

Class Notes

Monday Nov 27

Testing Scope

Is some aspect of testing of a software system

1. Functional testing – does the SUT do what it's supposed to? Does it not do anything it's not supposed to. Uses a pass/fail test case approach
2. Performance testing – how well does the system perform – loading, throughput, stress, response time, scalability... Use statistical tests and key performance indicators
3. Usability testing – how easy is the system to use. Subjective testing. Qualitative testing models
4. Acceptance testing – does the SUT meet the requirements in the opinion of the stakeholders
5. Security testing – game theory type of testing with an adversary. Red team testing.
6. Exploratory testing – look for the things that can't possibly go wrong, but do anyway.
7. Non-functional testing – disaster recovery, configuration testing, storage testing...

Testing Process

1. Follows the development process
2. Traditional waterfall model – testing is done at the end of project
3. Shift left model – testing starts at project inception – testing throughout the product life-cycle
4. Agile testing – integration of testing into the agile – support things like Test Driven Development
5. CI/CD – continuous development, continuous delivery – continuous automated testing.

Testing Levels

The extent of the the subject under – unit testing, integration testing, e2e testing, near prod testing

Test Validity

1. Operational definition – definition that is measurable.

1. (2,2,2) -> eq
2. (2,3,4) -> sc
3. (1,2,2) -> is
4. (2,1,2) -> is
5. (2,1,1) -> is
6. (1,1) -> error
7. (2,2,2,2) -> error
8. no input -> error
9. (0, 2,2) -> er
10. (2,0,2) -> er
11. (2,2,0) -> er
12. (-1,2,2) -> er
13. (2,-1,2) -> er
14. (2,2,-1) ->er
15. (1.2,2,2) ->er
16. (2,1.2,2) ->er
17. (2,2,1.2) ->er
18. (0,0,0) -> er
19. (1,2,3) -> er

AB aB AB ab -

2 chars

alpha

Valid code

Valid AL AB AS

{ A, AKR, missing, A1, 1A, XX, OH}

Exercise 1:

We have bin labelling system for a warehouse. All items get a bin label

the first three letters are CHI for Chicago or DET for Detroit. No the part goes different cities

Fourth character is either a "-" or a "/" handled

The fifth character is a category letter with the range A-S

Last three characters are part numbers ranging from 0 to 898

DET – A 787

input 1

1. DET
2. CHI
4. - or /
3. A-S
4. 0-898 NNN, NNb, Nbb

1. DET-p762
2. CHI/B8
3. det-H73
4. DAL-P762
5. CHI*B8
6. DET-U73
7. DET-8990
8. CHI/b62
9. CHI/7b2