Classical « Maturity Models » are wrong!

Born in the 1970s (along with Waterfall)
Based on Learning curve model from 1919

5

4

3

2
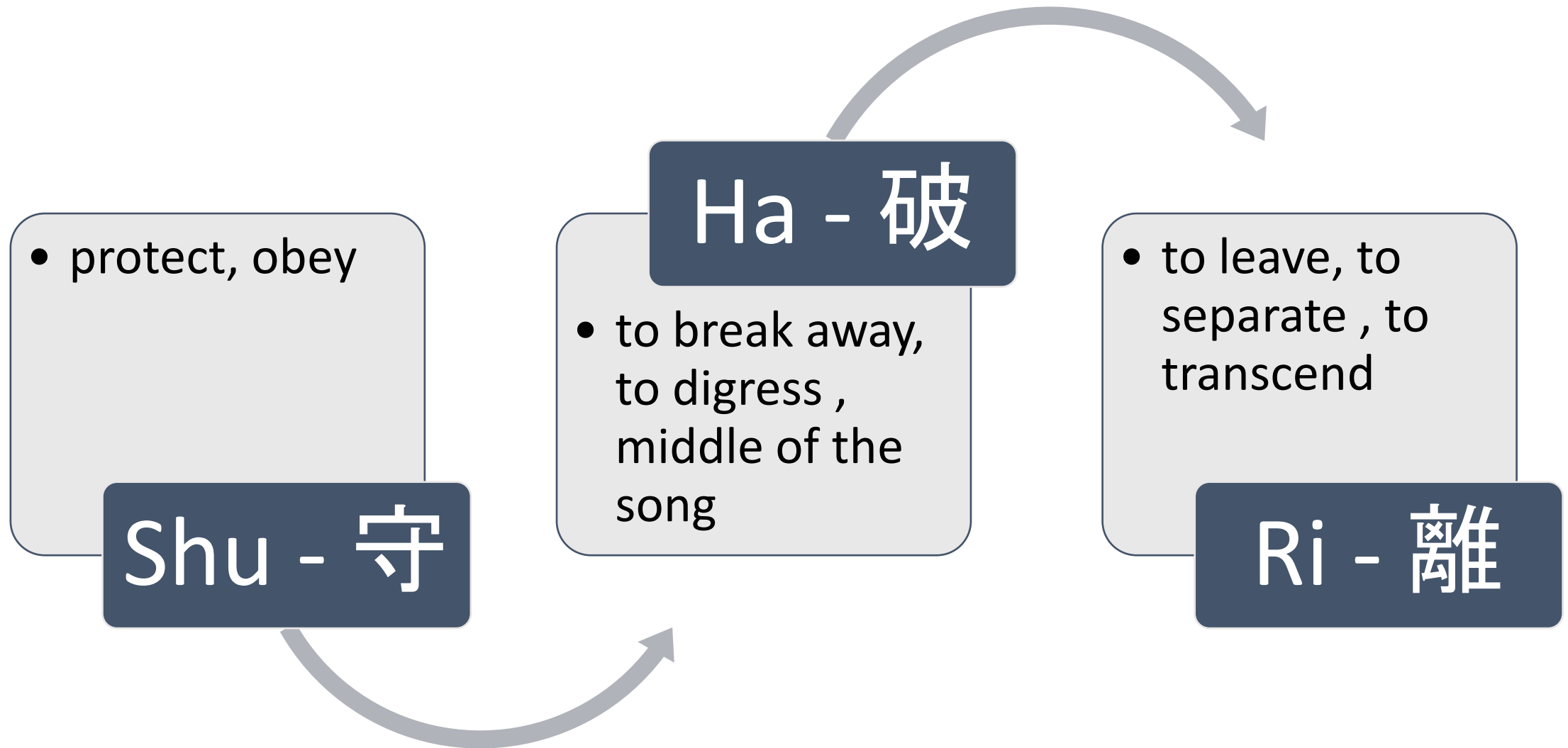
Once level 5 is reached, the real difficulties begin

1
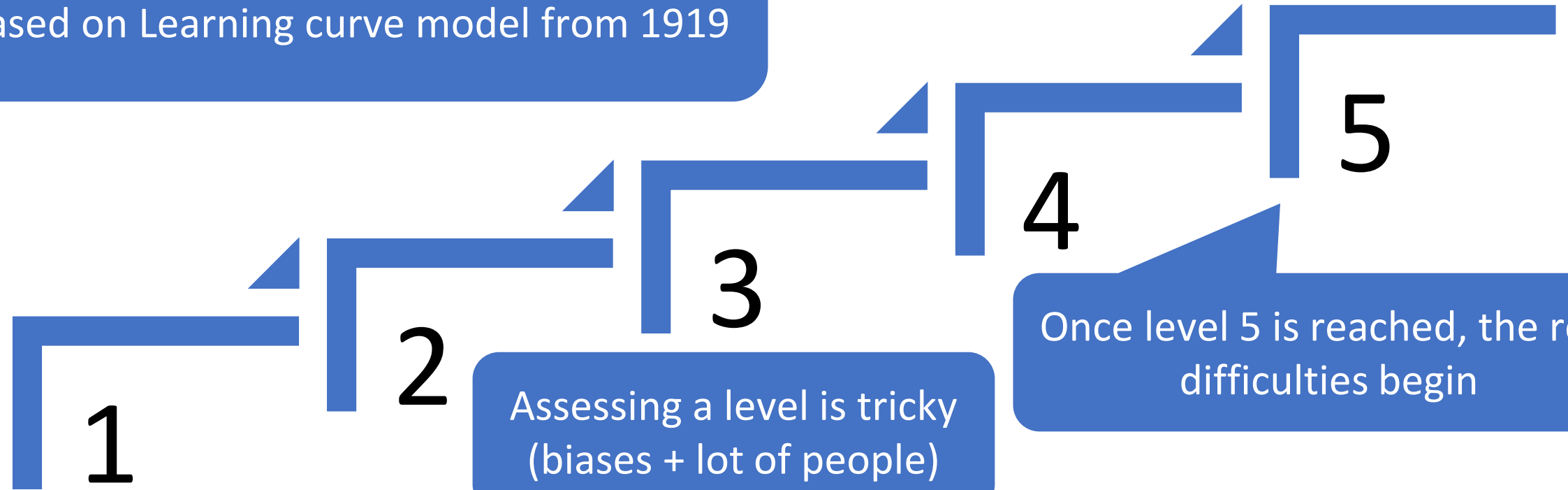
Assessing a level is tricky
(biases + lot of people)

Models are not explained
Require strong experience to make it

s by C. Moustier

(STLS DEC21)

Sol #1: Agile culture: Shuhari (守破離) model

Shu - 守
- protect, obey
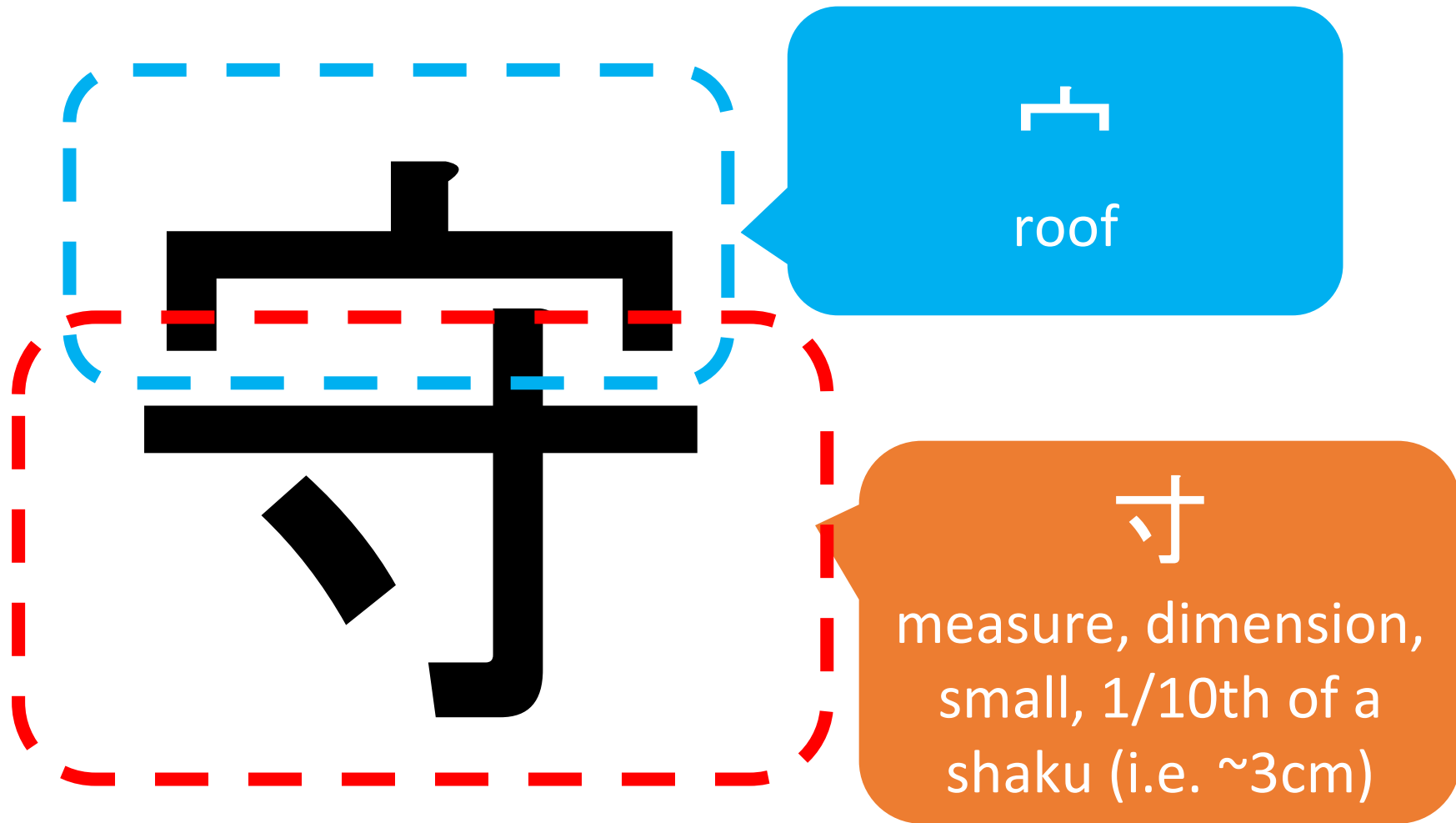
Ha - 破
- to break away, to digress , middle of the song

Ri - 離
- to leave, to separate , to transcend

Shu

roof

寸

measure, dimension, small, 1/10th of a shaku (i.e. ~3cm)

Ri (3)
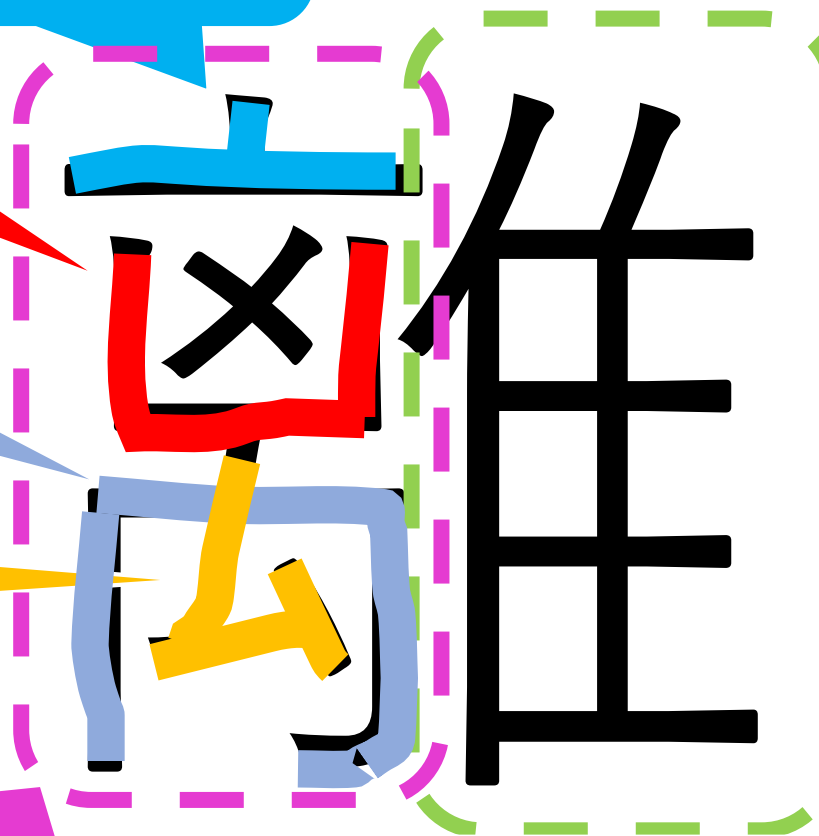
凶 bad luck, disaster

The content under the lid of the box

Agility Maturity Cards by C. Moustier (STLS DEC21)

Sol #2: Catalog with good practices

A description of the problem

Solving Approach

Aids to solve

Means of checking

PRACTICE DESCRIPTION

Proposed tool

5 Categories

State of mind

Planning

Improve

Automated testing

Active testing

Agility Maturity Cards by C. Moustier
(STLS DEC21)

How to use this tool?

1. The Team decide where to put each card
2. PO agrees on "Next iteration"
3. SM challenges " N/A's "
4. The Team works on " Next iteration " + " What is this"

Place for improvement with SHU-HA-RI

Already implemented

3 Amigos
STATE OF...
The refinement of the US and more generally of the Backlog must be done in a workshop with 3 people who plays the role of Tester

Display pipeline status
ACTIVE TESTING
Dashboard on the pipeline for immediate treatment of alerts

Poka-Yoke
ACTIVE TESTING
Immediate alert mechanism that prevents further action in case of error

Next iteration

5S on code
IMPROVE
Support for technical debt on the code

Future

End-to-end testing as soon as possible
ACTIVE TESTING
Use dependencies & collaborative modes

Compatibility tests
ACTIVE TESTING
Interoperability, coexistence with other systems, compatibility with standards, replaceability

Test Harness
AUTOMATED TESTING
Drivers and stoppers accompany the components to make the tests FIRST

Multiple Pipelines
AUTOMATED TESTING
For fast processing of the pipeline at commit, others in // are created to run the slowest and lowest value tests in the background

N/A

Security tests
ACTIVE TESTING
Rights management ; Identification of vulnerabilities, attacks and protections

Automate everything you can
AUTOMATED TESTING
Automation increases reliability and the ability to do more

What is this?

Definition of Done (DoD)
ACTIVE TESTING
Have a definition on a finished US (ready to be deployed)

Feedback from resources, the domain and the business
ACTIVE TESTING
Dashboard on the operation for immediate treatment of alerts

Anomaly handling policy
ACTIVE TE
Identify the actual degrees of processing on the propagation of anomalies and the treatment

Automation of observables
AUTOMATED TESTING
On traceability, means and business

Living Documentation
AUTOMATED TESTING
Documentation is as close as possible to the code to be up to date

Renew the snapshot to evaluate progress

Testability of the Product Backlog

STATE OF MIND

The Product Backlog is understandable to the Customer

POLL

https://www.menti.com/zi6vu7xzpt

The team is responsible for the quality of the product

STATE OF MIND

Not just the testers

POLL

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Design a better system

Rather than trying to break it

STATE OF MIND

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Understand what to test

STATE OF MIND

Rather than checking the functionality

POLL

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Prevent bugs

STATE OF MIND

Rather than seeking its presence

POLL

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Do everything at the same time

STATE OF MIND

Move towards an organisation where everything can be done at the same time rather than phasing the work

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The Manager is a Landscape Gardener

STATE OF MIND

The role of the Manager is to shape the working environment rather than the solution

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Empirical process control

STATE OF MIND

Intention is better than a perfectly described but ineffective process

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Lean approach

Lean concepts are
valuable lessons

STATE OF MIND

POLL

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Continuous progress towards perfection

STATE OF MIND

It is not about having something perfect but rather about striving for that perfection

PanTesting

Combination of Double Learning Loop / Panarchy / Theory of Constraints / Testability practices for agile testing

STATE OF MIND

Focus on the entire solution

STATE OF MIND

Trying to get rid of the unnecessary and constantly optimising

POLL

https://www.menti.com/zi6vu7xzpt

Search for transparency

STATE OF MIND

Testability is constantly being improved

POLL

https://www.menti.com/zi6vu7xzpt

Decentralize decision making

Application of the subsidiary principle

STATE OF MIND

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Work in a cadenced and synchronized way

Pace improves predicti-vity, synchronisation facilitates dependencies

STATE OF MIND

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Adopt an economic view

STATE OF MIND

The organisation must embed the economic dimension in its structure and decisions

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T-Shape

Although they are specialists in their team, they must be able to match the skills of other team members in simple actions

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Example Mapping

STATE OF MIND

The refinement of the US is done in "3 Amigos" mode with post-its to brainstorm on the questions and data examples

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WIP

The amount of work in progress should be as small as possible

STATE OF MIND

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Unlock the intrinsic motivation of employees

STATE OF MIND

Mastery, noble purpose and autonomy

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Variability assumption

STATE OF MIND

Any choice must assume last minute changes

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Community of Practice

Communities exist within the company but outside the organisation to share knowledge and know-how

STATE OF MIND

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More with less

STATE OF MIND

Try to get rid of the unnecessary and constantly optimise by innovating on methods

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Milestones are evaluated objectively

STATE OF MIND

Evaluate the solution at each increment, not the intermediate deliverables

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X-Teams

STATE OF MIND

Teams have a rotating ambassadorial role, going out into the field and must network to facilitate their objectives

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Ubiquitous Language

STATE OF MIND

The domain specific language (DSL) is found in all facets of the solution (the backlog, tests, architecture, code, documentation)

Organize around value

STATE OF MIND

Deliver added value very quickly and eliminate bureaucracy

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Systemic view

STATE OF MIND

Any change needs to incorporate more holistic thinking to ensure the scope and actions required

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3 Amigos

The refinement of the US and more generally of the Backlog must be done in a workshop with a person who plays the role of Tester

STATE OF MIND

Incremental approach

STATE OF MIND

Learning cycles should be short

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Focus the organization on the customer

STATE OF MIND

The choices and means must be linked to the satisfaction of the Customer

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Feature Team

Such a team has no technical barrier to generate the functionality the customer needs

PLANNING

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Panarchy

Modeling the system
with ecocycles to
manage changes

PLANNING

Error Budget

Balance low quality releases with operational circumstances

PLANNING

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Shift Left

Do everything possible at all levels of the organization to try to shift the testing effort upstream of the solution

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Shift Right

Be able to test in production while controlling the impacts

PLANNING

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Theory of constraints

Identify bottlenecks and establish the right strategy for optimal production

PLANNING

Objectives Key Results (OKR)

Very high goals with key results that help us reach the expectations without ever reaching them (otherwise they were too simple)

PLANNING

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Gemba Sessions

PLANNING

Go to the field to see for yourself

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Testing during the sprint

Rather than at the end of the Sprint or after

PLANNING

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US Task force

The team decides that several people work on the same US in order to meet all the DoD criteria in the time of the Sprint

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Mob-Programming

Developers are working in groups on a single worksta-tion: while one is coding, all the others are participating for an early fix

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Dependency management

Dependencies will help testability

PLANNING

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Product ideation in group

PLANNING

Implementing practices like Event Storming, Lean Canvas, 25/10 Crowdsourcing, 1-2-4 All, User Story Mapping

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Pair-Programming

PLANNING

Developers are able to work in pairs on the same workstation: while one is coding, the other is reviewing the code for an early fix

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Definition of Ready (DoR)

PLANNING

A guide on US to optimize their development

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Exploratory testing

A charter defines the exploration session of the application to search for bugs outside the existing test cases

PLANNING

NFR to test

Non-Functional Requirements are part of the US to have a potentially deployable product increment

PLANNING

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MVP/MMF/MMR

Plan a marketable product, a feature and a release as soon as possible for quick feedback

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Testability as soon as possible

Technical and social testability must be introduced as soon as possible

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ATDD

Generation of specifications by example that are executable

AUTOMATED TESTING

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TDD

AUTOMATED TESTING

Development of unit tests before the code following the RED/GREEN/REFACTOR phases

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Automation of observables

On traceability, means and business

AUTOMATED TESTING

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Living Documentation

Documentation is as close as possible to the code to be up to date

AUTOMATED TESTING

POLL

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Automate everything you can

AUTOMATED TESTING

Automation increases reliability and the ability to do more

POLL

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Test Harness

Drivers and stoppers accompany the components to make the tests FIRST

AUTOMATED TESTING

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Multiple Pipelines

AUTOMATED TESTING

For fast processing of the pipeline at commit, others in // are created to run the slowest and lowest value tests in the background

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FIRST Testing

Fast / Isolated /
Repeatable /
Self-validating / Timely

AUTOMATED TESTING

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Automated Testing
Ice cream cone

Automation concerns
unit tests more than
system tests

AUTOMATED TESTING

Merging the development / test automation ecocycles

AUTOMATED TESTING

The more remote the activities, the less agile we are

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Dark Launch

The new code is deployed in production without impacting the current operation

ACTIVE TESTING

Agility Maturity Cards by C. Moustier
(STLS DEC21)

Canary Releasing

New code is deployed in production and activated only for certain test clients

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End-to-end testing as soon as possible

Use dependencies & collaborative modes

ACTIVE TESTING

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Poka-Yoke

Immediate alert mechanism that prevents further action in case of error

ACTIVE TESTING

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Display pipeline status

Dashboard on the pipeline for immediate treatment of alerts

ACTIVE TESTING

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Feedback from resources, the domain and the business

Dashboard on the operation for immediate treatment of alerts

ACTIVE TESTING

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Anomaly handling policy

Identify the actual degrees of processing on the propagation of anomalies and their treatment

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Definition of Done (DoD)

Have a definition on a finished US (ready to be deployed)

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Compatibility tests

ACTIVE TESTING

Interoperability, coexistence
with other systems,
compatibility with standards,
replaceability

POLL

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Security tests

Rights management ;
Identification of
vulnerabilities, attacks
and protections

ACTIVE TESTING

POLL

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Operability tests

Are the solution and its artifacts sufficient for proper operation?

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Reliability testing

Fault tolerance of the solution

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Transferability tests

Portability, adaptability, installability, compatibility

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Voluntary disruption of the system

Increase system resilience - e.g. Chaos Monkey at Netflix

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Multiply the types of tests on the solution

Combine contexts for better testing

ACTIVE TESTING

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Andon

ACTIVE TESTING

In the event of an identified error, immediate correction is required with an escalation that mobilizes the organization if this is not sufficient

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Monitoring of the solution

Alerts to mobilize immediate
human action / Tickets for
deferred processing / Logs
for information

ACTIVE TESTING

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Maintainability testing

Reusability, modularity, stability, testability, ...

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Performance tests

ACTIVE TESTING

Reaction time depending on the load, behavior in case of overload

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Gamification of the Retrospective

IMPROVE

The retrospective changes format regularly to maintain vigilance on continuous improvement

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Retrospective

Each team conducts its retrospective and what concerns the organization is escalated

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Niko-Niko calendar

We measure the sustainability and motivation of the teams

IMPROVE

Improvement of the First Pass Yield (FPY)

The organization improves its ability to get it right the first time

IMPROVE

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5S on the Backlog

IMPROVE

Support for technical debt on Product Backlog items

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5S on test cases

Support for technical debt on test scenarios

IMPROVE

POLL

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5S on documentation

Support for technical debt on documentation

IMPROVE

POLL

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Jidoka on the pipeline

Ability of the pipeline to be autonomous in error recovery

IMPROVE

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Yokoten

The team organizes itself to spread what it has learned throughout the organization

IMPROVE

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5S on code

Support for technical debt on the code

IMPROVE

POLL

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Kaizen

IMPROVE

Continuous improvement is first and foremost a mindset for innovation
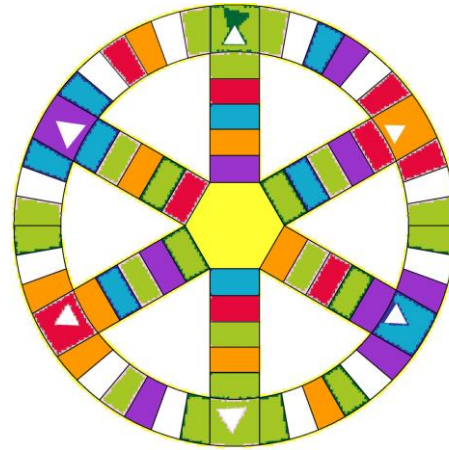
POLL

https://www.menti.com/zi6vu7xzpt

Alternatives

- Limit assessment to a subset

- Lean Coffee

- Agile Pursuit

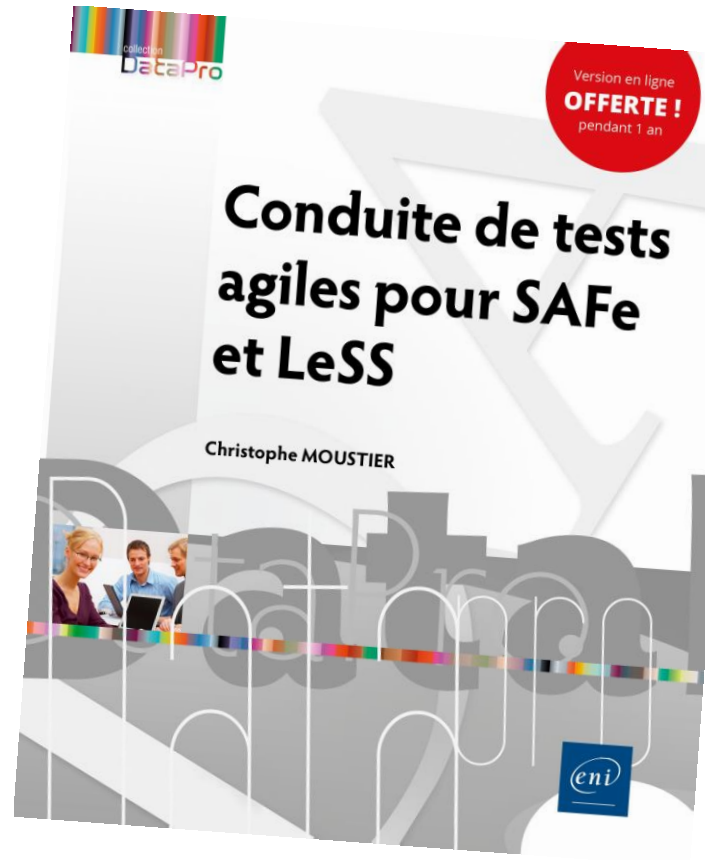- Learning practices and connected knowledge

Klaxoon

To go further

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- **[Rayaprolu 2020]** : Pavan Rayaprolu - « Practical Approach for Improving Agile Testing Maturity » - MAI/2020 - https://www.cigniti.com/blog/practical-approach-for-improving-agile-testing-maturity/ & https://www.cigniti.com/blog/practical-approach-for-improving-agile-testing-maturity-part-2/

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- **SHU-HA-RI:** https://jisho.org/search/%E5%AE%88%E7%A0%B4%E9%9B%A2

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(STLS DEC21)