

Mesurer la qualité

Cours LPSIL
2013

Questions ?

Agenda

- ▶ Measure What ?
- ▶ When
- ▶ How
- ▶ Why
- ▶ Conclusion

Agenda

- ▶ Measure What ?
 - Product quality
 - Process quality
 - People
 - Organization
- ▶ When
- ▶ How
- ▶ Why
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Measure What ?

- ▶ Product
- ▶ Processes
- ▶ People
- ▶ Organization

Product quality

- ▶ A product has been released, what could you measure?

Released Product quality

- ▶ Customer satisfaction
 - Eg: surveys
- ▶ Support tickets
 - Defects
 - Wishes
 - Procedure issues / lack of documentation
- ▶ Warrantee claims

Released Product quality

- ▶ Formal complaints / escalations
- ▶ Contractual breaches
 - Monetary losses
 - Litigation

Released Product quality

- ▶ Market penetration
 - Market share
 - Press reviews
 - Analysts

Product under development quality

- ▶ Defect count
 - Incoming rate
 - Take down rate
 - Shape of the curve

Product under development quality

- ▶ Other defect indicators
 - Time to resolve
 - Resolved to closed
 - # of reopen
 - ...

Product under development quality

- ▶ Benchmarking
 - Performance
- ▶ Test coverage
 - See dedicated class

Measure What ?

- ▶ Product
- ▶ Processes
- ▶ People
- ▶ Organization

Measure What – Processes

- ▶ Developing a product is done through a series of processes
- ▶ Each of these process' parameters can be measured to assess process efficiency
- ▶ -> effective vs efficient

Measure What – People

- ▶ Empowerment
- ▶ Skills
- ▶ Management commitment

Measure What – Organization

- ▶ Policies
- ▶ Bureaucracy overhead

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When

- ▶ As early as possible
- ▶ Continuously
- ▶ Reassess need for measurement
 - -> measuring costs !

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How – Concepts

- ▶ Quality vs grade
- ▶ Precision vs accuracy

How – Metrics – Types

- ▶ Measurement
- ▶ KPI (Key Performance Indicator)
- ▶ Model

How – Metrics – Examples

- ▶ Consumability
- ▶ Usability
- ▶ MTBF
- ▶ MTTR
- ▶ Safety / Environment
- ▶ ...

How – Tooling

- ▶ Control Charts
- ▶ Benchmarking
- ▶ Statistical sampling
- ▶ Process flowcharts
- ▶ Quality methodologies

How – Standards

- ▶ ISO 9001
- ▶ ISO 9004
- ▶ Per industry

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Why – product quality

- ▶ Fitness for use
- ▶ Fitness for purpose
- ▶ Customer satisfaction
- ▶ Adherence to requirements

Why – process quality

- ▶ Cost control
- ▶ Process improvement

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Conclusion

- ▶ **Measurements**
 - serve a purpose
 - cost – sometimes a lot
 - are needed for
 - product quality
 - process improvements
 - repeatability

Questions ?



Next sessions

- ▶ **Nov 13th: Latest deadline for submission**
- ▶ **Nov 20th: homework presentation, 10 min per team**