What is SonarQube?

Largest bookseller company in the world – Amazon

Largest movie streaming company in the world – Netflix

Largest Music streaming company – Spotify

Most successful companies today are software companies

Therefore, the quality of the software matters a lot

There are two key terms you must understand when evaluating the quality of the software

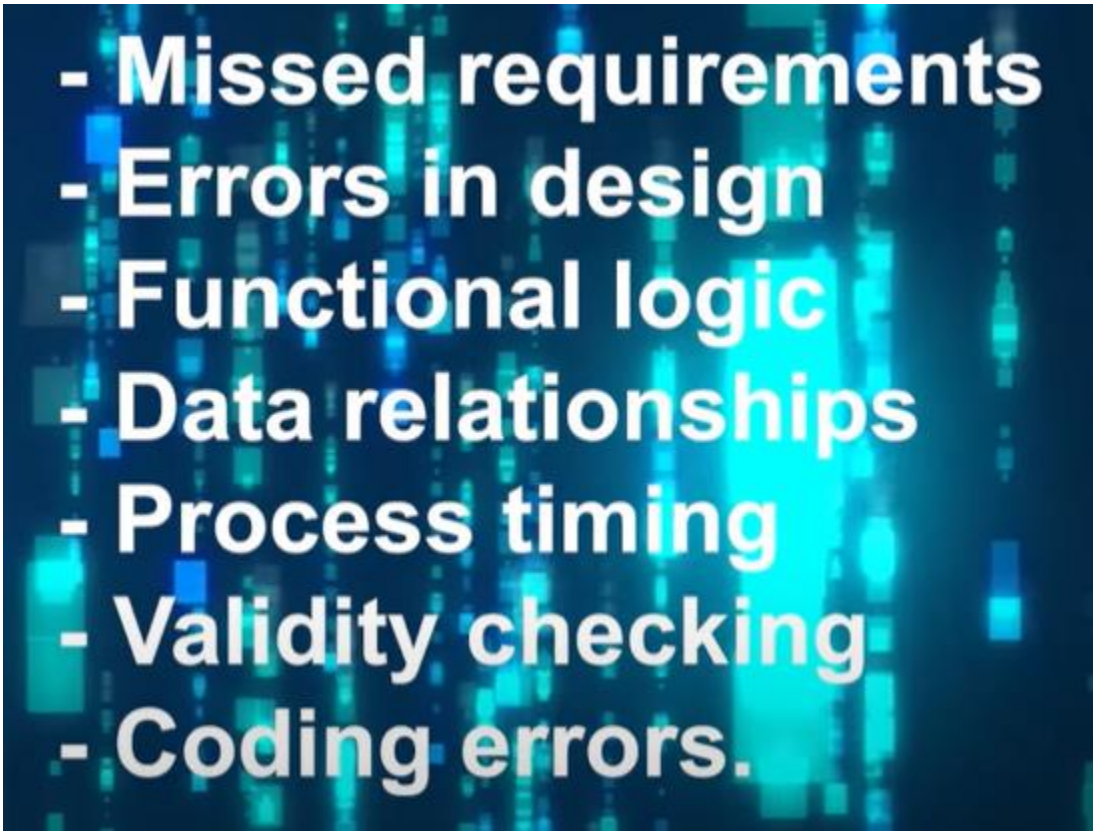
Functional requirements – This test the degree to which the correct software was produced.

Non-functional requirements focus more on the degree to which the software can work as needed. It supports the delivery of the functional requirements such as maintainability.

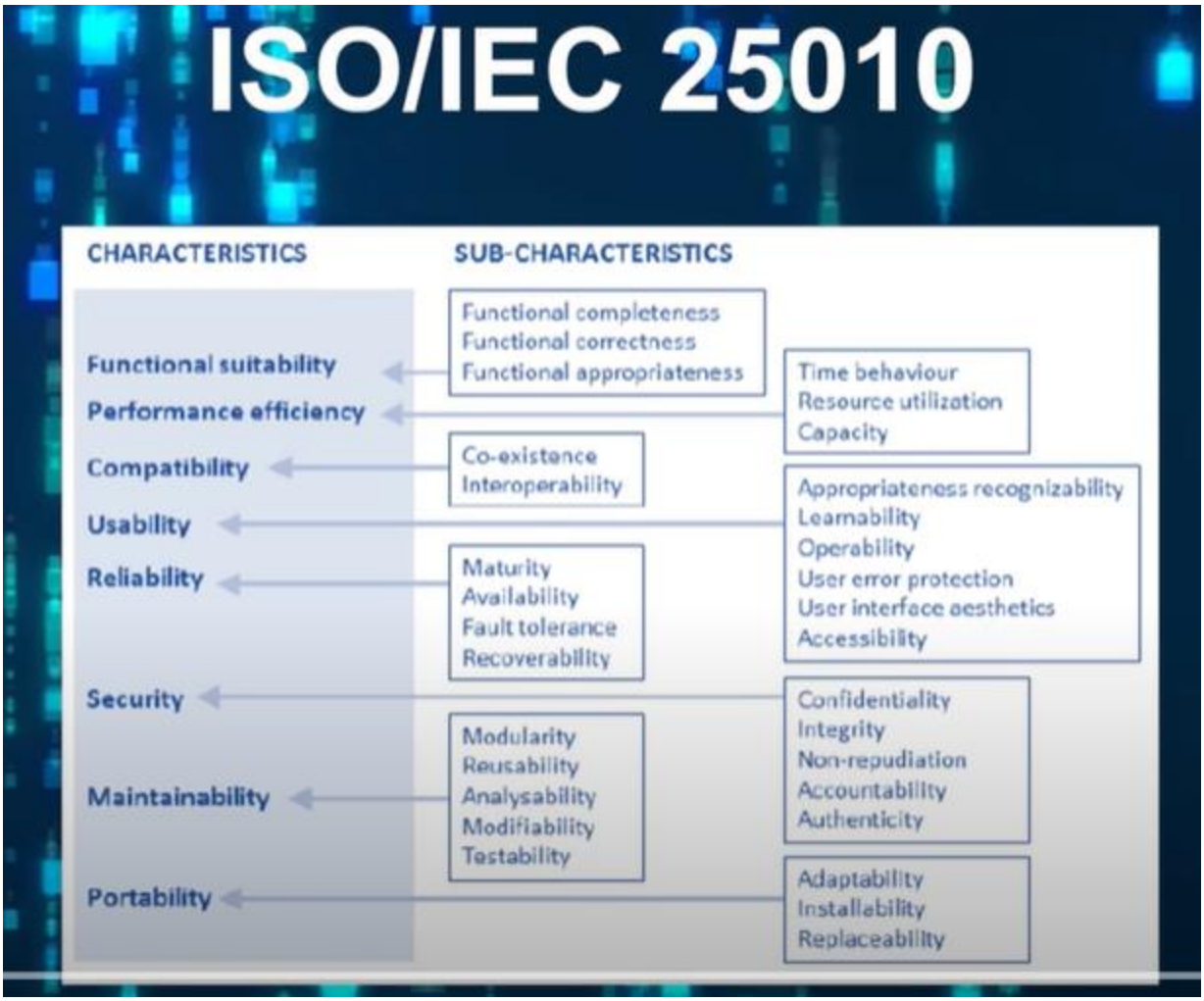
There are two approaches to software quality management.

Defect management refers to the failure of the software to address the end user requirements.

Common defects include the following



Below is the ISO defect management requirement for the software Quality Attributes



There are a couple methods that are using in determining the quality of the codes

The two most common are

What is the difference between the two types of reviews?

Static review of the code is done without executing the code

Dynamic code review is focused on analyzing the behavior of the code during the execution process.

Static code review is preferred because it has ability to detect the errors in the code during the early stages of the code development.

This is mostly used in the DEV environment and QA

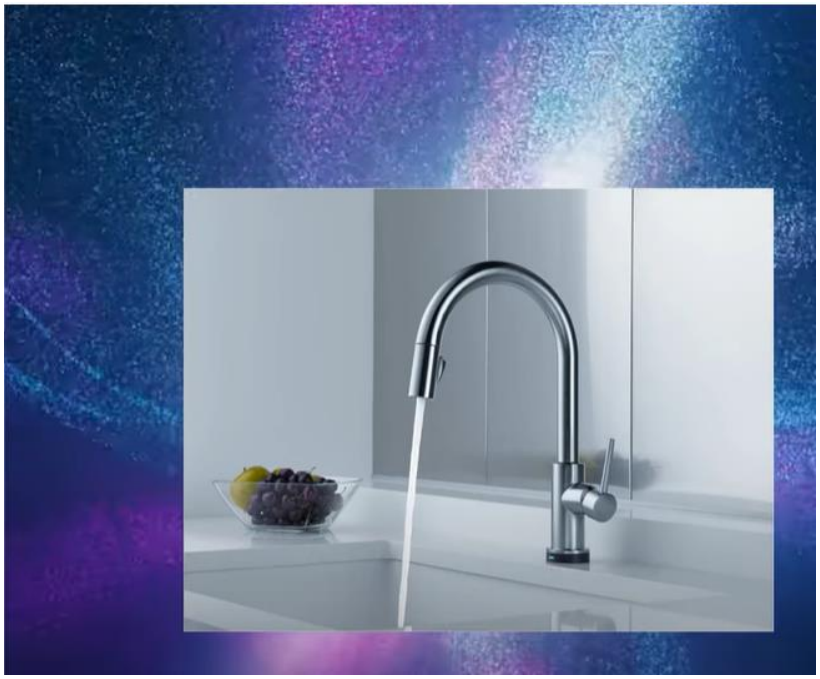
This can be done automatically by a machine, or a CI server Jenkins integrated with SonarQube

When this happens, the QA and DEV environments are able to detect whether the code has the following.

Noncompliance rules are checked to ensure proper coding and conventions are used

Technical Debt

This is a metaphor, but you need to understand the concept behind



Let say you want to buy a new shinny Chinese Kitchen Sink

You go on the website, and you are greeted by a romanticized and shinny kitchen sink and all sudden you fall in love with the kitchen.

You sign the contract and they come and install the kitchen sink and is ready.

You open the tap and suddenly you realize there is not much water coming out and you start to wonder.

You rush to the basement, and you are suddenly met by this image and you almost collapse

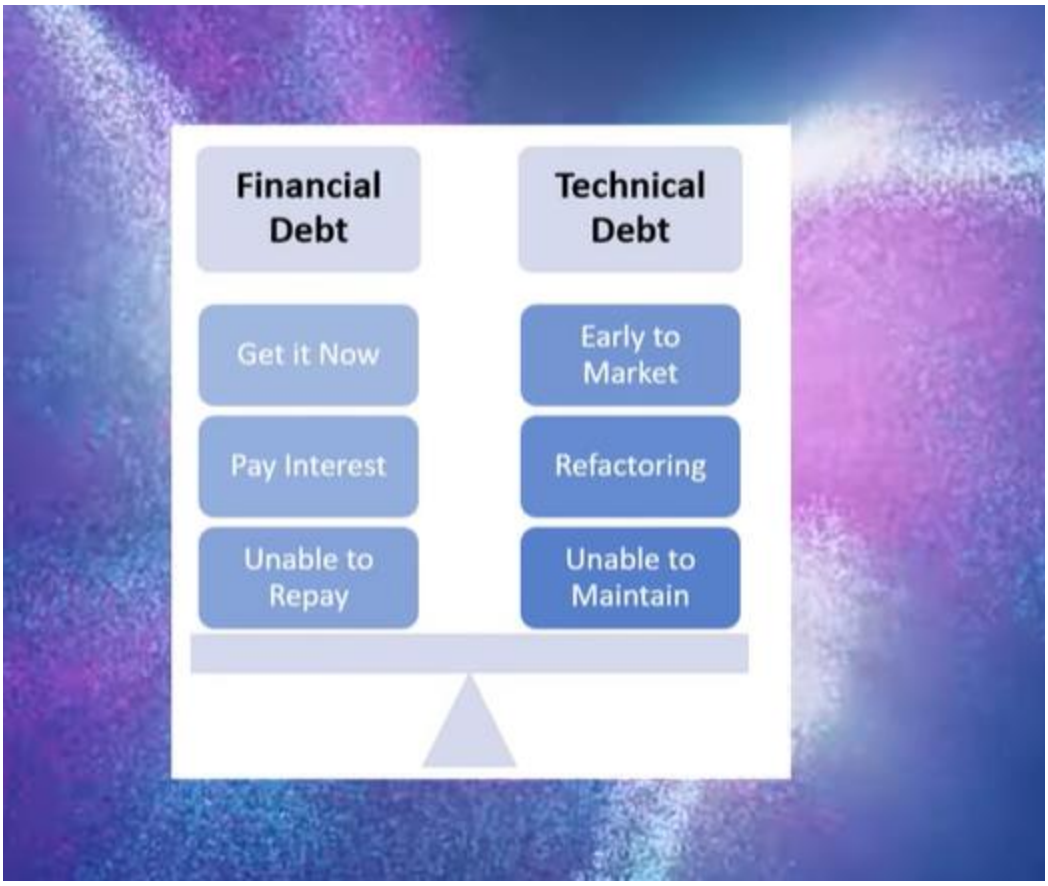
You have a leakage and the water s gushing out.

How would you react to the company that supplied this kitchen sink?

This is not different when it comes to software

Some software’s are created as shinny object to create an illusion but in real sense the are poor quality and cannot pass the defect and quality attributes of the ISO model

Let us come back to the metaphor



Let look at it in the perspective of financial debt

You can get a credit card

You get instant access to the money

You pay interest and if you fail to pay the debt, you go bankrupt and your entire world collapses

Technical Debt

You get very quick and early to the market

You pay less

The software cannot meet the defect and quality requirements

Maintainability cost skyrocket

The software is forced to be removed out of the market because it is not reliable and is very costly to maintain.

This is what we call technical debt – Constant maintenance until you reach a point you are unable to maintain the software.

If you are interested in owning a software in the future, the biggest question you must ask yourself is

How much is my technical debt?

Why is knowing your technical debt important?

In 1870s a sheep known as HMS challengers set on a voyage to measure the ocean floor


THE
MODEL SHIPYARD
HAND-CRAFTED SHIP MODELS
Home of the Thoroughbreds

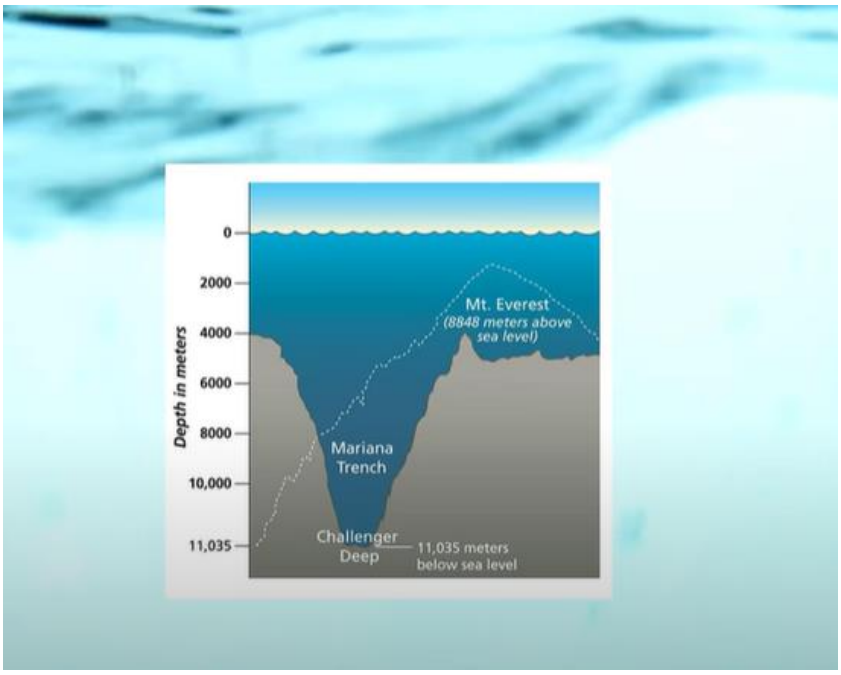
For several years the ship sailed all over the world measuring the ocean floor using the most recent technology in 1870s

At that time, the ship was using a rope and heavy metal that could sink to the bottom floor of the sea.

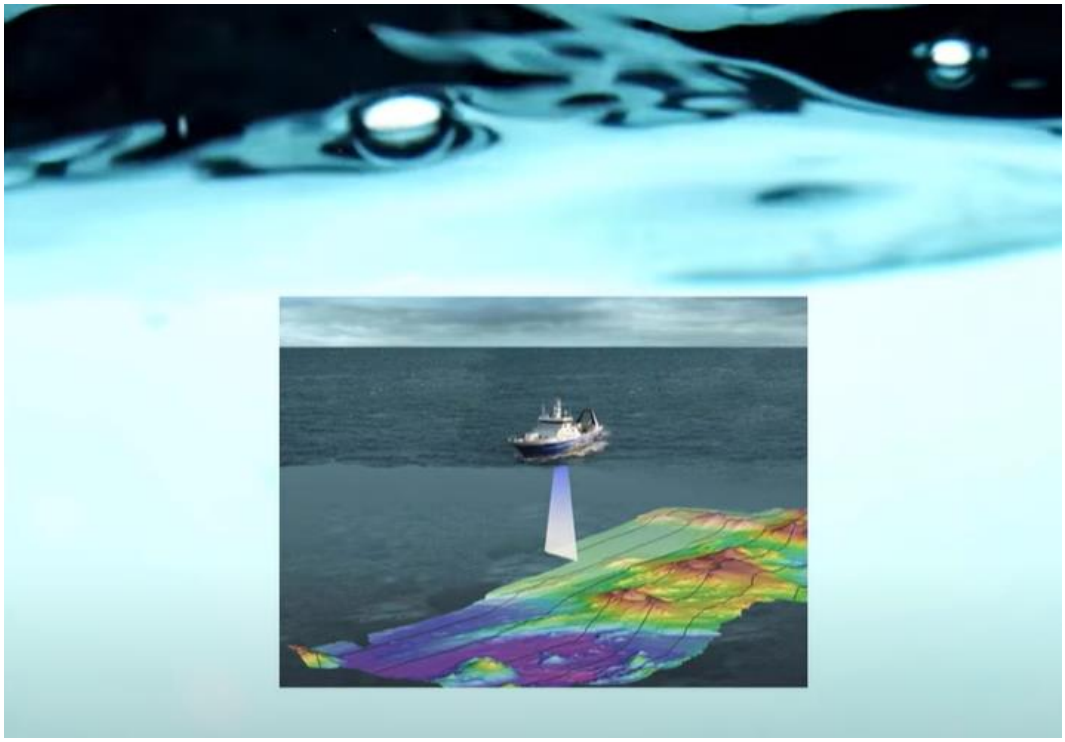
It was the only way to measure the ocean floor

When in the pacific, the scientists were puzzled by how deep the sea floor was

Mariana trench is the deepest point in ocean today. Approximately 11 kilometers



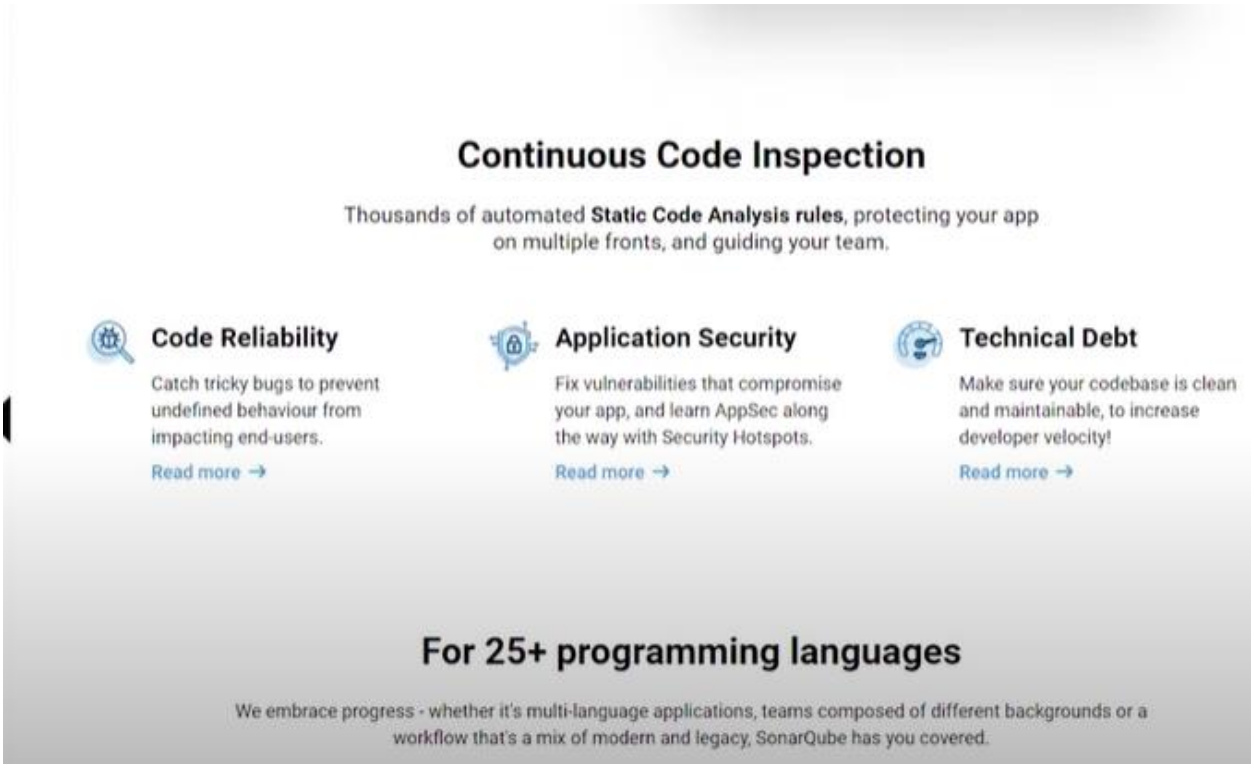
Many years later, new technology for scanning the sea was invented which combined the ability of the submarine to move quicker and map out wider area of the sea floor faster, precisely, and efficiently and the technology became known as Sonar.



SonarQube

SonarQube make the process of scanning large source code faster and efficient. It does this effortlessly to review the code quality, security, defect reviews and quality reviews.

It is an open source that performs continuous integration inspection of the source code.

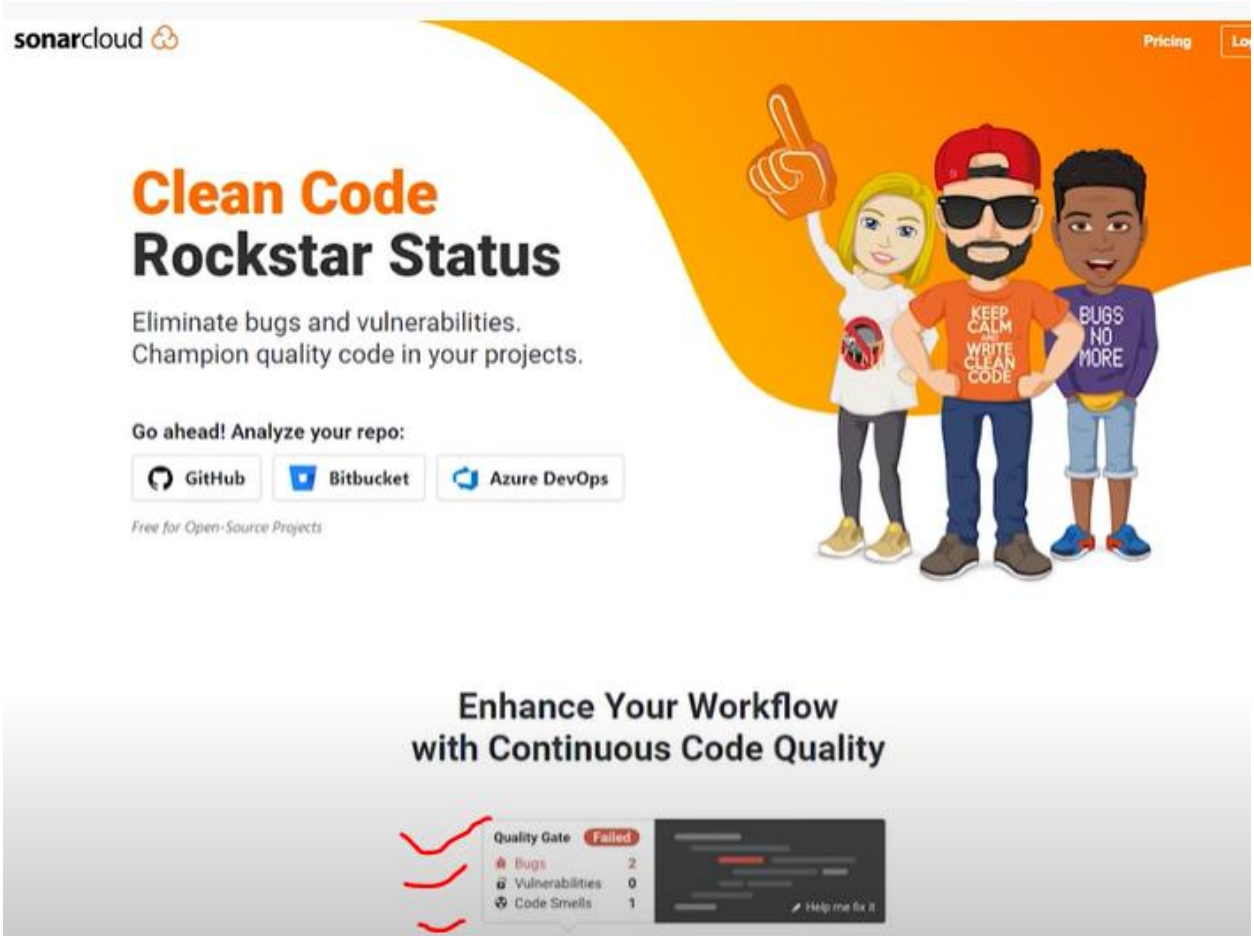


SonarQube offer reports on the following using evolution graphs

- Coding standards
- Duplicate codes
- Unix testing
- Code complexity
- Code coverage
- Bugs
- Security vulnerability
- Comments

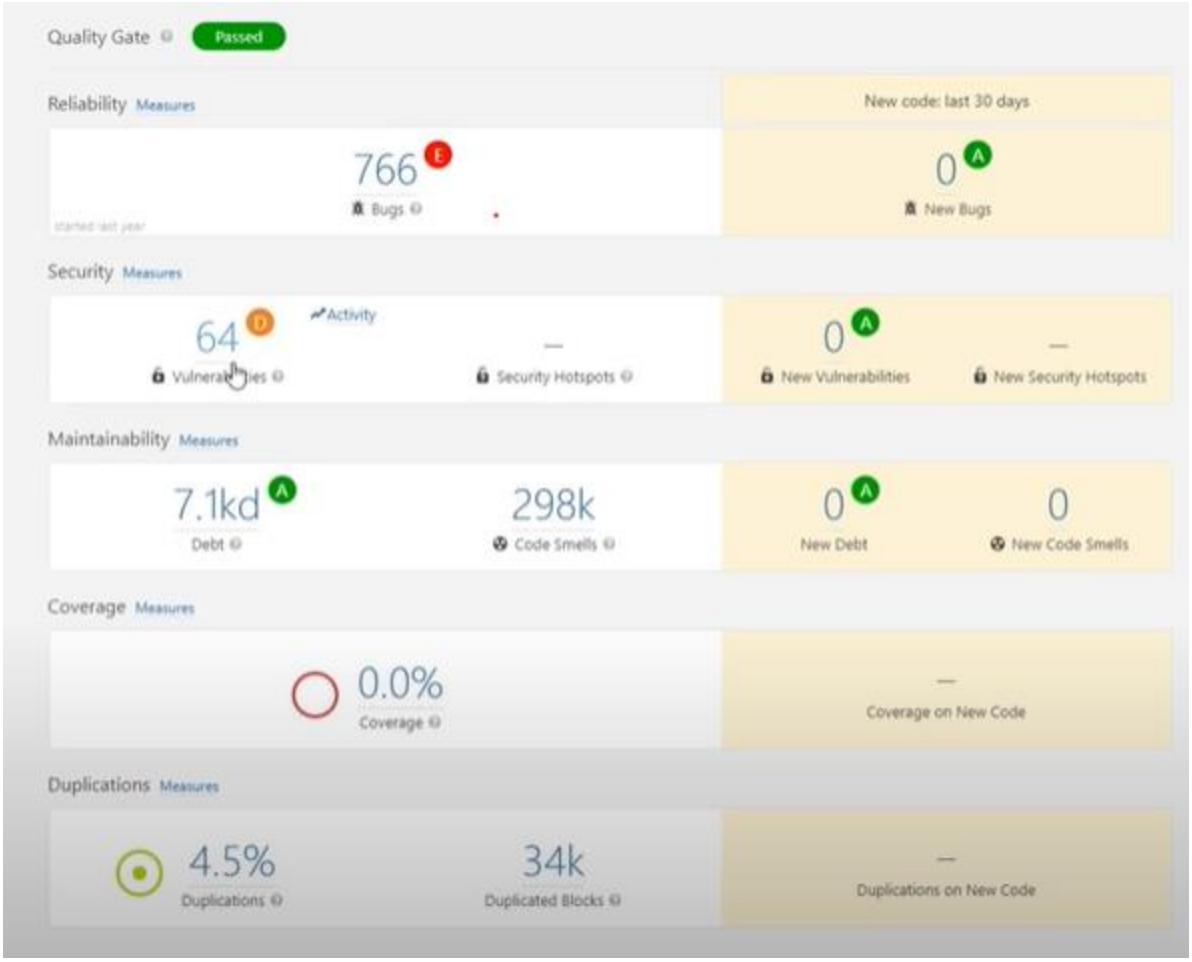
SonarQube is very vital because it is solving the issues every company is facing today.

Using the SonarQube, managers can assess the risk posed by a given software on their existing portfolio by evaluating the technical debt.

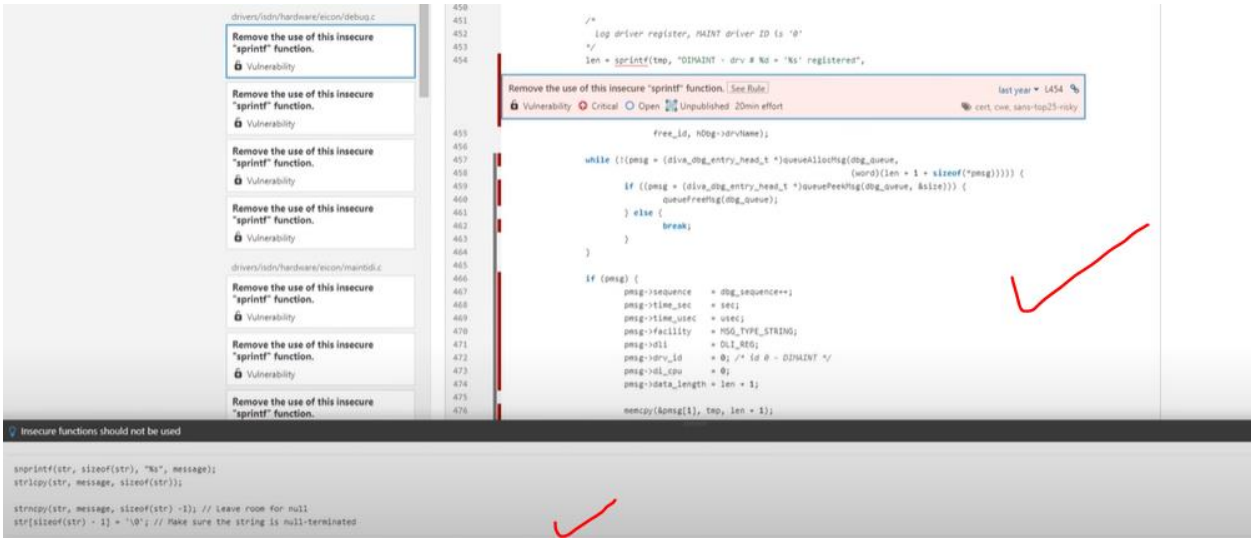


It has cloud solution that integrates the code solutions in GitHub, Bitbucket and even in Azure Devops.


Perspective:
Risk
Sort by:
Last analysis date
Overall Status
New Code
Risk
Reliability
Security
Maintainability
Coverage
Duplications
Color: Worse of Reliability an
A
B
Risk
Coverage
20.0%
40.0%
60.0%
80.0%
0
21d
42d



In this case we have 7 000 kilo days of technical debt – maintainability



It can show you the coding standard and the codes with errors and how you should be doing the codes.

Thank You!