QE Training Part 1 Cheat Sheet

by mnp003 via cheatography.com/30206/cs/8959/

Introduction

Manual Testing	Automation
1. Takes more time	1. Takes less time
2. Cheaper if executing 1,2, or 3 times	2. Execution is faster
3.Execute Manually First	3. Don't automate anything not linked or completed
4. Non-stable build	4. Executing more than 3 times

SDLC Models

Waterfall (for small project)	-Requirements Gathering -Designing -Implementation -Testing -Deployment -Maintenance	ADV: -simple -easy to follow	DIS: -slow;time consuming -deliver a wrong product -teams don't interact -design/implement to meet requirement -software delivered to next team

SDLC Models (cont)

V-Model	-Test in all phases	ADV: -continuous testing -Usable -Doable
Iterative (small version of agile)	Repitition	
Spiral	Planning, Risk Analysis, Evaluation, Engineering	-unit testing -create a prototype of each design

SDLC Models (cont)

Agile (Iteration Detail Sprints 1-2 weeks)	DIS: -Iteration Detail Sprints 1-2 wrong product	-Implementation/Developer Testing -QA/Acceptance Testing -(Deployment) -Evaluation/Prioritzation -Detailed Requirements -Design/Analysis

Stages of SDLC (Ask for Access)

1. Requirement Gathering	-what does the client want -analyze,-process - feasibile? how much time?
2. Designing (Architecture; How it will look)	-reliable -estimate time,cost,resources analysis w/ team; challenges?

Stages of SDLC (Ask for Access) (cont)

3. Implementation	-write the code -unit testing (does the code work) -validate the unit testers have done their testing
4. Testing	-meet requirements -meets design -Functionality -UI -system testing -Actual vs Expected Results Compatibility -Performance
5. Deployment	-deploy at client site -different environment -working or not? -testers should have a 32 bit for 32 bit software

By mnp003
cheatography.com/mnp003/

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Stages of SDLC (Ask for Access) (cont)

6. Maintenance	-enhancements -bug fixes -new feature additions -Acceptance Testing (alpha/beta) -Alpha:done by testers; go to the csutomer's,install,test it -Beta: Live testing

Software Development Life Cycle

- A process to develop quality software
- A process we follow to develop and deliver
- SDLC is a process used to design, develop, and test high quality software
- Continuous Process
- Meets or Exceeds customer's expectations
- Reaches completion within times and cost estimates
- Assures that we are
  - *Meeting the requirements*
  - *Deliver on time*
  - *Should be quality*

Software Testing

- process of watching with the requirements
- check for correctness,completeness,and quality

Software Testing (cont)

- if it is missing something it is a bug
- 1)Validation 2)Verification
  - requirement doc
  - business doc
  - software
- meets requirements
- works as expected
- can be implemented with the same characteristics

STLC (Software Testing Life Cycle)

1.Requirement	-properly documented/updated	
2. Design Test Strategy	-how to test -what to test? tools?framework? required resources	
3.Test Planning	-who will test -resources/schedule/TC	
4. Test Case Development	-write TC	
5. Enviornment Setup	-software -hardware	-server to deploy testing enviornment
6. Automation	-automate TC test the software	-automate 1st execute later

STLC (Software Testing Life Cycle) (cont)

7. Test Execution	-execute tests	
8. Report Defects	-report defects -log defect against automation	-tell m-report defects -log defect against automatio-nanager of defects
9. Regression Test	-verification -defects fixed	-how will you decide what is going to test in each phase -what's fixed or not
10. Test Reports	-create and submit	

Principles of Software Testing

Principle 1	-what you are going to test in -prove there are defects (presence of defects)
Principle 2	-100% testing (exhaustive is impossible)
Principle 3	-Early Testing

Principles of Software Testing (cont)

Principle 4	-Defect clustering; categorize based on severity, highest priority,needs	
Principle 5	-Pesticide Paradox	-dependencies
Principle 6	-Testing is context dependent	-log defects -what you're testing for
Principle 7	-Absence of errors-fallacy	-chances of missing the errors

Bugs Can Be...

Defect	Incident	Inconsistency
Fault	Anomaly	Product Anomaly
Problem	Variance	Product Incidence
Error	Failure	Feature

Verification & Validation/QA/QC

Verification	-is the requirement proper	-are we on the right track? -static documents	-au

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Verification & Validation/QA/QC (cont)

Validation	- building the right thing	-dynamic
Quality Assurance	- process oriented -assure quality	-STLC - implement process
Quality Control	-Product-oriented	-corrective process -test cases

Levels of Testing

Unit Testing	-check code	-lines of code
Integration Testing	-all the pieces fit when integrated	
System Testing	-Functionality	-end-to-end testing
User Acceptance Testing	- Alpha:lab, what's in production	-Beta:Production(end user)

Testing Techniques (Black Box)

- Don't have to understand the code
- No access to code
- Check functional and non-functional
- Advantages: efficient, unbiased, easy to execute, non intrusive
- Disadvantages: Localized testing, blind coverage, inefficient, test authority(system testing)

Testing Techniques (White Box)

- understand designs, programming language, unit test cases (execute and develop)
- Advatages: effective, early defect identifying, reveal hidden code flaws, full code pathway
- Disadvantages:Difficult to scale, cultural stress, highly intrusive, difficult to maintain

Testing Techniques (Gray Box)

- Mixture of black and white
- Test black box, partial access, can analyze their code, half rights
- Advantages: Combined benefits, unbiased testing, intelligent test authority
- Disadvantages:Partial code coverage, Defect Identification

Testing Methodologies

Governance Testing	-services conform to standards, policies, and objectives	
Process Testing	-services are operating collectively as specified	-process being followed or not?
Unit Testing/Service-Component Level	-test the code	-functionality
System Testing	-business requirements defined and met acceptance criteria	-entire system works end-to-end
Integration Testing	-if interface behavior and info sharing btw the services are working as specified	

Testing Methodologies (cont)

Security Testing	-to ensure protection fro orized software	
Service level Testing	-Functional testting, Performance Testing, Security Testing	-comprehensive statement of quality

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