



# Software Engineering





# Plan

- ◇ Motivation
- ◇ Testing
- ◇ Road Map
- ◇ Mocha & Chai





# Motivation



# Why is Software Testing Important to a business?

*Developer*



Understands the system  
but, will test "gently"  
and, is driven by **"delivery"**

*Independent tester*



Must learn about the system,  
but, will attempt to break it  
and, is driven by **"quality"**



# Testing



“Software Testing is evaluation of the software against requirements gathered from users and system specifications”



# Software Testing

## Software Validation

Is process of examining whether or not the software satisfies the user requirements.

## Software Verification

Is the process of confirming if the software is meeting the business requirements, and is developed adhering to the proper specifications and methodologies.



# Software Testing

## Software Validation

- ◇ Validation ensures the product under development is as per the user requirements.
- ◇ "Are we developing the product which attempts all that user needs from this software ?".
- ◇ Validation emphasizes on user requirements.

## Software Verification

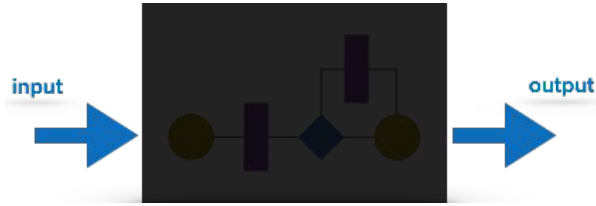
- ◇ Verification ensures the product being developed is according to design specifications.
- ◇ "Are we developing this product by firmly following all design specifications ?".
- ◇ Verifications concentrates on the design and system specifications.



# Testing Approaches

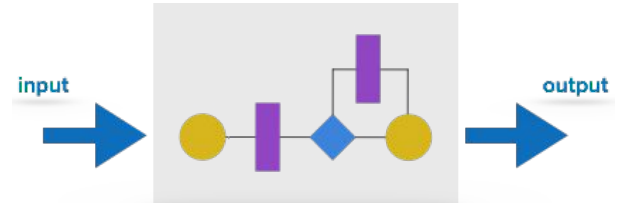
## Black-box testing

It is carried out to test functionality of the program.

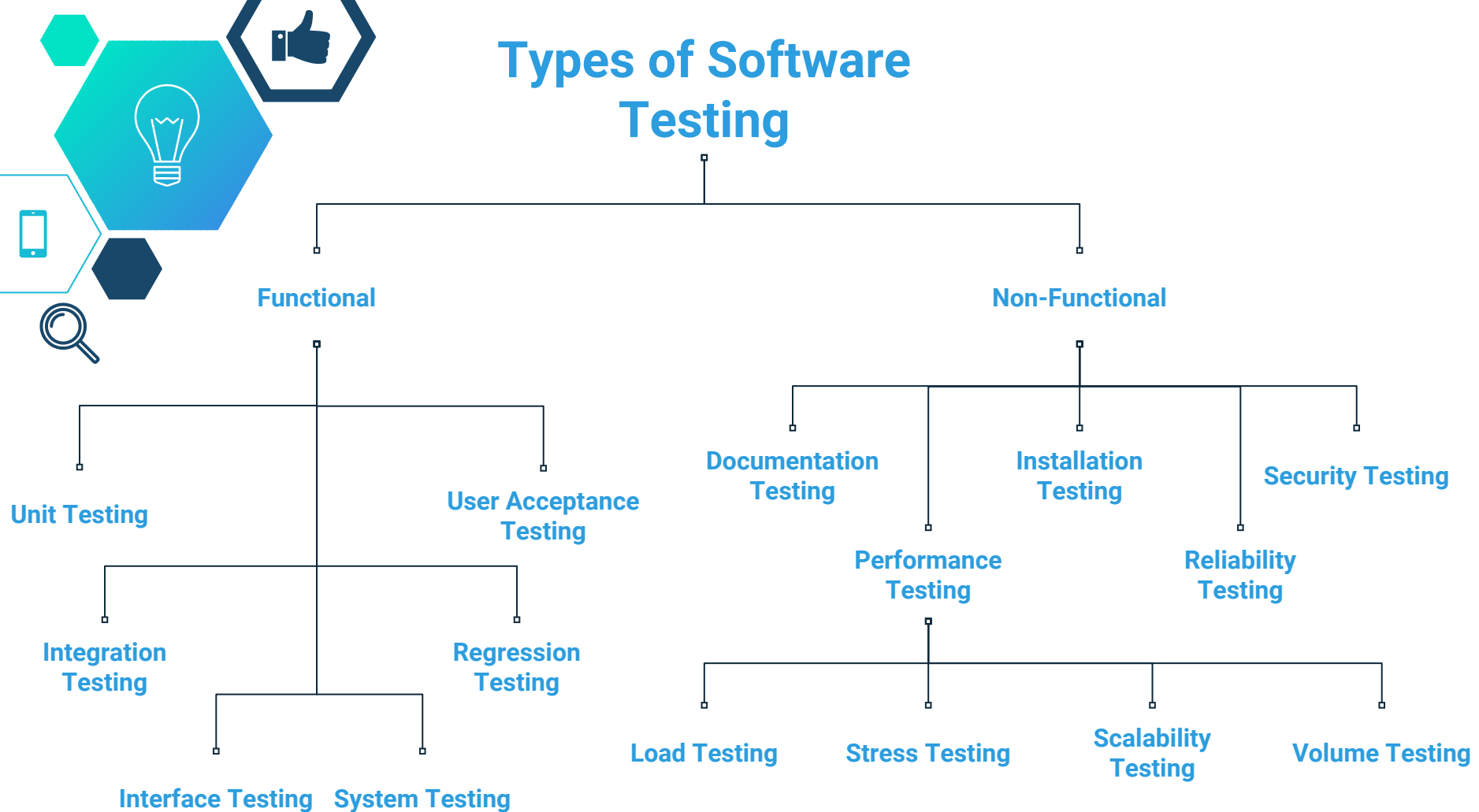


## White-box testing

It is conducted to test program and its implementation, in order to improve code efficiency or structure.



# Types of Software Testing





# Road Map



### Required for any path

Git - Version Control

SSH

HTTP/HTTPS and APIs

Basic Terminal Usage

Learn to Research

Data Structures & Algorithms

Character Encodings

Design Patterns

GitHub

Create a profile. Explore relevant open source projects. Make a habit of looking under the hood of projects you like. Create and contribute to open source projects.

## Web Developer in 2018

Choose your path

Front-end

Back-end

DevOps

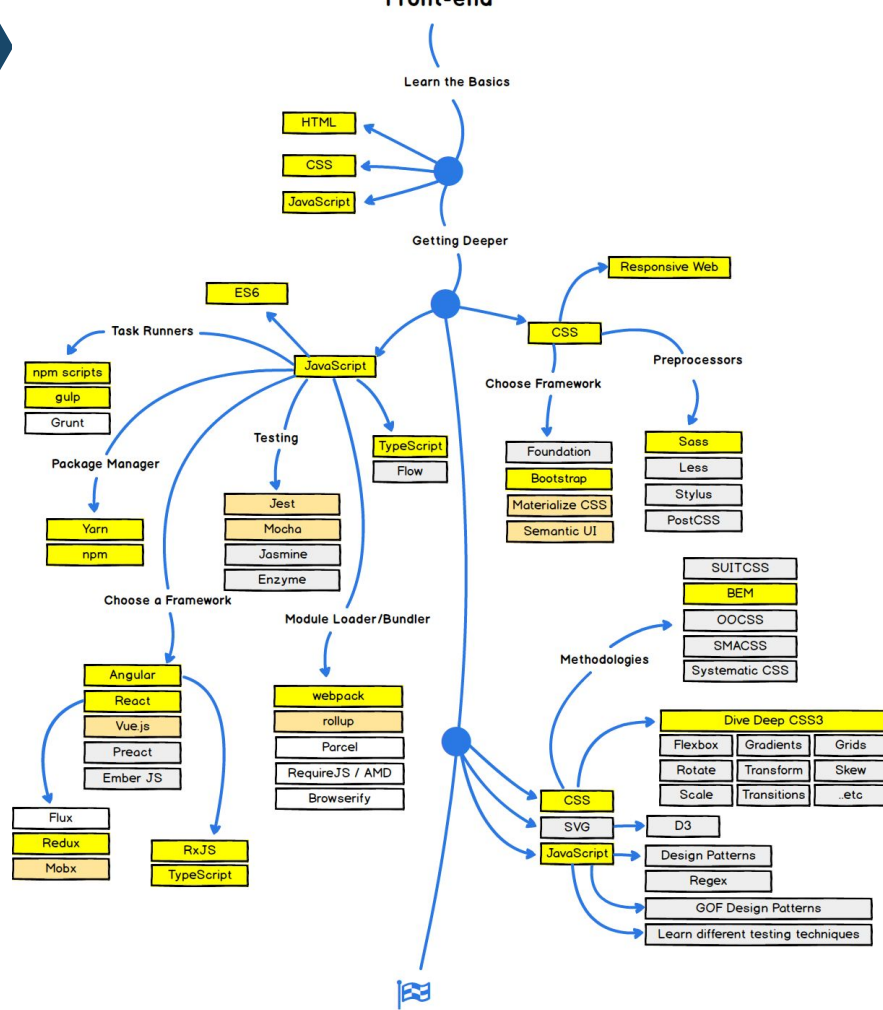
### Legends

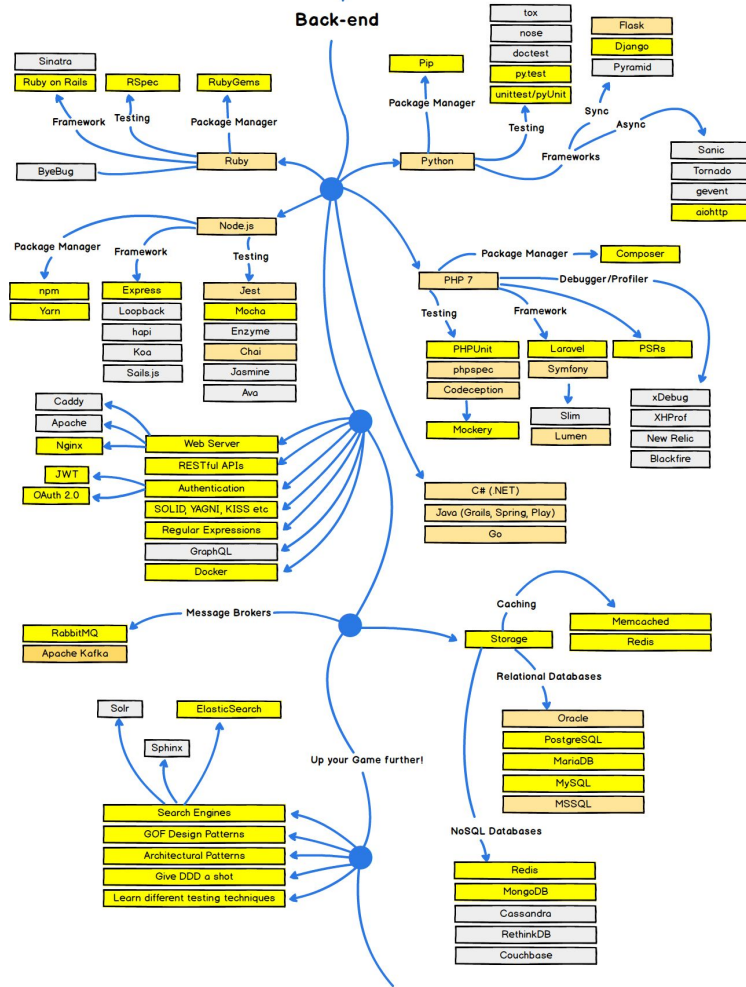
Personal Recommendation!

Possibilities

Pick any!

● Now build something







# Mocha & Chai



## Mocha

Mocha is a feature-rich JavaScript test framework running on Node.js and in the browser, making asynchronous testing simple and fun.

## Chai

Chai is an assertion library, similar to Node's built-in assert. It makes testing much easier by giving you lots of assertions you can run against your code.





# Thanks!

## Any questions?

You can find me at:

- ◇ Github:  
<https://github.com/MoAgamia/SE-Boot-Camp>





# References

- ◇ [https://en.wikipedia.org/wiki/Software\\_deployment](https://en.wikipedia.org/wiki/Software_deployment)
- ◇ <https://pdf.wondershare.com/business/what-is-software-deployment.html>
- ◇ <https://mesosphere.com/wp-content/uploads/2017/07/platform-spectrum-small.png>
- ◇ <https://www.heroku.com>
- ◇ <https://www.imobdevtech.com/Blog/important-types-of-software-testing>
- ◇ [https://www.tutorialspoint.com/software\\_engineering/software\\_testing\\_overview.htm](https://www.tutorialspoint.com/software_engineering/software_testing_overview.htm)
- ◇ <https://www.clicktest.com/blogs/importance-predictive-analytics-software-testing/>
- ◇ <https://mochajs.org/>
- ◇ <http://www.chaijs.com/guide/installation/>
- ◇ <http://blog.webspecia.com/cloud/iaas-paas-saas-explained-examples-comparison>

