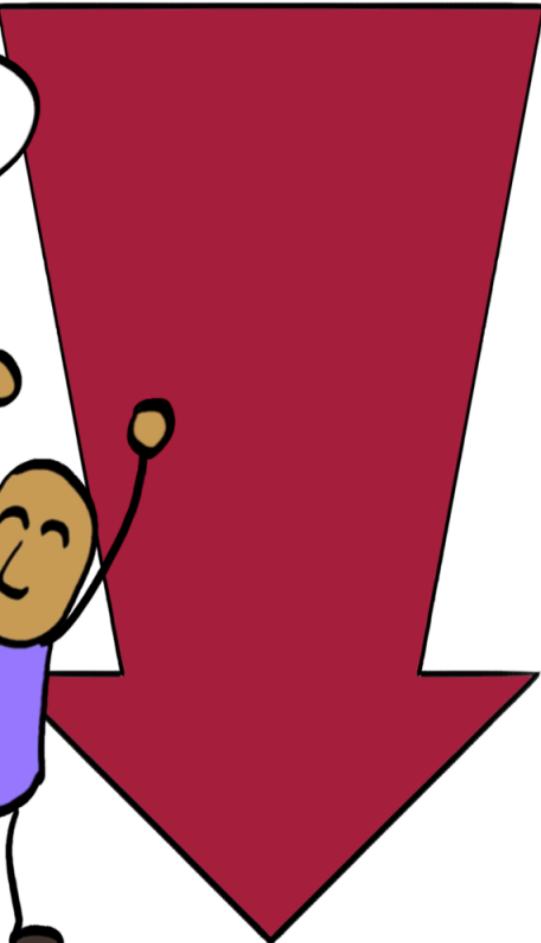
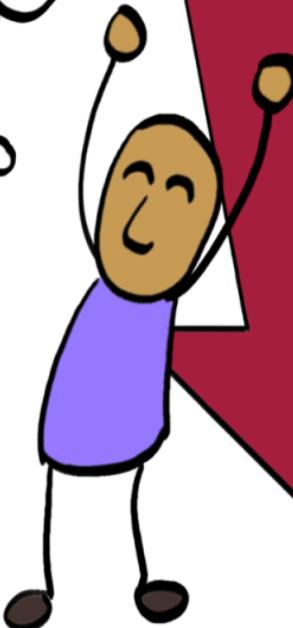
TASK



DETAILS

TASK + **DETAILS**

EASY!



TASK

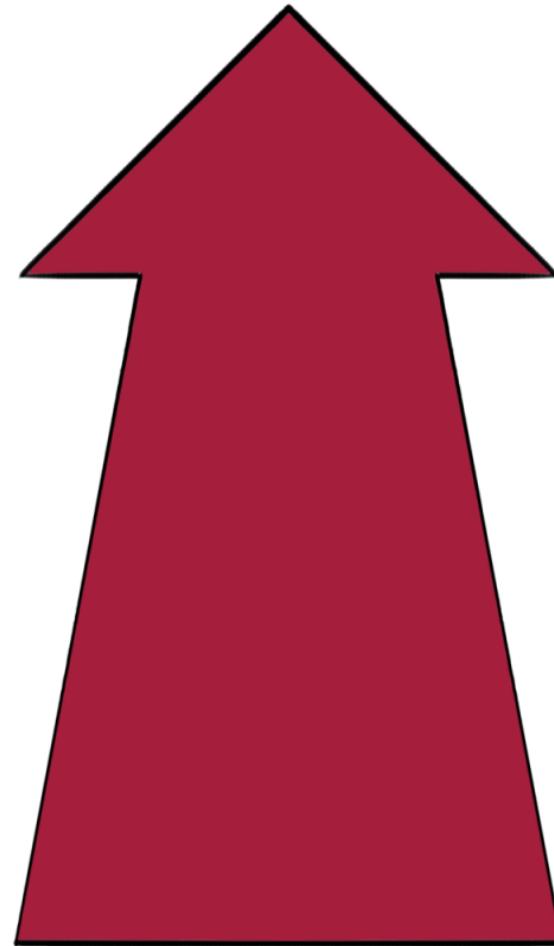
TASK

TASK

TASK

TASK

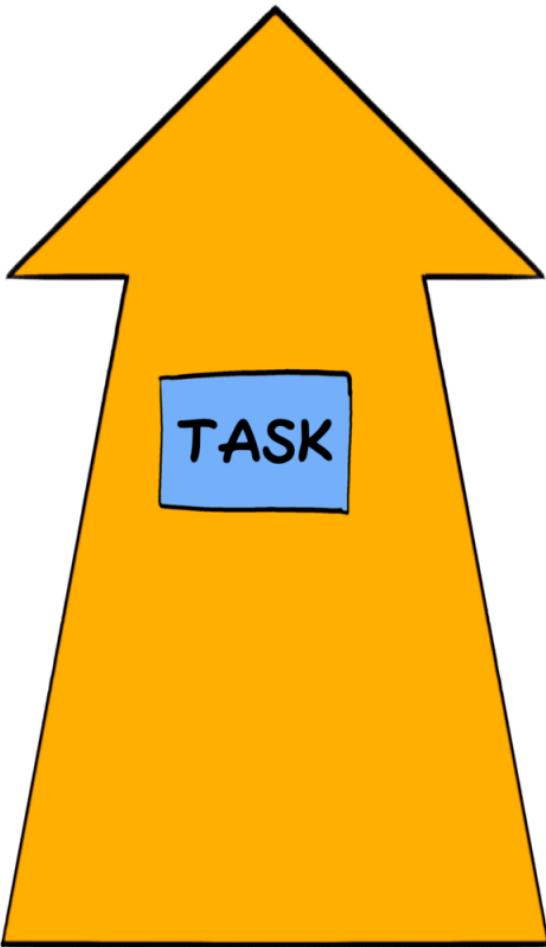
TASK



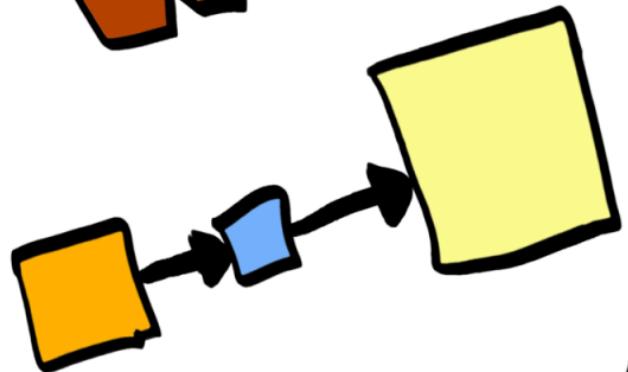
TASK

TASK

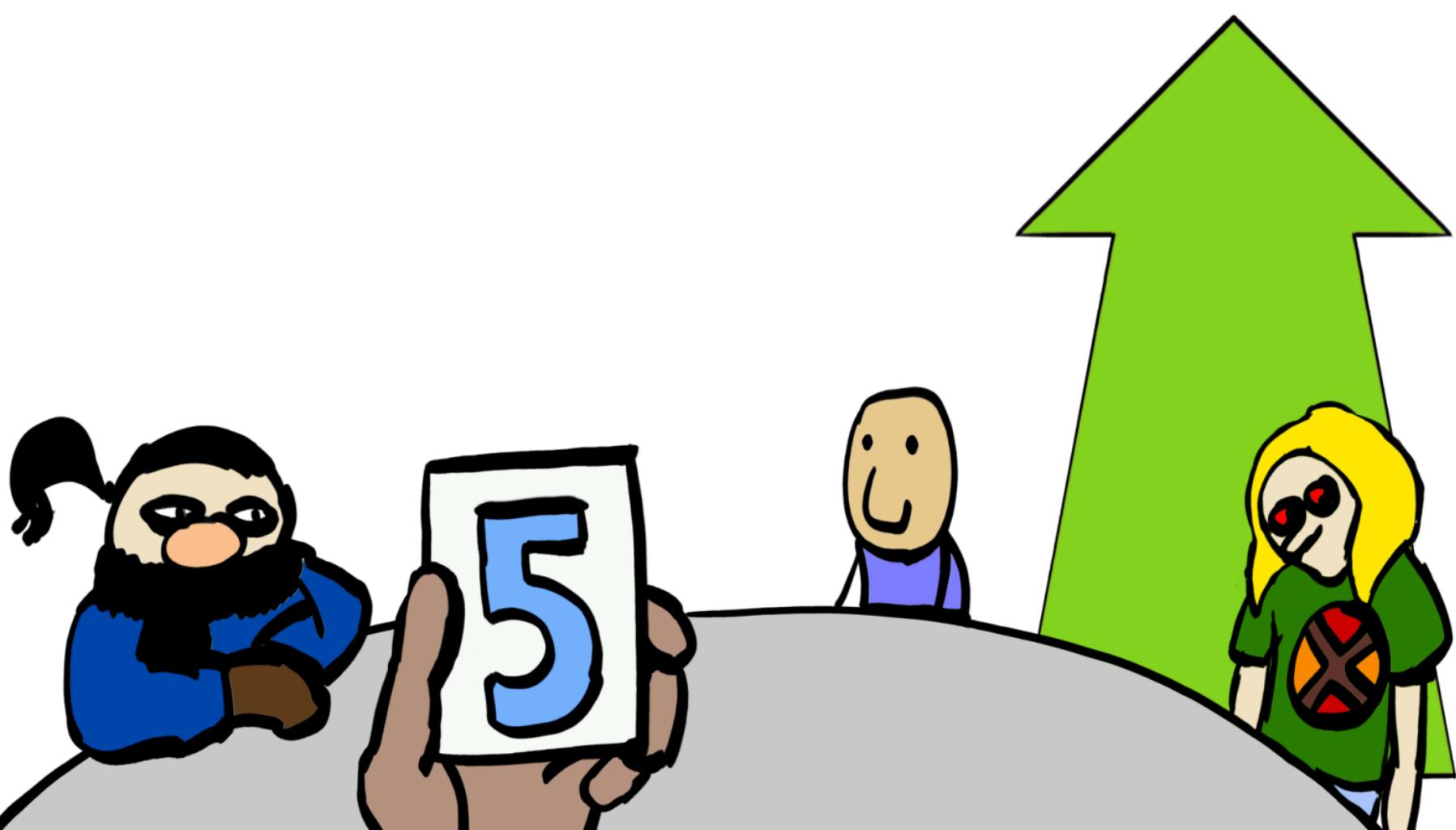
TASK



WORDING
DETAILS



4/69



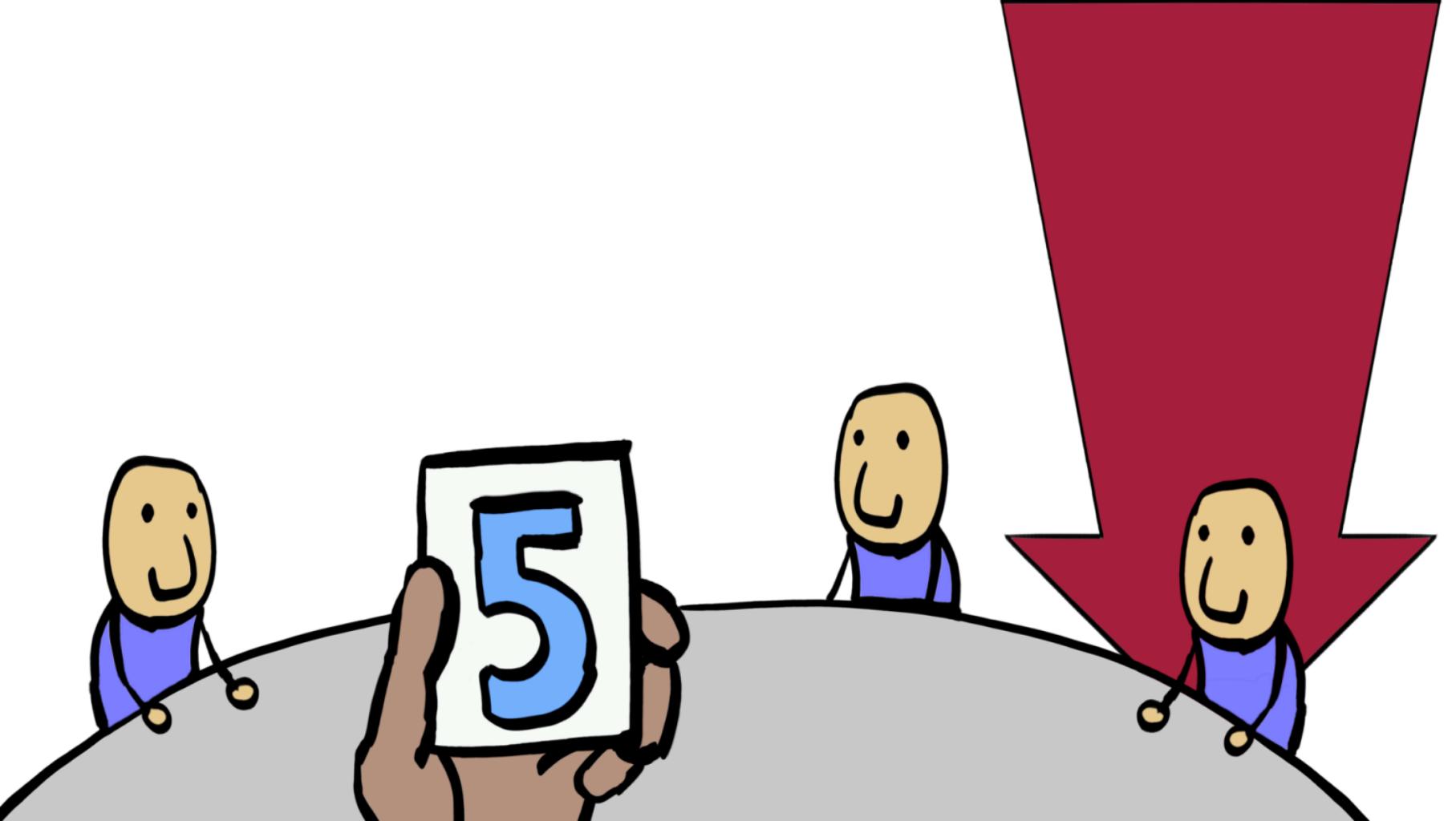


Table A.2: Infoway checklist V3 (prioritized and classified after dynamic validation)

No.	Checklist factor	Scale
Mandatory Part		
1	What is the type of the task?	Implementation, testing, research
2	The task is implementing a Functional Requirement (FR) or Non-Functional Requirement (NFR) or both?	Only an NFR, FR with major NFR constraints, FR with minor NFR constraints, only FR
3	Rank team's technical competence/skills required to implement and test this task	Very good, good, average, below average, lacking
4	How similar is the task to the previously developed tasks?	To a great extent, somewhat, very little, not at all
5	Rank team's domain knowledge required to implement this task	Very good, good, average, below average, lacking
6	How clear is your understanding of the task?	Very good, good, average, below average, need to talk to customer before moving on
7	The implementation of the task requires understanding and/or changing legacy code	Yes, not sure, no
8	Does the task involve communication between multiple (sub) systems?	Yes, not sure, no
Optional Part		
9	Does the task require an architectural change?	Yes, not sure, no
10	Does the team has new member(s)?	Yes, no
11	Will the team or some member(s) be working on other products/projects/tasks in parallel?	Yes, not sure, no
12	Does the task involve accessing and/or modifying several different elements/tables in the persistence/DB layer?	Yes, not sure, no
13	Is the task size suitable to fit in the planned sprint?	Yes, not sure, no
14	Rank team's recent productivity	Very good, good, average, below average, lacking

Based on the above characterizations, most likely effort estimate for this task is: _____ hours

A cartoon illustration of a character with yellow hair and a green hoodie, looking thoughtful with a hand on their chin. A thought bubble above them contains a graph with a blue line showing an upward trend over time, with the word "HISTORY" written in capital letters above the axis. To the right of the character, a large green arrow points upwards.

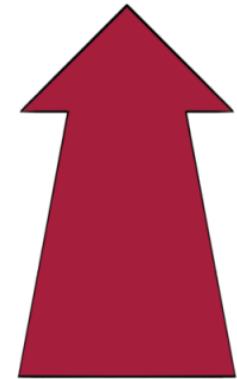
HISTORY

TASK

TASK

TASK

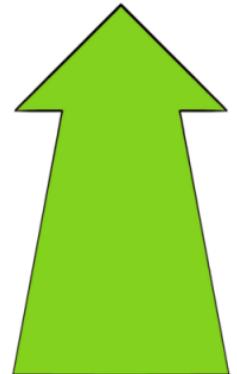
TASK



TASK

TASK

TASK



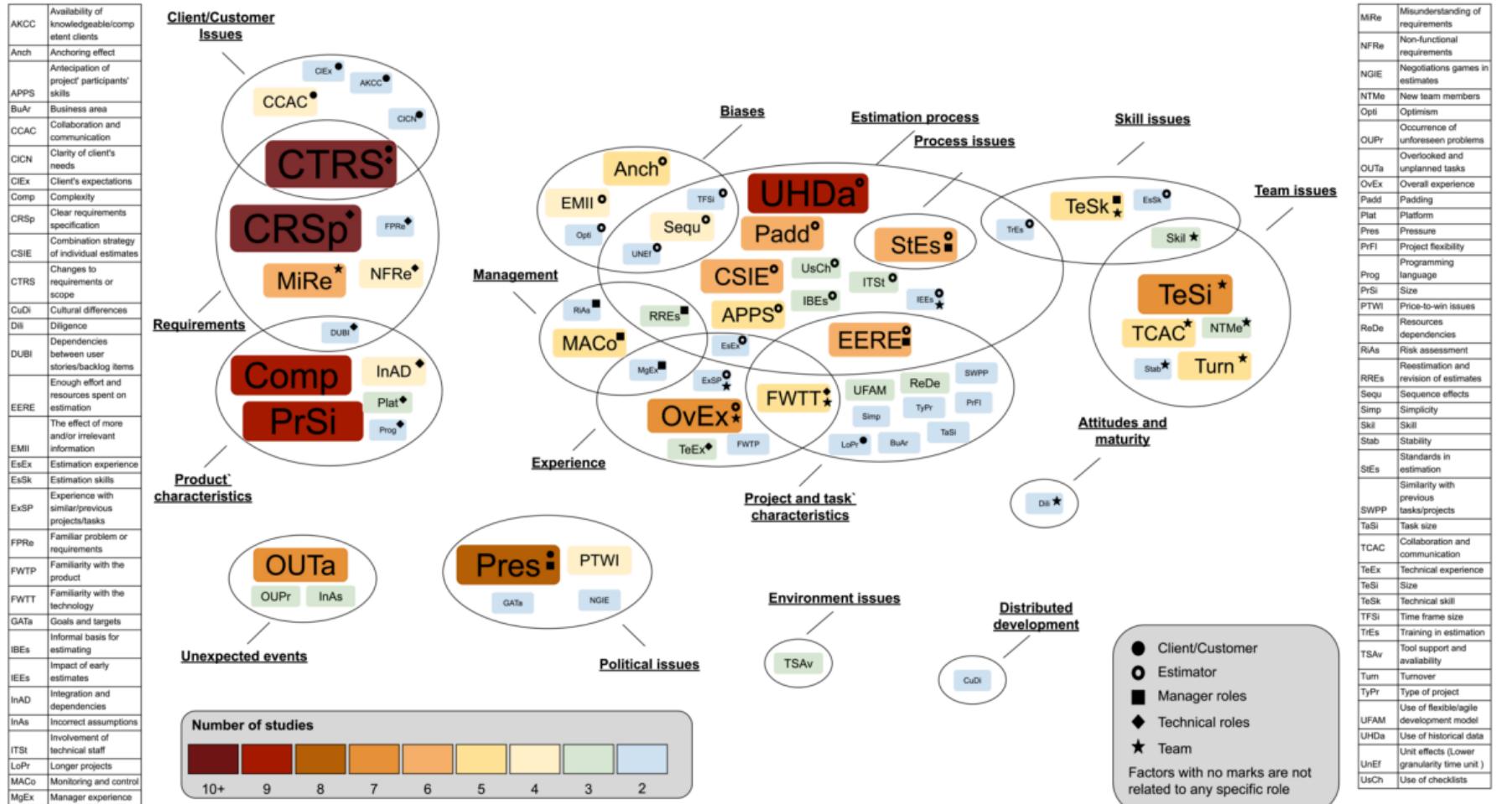


Figure 7 - The SEXTAMT

I CONTEXT

II STORY POINTS

III NOESTIMATES TECHNIQUES

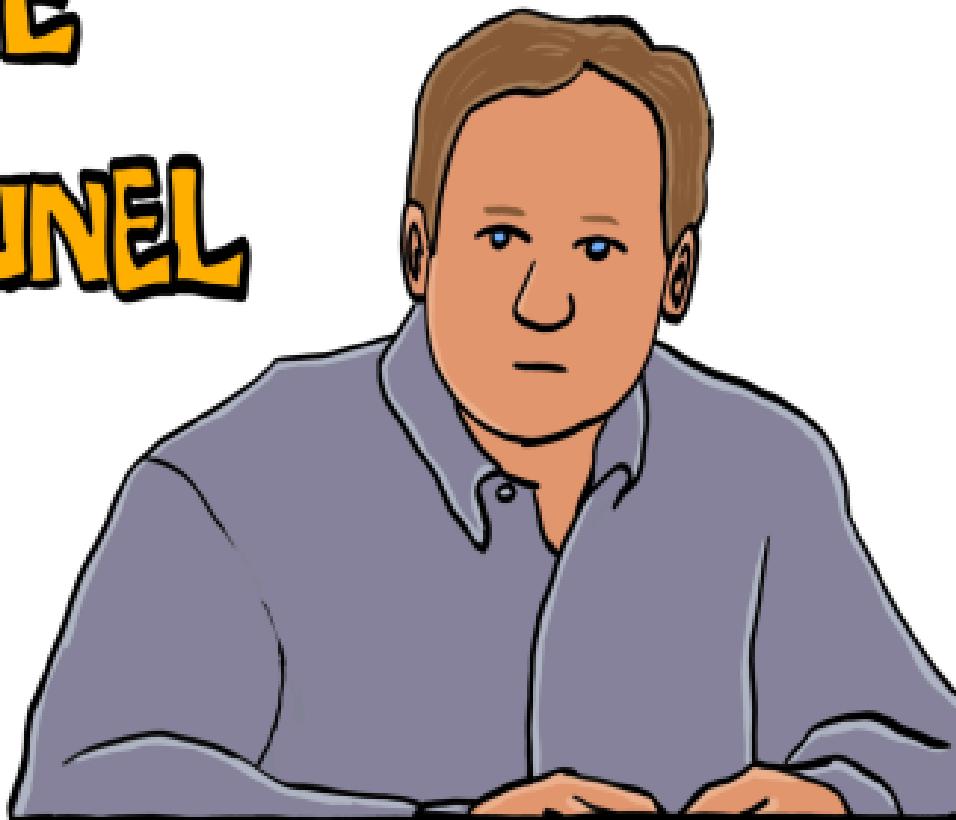
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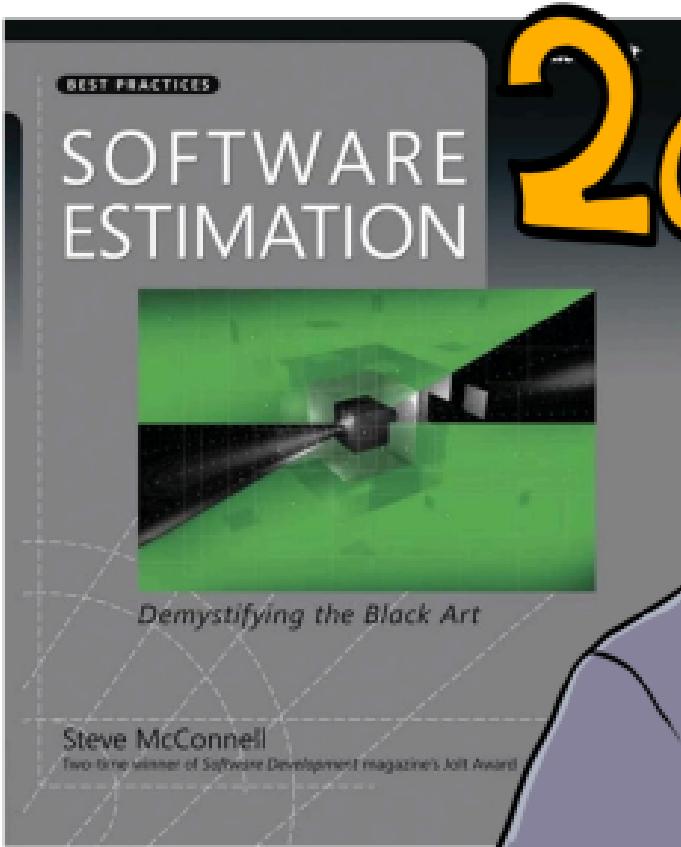
V

VI

VII

STEVE McCONNEL





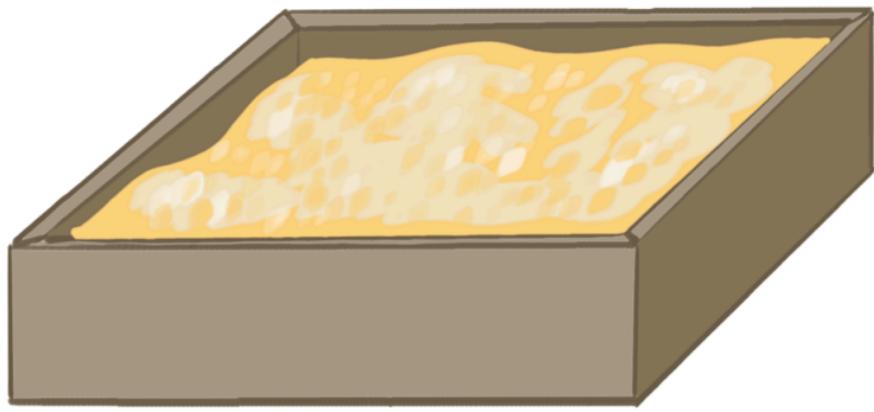
SOFTWARE ESTIMATION : DEMYSTIFYING THE BLACK ART / S. MCCONNELL.

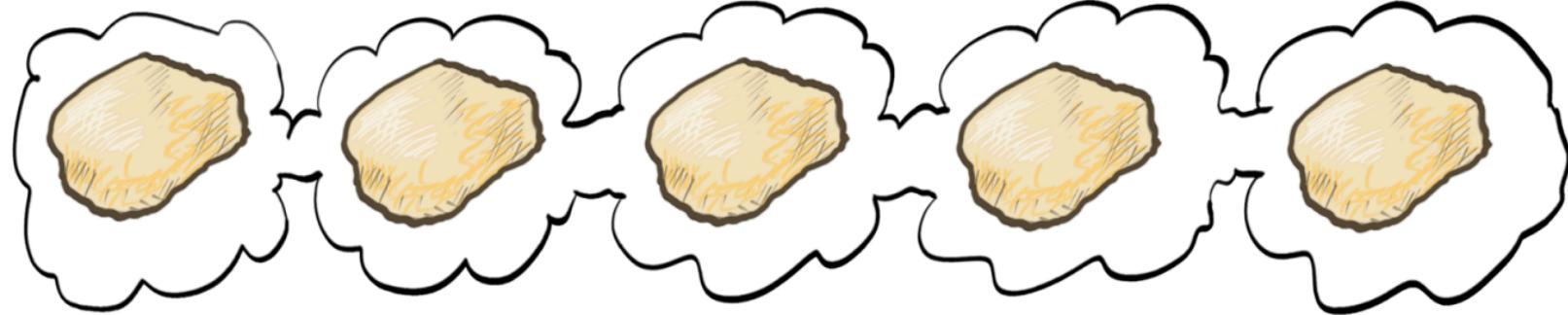


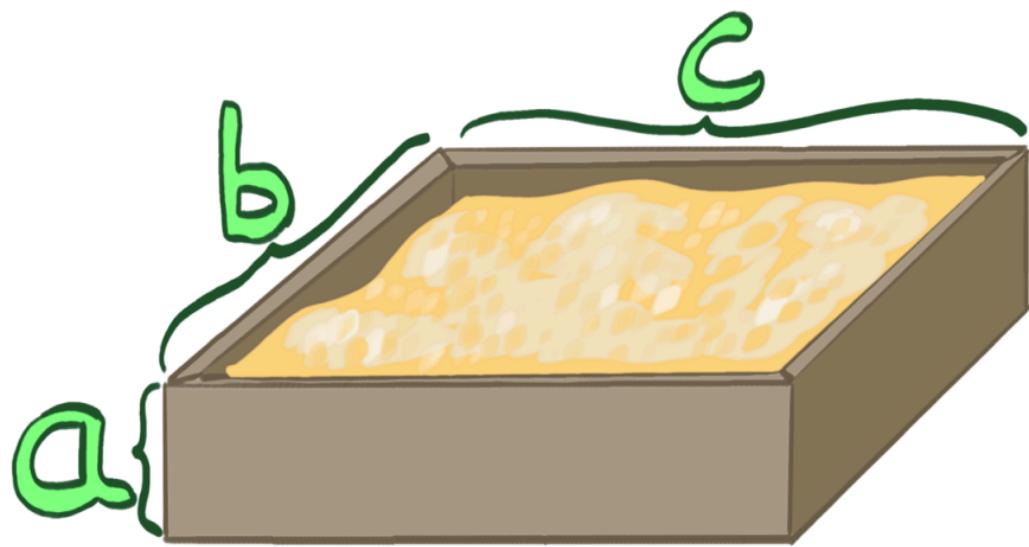
Mcconnell, Steve

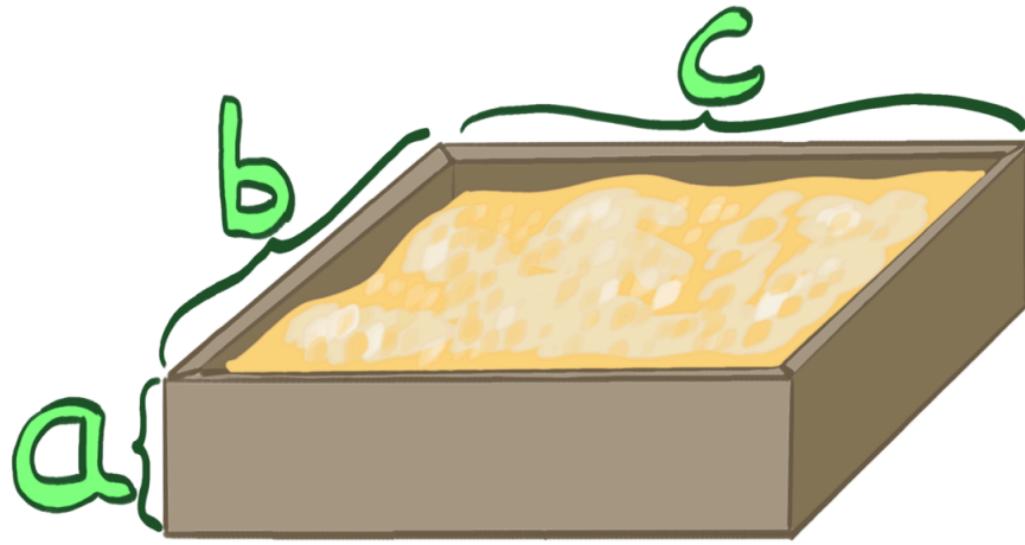
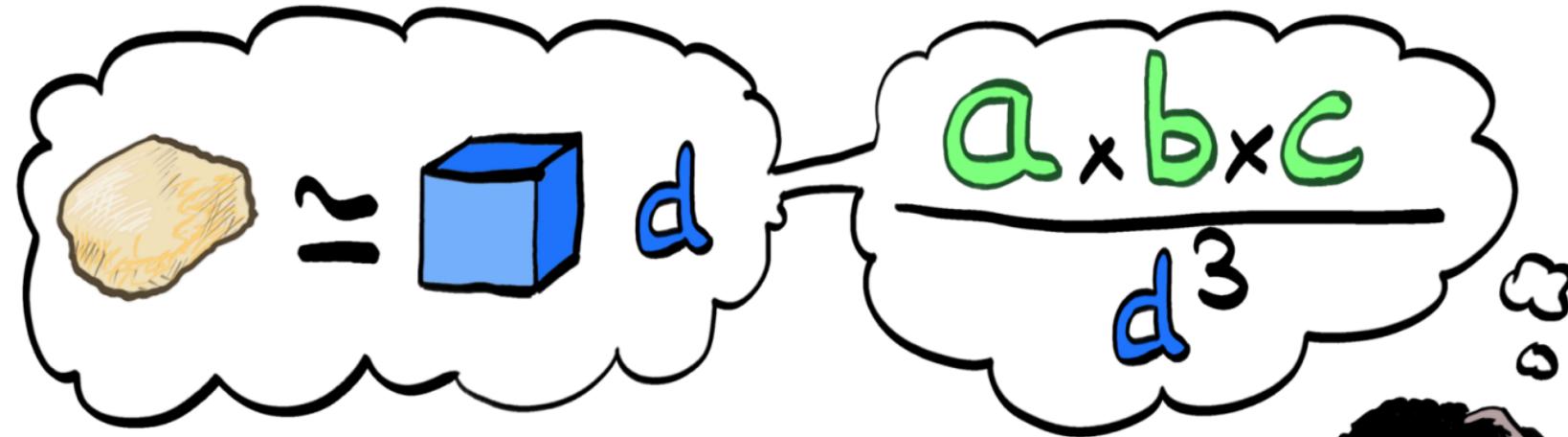
2006

n x  ?













two million
I guess...



two million
I guess...

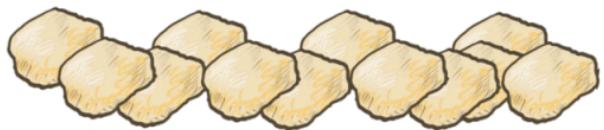
Client signed
for one



two million
I guess...

Client signed
for one

Ok, one
million then



1



1

2

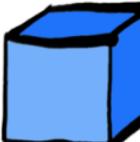
$$\frac{a \times b \times c}{3}$$
A blue 3D cube with a black outline, positioned below the fraction line.



1

2

3

$$\frac{a \times b \times c}{3}$$
A blue cube with a black outline, positioned below the fraction line.



J. Scott

ARMSTRONG

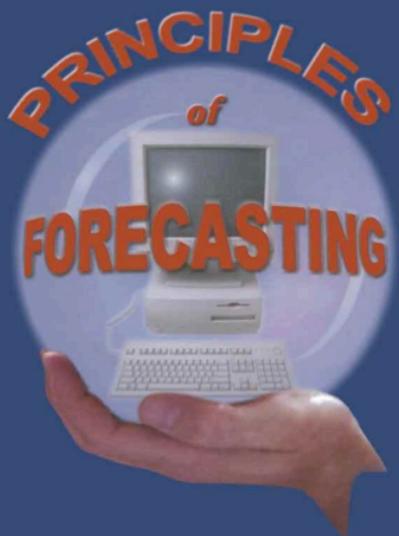
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edited by

J. Scott Armstrong

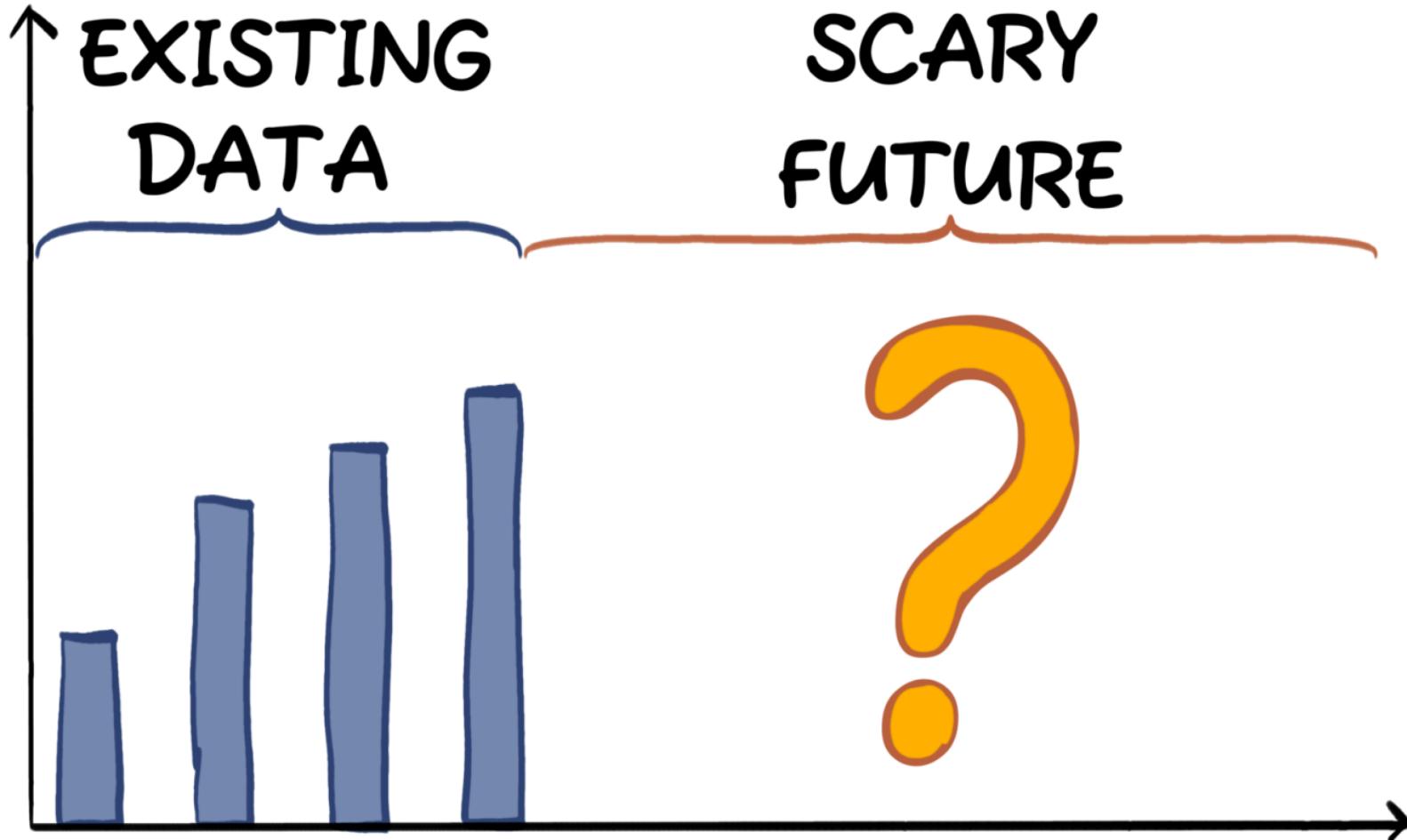


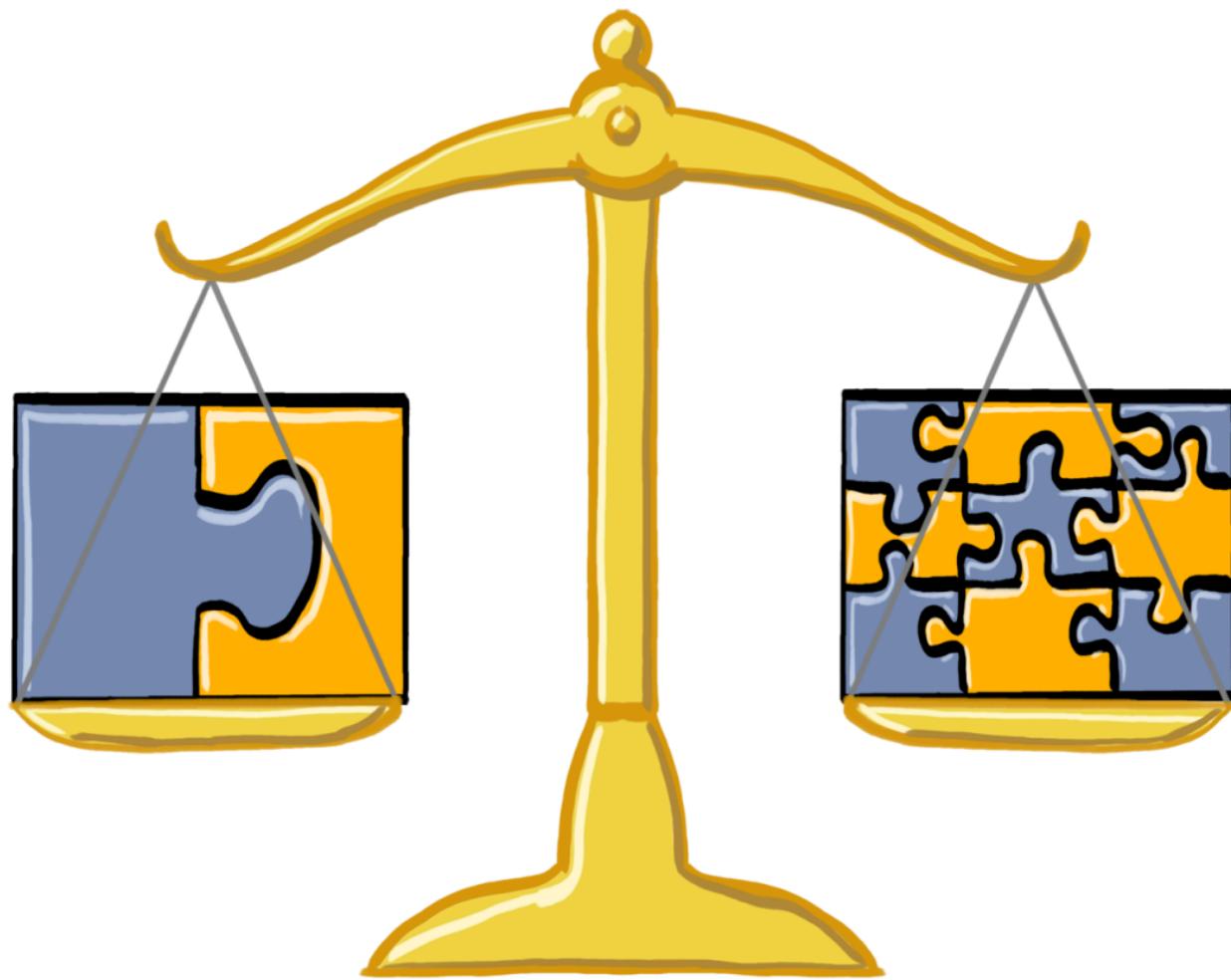
SIMPLE VERSUS COMPLEX FORECASTING: THE EVIDENCE (SIMPLE-FORECASTING.COM)

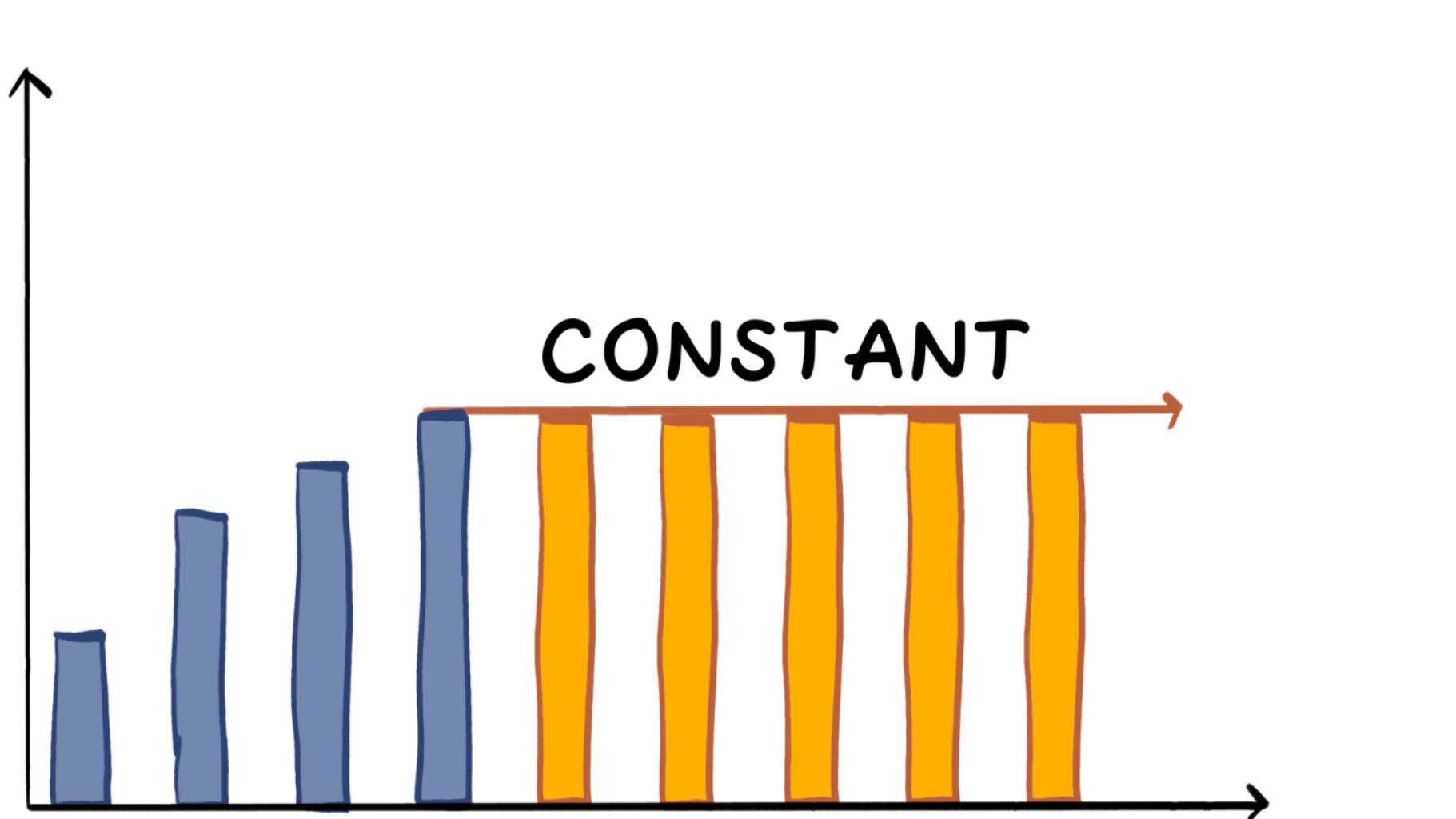


Green, Kesten and Armstrong, J.

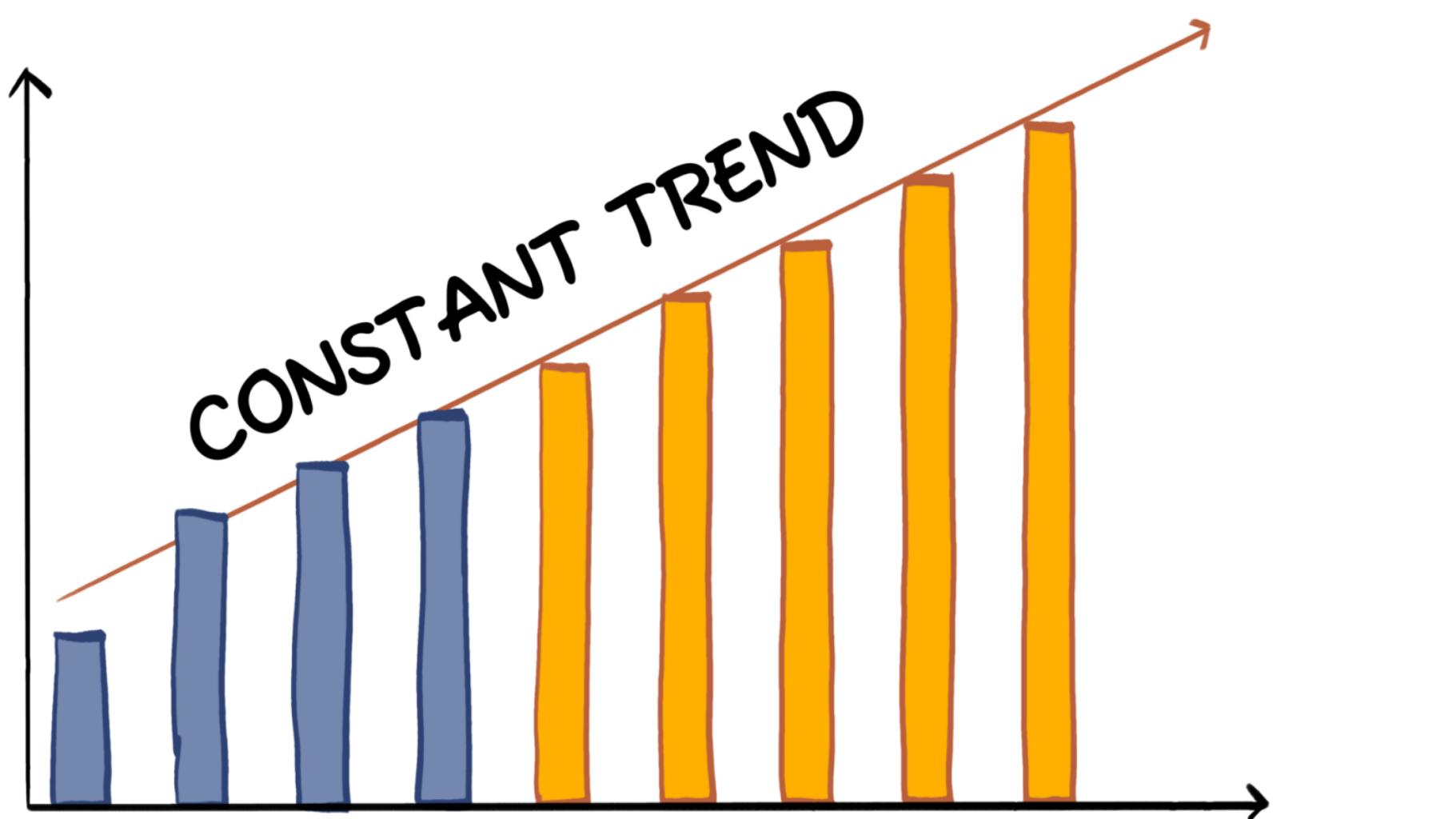
2015



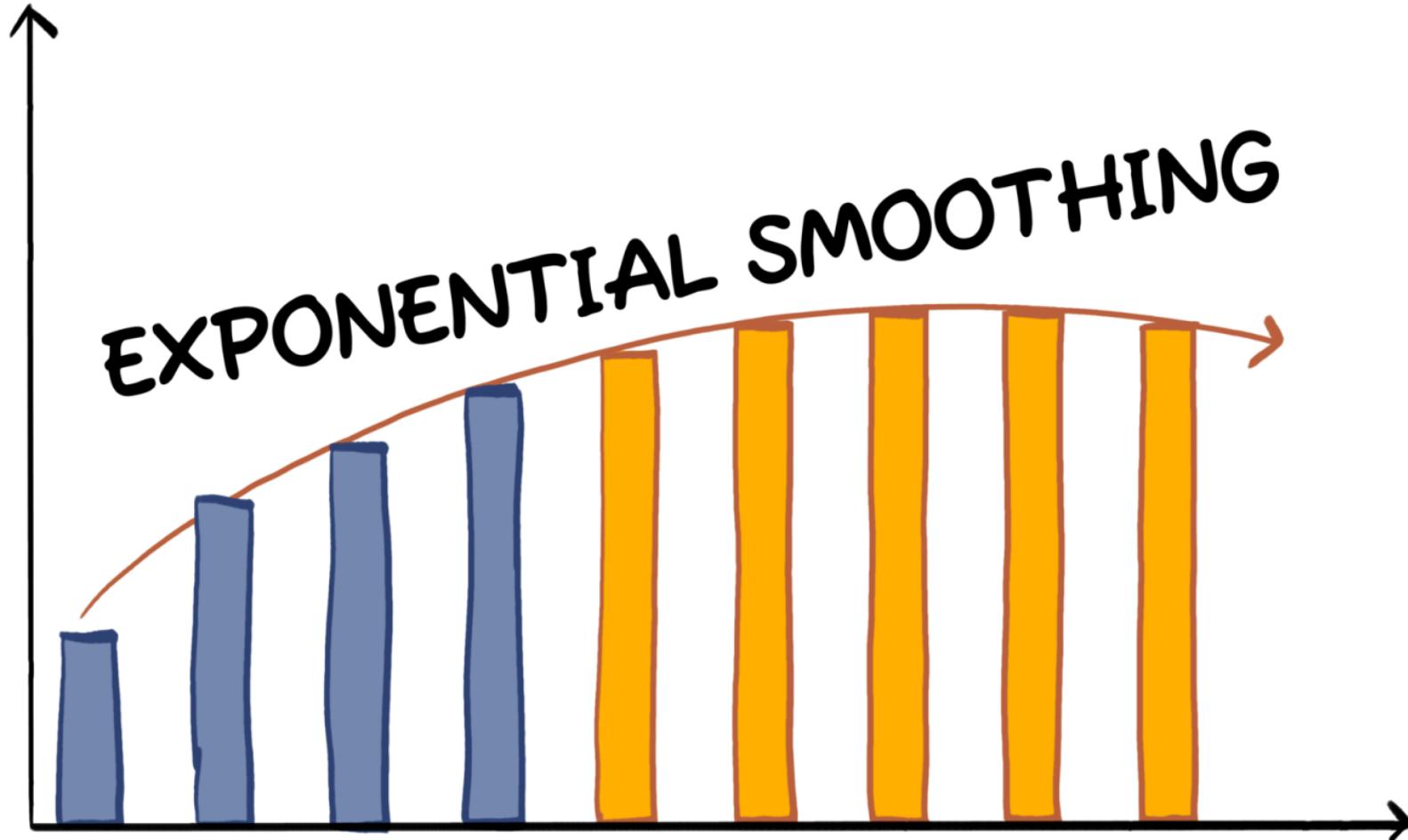


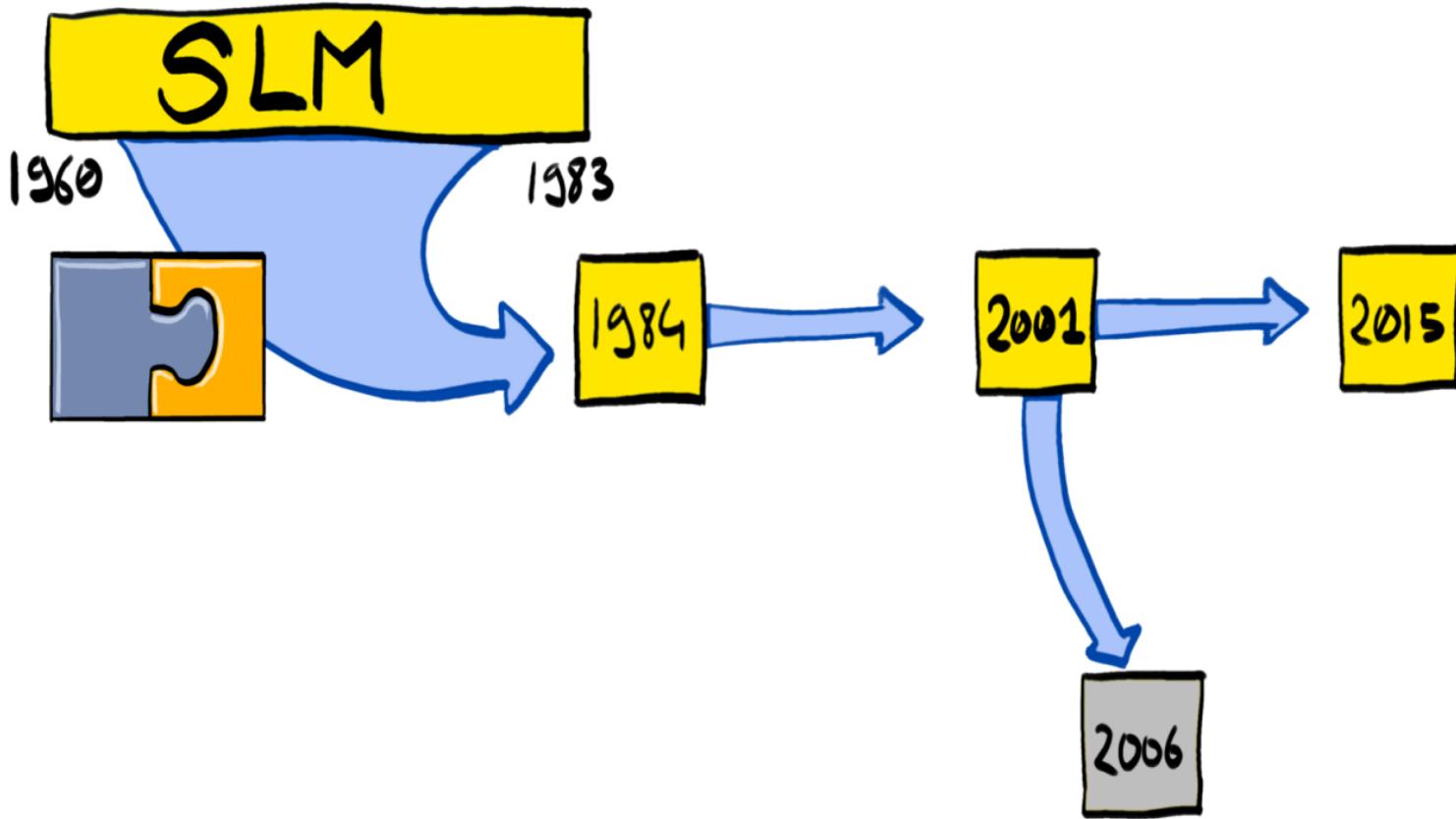


CONSTANT



EXPONENTIAL SMOOTHING





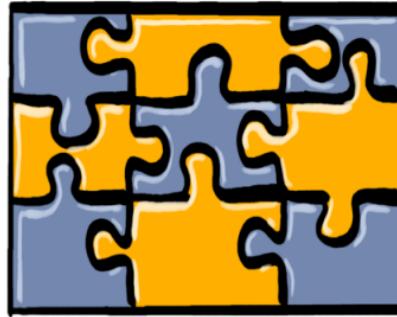
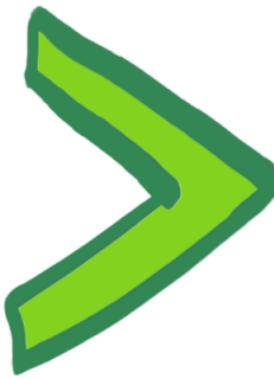
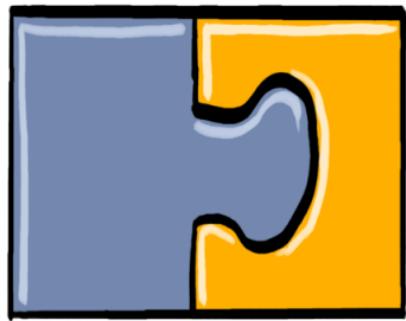
Table

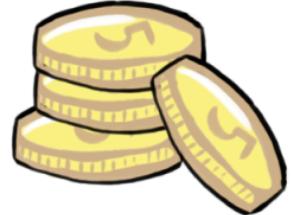
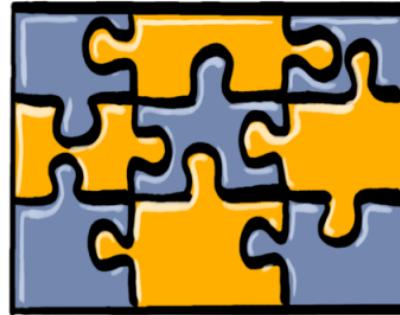
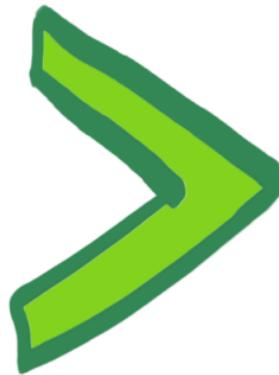
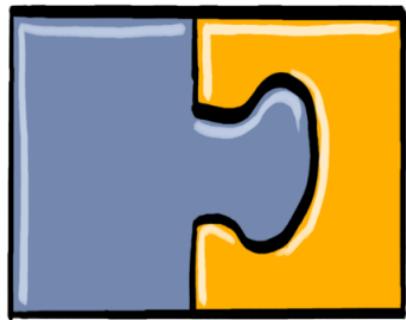
Summary of evidence on accuracy of forecasts from complex vs. simple methods

----- Number of Comparisons -----

<u>Method type</u>	<u>Total papers</u>	<u>Total comparisons</u>	<u>Simple better or similar</u>	<u>Effect size</u>	<u>Error increase vs simple (%)</u>
Judgmental	4	4	4	4	28.2
Extrapolative	17	62	51	12	27.5
Causal	8	23	19	5	25.3
Combined	3	8	7	4	23.9
All method types	32	97	81	25	26.7
Weighted average*					

*Weighted by total papers





PRINCIPLES OF FORECASTING: A HANDBOOK FOR RESEARCHERS AND



Armstrong, J.

2001 - Technological Forecasting and Social Change -
TECHNOL FORECAST SOC CHANGE

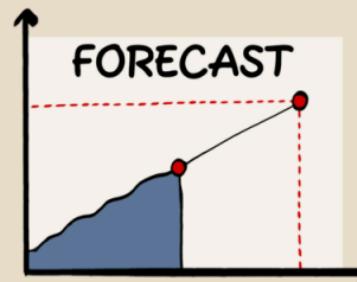
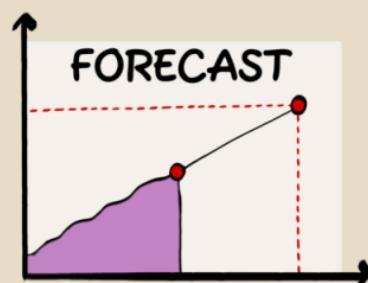
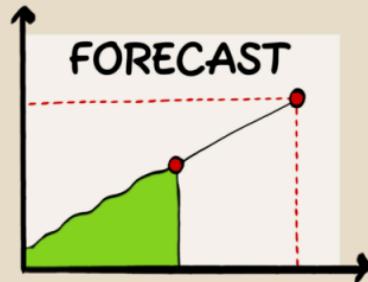
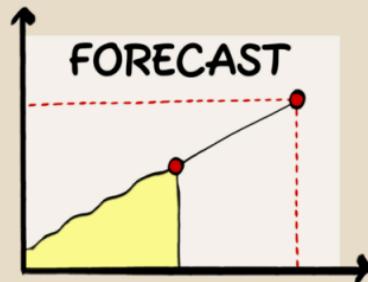
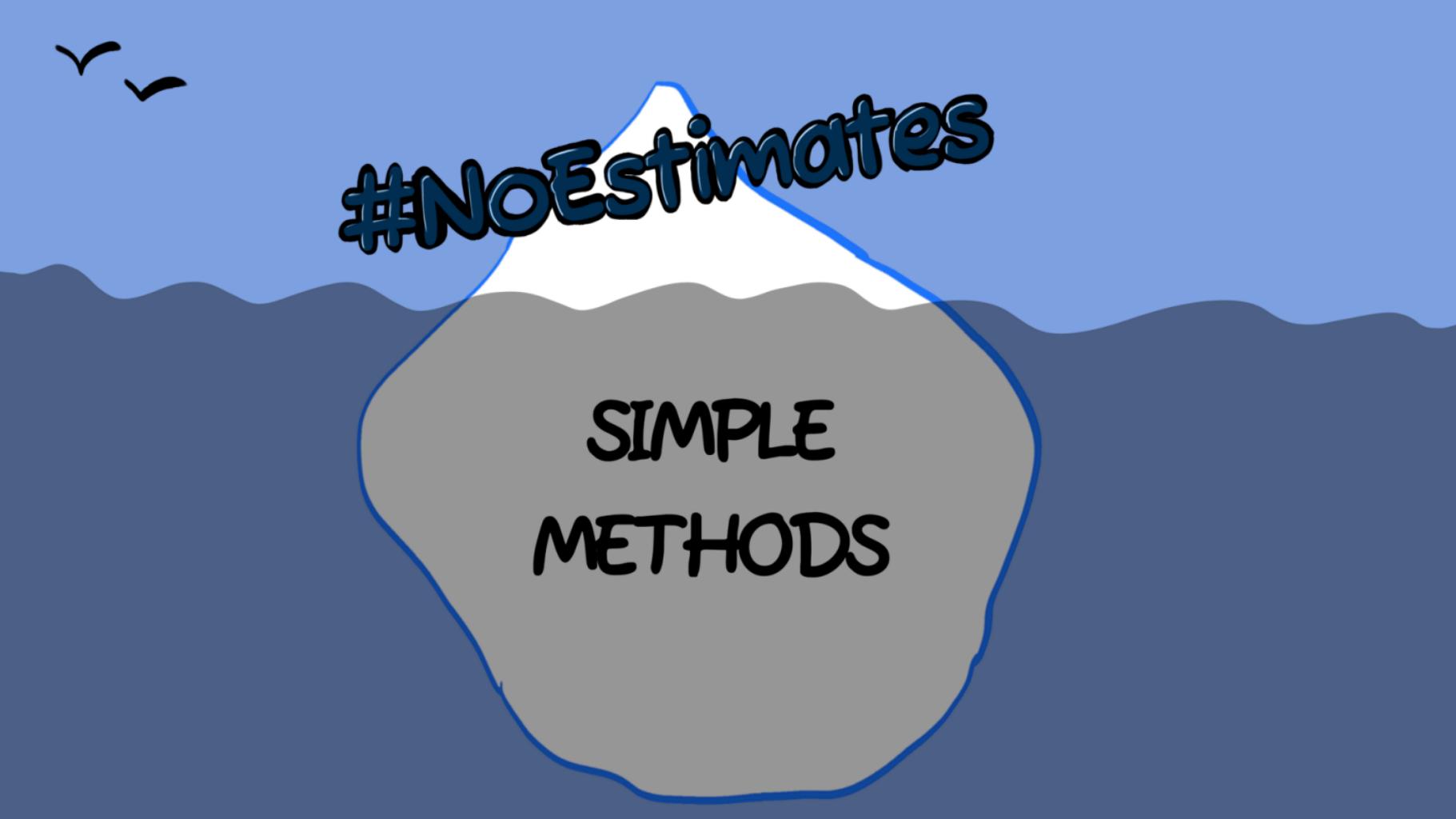


Exhibit 1. Error reductions from combining ex ante forecasts

Study	Methods	Components	Criterion	Data	Situation	Validation forecasts	Forecast horizon	Percent error reduction
Levine (1960)	intentions	2	MAPE	annual	capital expenditures	6	1	18.0
Okun (1960)	*	2	*	*	housing starts	6	1	7.0
Landefeld & Seskin (1986)	*	2	MAE	*	plant & equipment	11	1	20.0
Armstrong et al. (2000)	*	4	RAE	*	consumer products	65	varied	5.5
Winkler & Poses (1993)	expert	4	Brier	cross-section	survival of patients	231	varied	12.2
Thorndike (1938)	*	4 to 6	% wrong	*	knowledge questions	30	varied	6.6
Makridakis et al. (1993)	*	5	MAPE	monthly	economic time series	322	1–14	19.0
Richards & Fraser (1977)	*	5	*	annual	company earnings	213	1	8.1
Batchelor & Dua (1995)	*	10	MSE	*	macroeconomic	40	1	16.4
Kaplan et al. (1950)	*	26	% wrong	cross-section	technology events	16	varied	13.0
Zarnowitz (1984)	*	79	RMSE	quarterly	macroeconomic	288	1	10.0
Sanders & Ritzman (1989)	extrapolation	3	MAPE	daily	public warehouse	260	1	15.1
Makridakis & Winkler (1983)	*	5	*	monthly	economic time series	617	18	24.2
Makridakis et al. (1993)	*	5	*	*	*	322	1–14	4.3
Lobo (1992)	*	5	*	quarterly	company earnings	6,560	1–4	13.6
Schnaars (1986)	*	7	*	annual	consumer products	1,412	1–5	20.0
Landefeld & Seskin (1986)	econometric	2	MAE	annual	plant & equipment	7	1	21.0
Clemen & Winkler (1986)	*	4	MAD	quarterly	GNP (real & nominal)	45	1–4	3.4
Shamseldin et al. (1997)	*	5	MAPE	annual	rainfall runoff	22	1	9.4
Lobo (1992)	expert/extrap	2	MAPE	annual	company earnings	6,560	1–4	11.0
Lawrence et al. (1986)	*	3	*	monthly	economic time series	1,224	1–18	10.7
Sanders & Ritzman (1989)	*	3	*	daily	public warehouse	260	1	15.5
Lobo & Nair (1990)	*	4	*	annual	company earnings	768	1	6.4
Landefeld & Seskin (1986)	intentions/econ	2	MAE	annual	plant & equipment	11	1	11.5
Vandome (1963)	extrap/econ	2	MAPE	quarterly	macroeconomic	20	1	10.1
Armstrong (1985)	*	2	*	annual	photo sales by country	17	6	4.2
Weinberg (1986)	expert/econ	2	*	cross-section	performing arts	15	varied	12.5
Bessler & Brandt (1981)	expert/ extrap/ econ	3	*	quarterly	cattle & chicken prices	48	1	13.6
Fildes (1991)	*	3	MAE	annual	construction	72	1 & 2	8.0
Brandt & Bessler (1983)	*	6	MAPE	quarterly	hog prices	24	1	23.5
							Unweighted average	12.5



#NOEstimates

SIMPLE
METHODS

I CONTEXT

II STORY POINTS

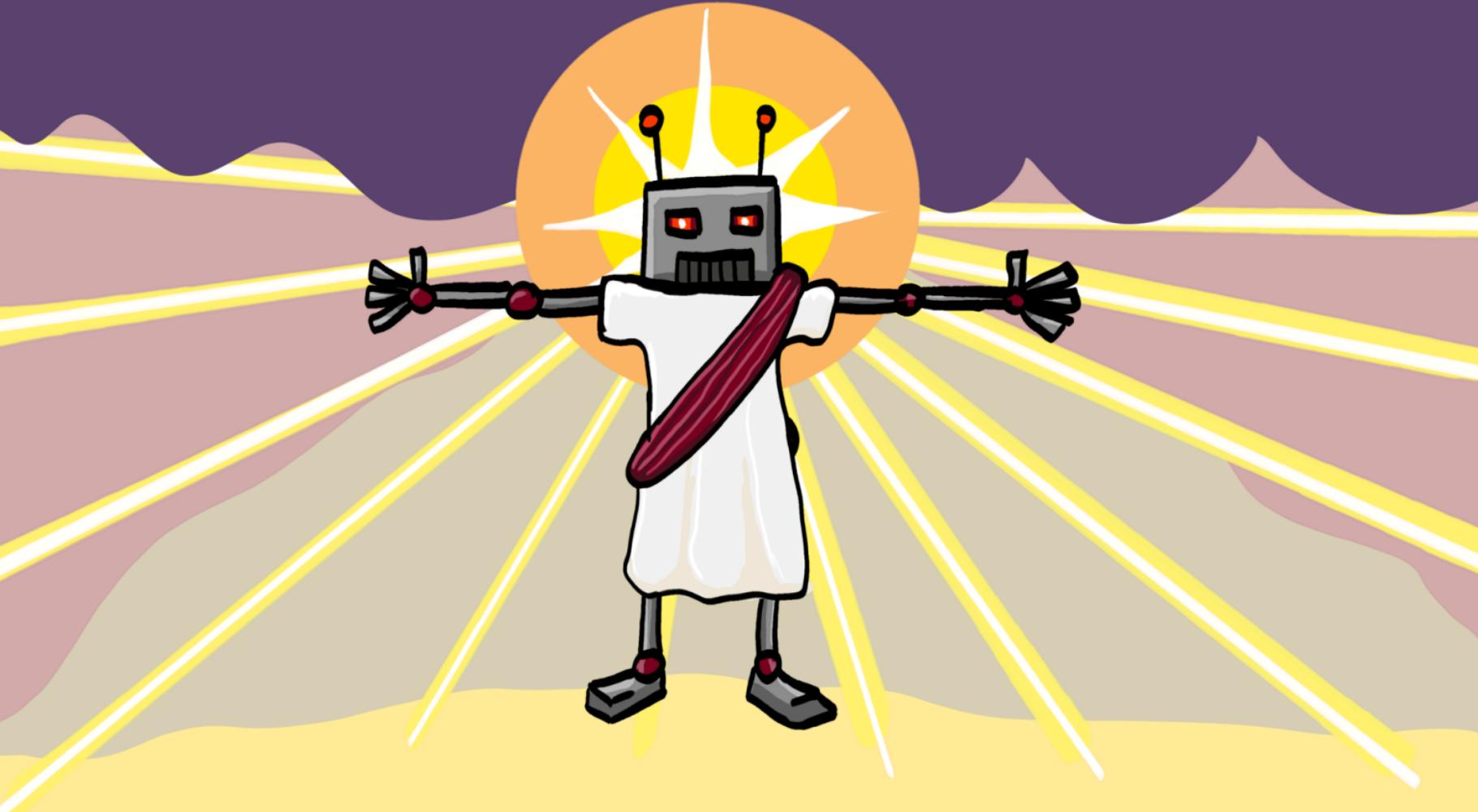
III NOESTIMATES TECHNIQUES

IV WILL AI SAVE US ?

V

VI

VII

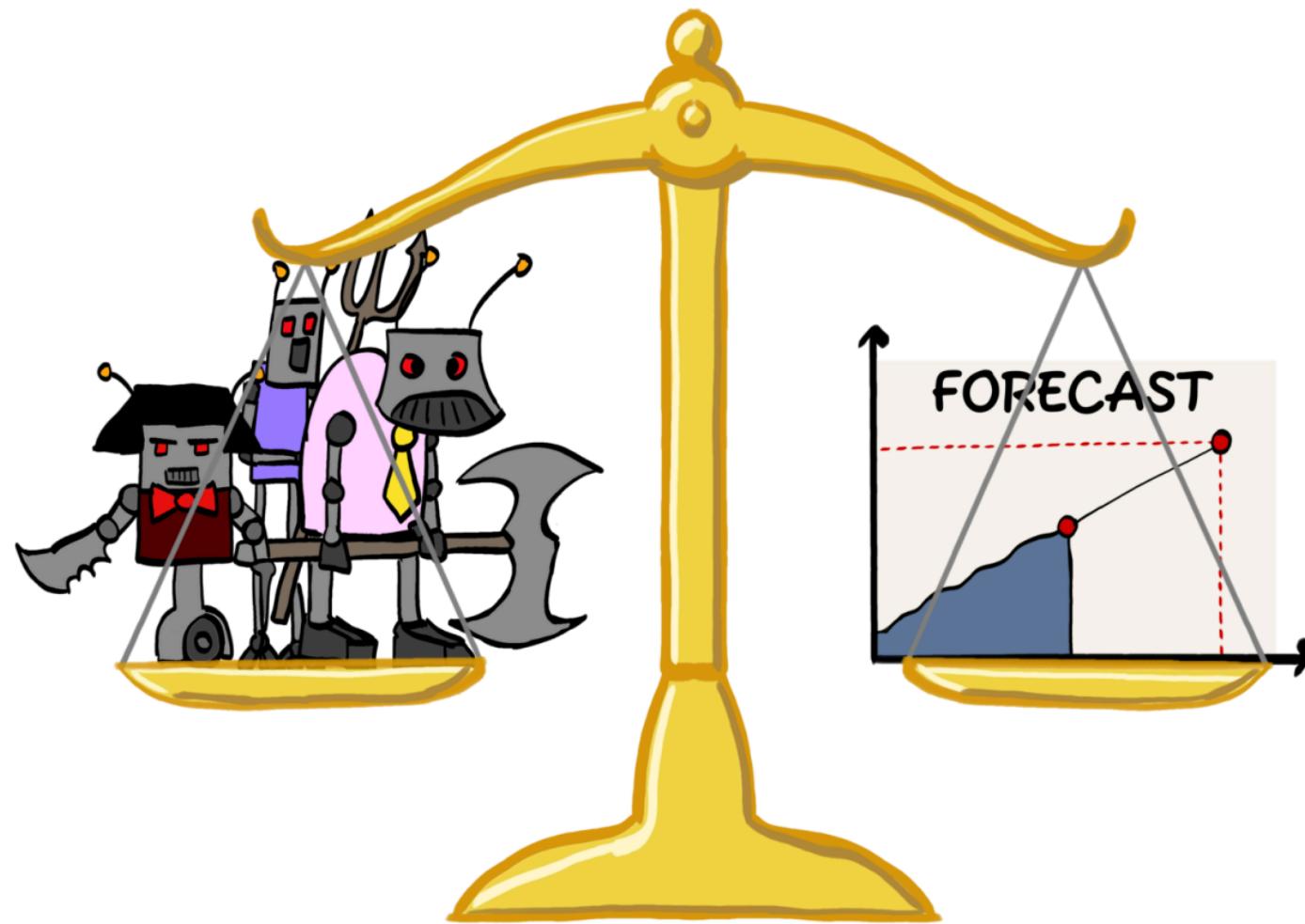


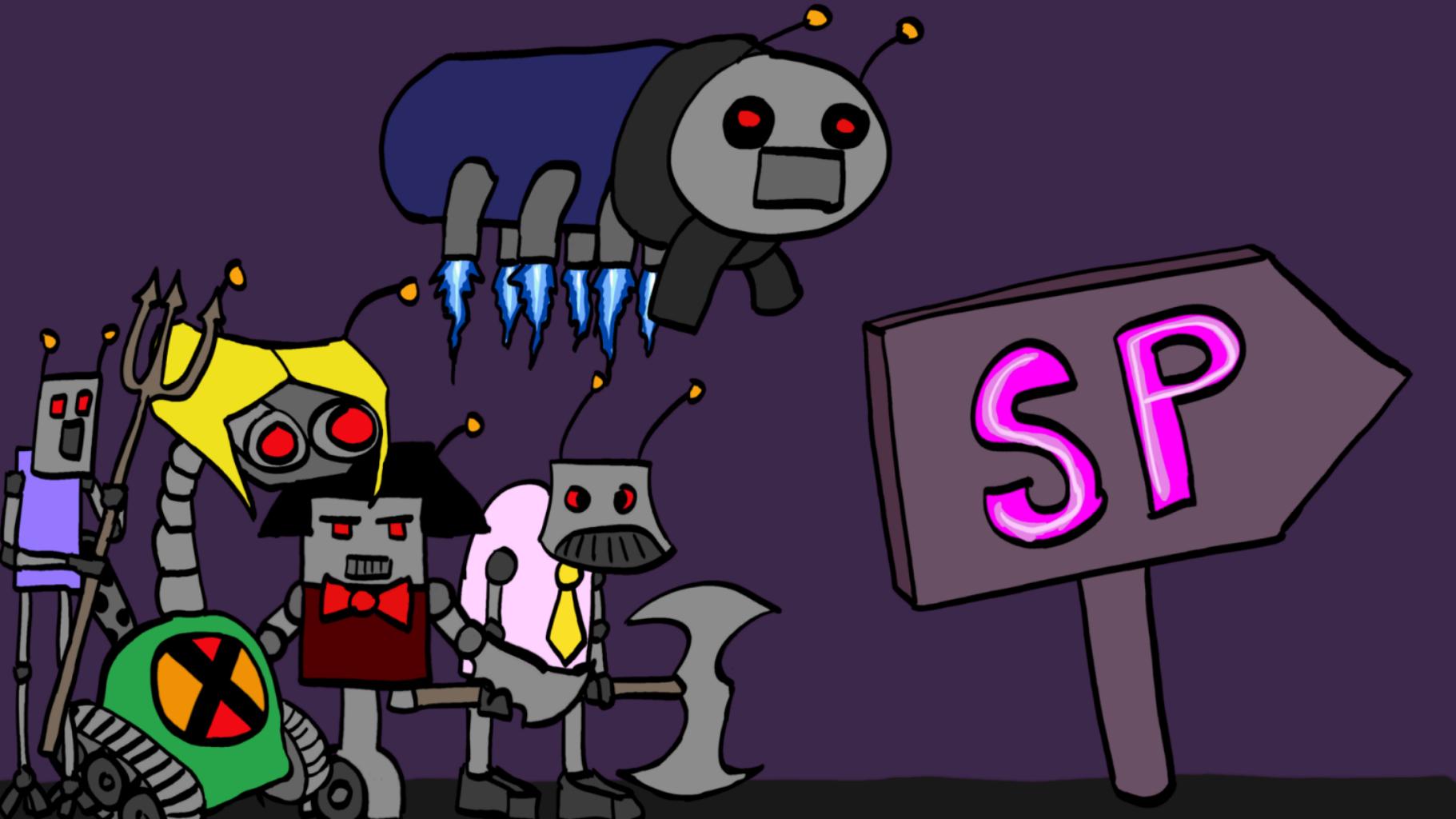
AGILE EFFORT ESTIMATION: HAVE WE SOLVED THE PROBLEM YET? INSIGHTS FROM A REPLICATION STUDY



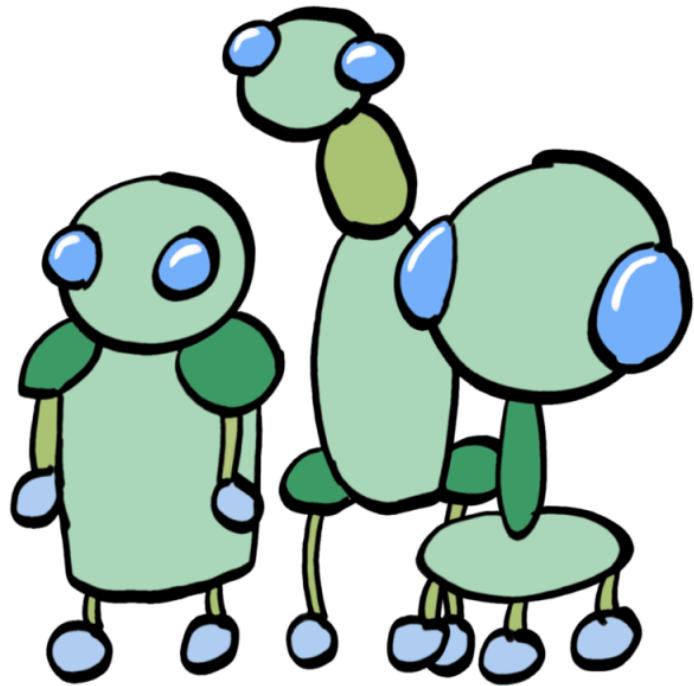
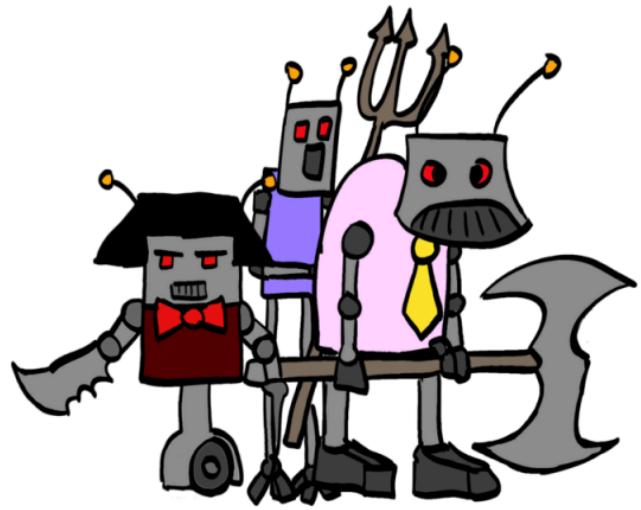
Tawosi, Vali and Moussa, Rebecca and Sarro, Federica

2022 - IEEE Transactions on Software Engineering

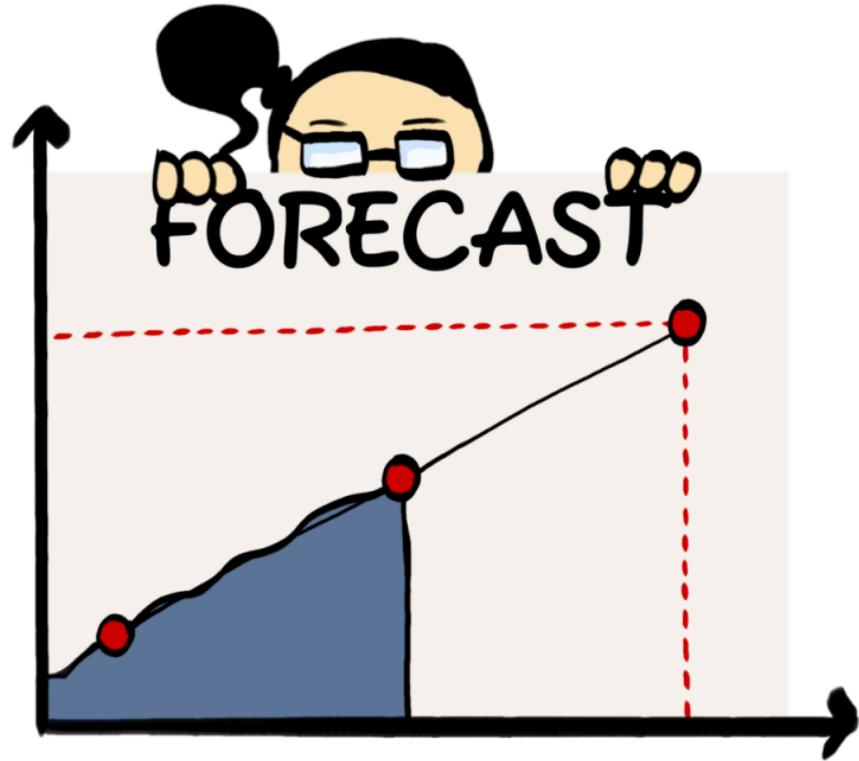
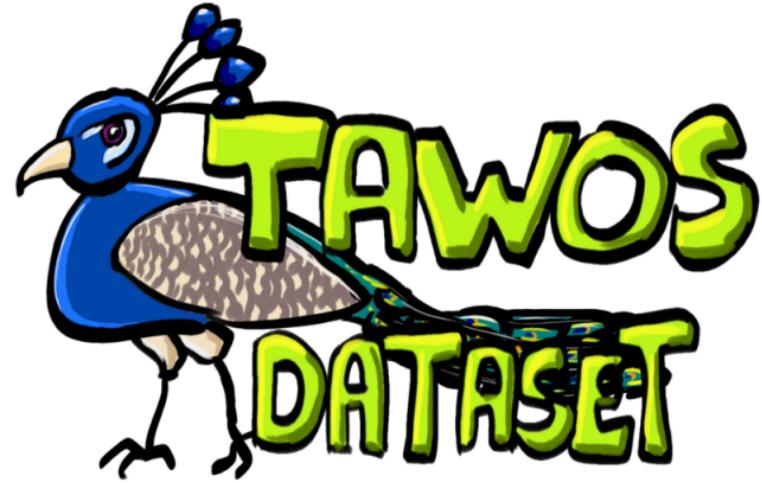




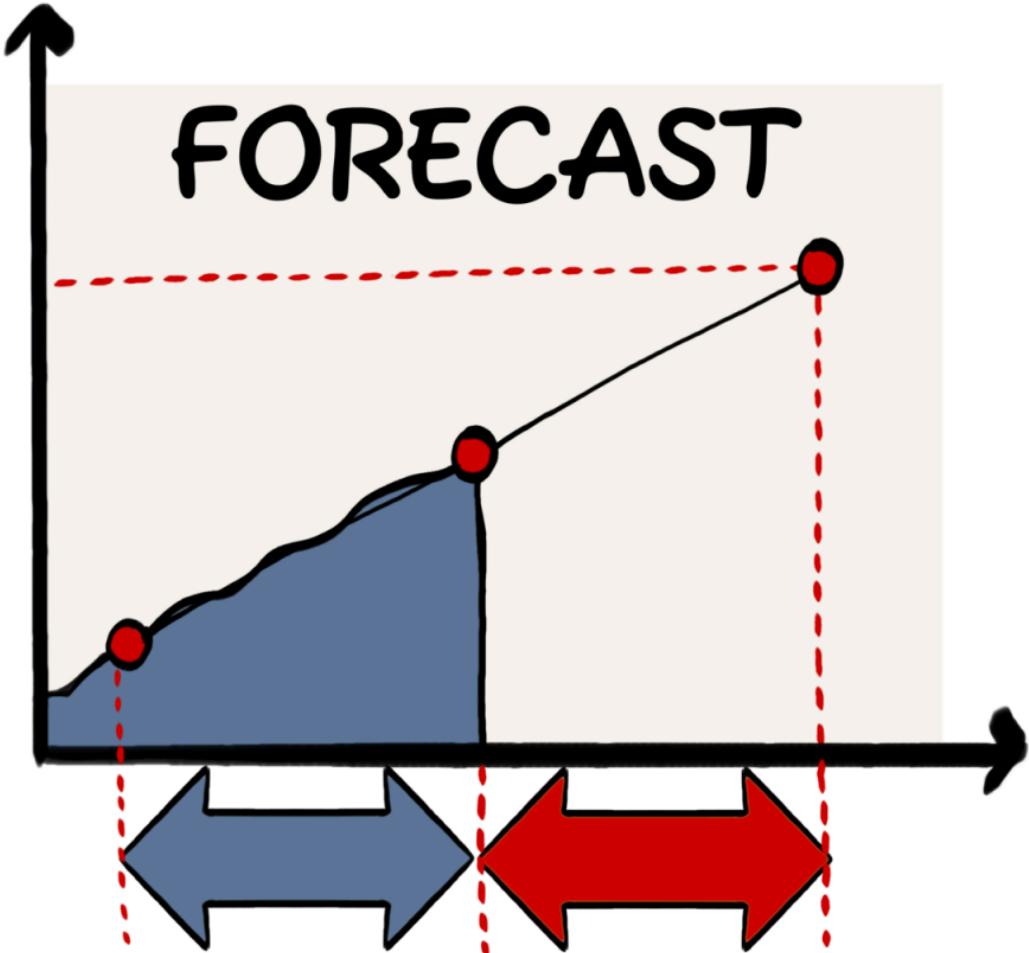
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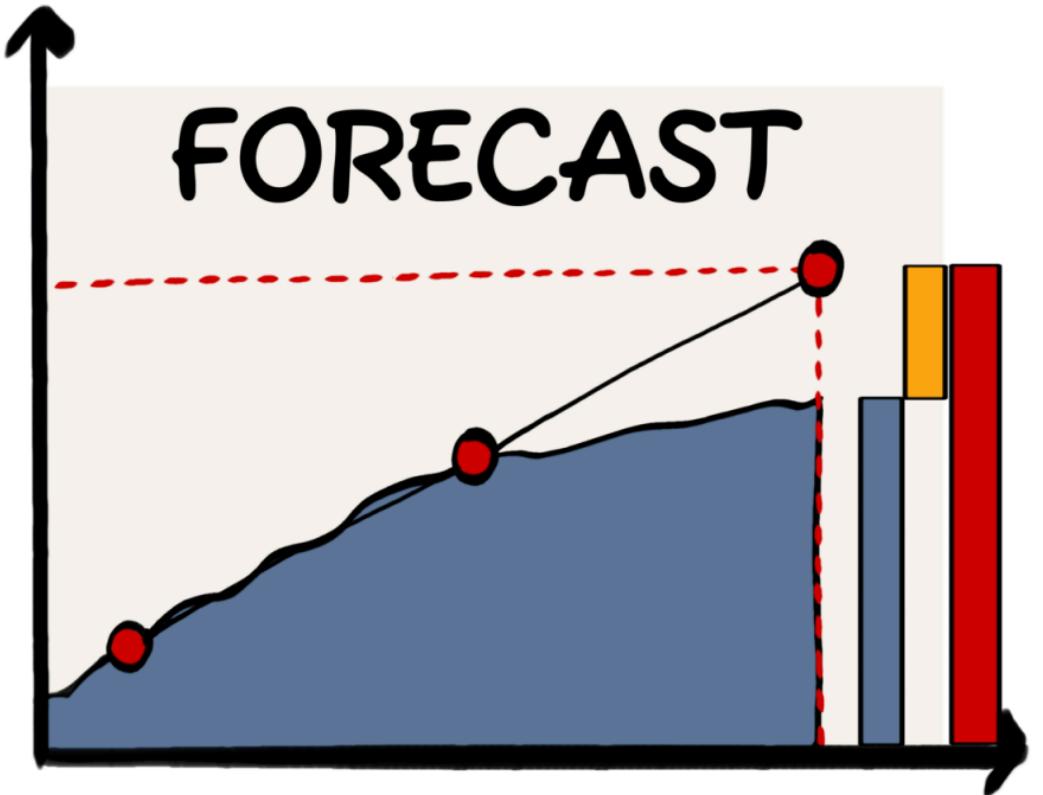


- I CONTEXT
- II STORY POINTS
- III NOESTIMATES TECHNIQUES
- IV WILL AI SAVE US ?
- V IN PRACTICE
- VI
- VII



FORECAST

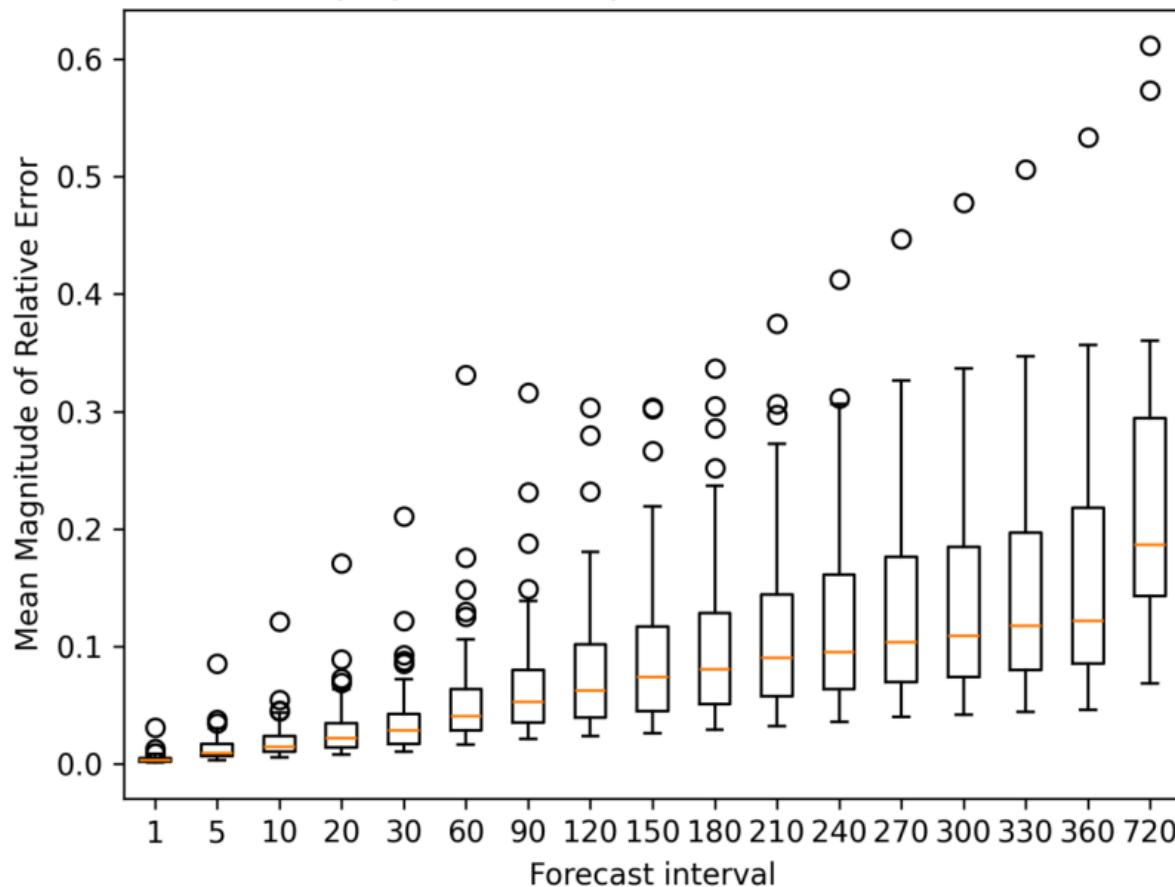




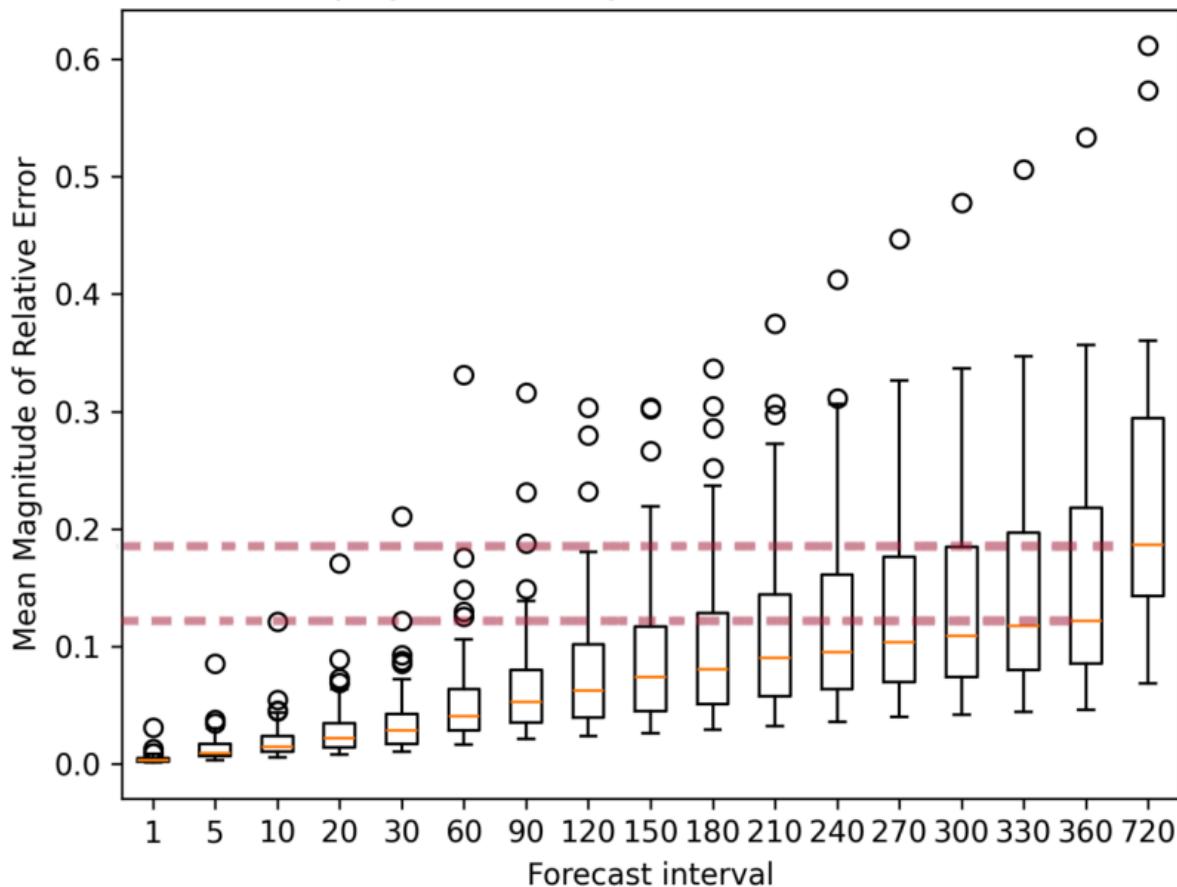
$$MRE = \frac{| \text{Actual} - \text{Forecast} |}{\text{Actual}}$$

MRE: MAGNITUDE OF RELATIVE ERROR

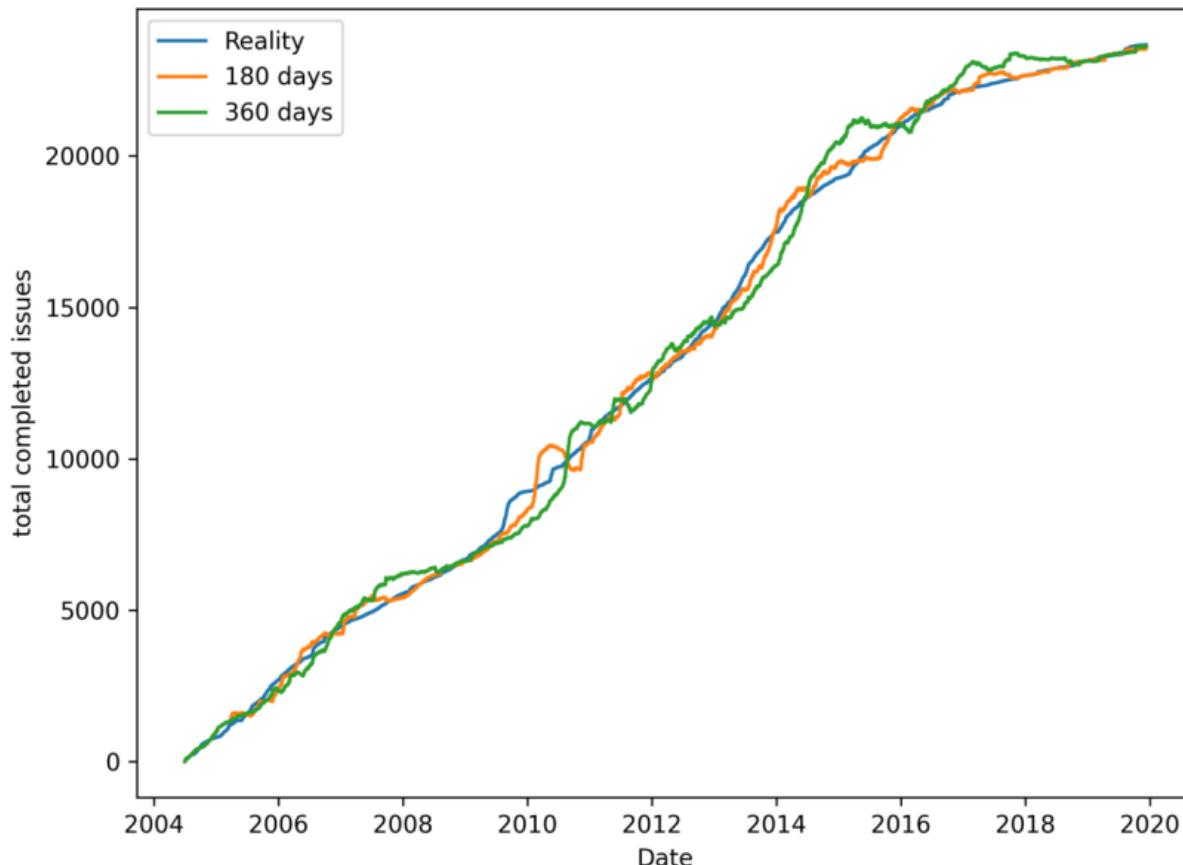
projects MMRE per forecast interval



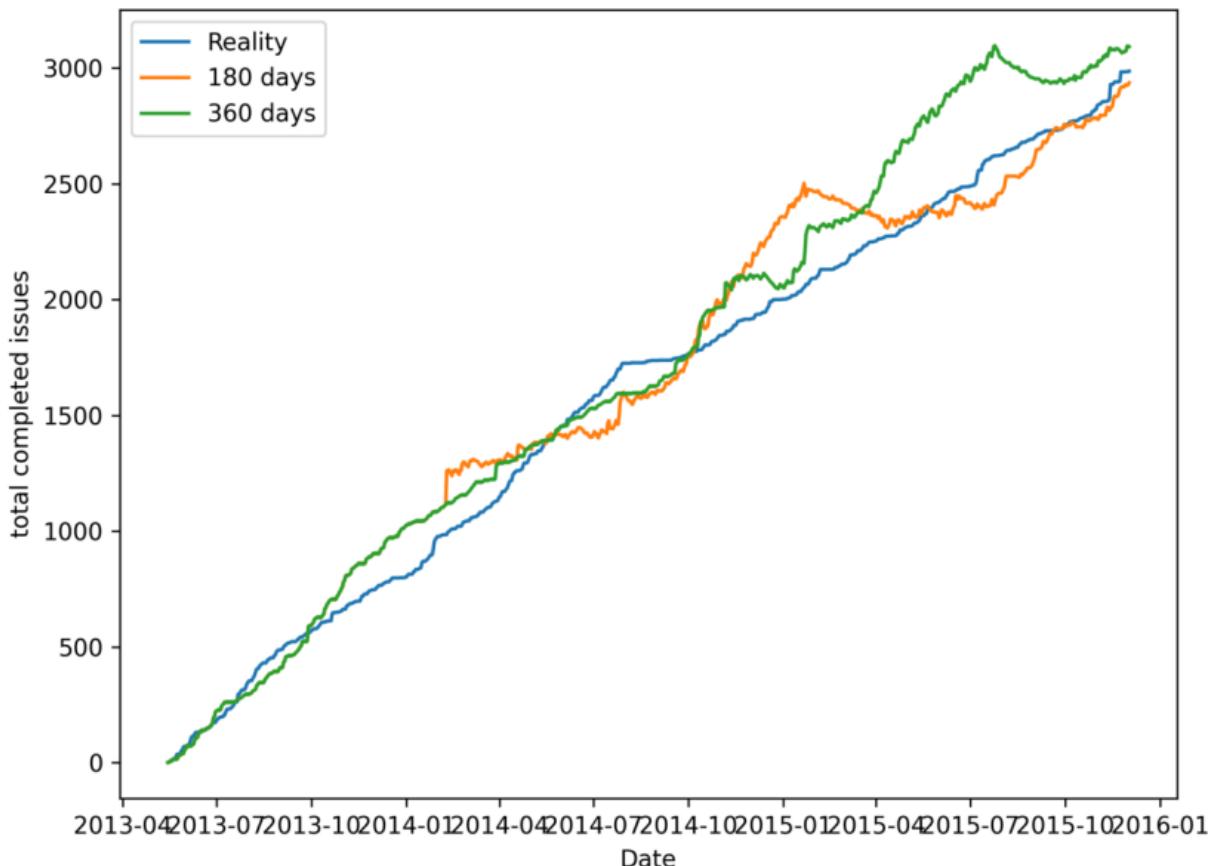
projects MMRE per forecast interval



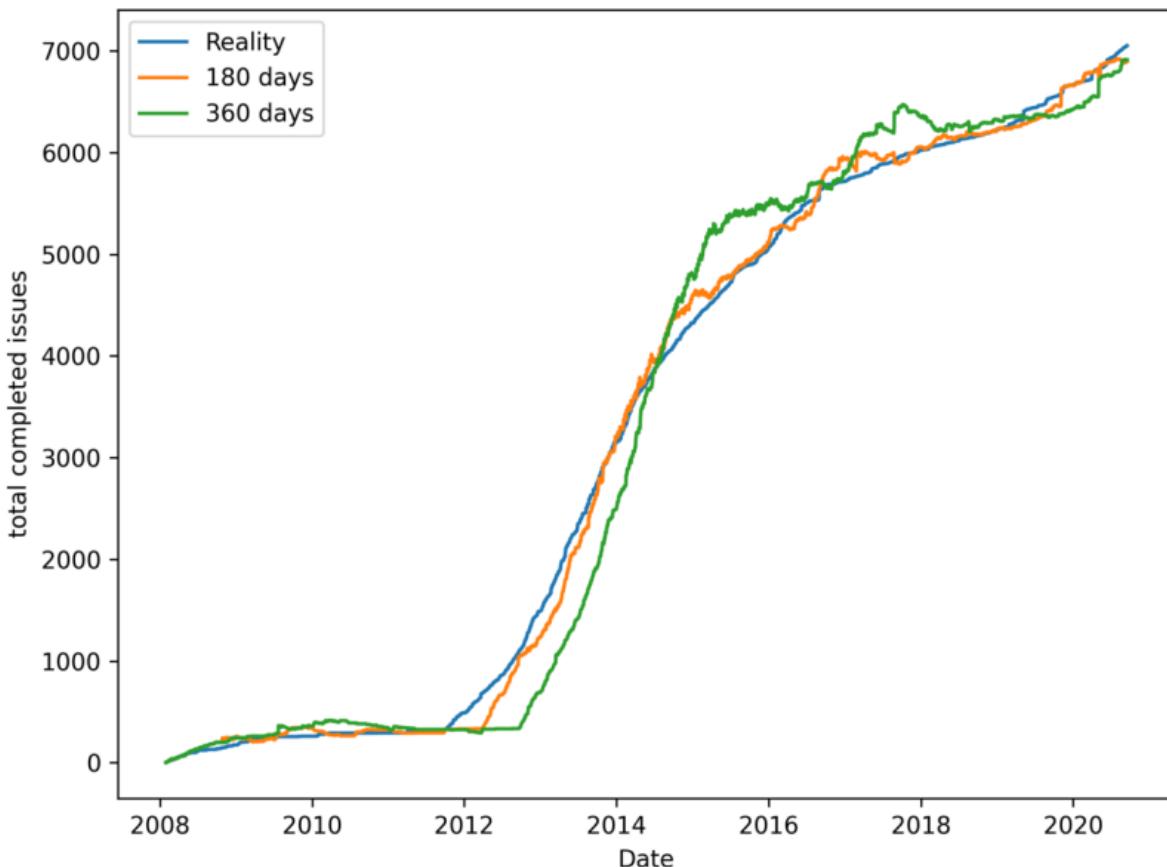
Atlassian Jira Server - cumulated completed task forecasts



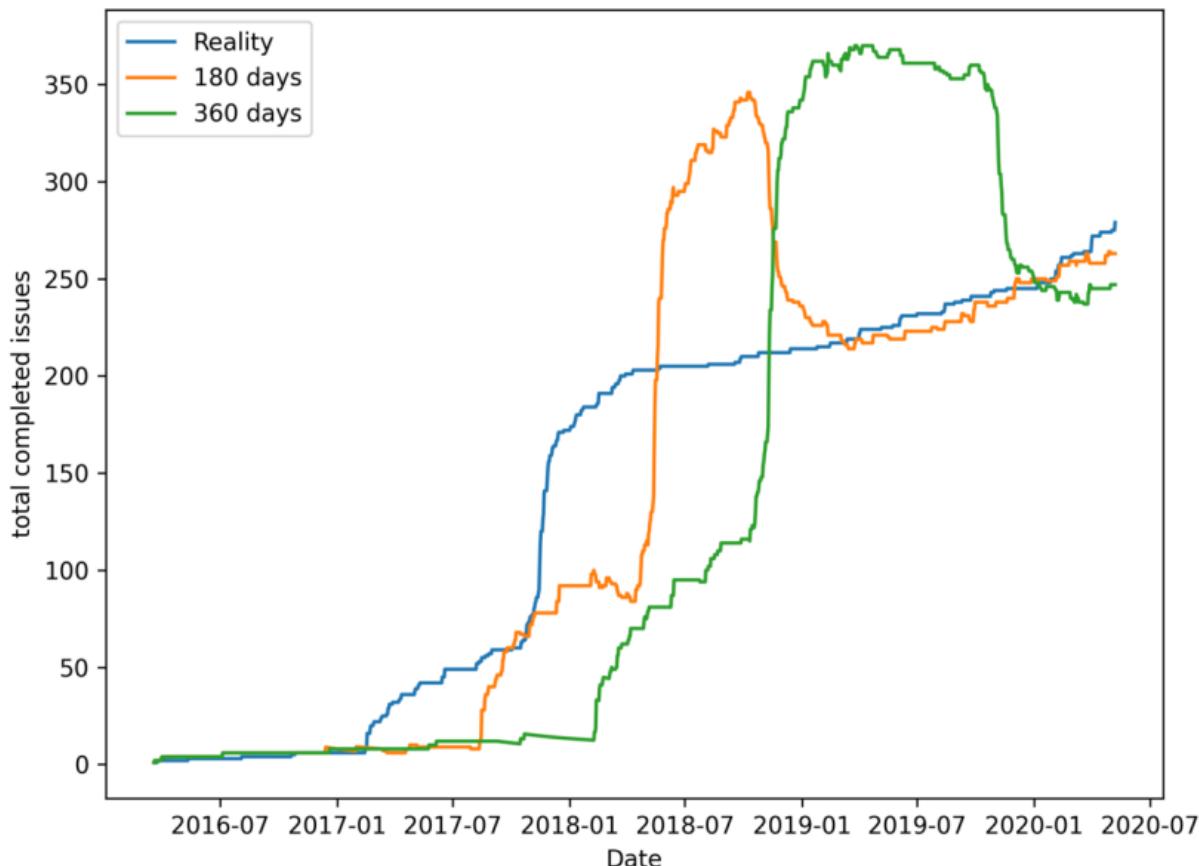
Spring XD - cumulated completed task forecasts



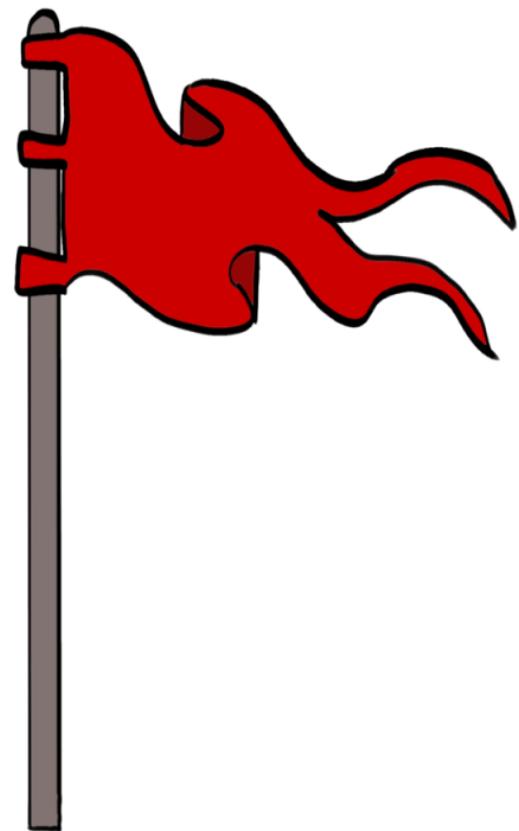
Atlassian Software Cloud - cumulated completed task forecasts

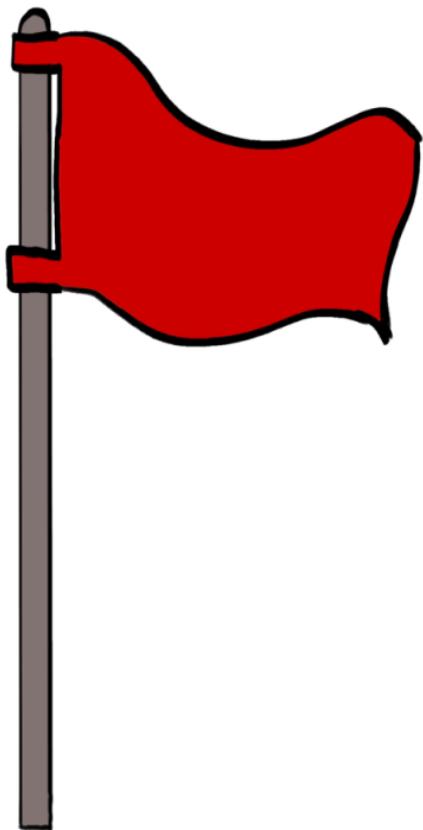


Appcelerator Daemon - cumulated completed task forecasts



- I CONTEXT
- II STORY POINTS
- III NOESTIMATES TECHNIQUES
- IV WILL AI SAVE US ?
- V IN PRACTICE
- VI CONTROL
- VII







DEADLINE



DEADLINE





DEADLINE



DEADLINE

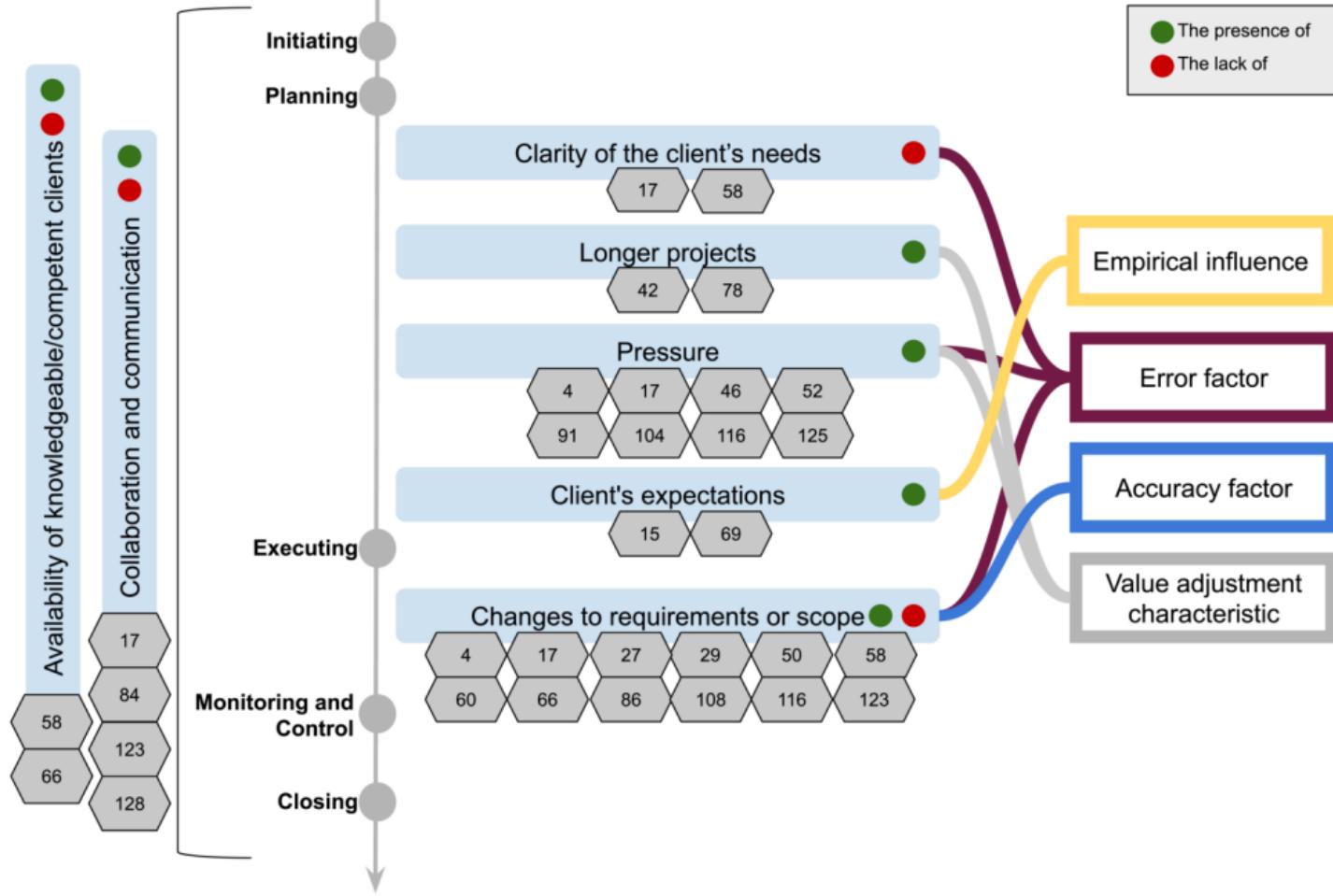


Figure 8 - Factors related to Customer/Client

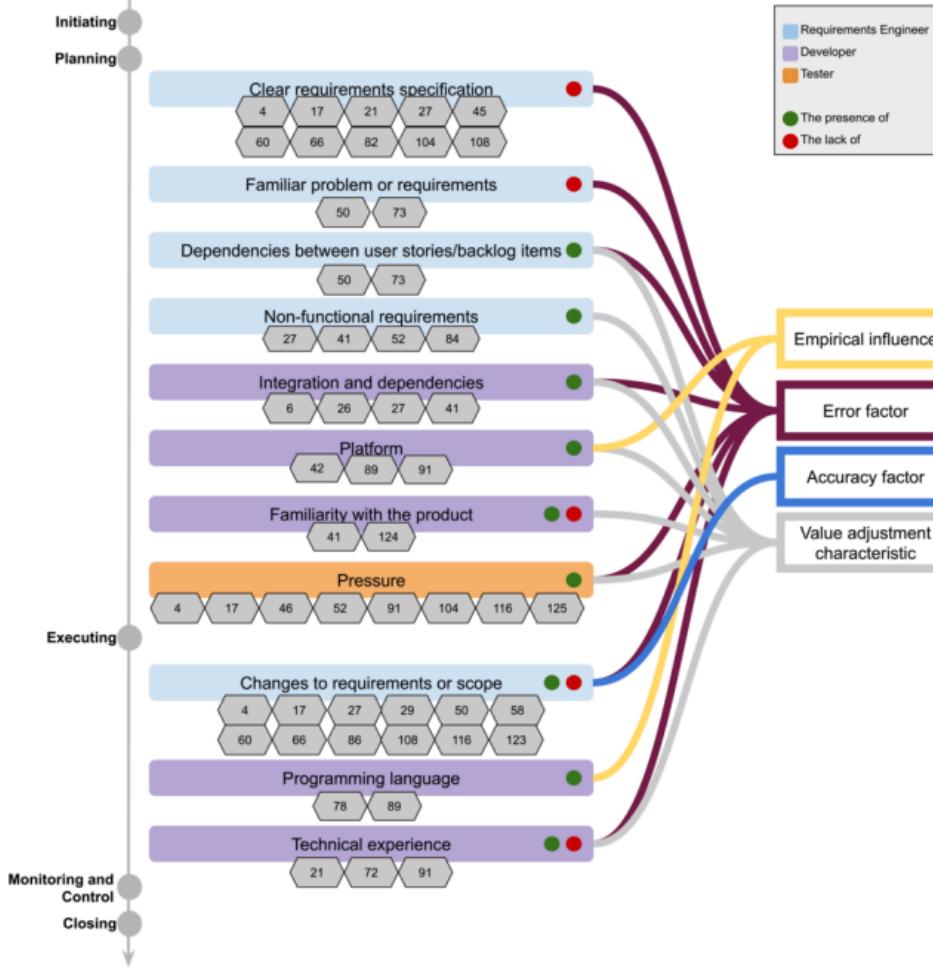


Figure 11 - Factors related to people in technical roles



DEADLINE

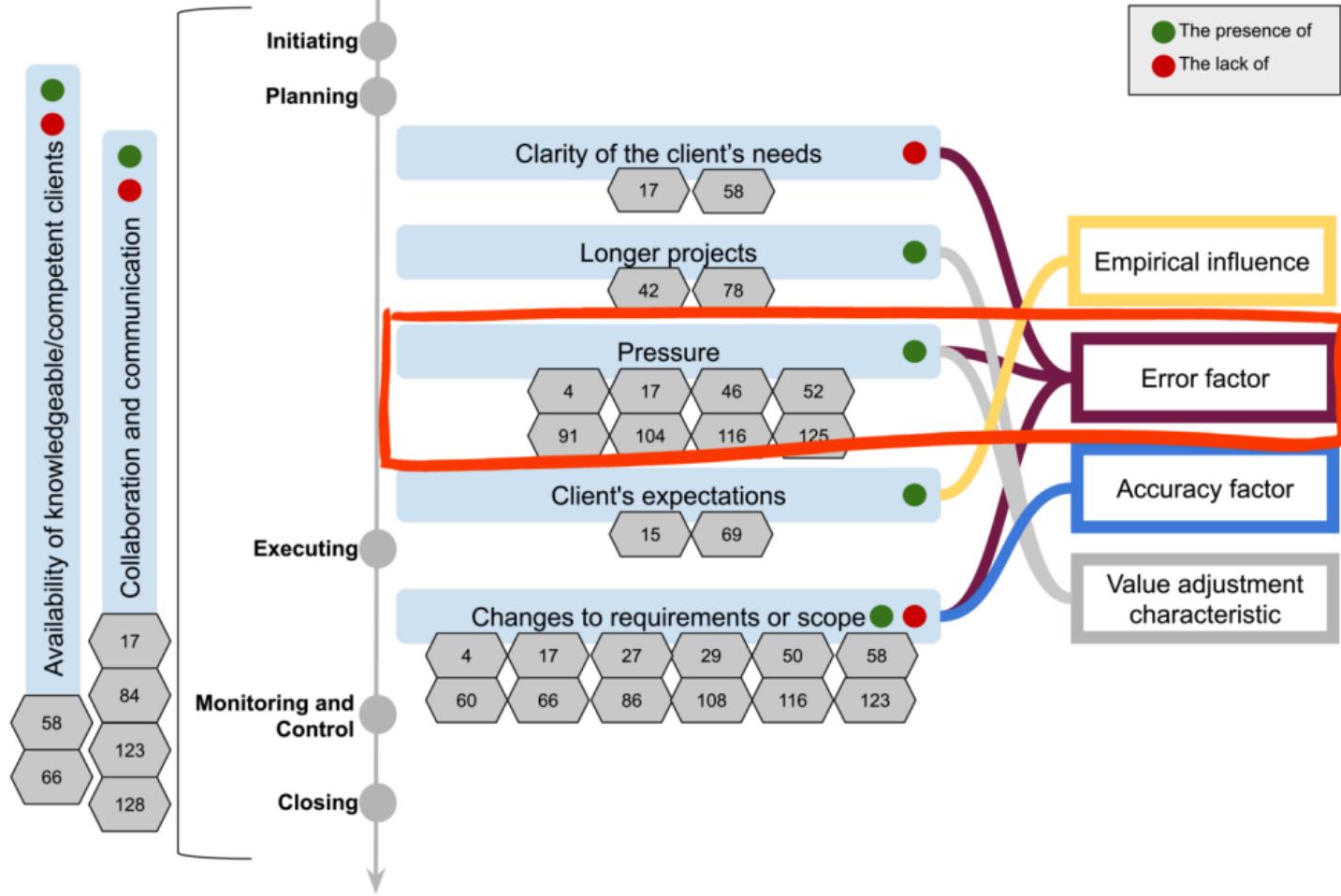


Figure 8 - Factors related to Customer/Client

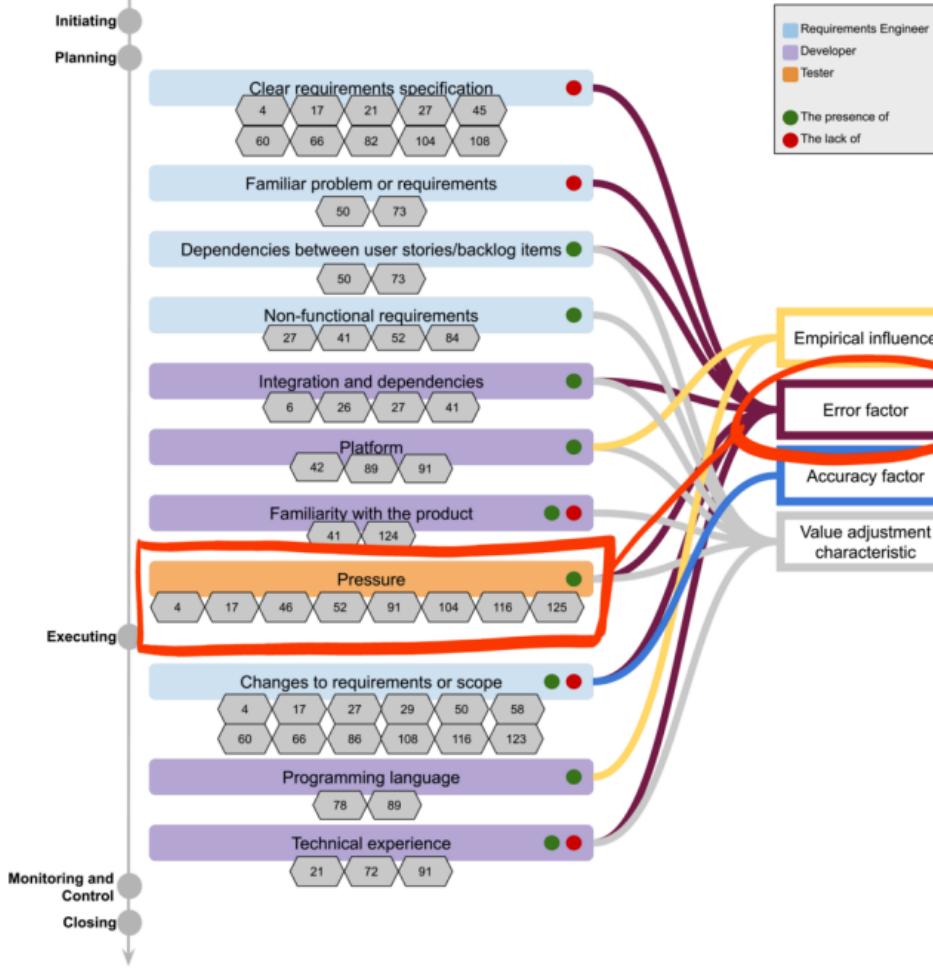
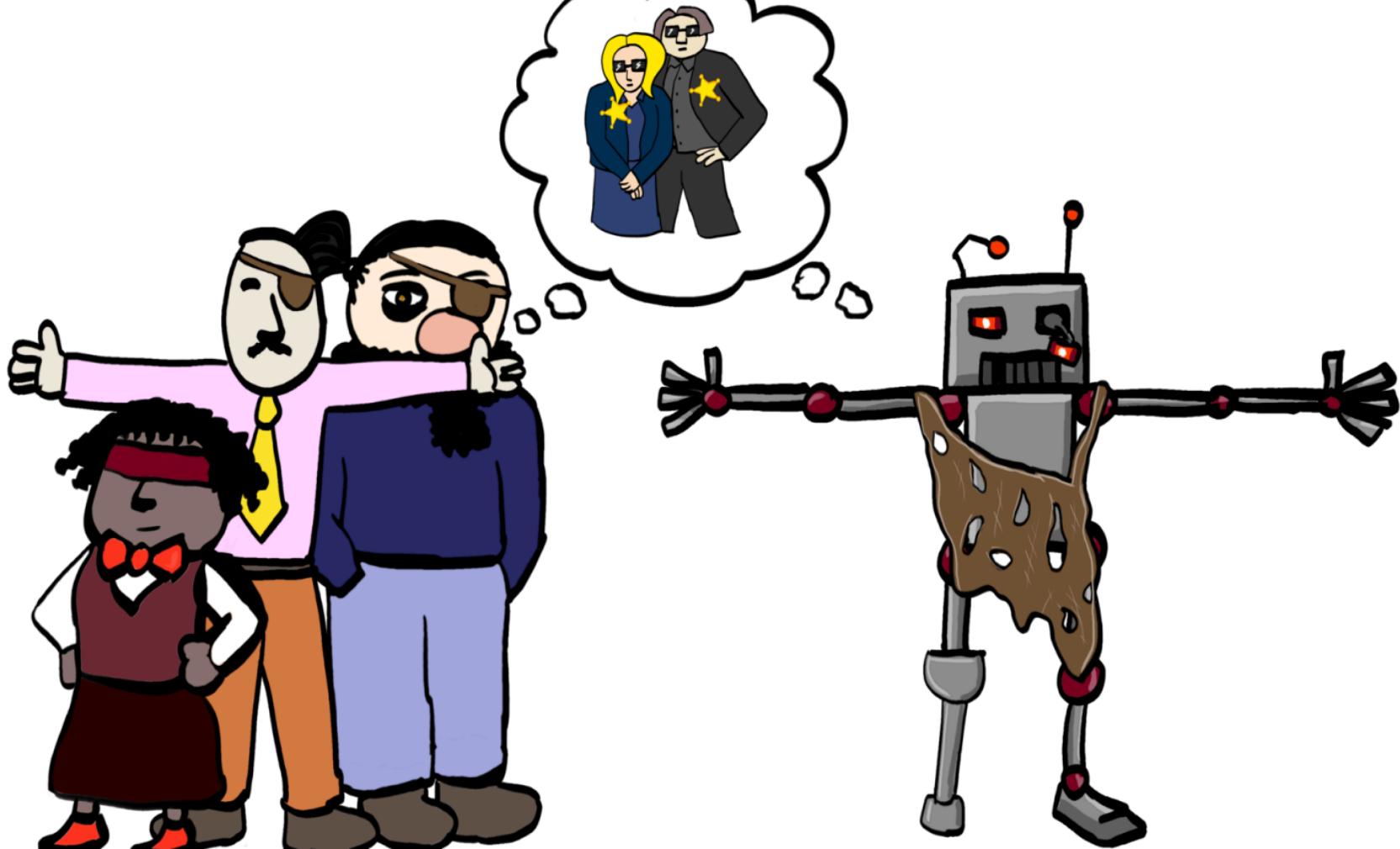
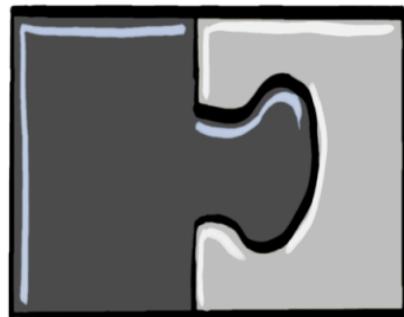
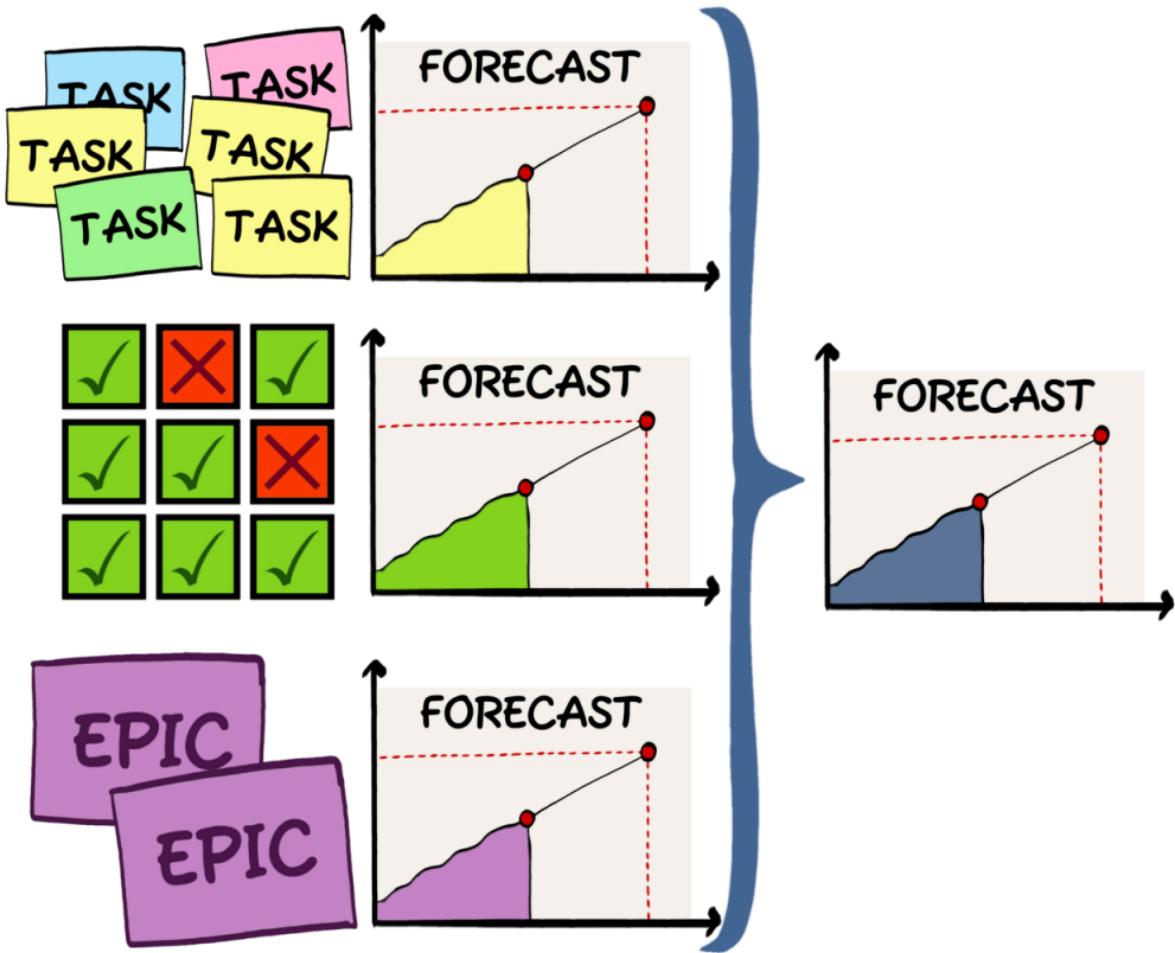


Figure 11 - Factors related to people in technical roles

- I CONTEXT
- II STORY POINTS
- III NOESTIMATES TECHNIQUES
- IV WILL AI SAVE US ?
- V IN PRACTICE
- VI CONTROL
- VII CONCLUSION



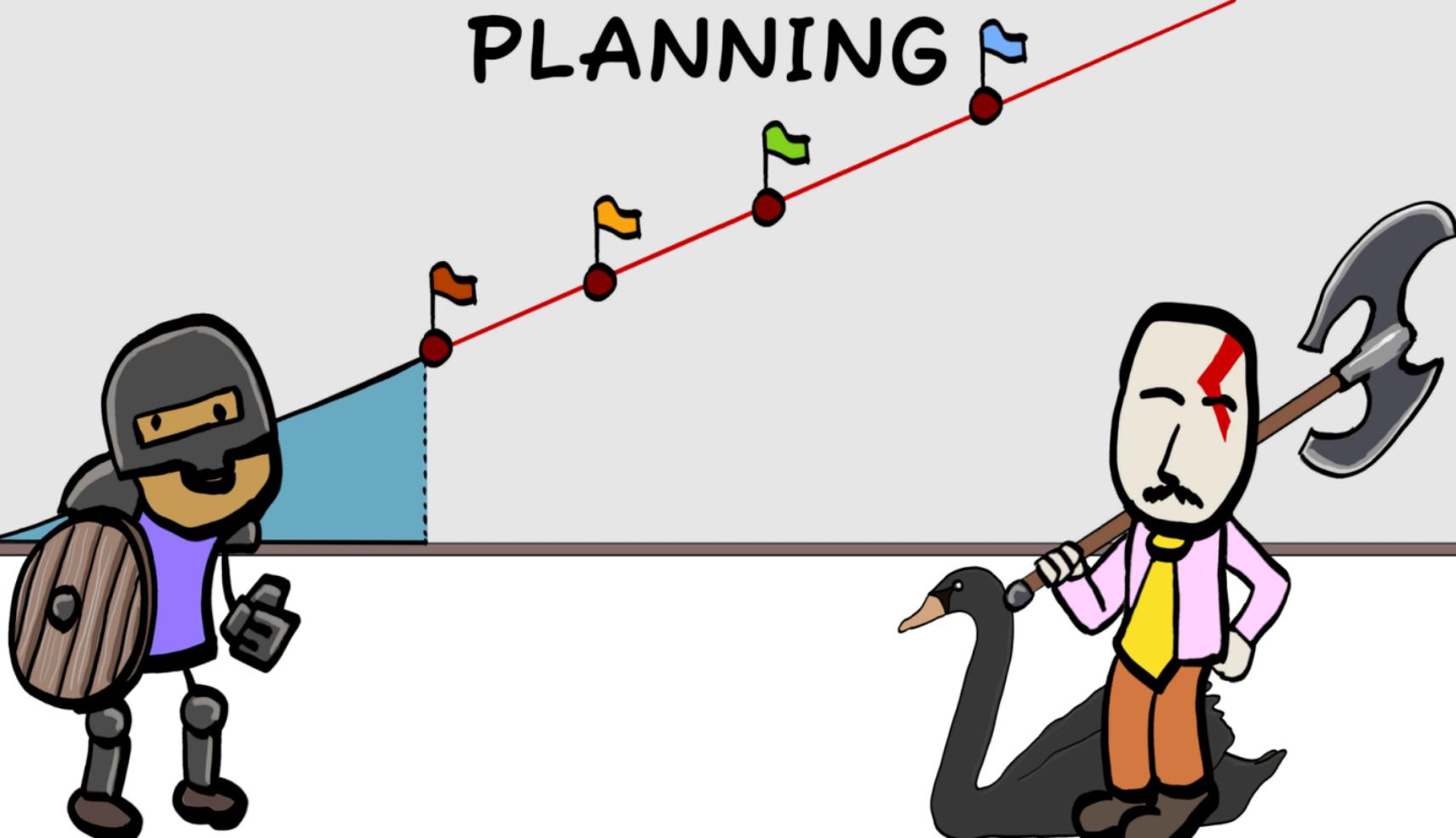




PLANNING



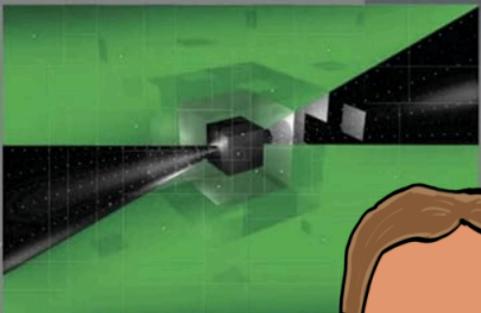
PLANNING



BEST PRACTICES

Microsoft

SOFTWARE ESTIMATION



Demystifying the Black Art

Steve McConnell

Two-time winner of Software D

OIKOSOFY
SERIES



ESTIMATES

How to measure project progress without estimatin

Vasco Duarte





MERCI



AGICAP



Code-Troopers



OVHcloud



APSIDE
TOP



WORLDLINE



Sopra Banking
Software
sopra steria



Gold



POSITIVE TECHNOLOGY



acensi



UT IN TOURS
POLYTECH



MAIF



Bronze



[HTTPS://GITHUB.COM/VLAMBRET/TALKS](https://github.com/vlambret/talks)



@VICTORLAMBERT

