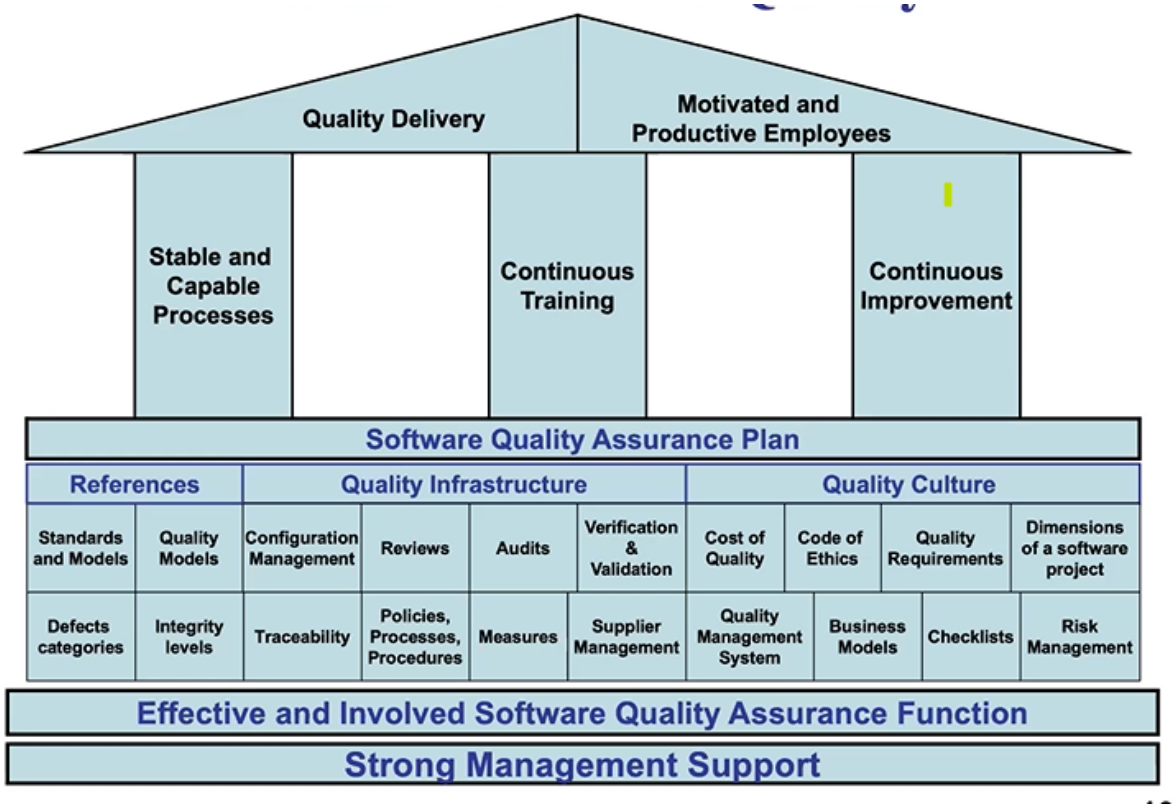
Notes

Intro

- Software = debugged + partially tested code with documentation
- Problems with defect injections + detection approach
  - MY GUESS = defect system is limited by the performance of the detection system
  - REAL ANSWER = early defects are detected late, mostly during test activities since relying only on tests == hardly detects * defects

Wide spectrum of SQA practices

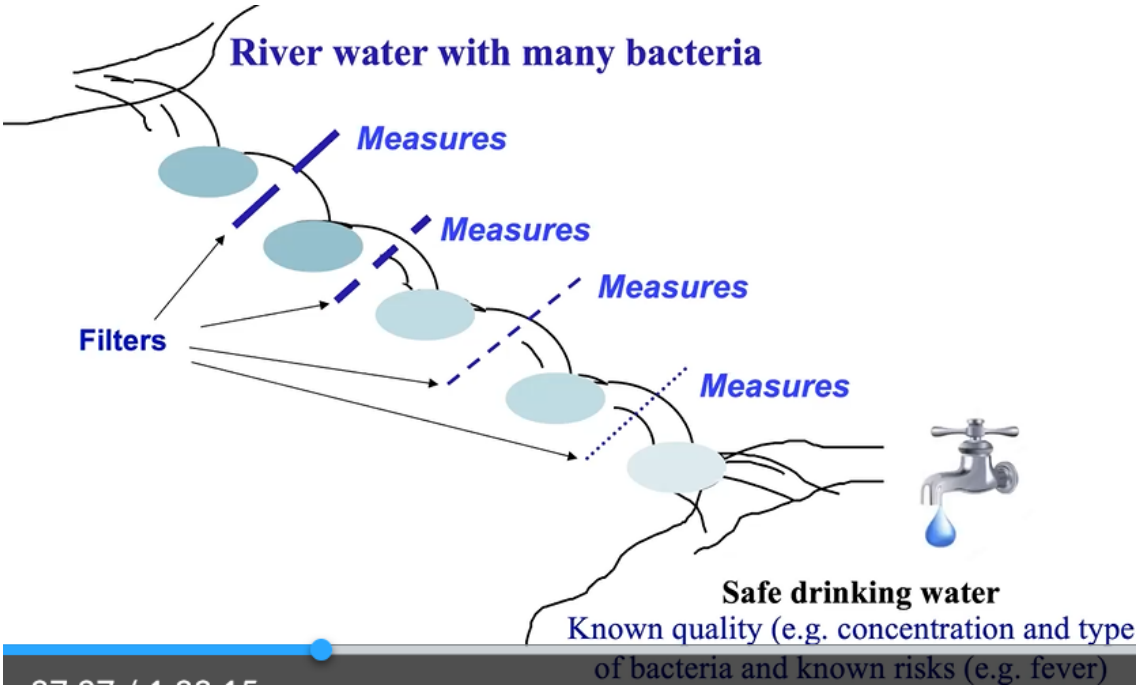
- How to produce quality software within schedule + budget
  - House of software quality



- ‘’Life is a bitch’’ -15:58
- From your projects, can you provide the following process measures?
  - Percentage of nonconformance cost = ___%
  - Percentage of prevention cost = ___%
- Can you provide the following QA measures for your product?
  - Defects per 1000 LOCS or defects per function point
  - The density of defects in the software delivered by my organization

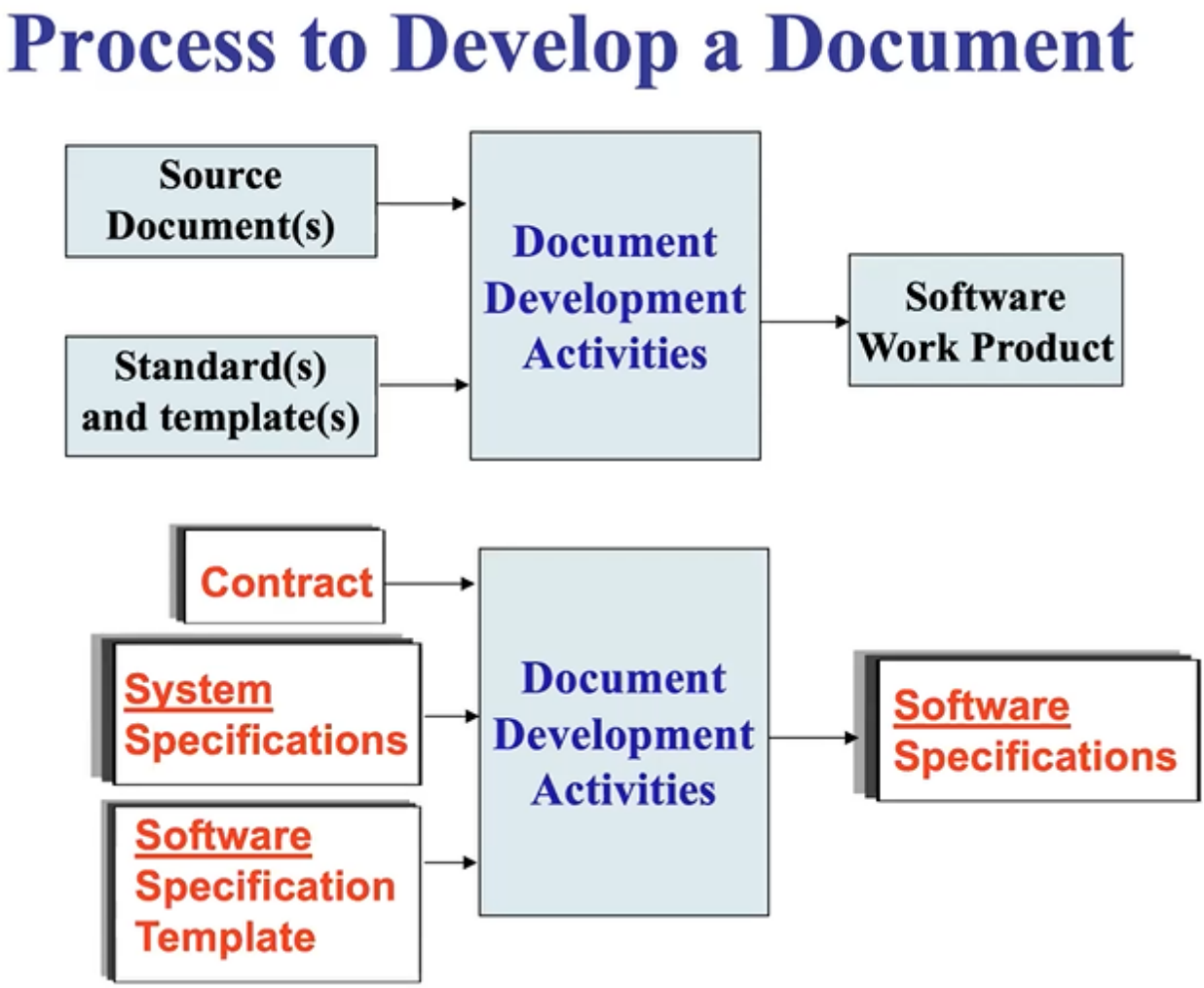
ISO/IEC 29110 series for VSEs

- VSE = Very Small Entity === public/non-profit organizations ≤ 25 employees
- Reviewing your own work allows you to see the types of mistakes that you make
  - Peer reviews == experience++
  - Analogy = treatment of river water



  - Types of reviews

- Personal review
- Inspection
- Desk check
- Walkthrough



- Defect detection == put filters
  - Using reviews
  - Walkthroughs
  - Common space
  - Defect removal effectiveness for each test == inspections is about 50%

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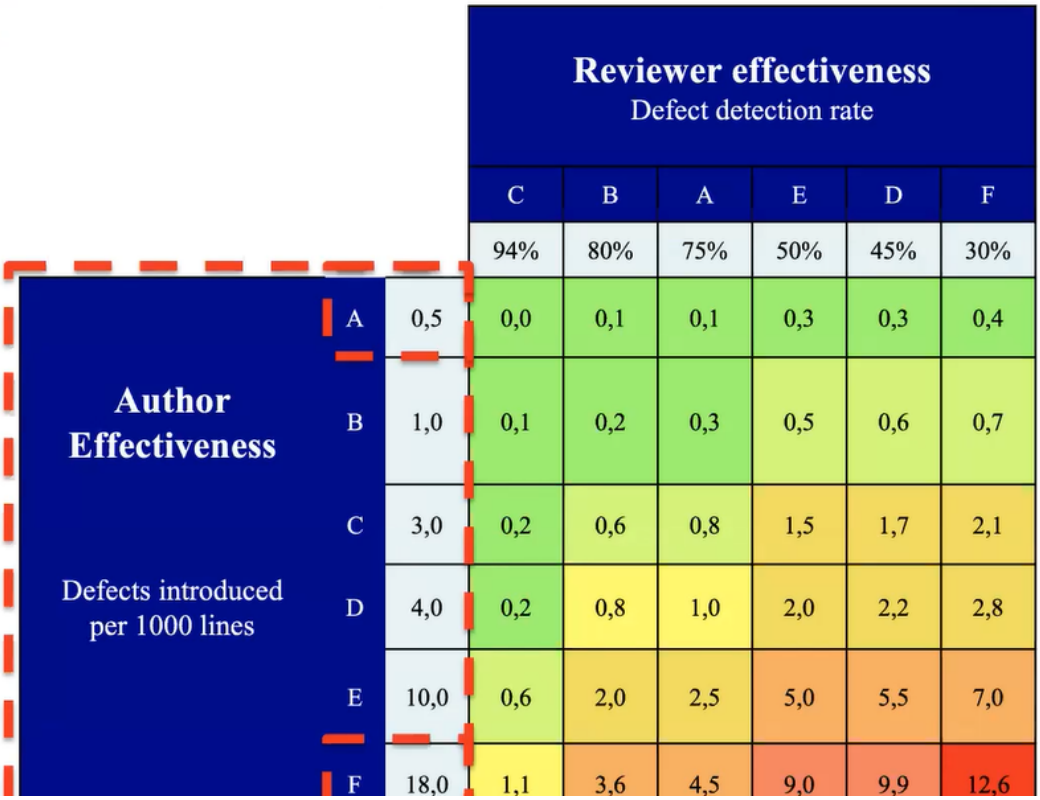
Approach used to minimize defect escape



ISO/IEC 29110 series for VSE (his stuff)

- What happens if we don’t follow standards
  - Software defect from 1 of the producers went into a product + resulted in a loss of over $200 million by the manufacturer
- How do we implement standards
  - VSE throughout company
- International organization for standardization

Type of VSE	Description	Number of ppl
Entry	Startups	6 ppl
Basic	1 product	1 working team

Type of VSE	Description	Number of ppl
Intermediate	1+ project in parallel	1+ working team
Advanced	Sustainable growth/software development business	A lot of teams

- Implementing proven practices of the ISO/IEC 29110 accelerated the maturity of VSEs
- Data
  - 79% + of respondents are completely or largely satisfied with ISO/IEC 29110 standards results

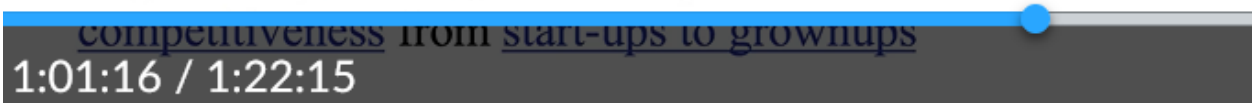
Business Benefits

- Better credibility to bid on projects
- Access to markets that require demonstration of compliance to a process standard
- Better recognition of the quality of work and products
- Better trust from customers and business partners
  - e.g. delivering functionalities, on time, within budget
- A good foundation towards a CMMI® level 2
- Better recognition of the quality of work and products
- Reduction of rework
  - Higher profit margin
  - Shorter development time
  - More competitive

- Thailand VSEs can team up on 1 contract to bid on a bigger project

Conclusion

- A wide spectrum of proven software quality assurance practices are available to facilitate the development of quality software products
- Software quality assurance can help you increase the confidence about the development of quality software products, within budget and schedule
- ISO 29110 has been specifically developed for **VSEs** (organisations having up to 25 people) developing systems (having hardware and software components) **or** software products
- ISO 29110 4-stage roadmap and the set of Management and Engineering Guides provides a path to increase competitiveness from start-ups to grownups



Why do a large number of software organizations either ignore the existence or don't use software practices that have been available since the 1970's !

Why are so many software people not working 'smarter' and not using the proven practices ?

Is it because many software developers and software managers have a big 'Ego' ?