W2BUSINESS
QA Academy
Wroclaw - Spring 2018
Chapter “Introduction to IT”

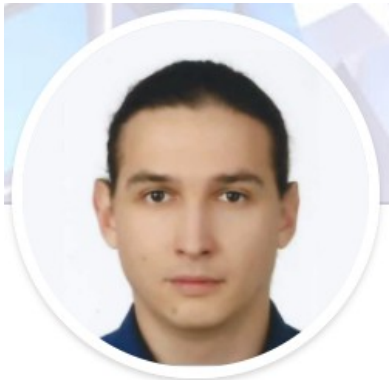
Lectors

Svitlana Samko

https://www.linkedin.com/in/svitlana-samko-b87532114/

Senior Developer in Test
over 10 years web development practice
over 10 delivered software projects for middle and large business

My most beneficial skill: *I like to learn business from the inside. Only so one can be sure that we build right product in the right way at any stage of development process.*



Andrii Stepura

https://www.linkedin.com/in/andriistepura/

Senior Quality Assurance Automation Engineer
over 14 years web development practice
over 300 delivered web projects as PO / Dev / Analyst / QA

My most beneficial skill: *Imagination to think like a stakeholder. Every piece of software starts from an idea. The first written code lines are just a half of the delivery of that idea.*

Definition of done

1 **Introduction to IT:**

- Introduction to IT in basic terms
- Software theory
  - SW goals, SW types, benefits
  - Software development life cycle, models
- Fundamentals of Testing

Our goal

- Goal (in mind)
- Opinion
- Knowledge
- Requirements
- Resources
- Sources

Introduction to IT in basic terms

What do you know about...

Goal ?

Goal

A goal is an idea of the future or desired result that a person or a group of people envisions, plans and commits to achieve.

Introduction to IT in basic terms

What do you know about...

Opinion?

Opinion

In general, an opinion is a judgment, viewpoint, or statement that is not conclusive. It may deal with subjective matters in which there is no conclusive finding, or it may deal with facts which are sought to be disputed by the logical fallacy that one is entitled to their opinions.

Introduction to IT in basic terms

What do you know about...

Knowledge ?

Knowledge

is a familiarity, awareness, or understanding of someone or something

!

What do you know about...

Requirements ?

Requirements

singular documented physical or functional need that a particular design, product or process aims to satisfy.
It is commonly used in a formal sense in engineering design, including for example In SW engineering...

What do you know about...

Resources

What do you know about...

Resources

A resource is a source or supply from which a benefit is produced.
Resources can be broadly classified on bases upon their availability they are renewable and non renewable resources.
They can also be classified as actual and potential on the basis of level of development and use, on the basis of origin they can be classified as biotic and abiotic, and in the base of their distribution as ubiquitous and localized.

Software theory

What do you know about...

Software

What do you know about...

Software

Computer software, or simply software, is a part of a computer system that consists of data or computer instructions, in contrast to the physical hardware from which the system is built. In computer science and software engineering, computer software is all information processed by computer systems, programs and data.

Software theory

What do you know about...

Software goals

Software goals

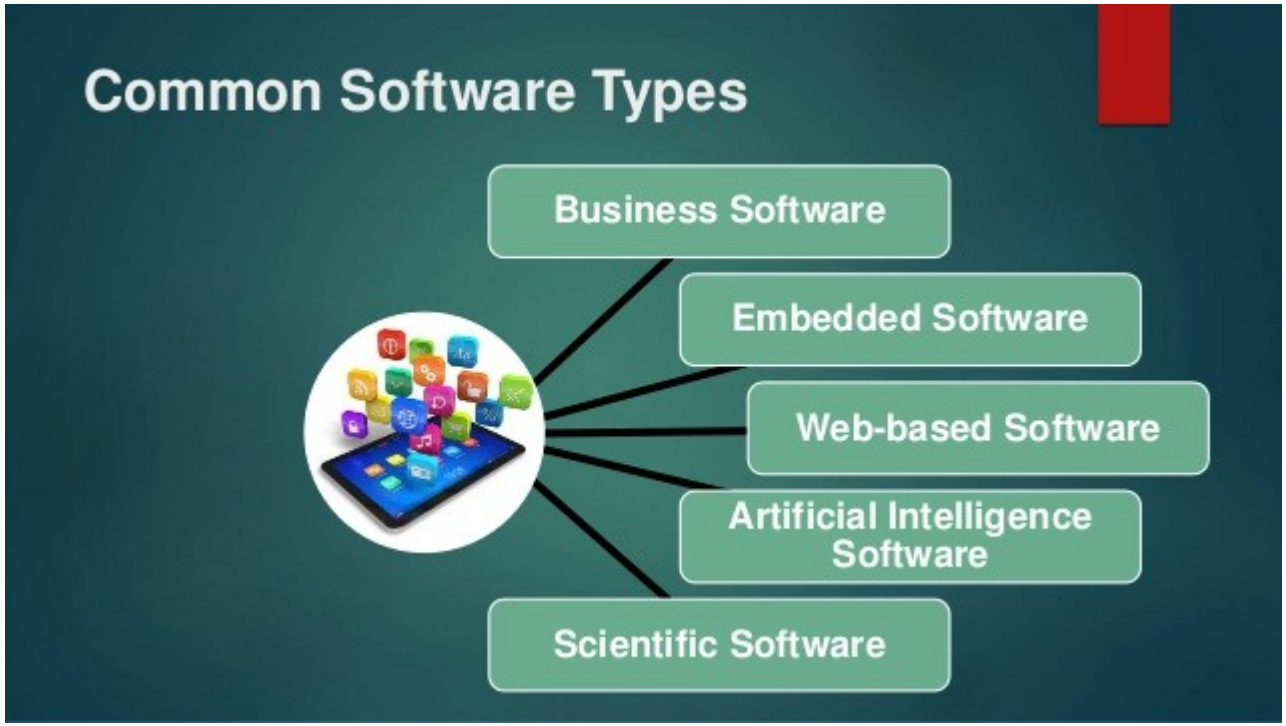
//[TODO] think about software goals for you !

Software types

Which software types do you know ...

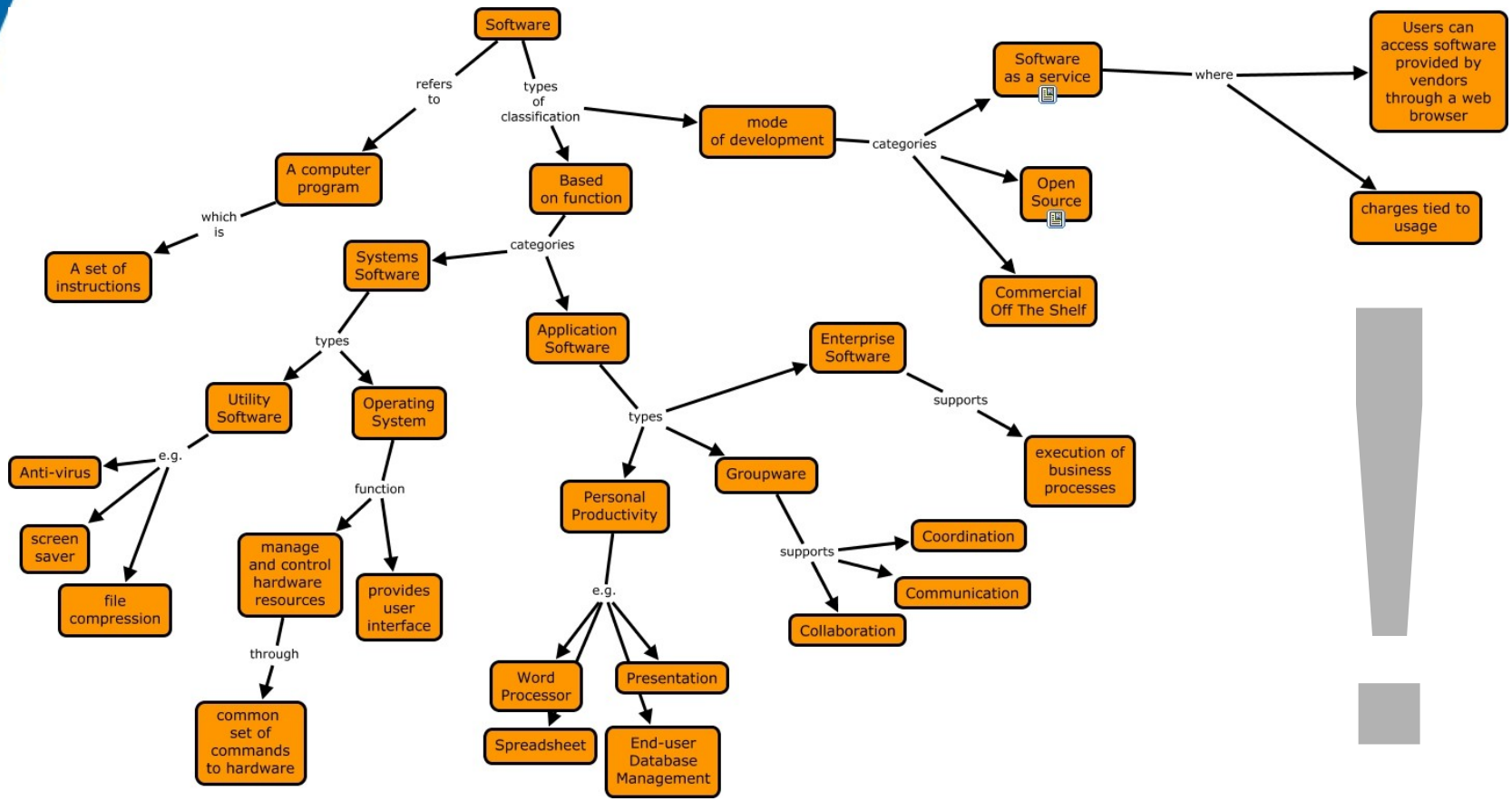
Software types

Software types



© http://cmapspublic3.ihmc.us/rid=1KJJ9HMH3-ZX212F-3PYR/Software%20Concepts.cmap

Software types



Software benefits

Which software benefits we receive ...

Software benefits

Software benefits

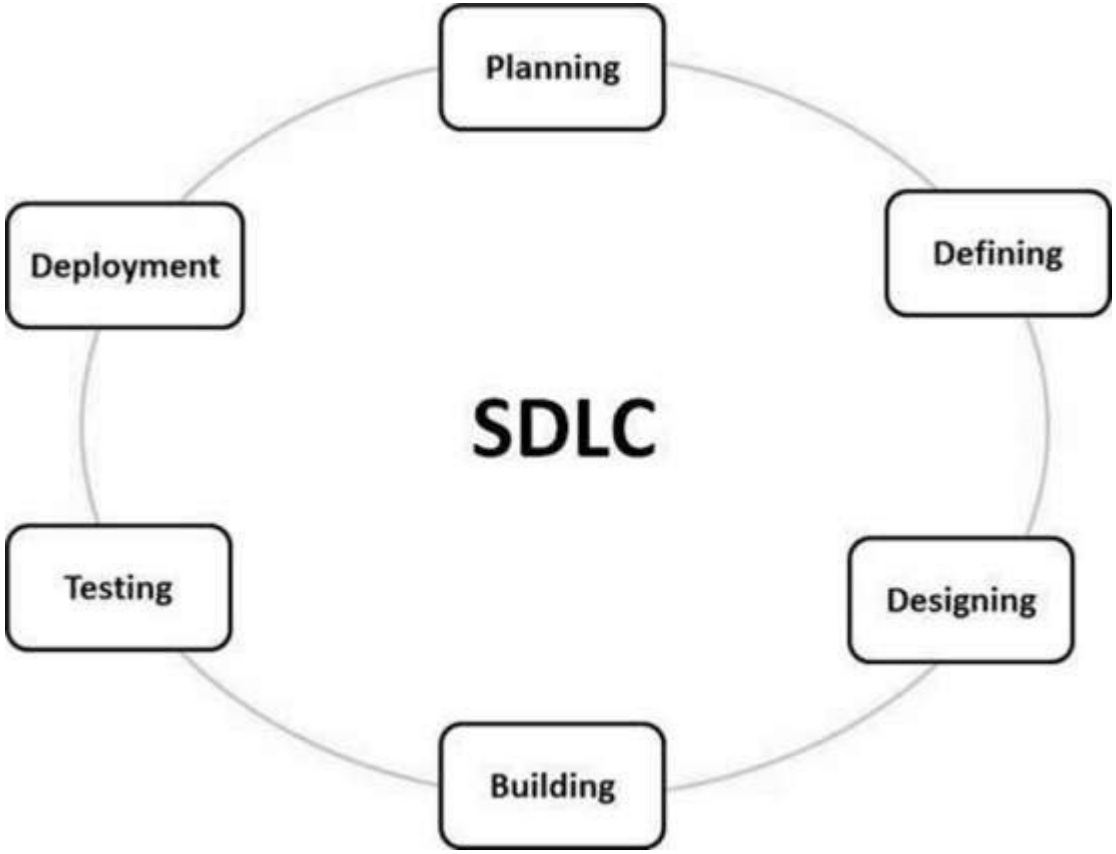
//[TODO] think about software benefits for you !

Software development life cycle

What do you know about software development life cycle ...

Software development life cycle [SDLC]

Software SDLC



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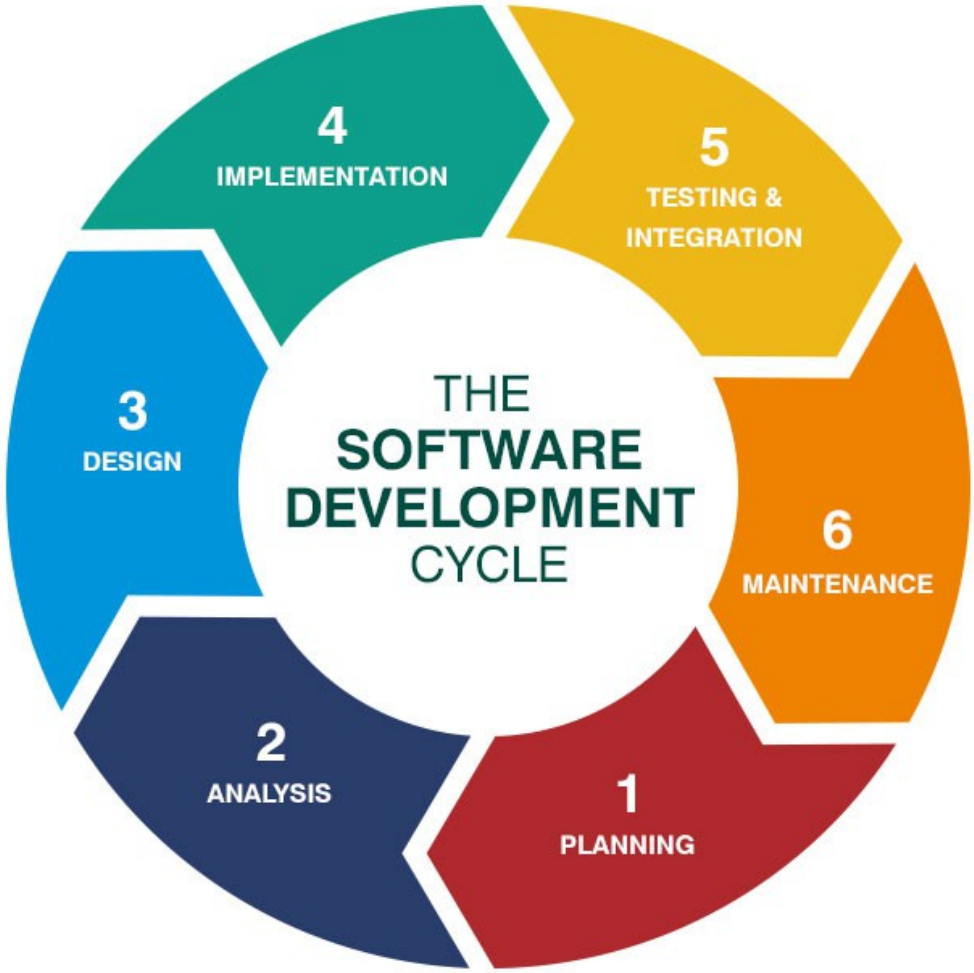
Software SDLC



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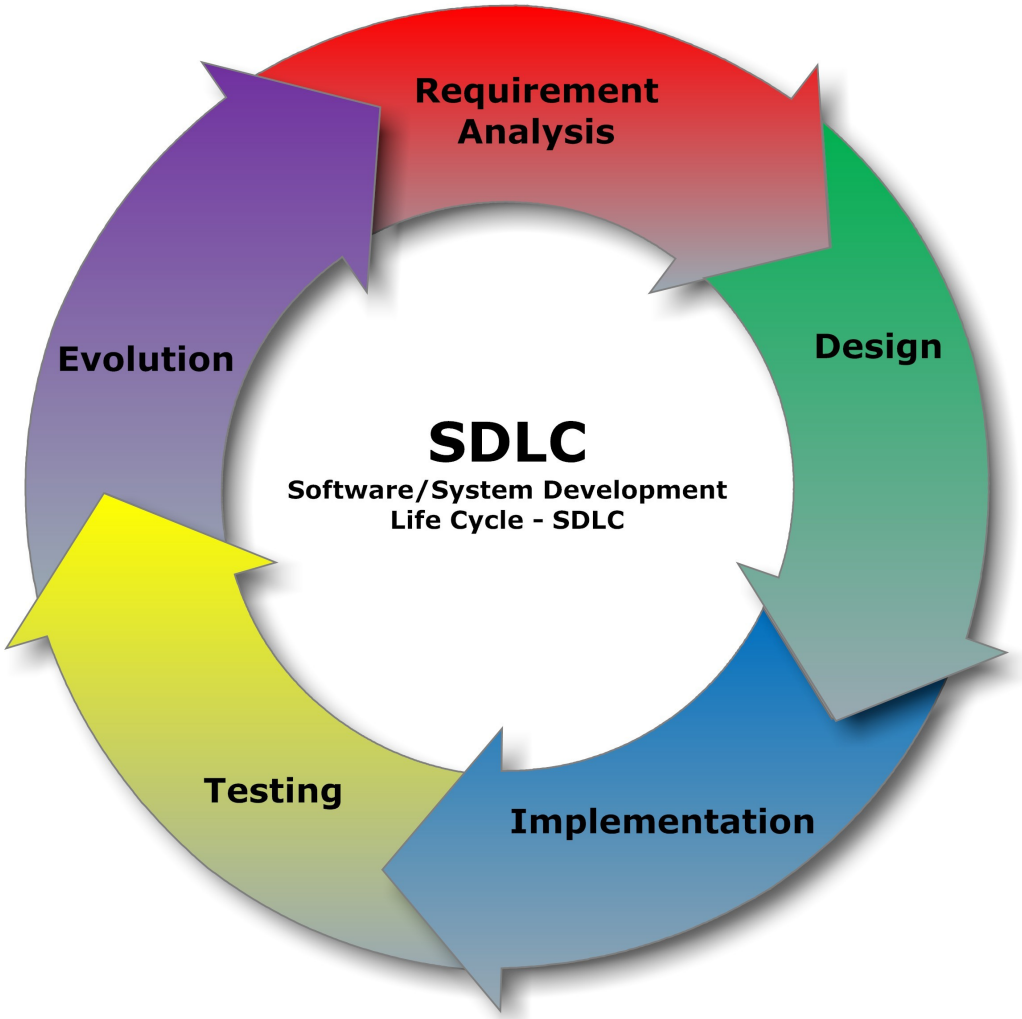
http://www.dignitasdigital.com/blog/easy-way-to-understand-sdlc/

Software SDLC



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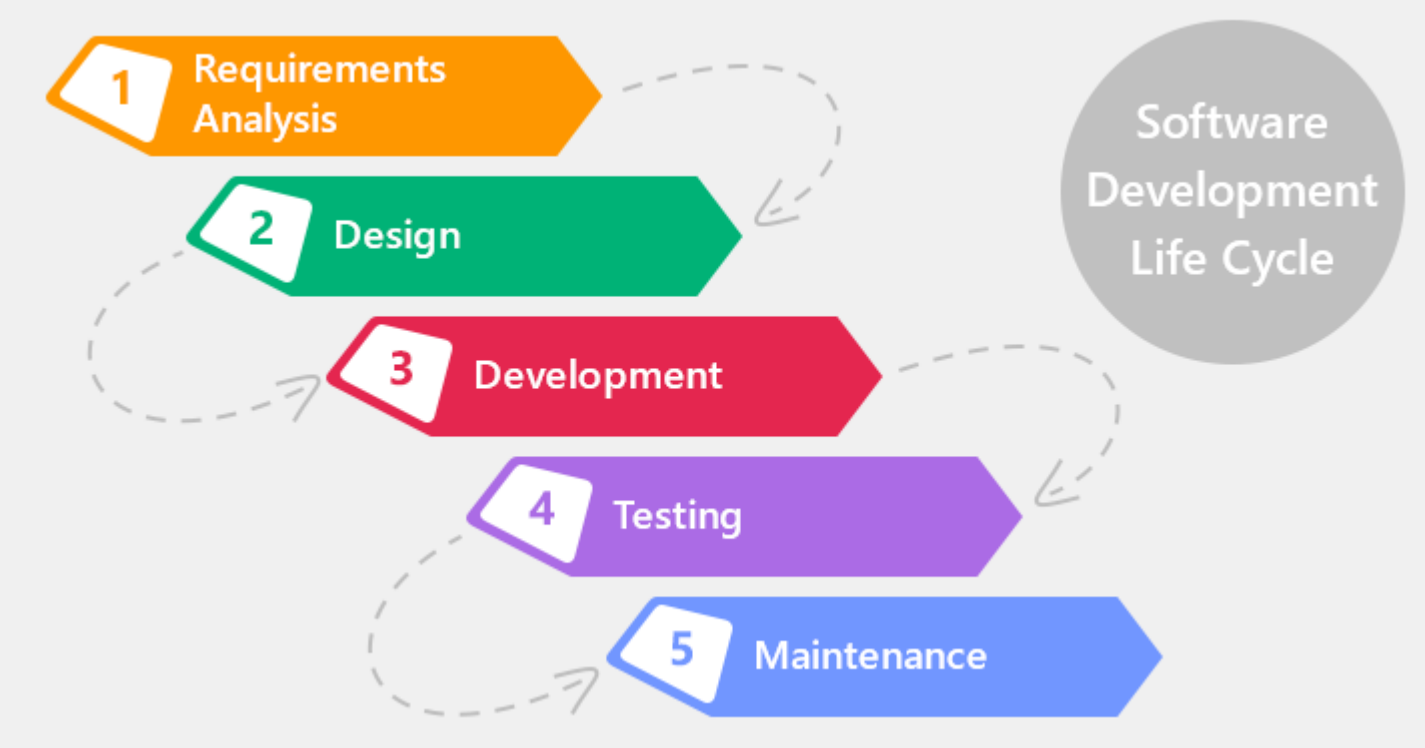
Software SDLC



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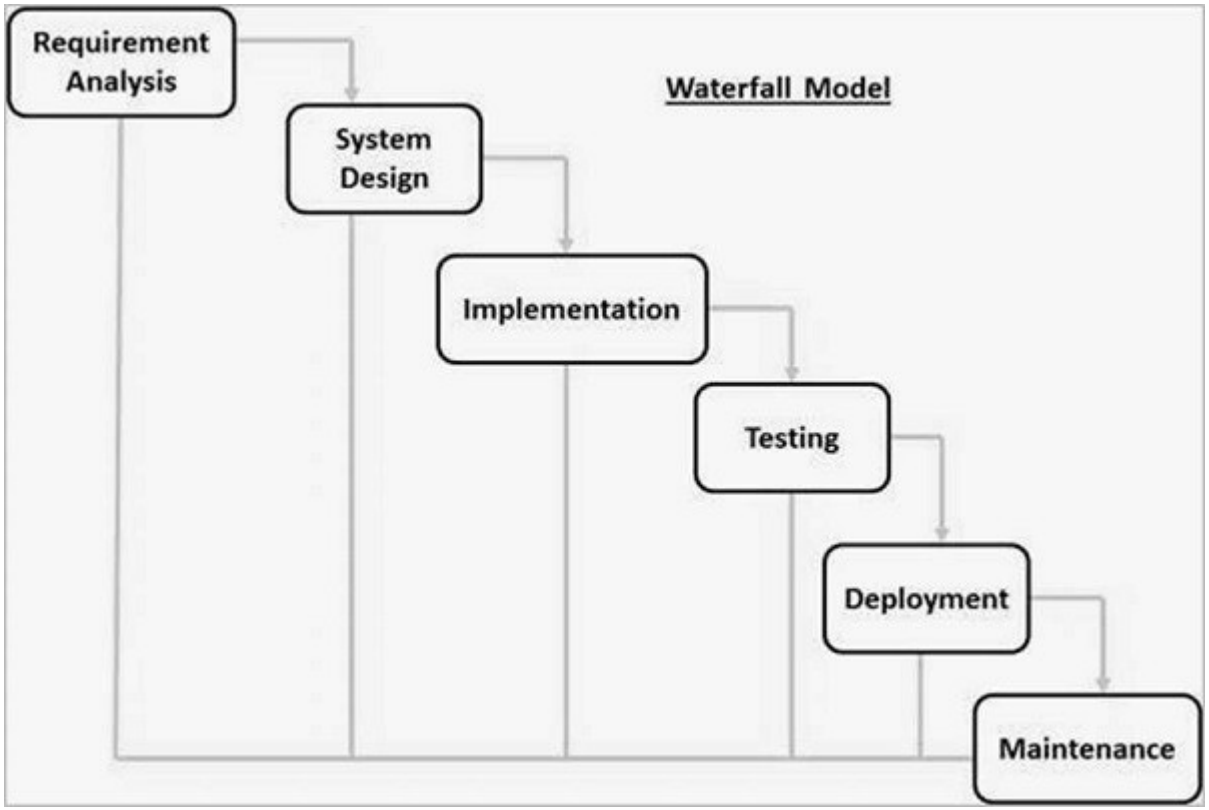
Software SDLC models

- Waterfall Model
- V-Model
- Iterative Model
- Spiral Model
- Agile Model
- RAD Model

SDLC Waterfall model



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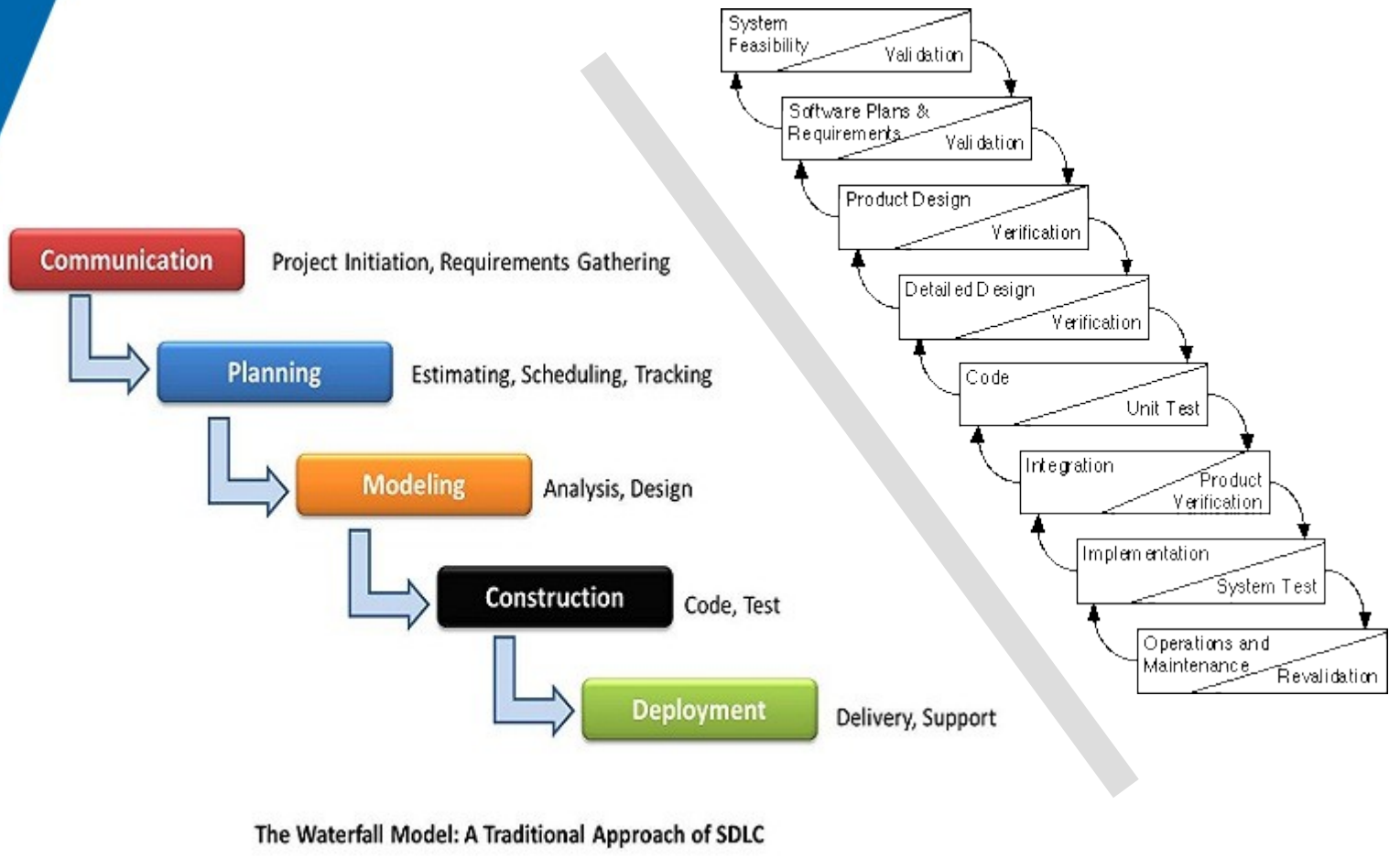
SDLC Waterfall model



The Waterfall Model: A Traditional Approach of SDLC

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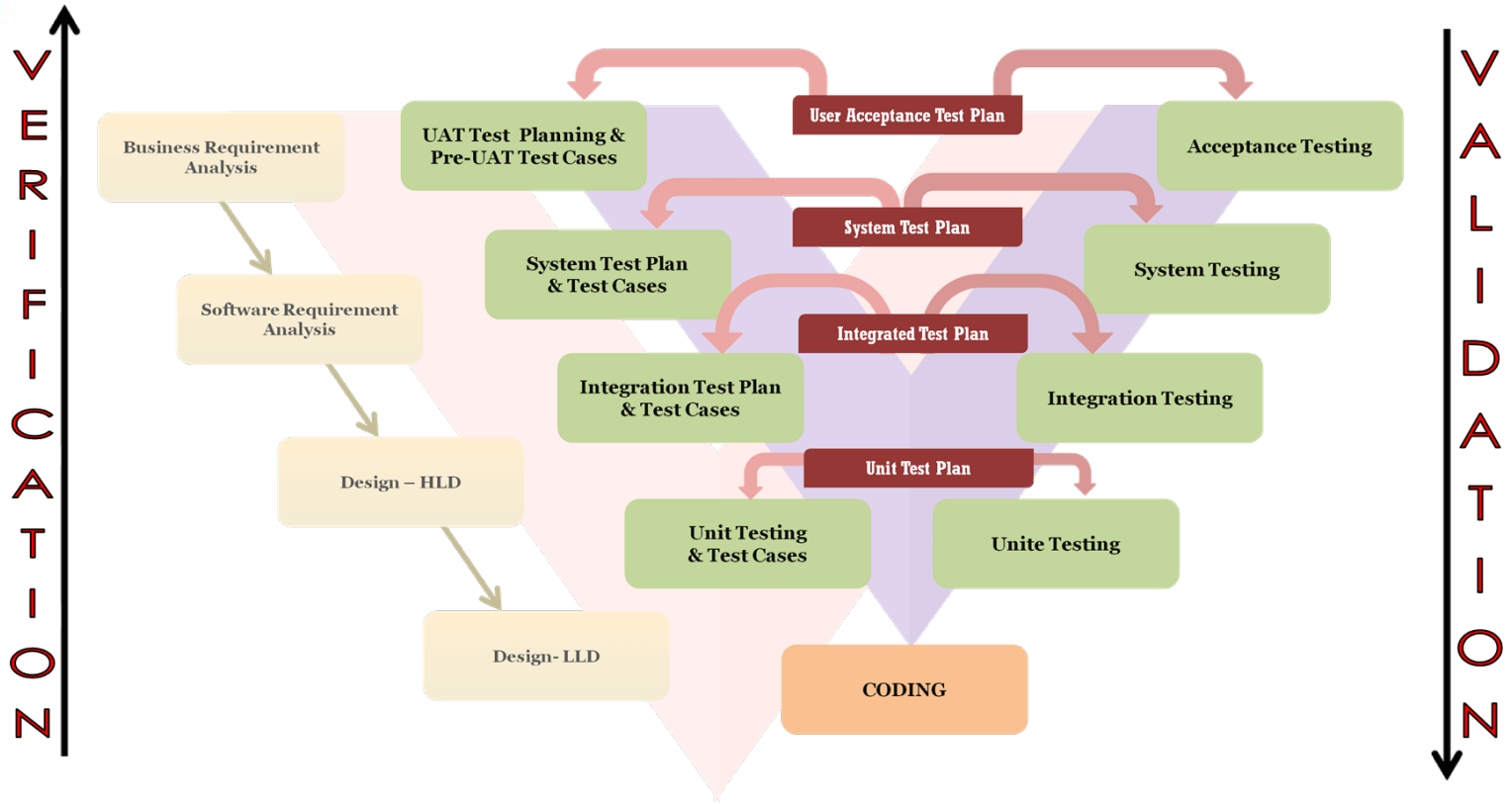
SDLC V-Model



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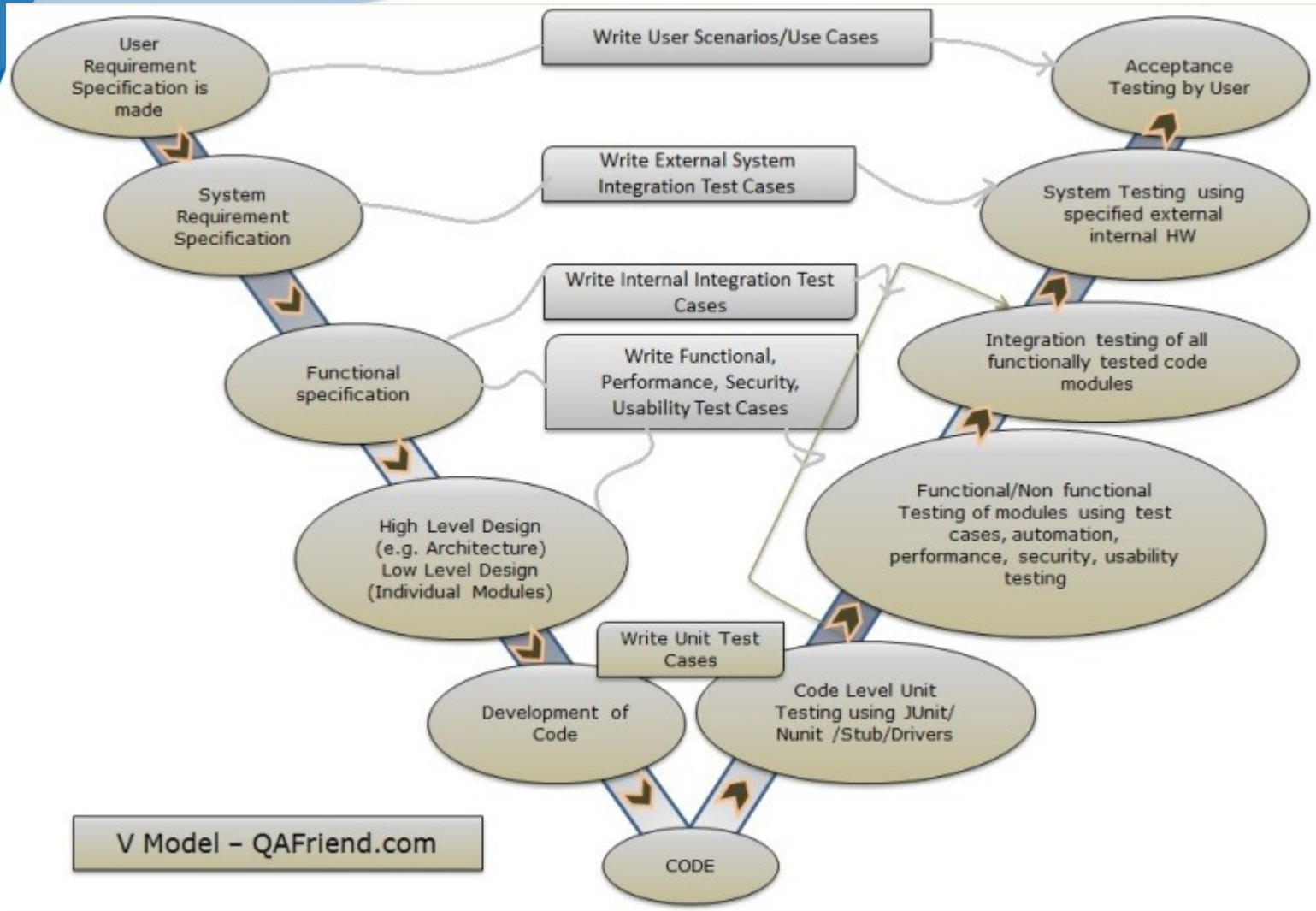
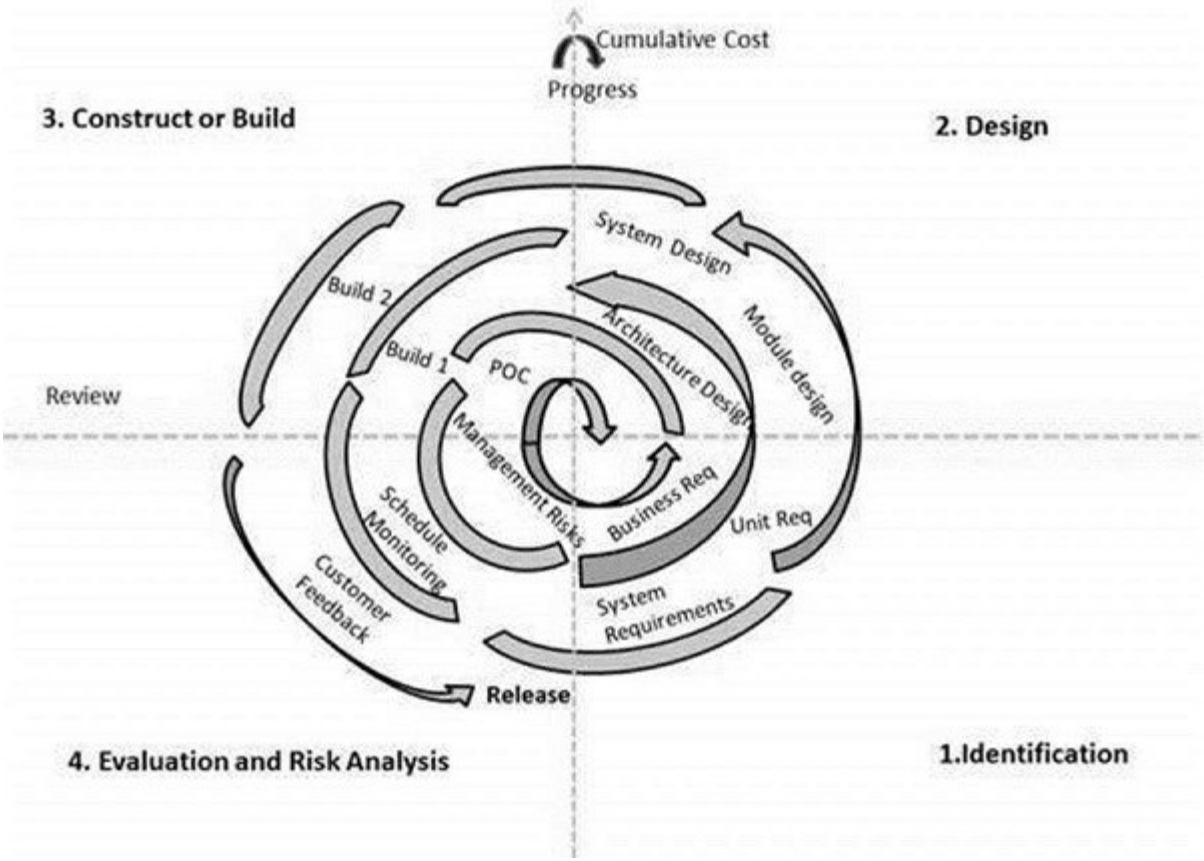
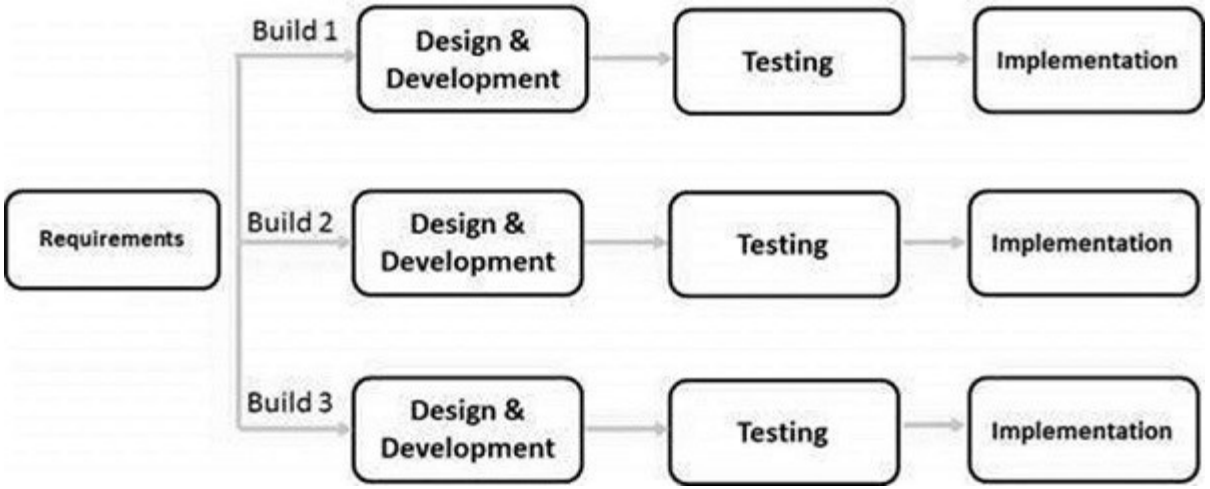
SDLC V-Model



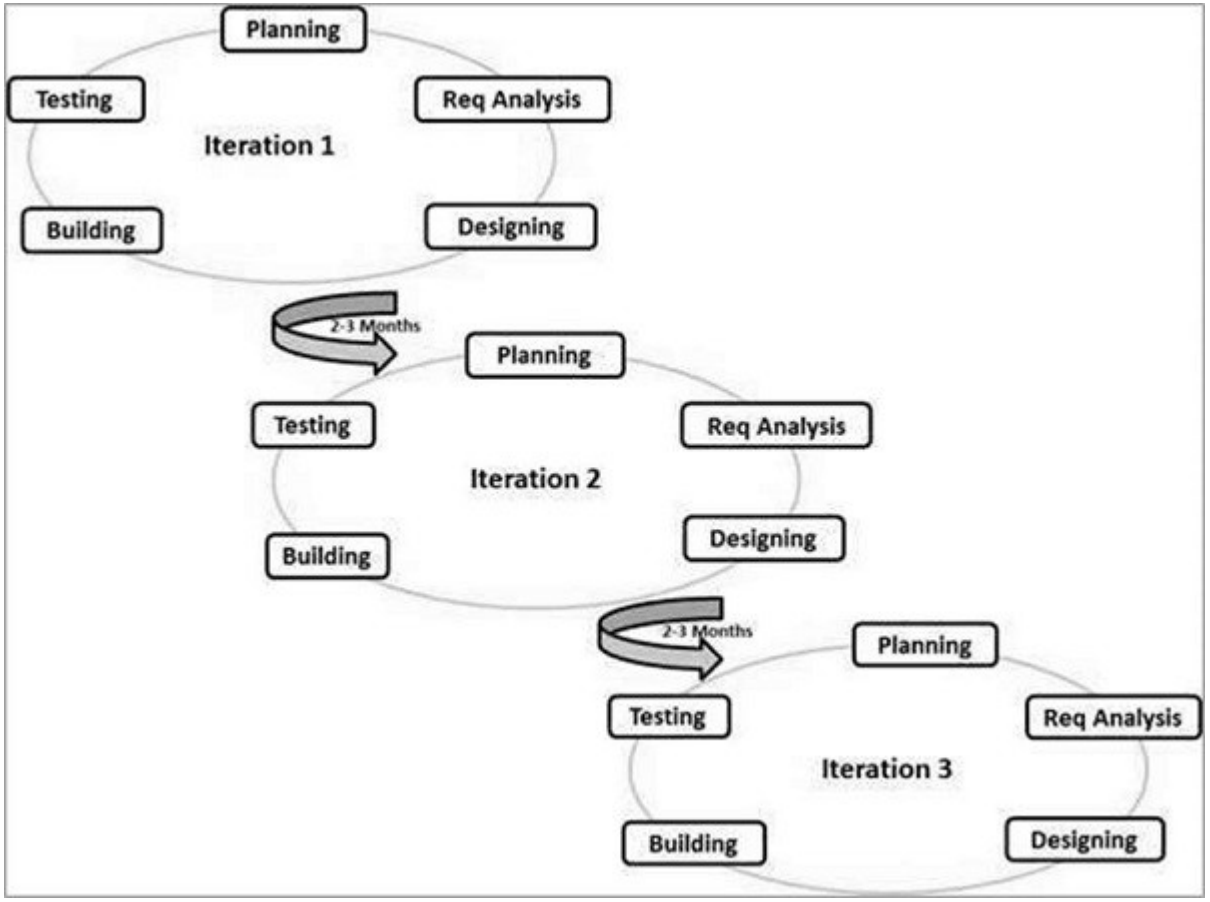
SDLC Spiral model



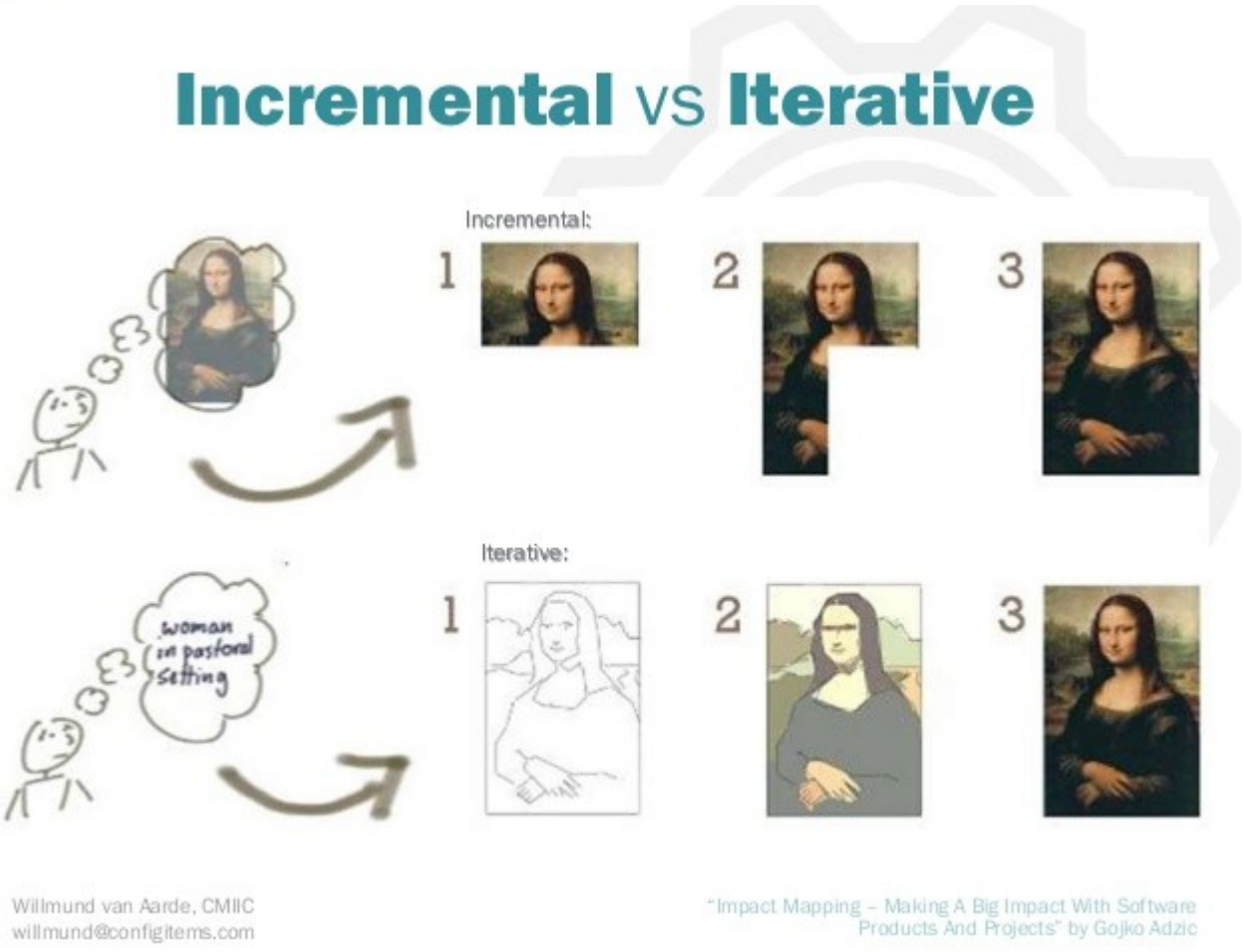
SDLC Iterative model



SDLC Incremental model (“Agile”)



Incremental vs Iterative



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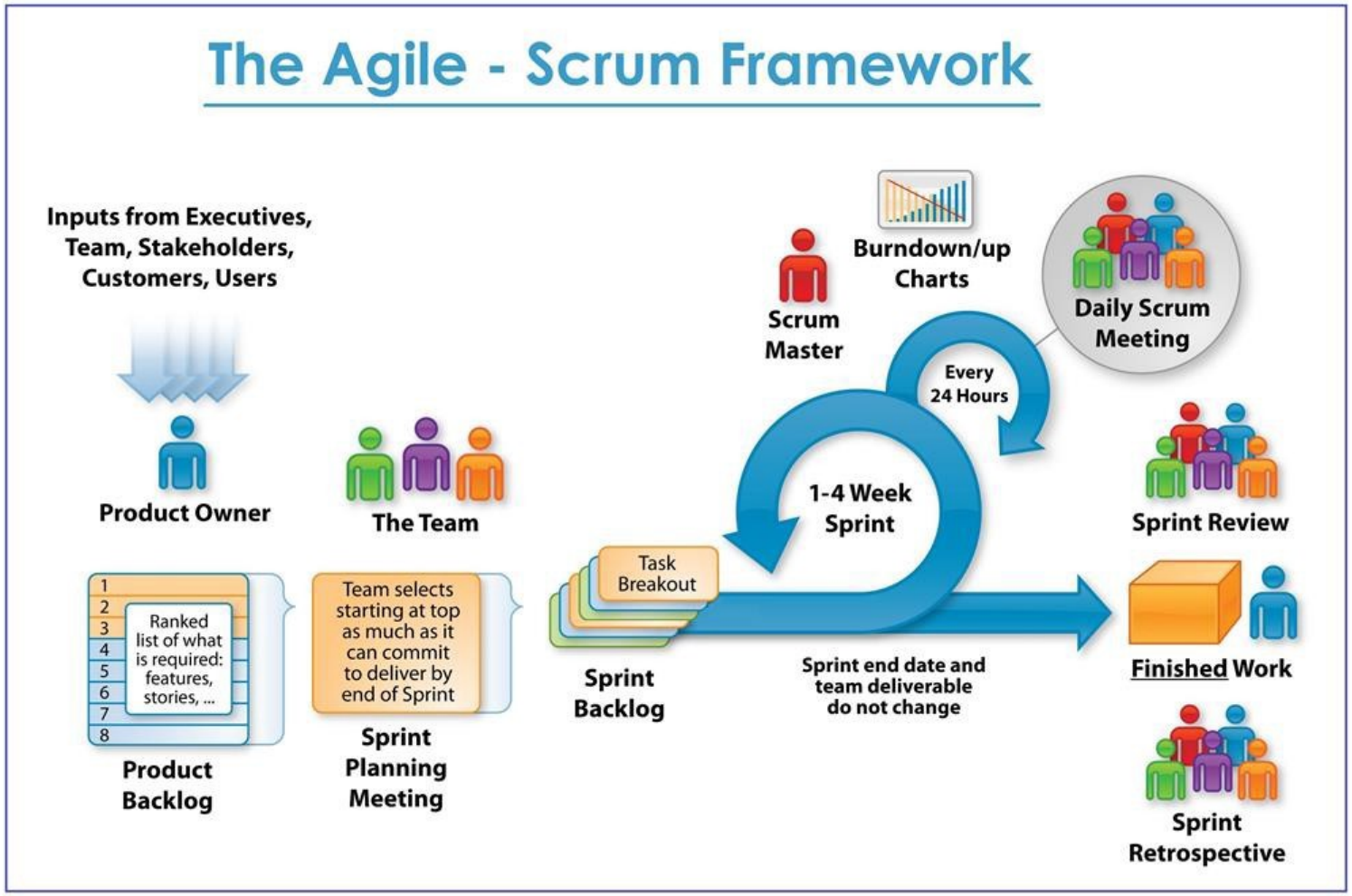
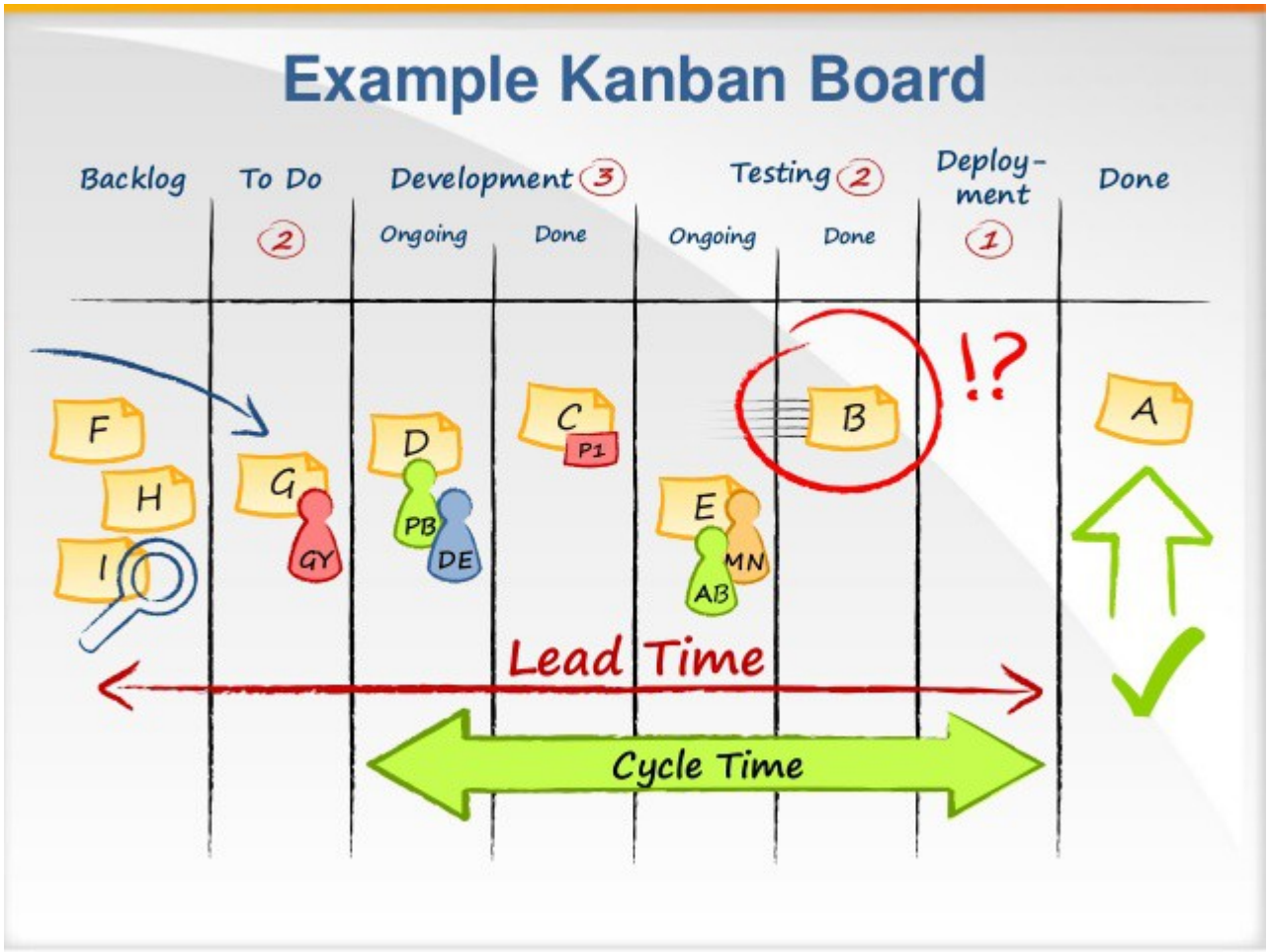
Product Development using Agile Methodology - Scrum



カンバン - Kanban (Kamban)



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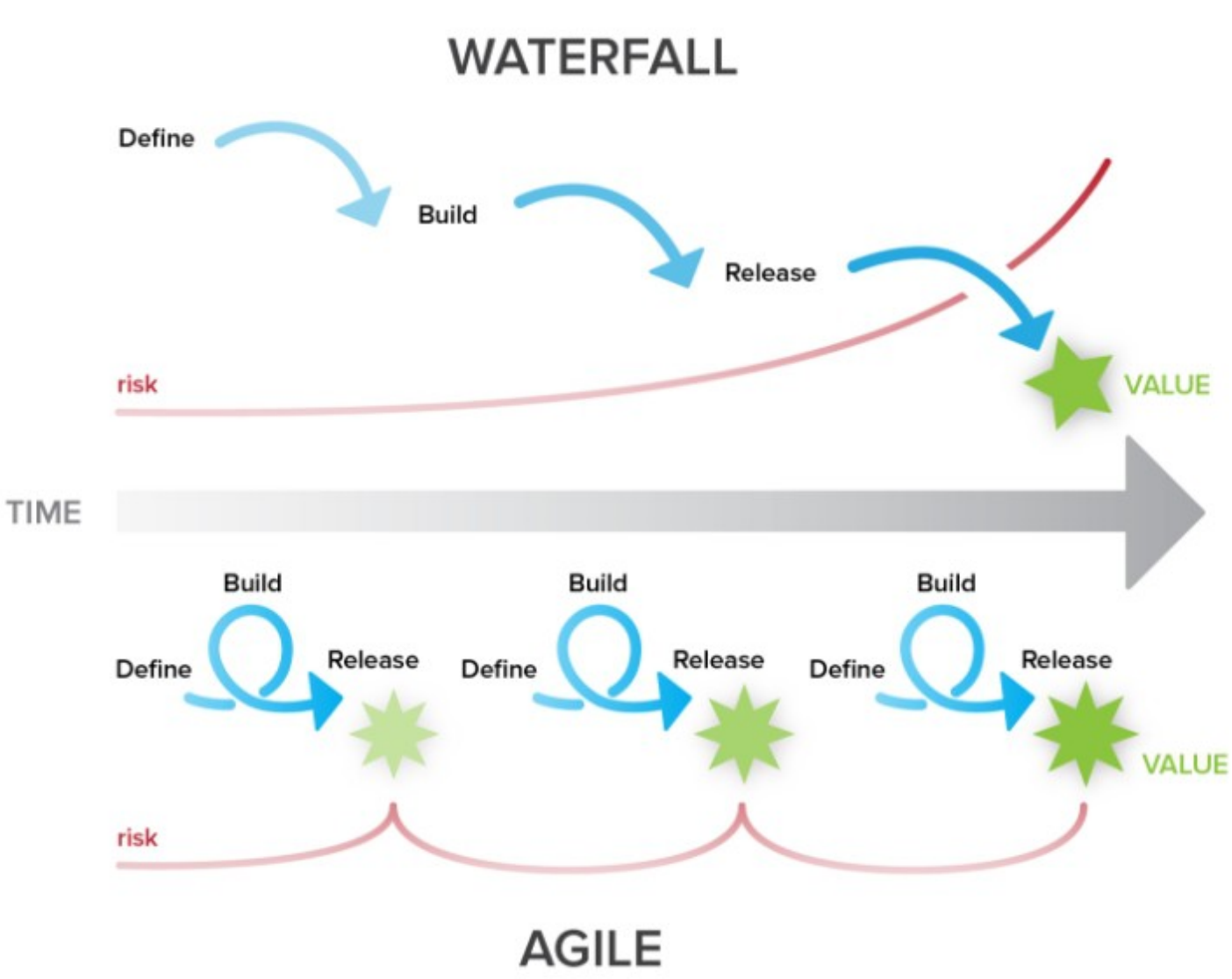
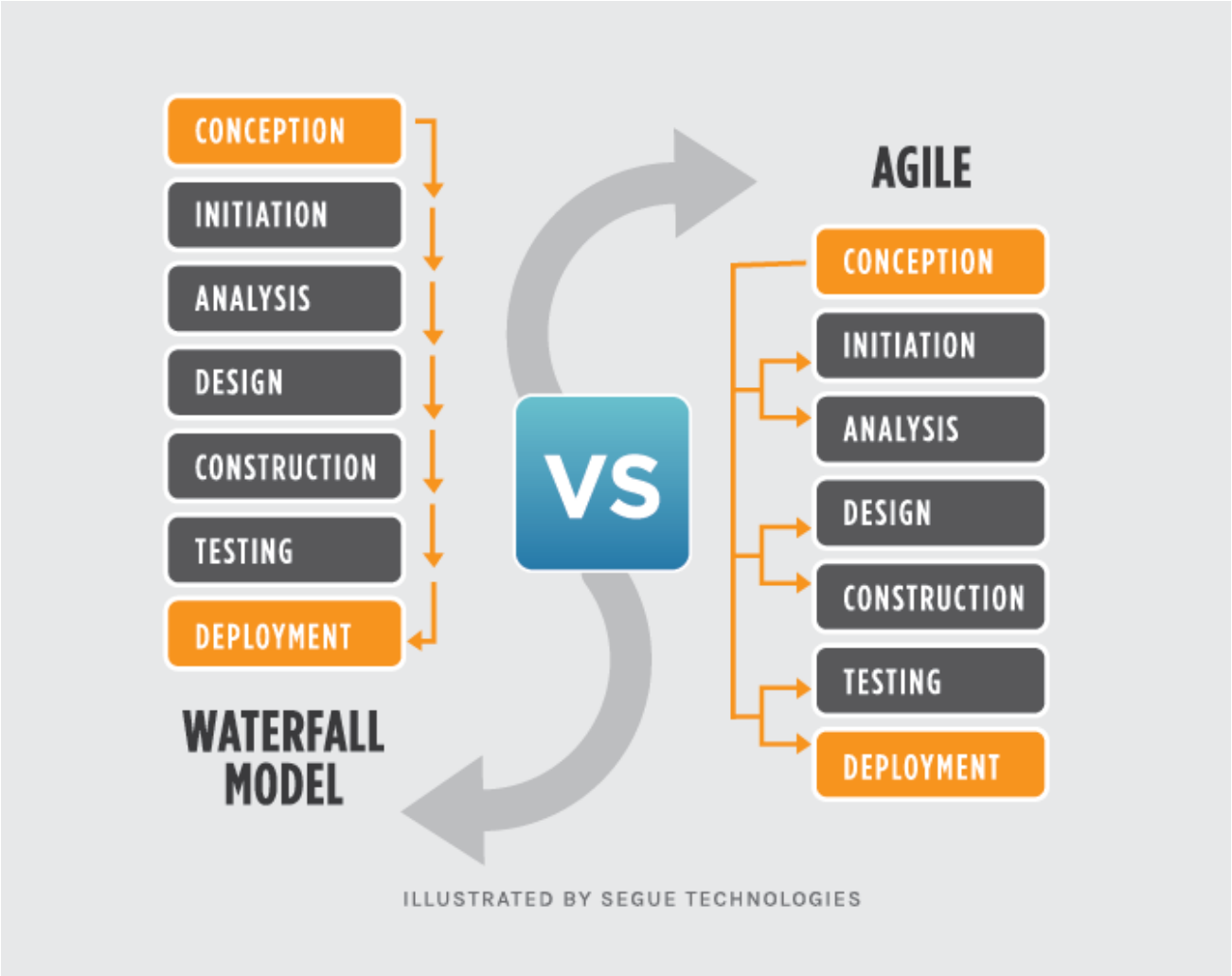
Waterfall vs. Agile



Waterfall vs. Agile



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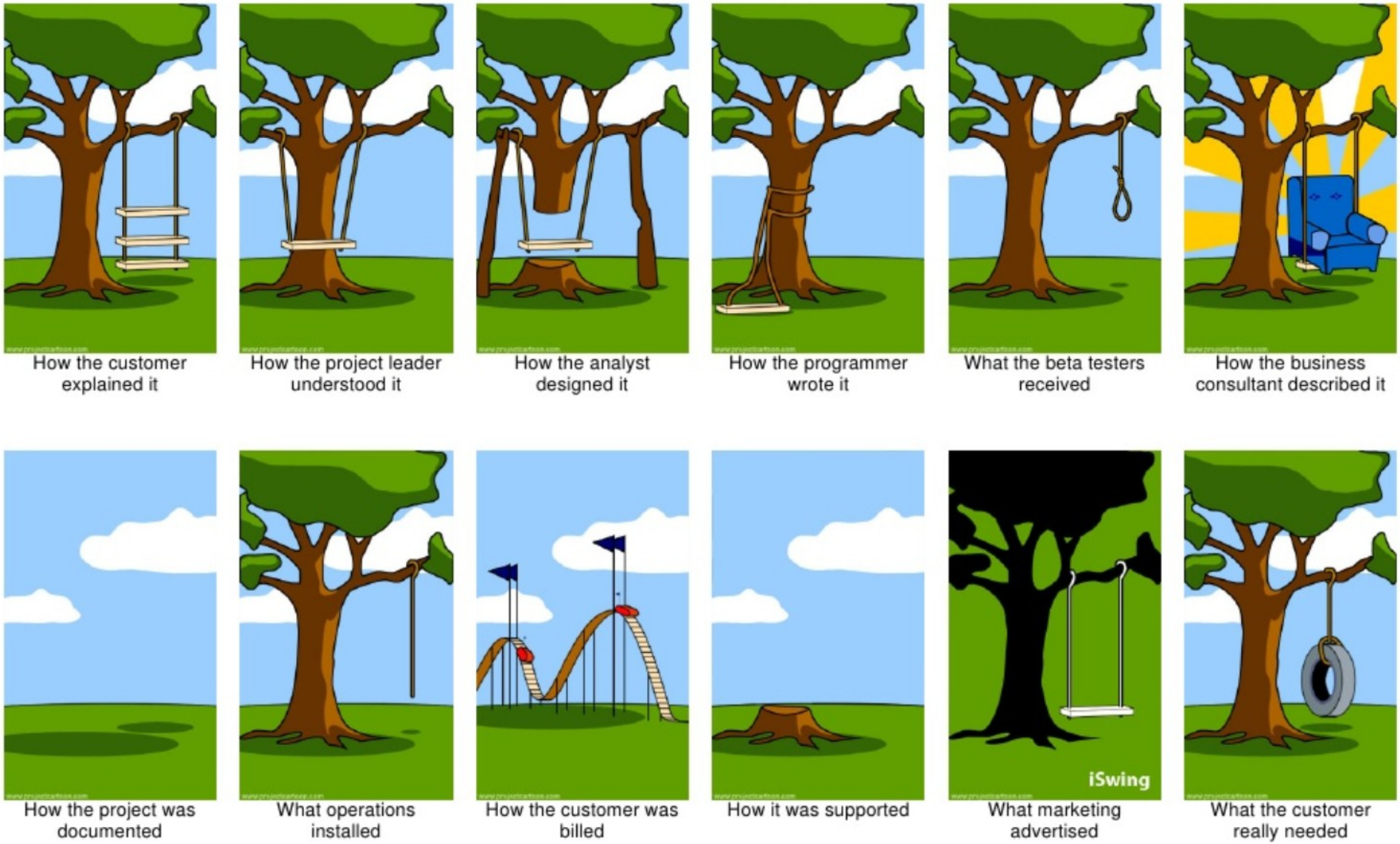
Why Testing is Necessary

Fundamentals of Testing



Testing Syllabus & Glossary

ISTQB International Software Testing Qualifications Board

In compiling the glossary the working party has sought the views and comments of as broad a spectrum of opinion as possible in industry, commerce and government bodies and organizations, with the aim of producing an international testing standard which would gain acceptance in as wide a field as possible. Total agreement will rarely, if ever, be achieved in compiling a document of this nature.

Contributions to this glossary have been received from testing communities throughout the world. The ISTQB® Glossary is used as a reference document for the International Software Testing Qualification Board® (ISTQB®) software testing qualification scheme.

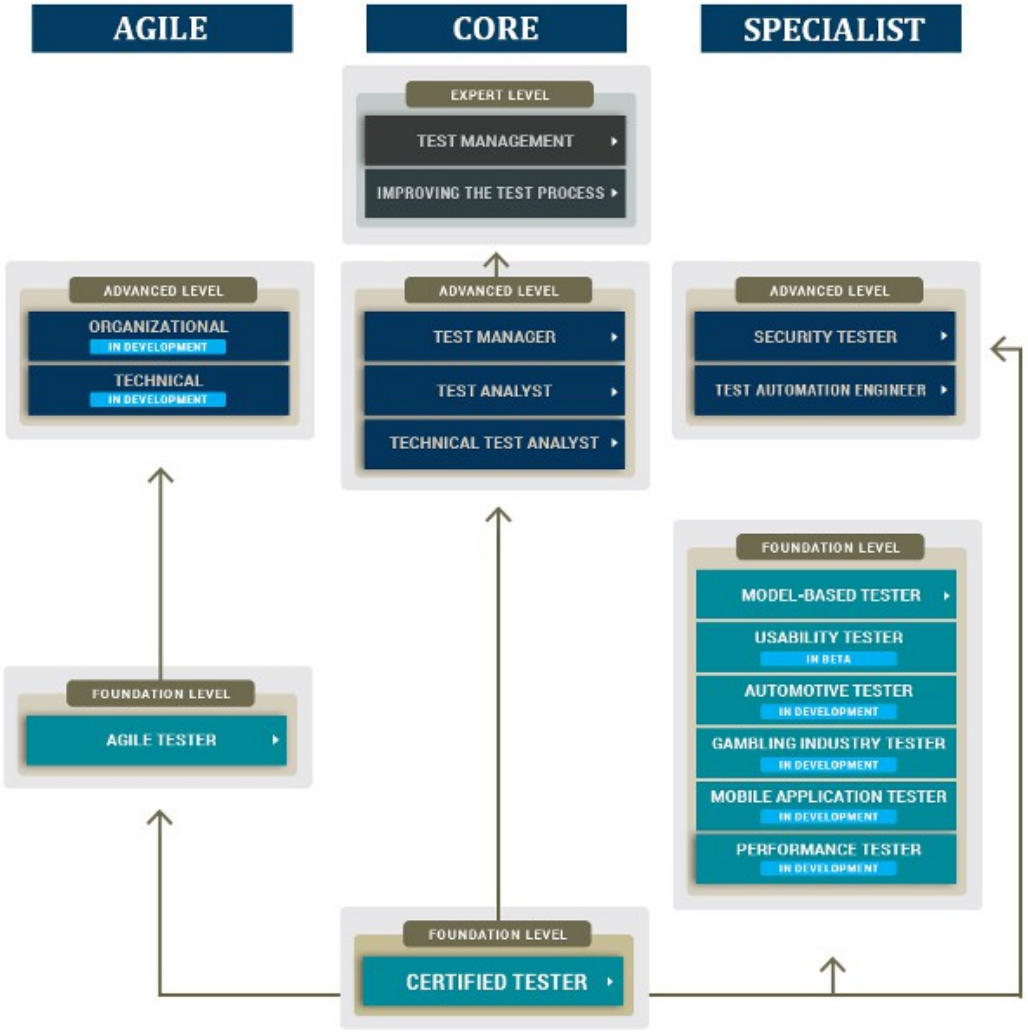
The document presents concepts, terms and definitions designed to aid communication in (software) testing and related disciplines.

The ISTQB® Glossary working party delivers a glossary of testing and related terms that is used as a reference / source document for syllabi at Foundation, Advanced and Expert level.

Implementation of a new version of the Glossary has been completed in March 2015 that is aligned with all the Syllabi.

The Glossary application is available at http://glossary.istqb.org/.

ISTQB® revamps product portfolio and releases roadmap

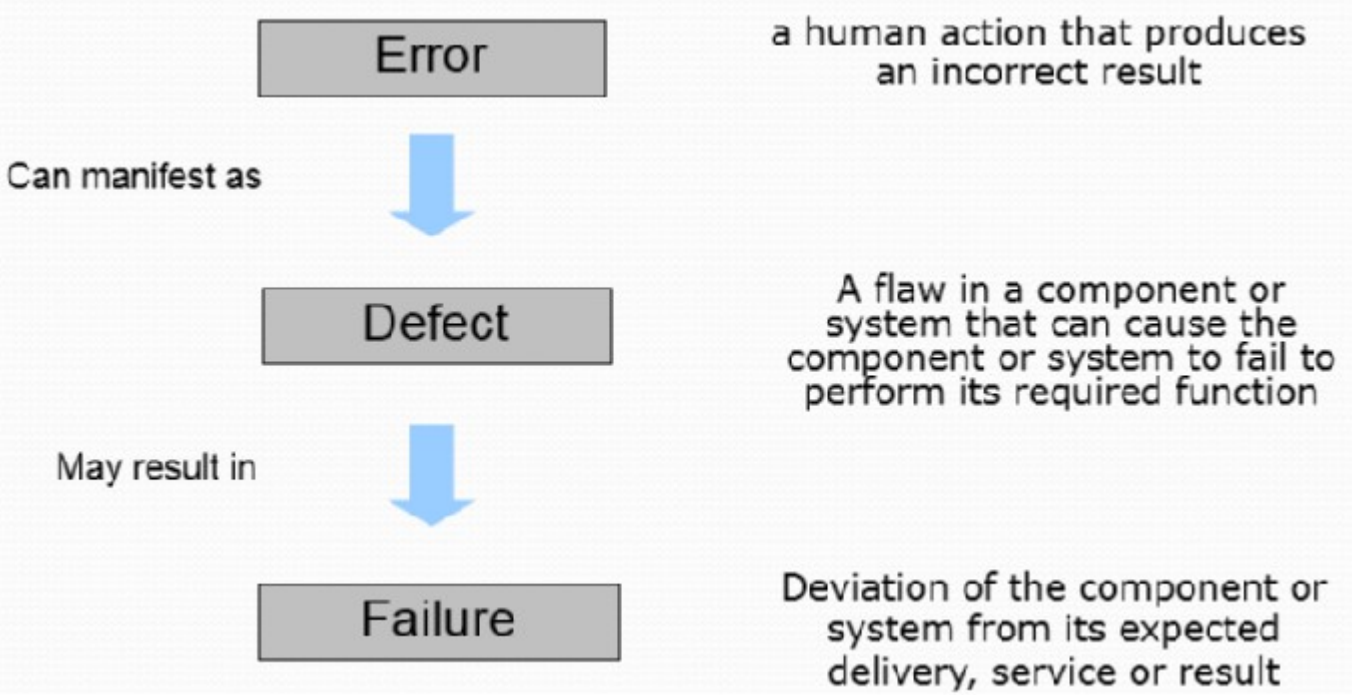


ISTQB International Software Testing Qualifications Board

Fundamentals of Testing

Why Testing is Necessary:

Human -> Error (mistake) -> Defect (fault, bug) which when executed may cause -> Failure
Measures the quality of the software
Gives confidence in the quality
Reduces the overall level of risk
How much testing? Depends on risk, safety & project constraints



Testing Objectives

- Finding Defects
- Providing information for decision-making
- Preventing defects
- Gaining confidence about the level of quality

Seven Testing Principles

- Testing shows presence of defects
- Exhaustive testing is impossible
- Early testing
- Defect clustering
- Pesticide paradox
- Testing is context dependent
- Absence-of-error fallacy

Fundamental Test Process

- Planning & Control
- Analysis & Design
- Implementation & Execution
- Evaluating Exit Criteria & Reporting
- Test Closure

The Psychology of Testing

- Mindset of Developer & Tester
- Communication in a constructive manner
- Test Independence

Who Should Test?

- Developer
  - Understands the system
  - But, will test gently
  - And, is driven by deadlines

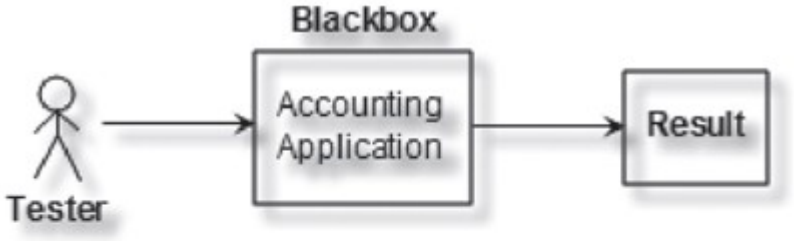
- Independent tester
  - Must learn system
  - But, will attempt to break it
  - And, is driven by "quality"

Fundamentals of Testing

Test Levels

Black Box (Specification based)

Functional Testing
Non-Functional Testing (Software Characteristics)

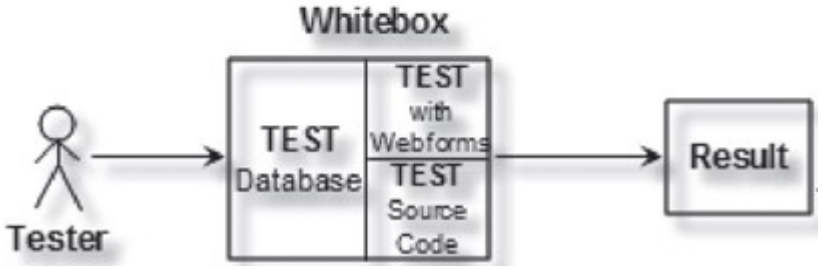


White Box (glass)

Structural Testing

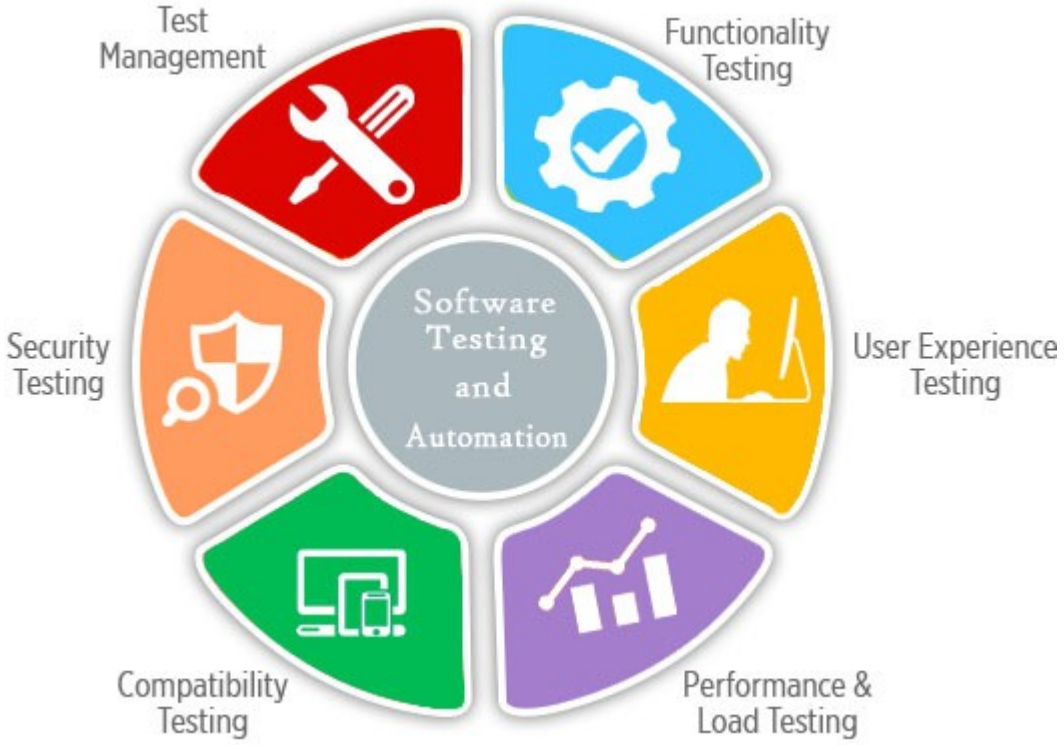
Testing Related to Change

Re-Testing
Regression



Fundamentals of Testing

Testing types:



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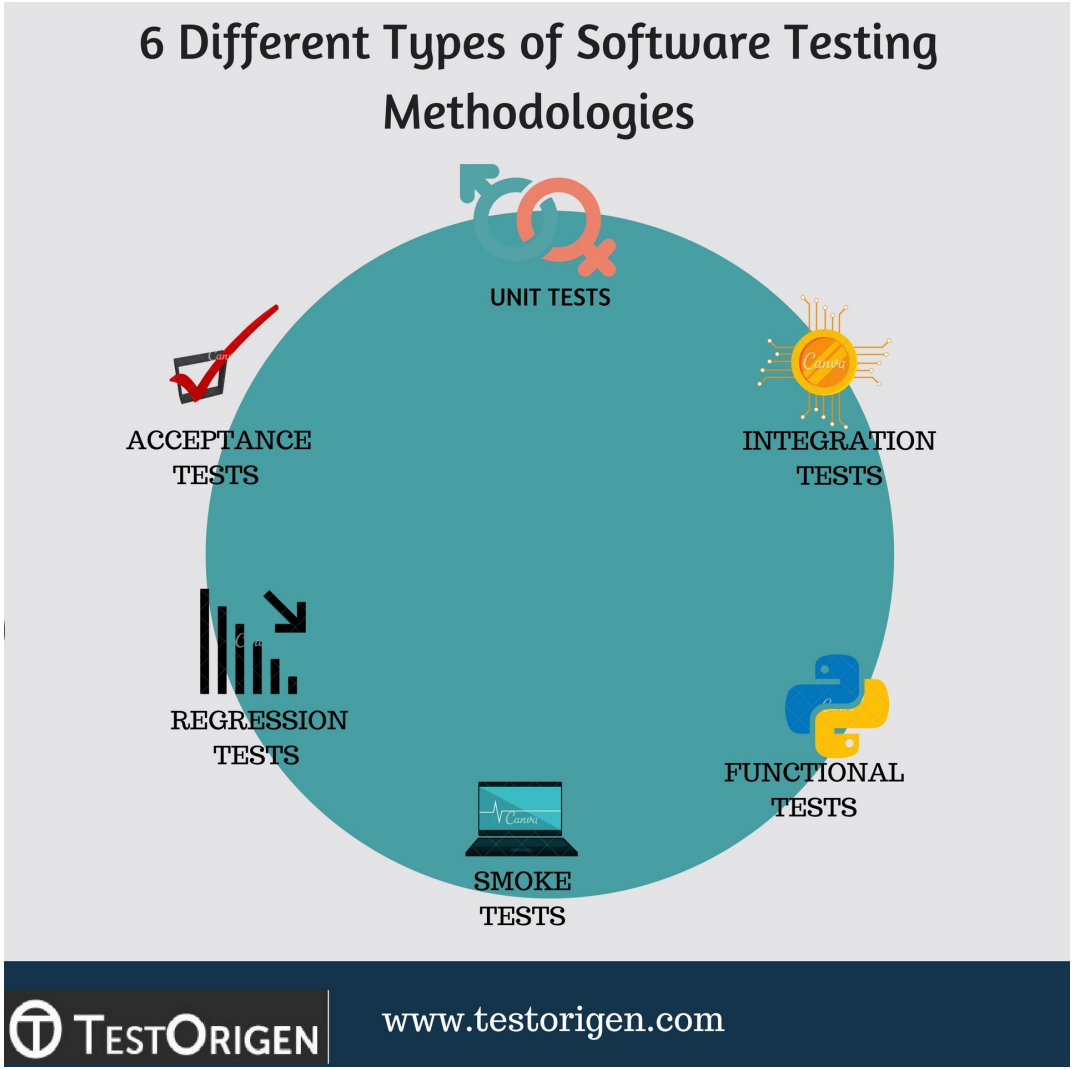
Fundamentals of Testing



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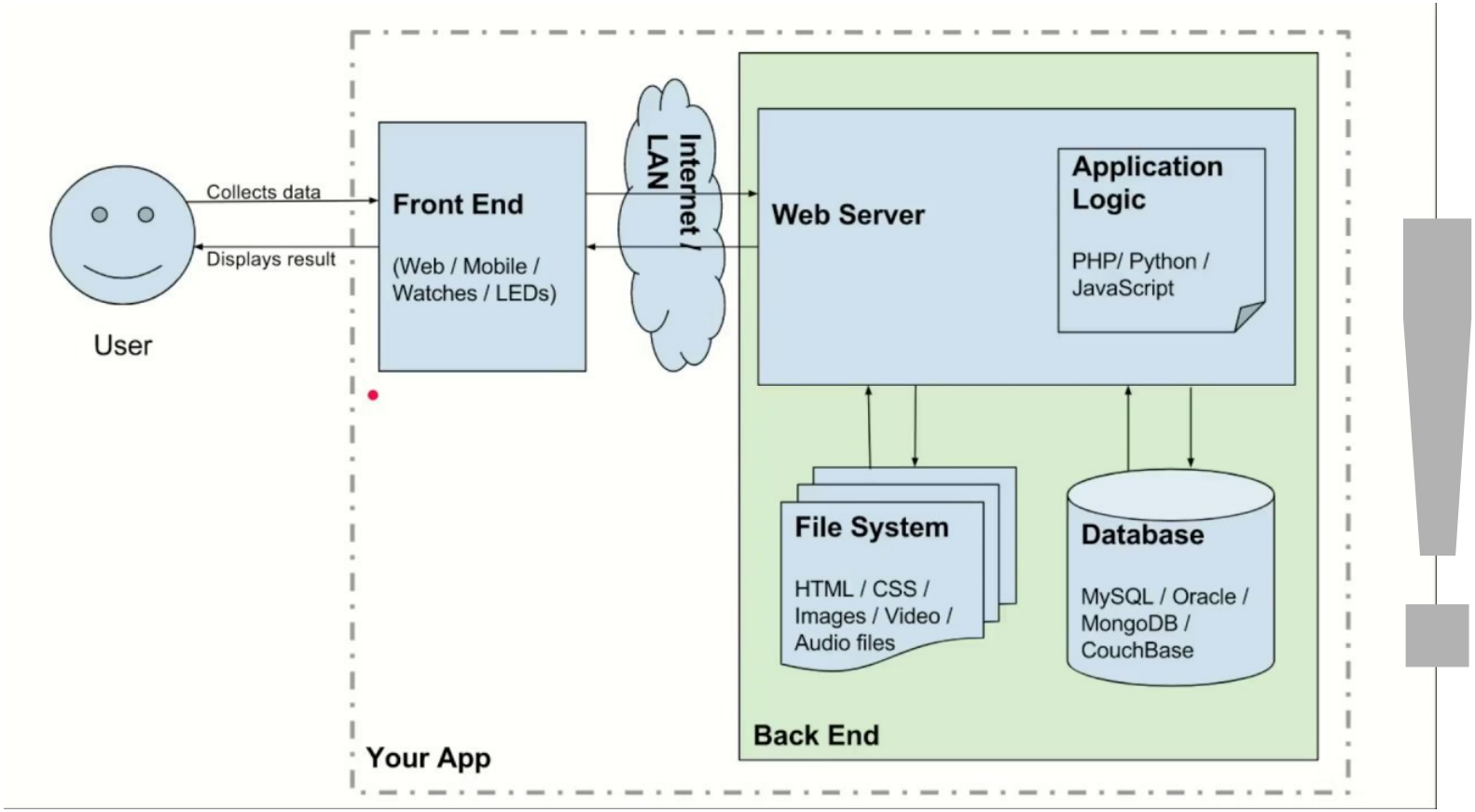
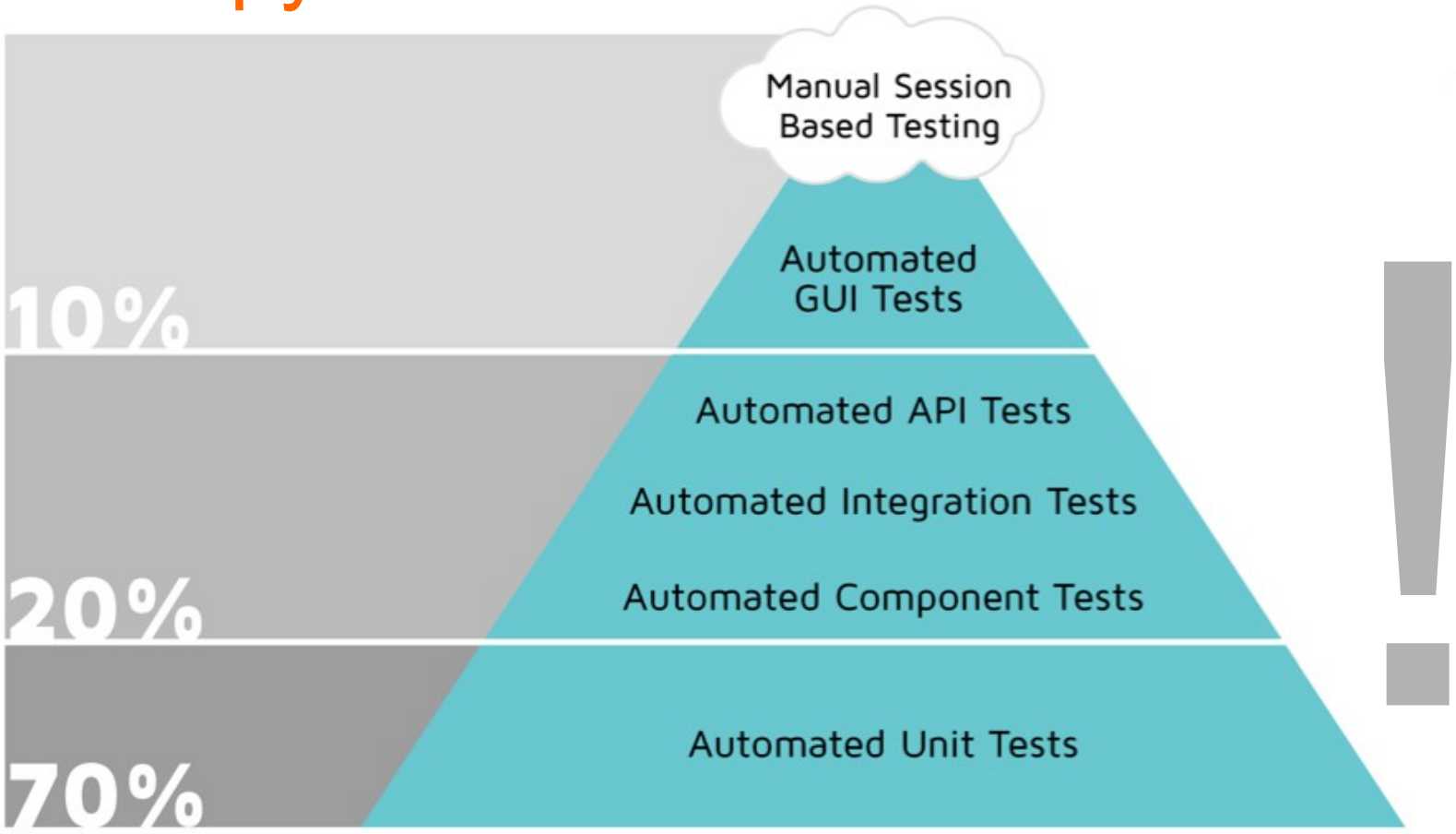
Web App Architecture



Fundamentals of Testing

Test pyramid:



© https://dzone.com/articles/top-15-ui-test-automation-best-practices-you-shoul

Test documentation

- Test Plan
- Test Strategy
- Bug Report
- Test Case
- Test Suite
- Checklist

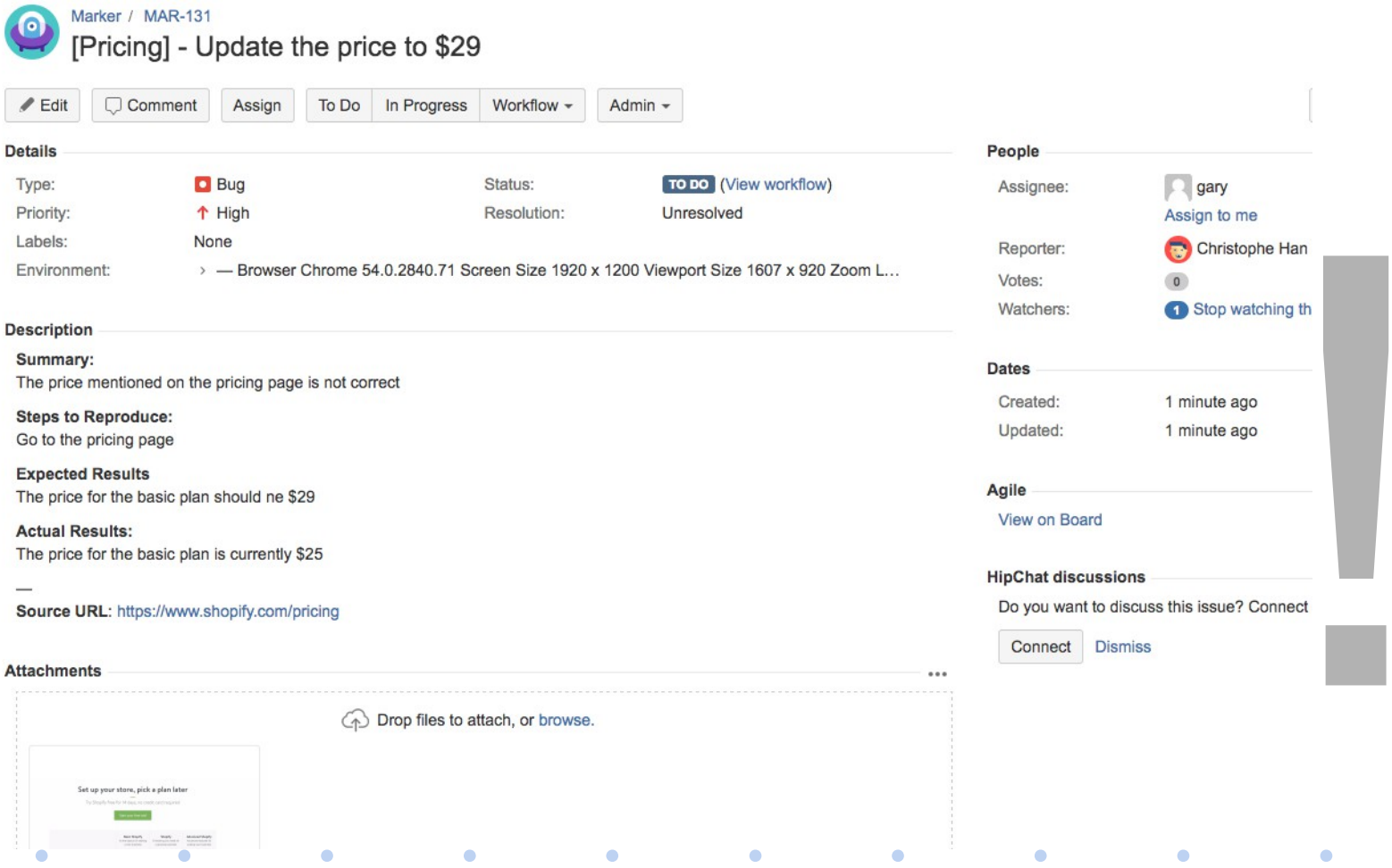
Test attributes

- Summary (Title AND/OR description)
- Precondition
- Test Steps
- Expected Result
- Status

Test Case example

ID	14
Title	Add customer
Pre-Conditions	Sign in with sales authorization
Test Steps	1. Select the client module. 2. Enter the customer information. 3. Click "Add".
Expected Results	A message appears in the program's status bar. The message reads "New customer added".

Bug report example



Marker / MAR-131

[Pricing] - Update the price to $29

Edit | Comment | Assign | To Do | In Progress | Workflow | Admin

Details

Type:	Bug	Status:	TO DO (View workflow)
Priority:	High	Resolution:	Unresolved
Labels:	None		
Environment:	— Browser Chrome 54.0.2840.71 Screen Size 1920 x 1200 Viewport Size 1607 x 920 Zoom L...		

Description

Summary:
The price mentioned on the pricing page is not correct

Steps to Reproduce:
Go to the pricing page

Expected Results
The price for the basic plan should ne $29

Actual Results:
The price for the basic plan is currently $25

—

Source URL: https://www.shopify.com/pricing

Attachments

Drop files to attach, or browse.

People

Assignee: gary
Assign to me

Reporter: Christophe Han

Votes: 0

Watchers: 1 Stop watching th

Dates

Created: 1 minute ago

Updated: 1 minute ago

Agile

View on Board

HipChat discussions

Do you want to discuss this issue? Connect

Connect | Dismiss

© https://marker.io/blog/bug-report-template/

Traceability matrix example

Requirement Identifiers	Reqs Tested	REQ1 UC 1.1	REQ1 UC 1.2	REQ1 UC 1.3	REQ1 UC 2.1	REQ1 UC 2.2	REQ1 UC 2.3.1	REQ1 UC 2.3.2	REQ1 UC 2.3.3	REQ1 UC 2.4	REQ1 UC 3.1	REQ1 UC 3.2	REQ1 TECH 1.1	REQ1 TECH 1.2	REQ1 TECH 1.3
Test Cases	321	3	2	3	1	1	1	1	1	1	2	3	1	1	1
Tested Implicitly	77														
1.1.1	1	x													
1.1.2	2		x	x											
1.1.3	2	x											x		
1.1.4	1			x											
1.1.5	2	x												x	
1.1.6	1		x												
1.1.7	1			x											
1.2.1	2				x		x								
1.2.2	2					x		x							
1.2.3	2								x	x					
1.3.1	1										x				
1.3.2	1										x				
1.3.3	1											x			
1.3.4	1											x			
1.3.5	1											x			
etc....															
5.6.2	1														x

Self-training home tasks:

//[TODO]

0. Install all recommended tools
1. Create accounts in all recommended services
2. Clone repo **https://github.com/AndriiStepura/W2BUSINESS_QA_Academy** with git bash console command:
git clone {REPO_URL}
3. Read ISTQB syllabus 1 and 2 chapters (1-30 pages)
4. In Asana project assign any task from “To Do” with title “Lecture #1 - Homework task” to yourself.
5. Fill the answers in the file “1.Introduction_to_IT_Test.xls” and attach it to task, than set task to “Ready to Review”.
6. Assign any another team member's task from “Ready to Review” to yourself and check answers. Assign this task to previous person and if answers are correct set the task as “Ready for Tests”, else add comments what is wrong and set the task as “To Do”.
7. Assign any another team member's task from “Ready for Tests” and check answers. Assign this task to previous person and if answers are correct set the task as “Done”, else set as “To Do”.
8. Check that you are not assigned to any task with status “To Do”.

Gratitude:

Thanks for review:

http://w2business.pl/
W2BUSINESS
QA academy

Thanks for tech background:

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