

# What is 'Quality'?

## Why does quality matter?

- Customer confidence
- Bugs are cheaper to fix earlier
- Financial/business success
- Can save lives

## Well-tested

- How might you define this?
- Coverage measurements
- Code reviews
- Development process (e.g. TDD)
- Business understanding (e.g. BDD)
- Supported by automation

## Non-functional properties of the software

- Maintainability
- Use of SOLID principles
  - Single responsibility
  - Open-closed
  - Liskov substitution
  - Interface segregation
  - Dependency inversion
- Performant
- Resilience/Recovery
- Efficient
- Size (e.g. of codebase)

## Better than the competition

- Competitive Analysis
- Market Research
- Metrics

## Jerry Weinberg: Value to some person

- ...that matters (Kaner)
- What is value?
- Who are your people (know your audience)
  - User personas
  - User studies (wireframes, walkthroughs)
- Different people will have differing values = subjective
- "Fit for purpose"
- People's needs change; if it provides value today, it might not tomorrow!

## Compliance with requirements

- ...but a product could meet all requirements and still have poor quality
- ...or product with 'bugs' could still be judged a 'quality' product (Pokemon Go)

## How to measure/visualise quality?

- ...It starts with testing!
- ISO definition
  - Application Architecture Practices
  - Coding Practices
  - Complexity
  - Documentation
  - Portability
  - Technical and Functional Volumes

## Number of bugs

- You can't know the total number of bugs
- An untested or poorly-tested product may have few (known) bugs...

## Managing risk

- Organisation's appetite for risk
- What's the worst that could happen?
- What's the likelihood of it happening?
- Reputational impact?

## "Quality Assurance"

- Can you assure quality?
- ..."Quality Reassurance"
- "Quality Assistance" (Atlassian)

## Kitchenham & Pfleeger

- Transcendental/Metaphysical - "I know it when I see it"
- User Perspective (appropriate for needs)
- Manufacturing Perspective (conforms to requirements)
- Product Perspective (measure the inherent characteristics)
- Value-based (perspective of stakeholders)