System Platforms

- The development system, which includes development tools such as compilers, source code editors, etc
- The build server which is used to build definitive, executable versions of the systems. The sever maintains the definitive versions of a system
- The target environment, which is the platform which the system executes

Agile building

- Once a system has passed its tests, check it into the build system but do not commit it as a new system baseline

Coding Practices

- Set of guidelines and methodologies that software developers follow when writing code. These practices are aimed at improving the quality, readability, maintainability, and efficiency of the code

Self Documenting Code

- Code is written in such a way that its purpose, intent, and functionality is clear and understandable without the need for extensive documentation
- Rare
- Can the code artifact be understood easily and unambiguously by the programmers

Code smells

- Code smells are any characteristic in the source code of a program that possibly indicates a deeper problem
  - Parts of code not implemented well
- If it "smells" its bad
- They are not bugs
  - Smelly code works
  - Increase bug proneness
- Symptoms of other problems
  - Not a silver bullet to solve

Improve Smelly

- **Refactoring** is to improve the design, readability, and maintainability of the code, making it easier to comprehend reducing errors
- Variable names
  - In extreme cases can lead to product failure
  - Should be meaningful and consistent
  - use the same word to refer to the same concept through the project
- Long Method
  - Code is easier to write than it is to read
  - Separate or break down events into meaningful functions
- Large Class
  - Violating the **single responsibility principle**
  - Developers add just one more capability to a class until its too big
  - Common Refactoring Techniques
    - Extract class
    - Extract sub class
    - Avoid duplication
- A long list of parameters might happen after severao types of algorithms are merged in a signle method