

Introduction to Software Development

Module 1

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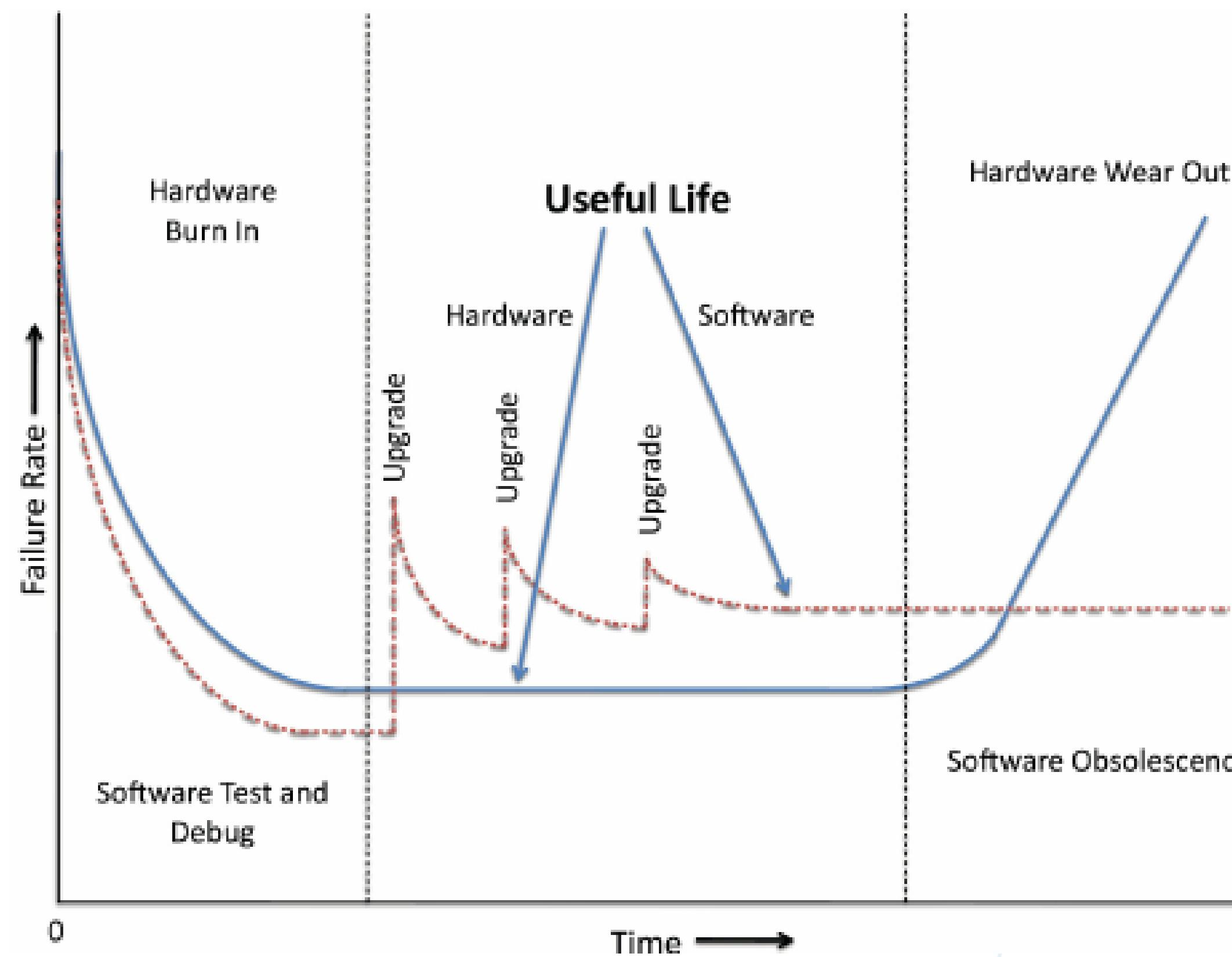


**Software is Developed
Not manufactured**

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Software Crisis

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Y2K Bug



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1920

2020

20

?



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Software Development
is all about coding.

Dude, you are going to start
a whole other software crisis.



Software Engineering

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Software Engineering

Systematic

Disciplined

Quantifiable

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Version Management

CASE Tools

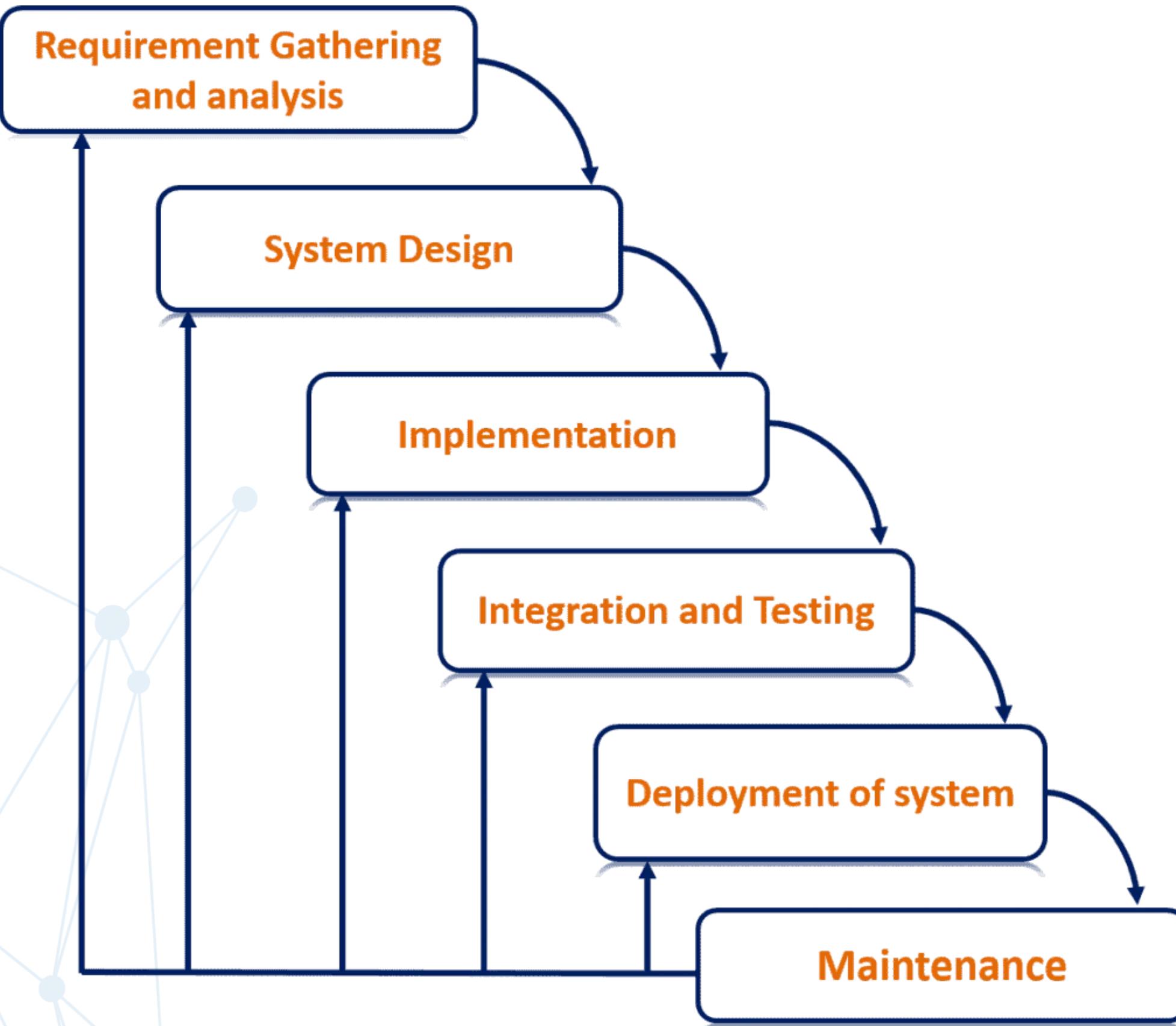
**Configuration
Management**

Release Management

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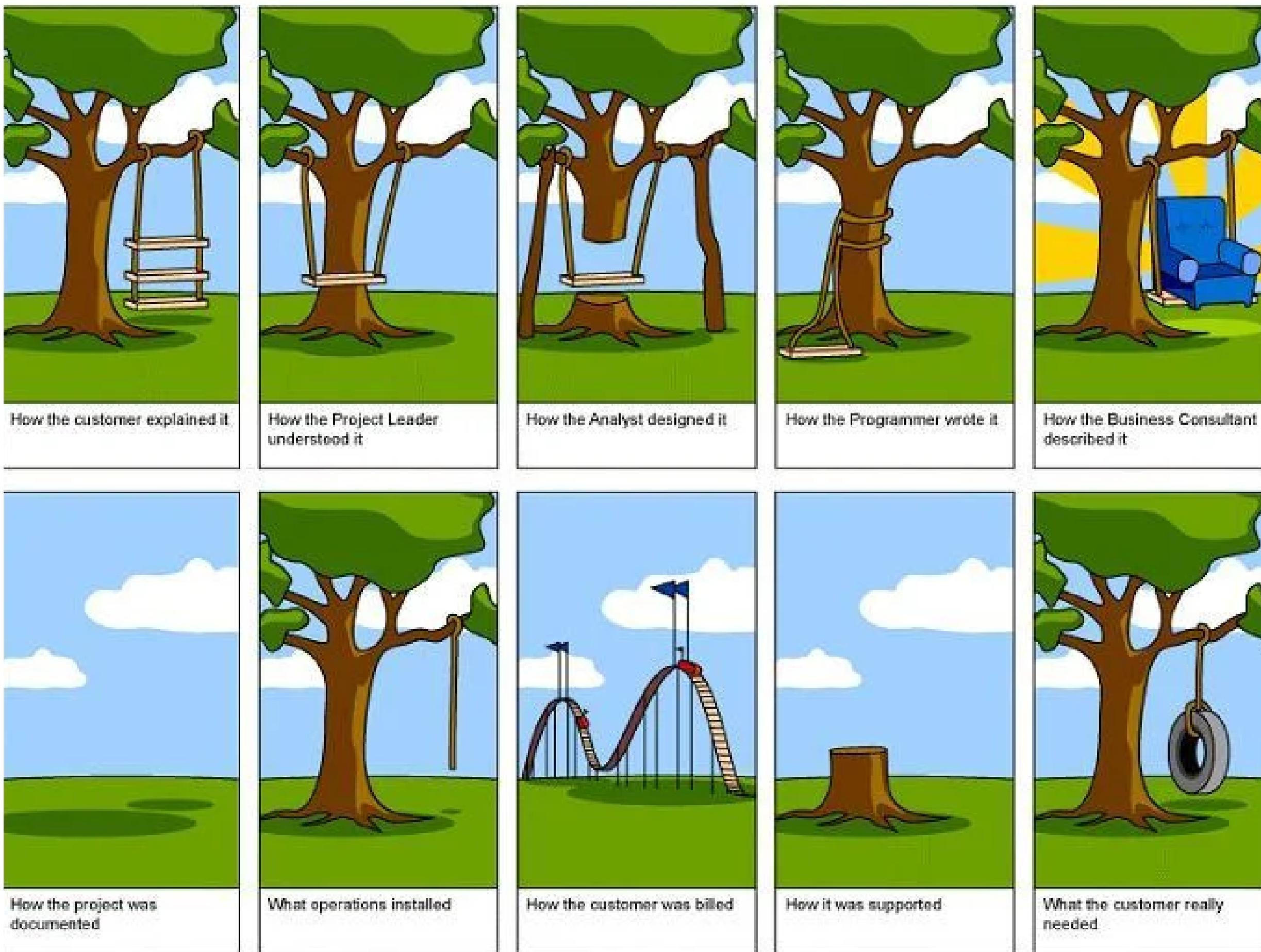


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Waterfall Model





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Programming Paradigms

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Programming Paradigms

Procedural

Object Oriented

Functional

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Procedural Programming

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Procedural Programming

1

Program code is divided up into procedures

2

A function is the most important part of program

3

Top-down Approach

Object Oriented Programming

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Object Oriented Programming

1

All real-world entities are represented by classes

2

An object is an instance of a class having methods and attributes

3

Models complex things as reproducible and simple structures

Functional Programming

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Functional Programming

1

Use of pure high-order functions to develop applications

2

No concept of shared state and mutable data

3

Allows to treat every computation as a mathematical function



StackOverflow Facts (For Learners)

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■ Most Popular Languages

HTML/CSS



Javascript

Python

Java

SQL

0 25 50 75

■ Most Popular Databases

MySQL

MongoDB

SQLite

PostgreSQL

MS SQL Server

0 20 40 60

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VS Code

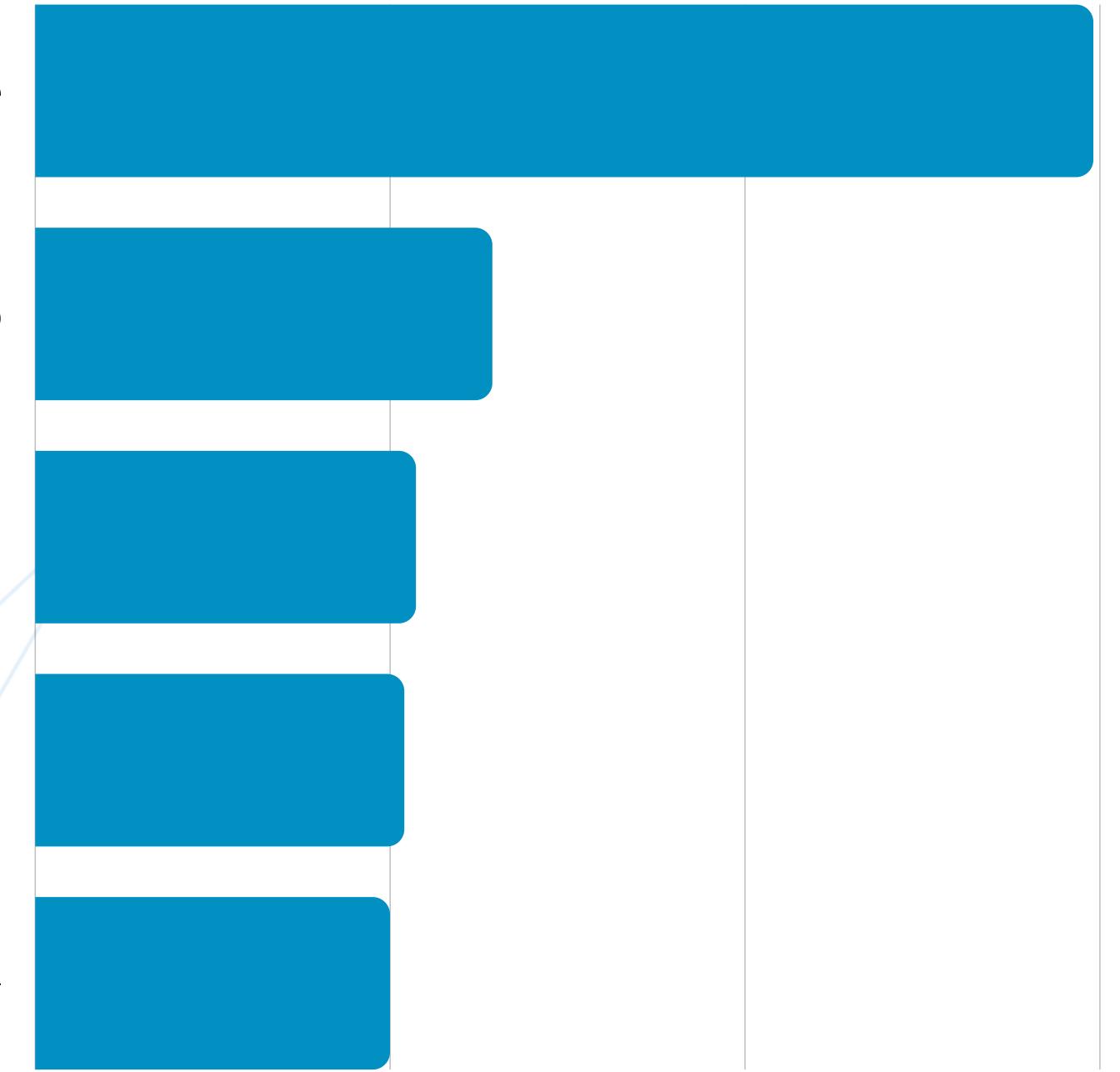
■ Most Popular IDE / Text Editor

Visual Studio

IntelliJ

PyCharm

Notepad++



Heroku

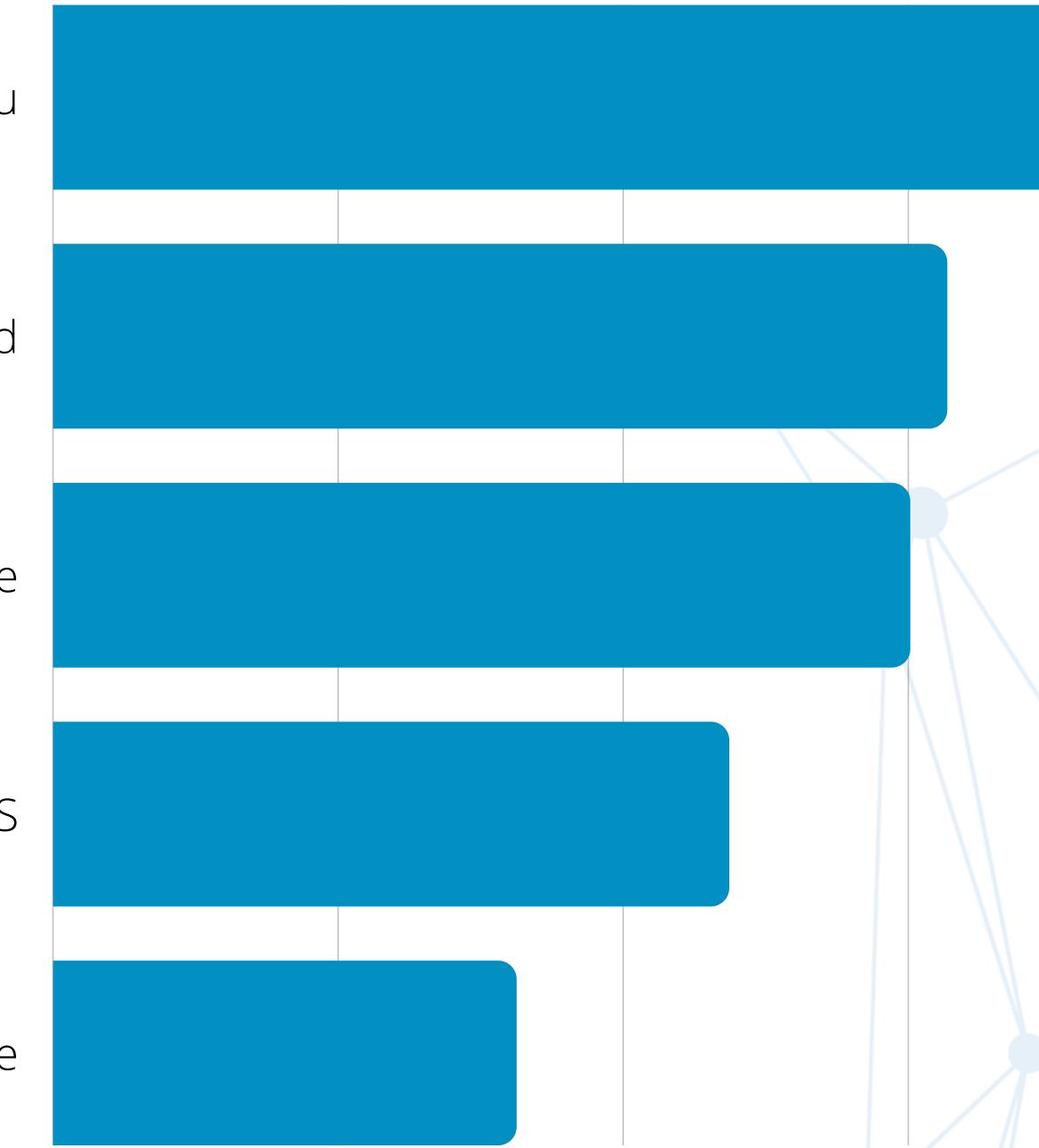
■ Most Popular Cloud Platforms

Google Cloud

Firebase

AWS

MS Azure



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What's an OS?

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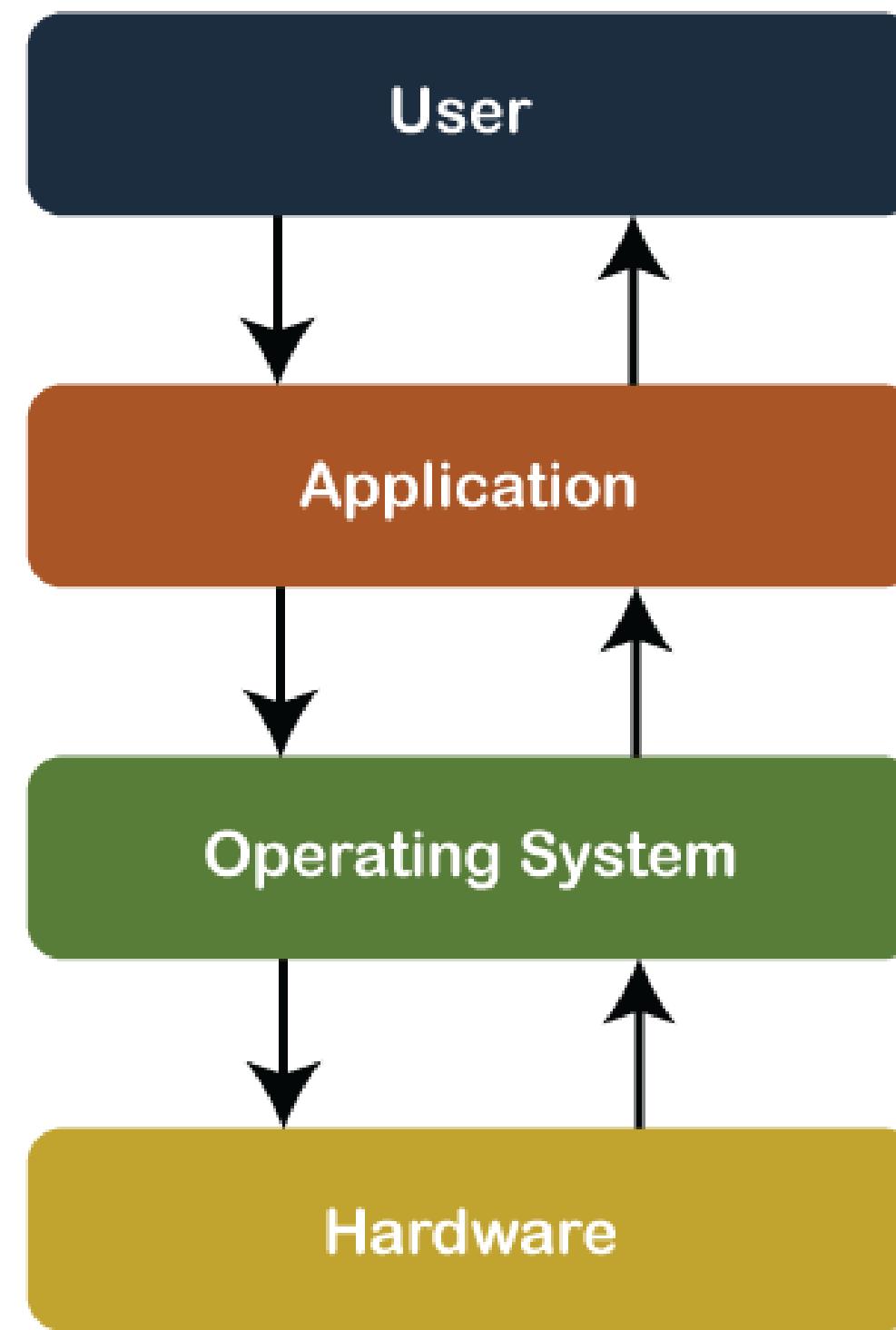


Fig Courtesy: <https://www.javatpoint.com/>

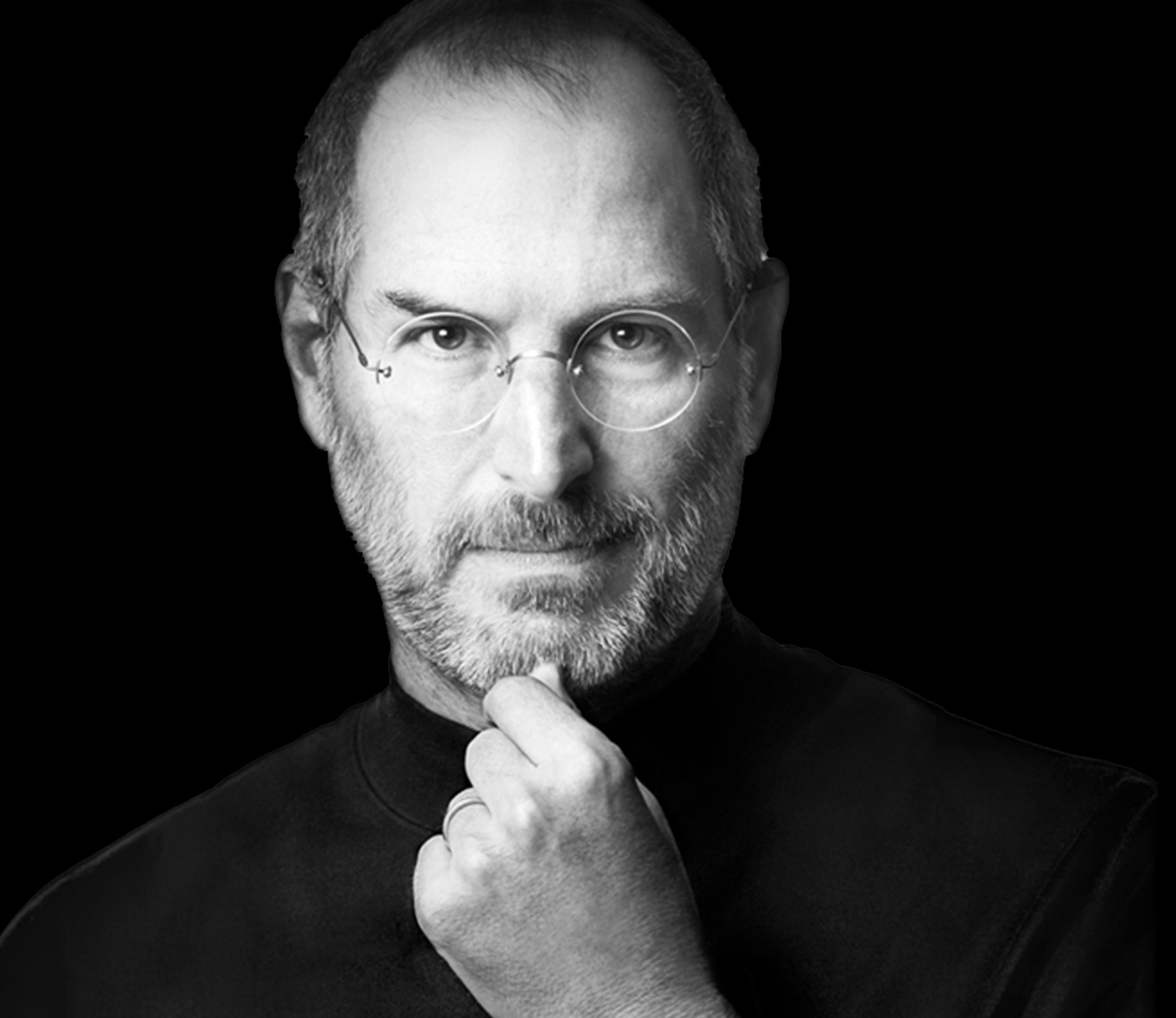


Pic Courtesy : <https://thegeekpage.com/>

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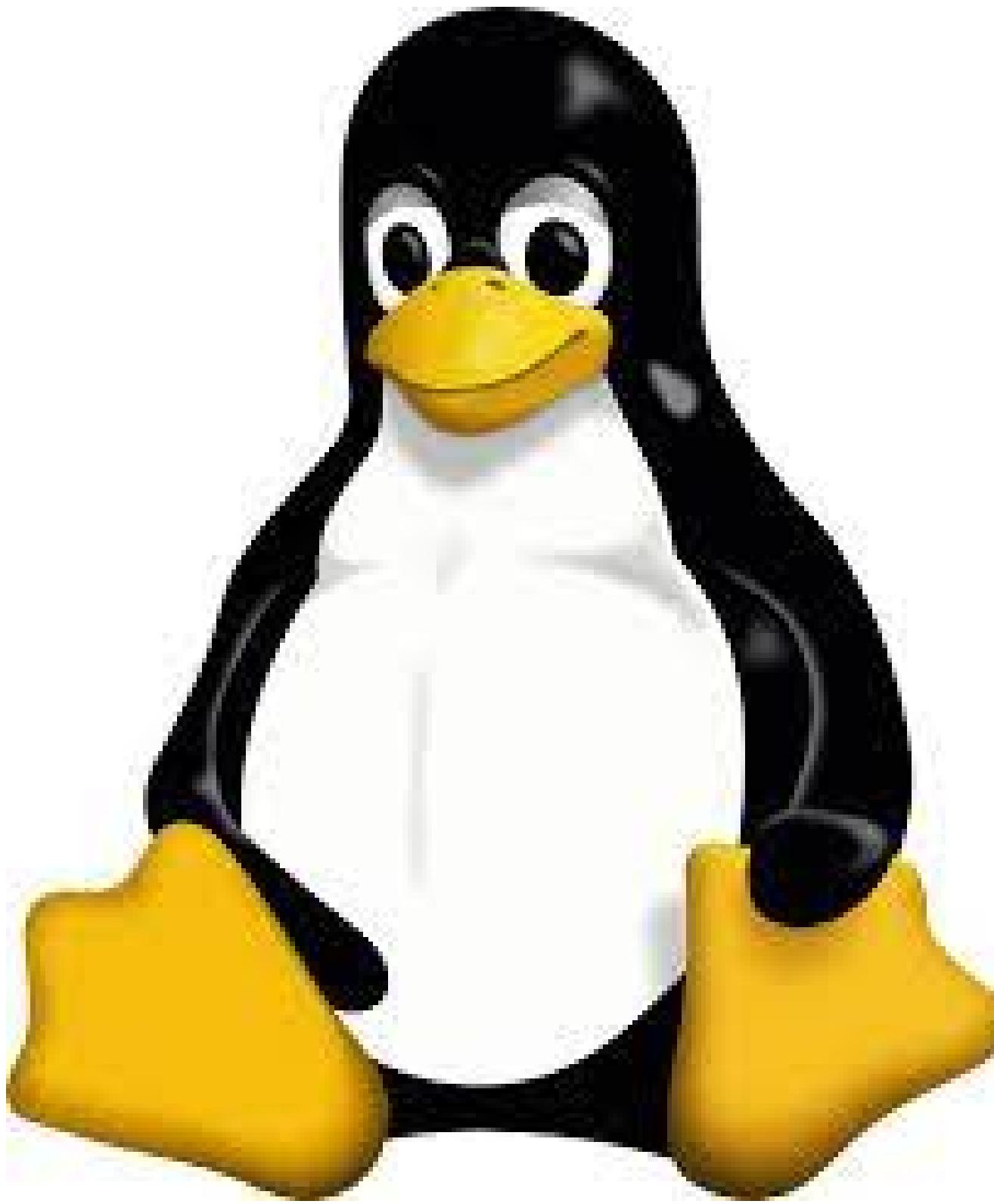


Steve Jobs

1955 - 2011

**Stay hungry
Stay foolish**

Steve Jobs



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Good Programming Practices

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Good Programming Practices

1

Make Use of
Comment Lines

2

Use of Good
Variable Names

3

Simplification of
Code



Good Programming Practices

4

Perfect your
Indentations

5

Effective
Debugging

6

Plan Your
Approach



Good Programming Practices

7

Code Everyday

8

Develop Projects

9

Have a good
knowledge of
Data Structures



Let's Talk About Notion!

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Markdown!



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How to get help?

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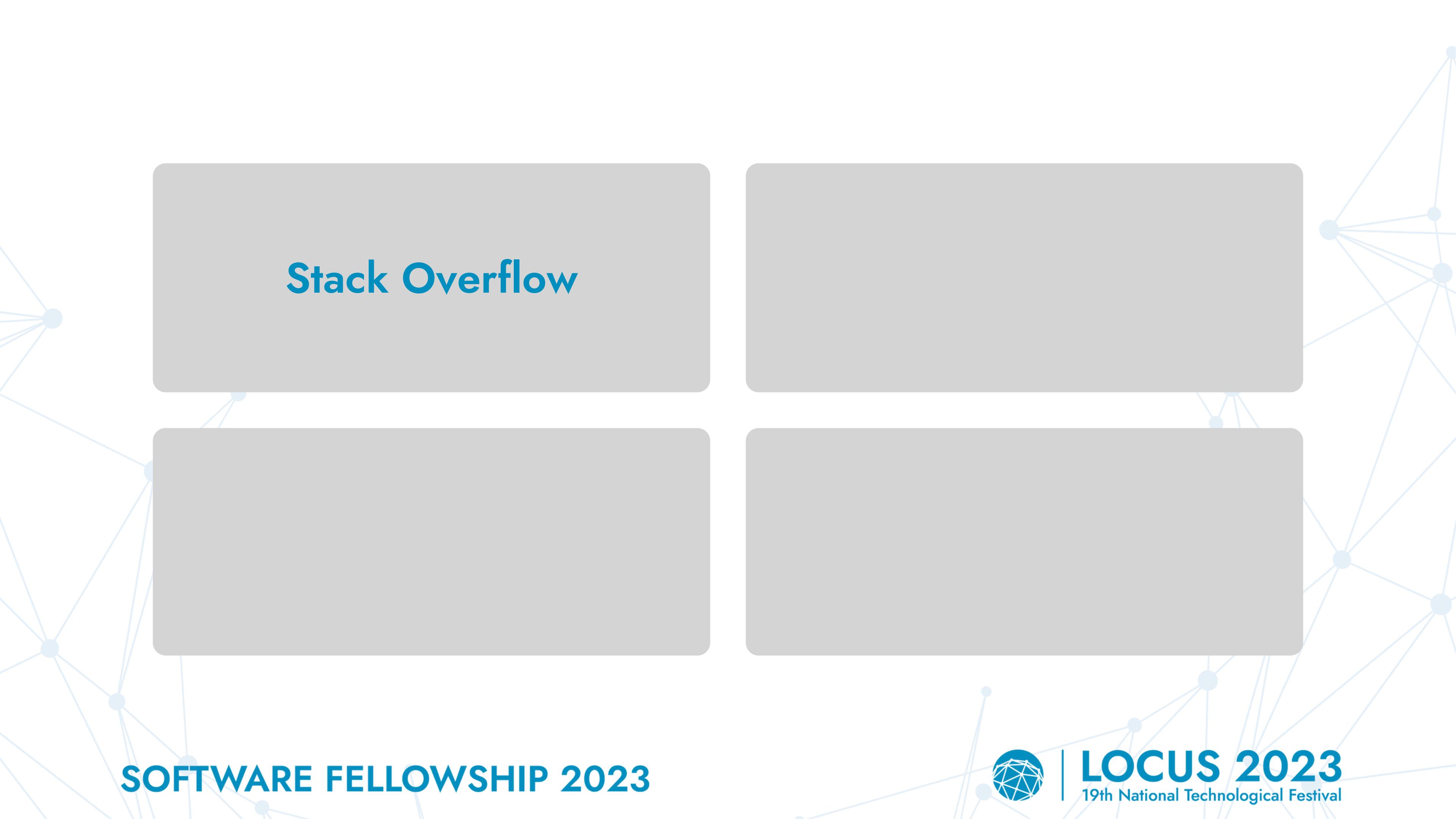
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How to get help?

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Stack Overflow

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Stack Overflow

Reddit

[r/learnprogramming](#), [r/askprogramming](#),
[r/Frontend](#), [r/LearnPython](#), [r/WebDev](#)

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Youtube

freeCodeCamp, CS Dojo, The Coding Train, Corey Schafer

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GitHub

GitHub Student Developer Pack

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Open Source

Grants users the right to use, study, change, and distribute the software and its source code to anyone and for any purpose

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Student Email Benefits

- GitHub Student Developer Pack
- Free Microsoft Office 365
- Google Suite for Education
- Notion Premium
- Namecheap .me domain
- Free Lucidchart Account
- Free JetBrains Account
- Amazon Prime Student

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