BALANCE THE TEST PYRAMID

UI /end-to-end tests

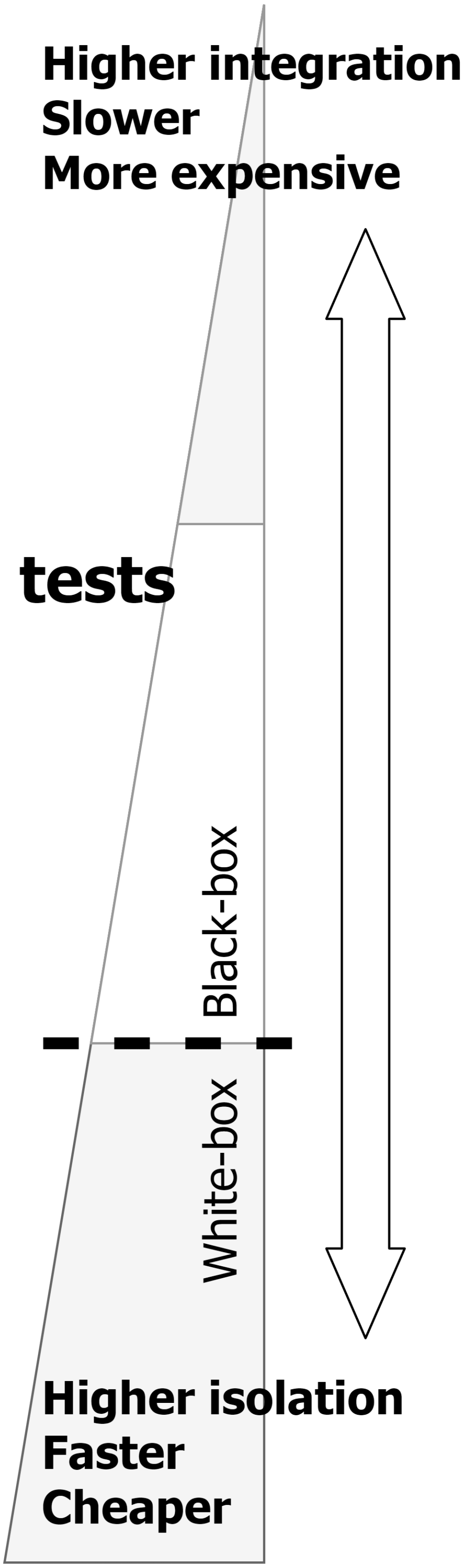
- To ensure that the whole application works as required. User interface testing is the usual way of implementing such tests.
- These tests take the longest time to run, which can be expensive. That is why they are not run so often compared to the previous.
- They are the most expensive to maintain as a lot of them can be broken easily by system enhancements.

SERVICE /Integration tests

- Testing the interaction between individual components of application: interactions between APIs, databases and the like. This is the reason for higher complexity than Unit tests, but they exclude the testing of the UI compared to the E2E tests.
- They are slower compared to the unit tests as they test parts of the application interacting together.
- The maintenance costs are higher since the different parts of the app are involved.

UNIT tests

- Testing small and isolated components or functionalities, so every Unit test can run separately.
- They are fast, allowing frequent execution, for example with every code change.
- They are considered the cheapest as they are easiest to maintain, they run fast and can be the first to find bugs if used properly.
- These are the reasons for having the highest number of Unit tests.



Higher integration
Slower
More expensive

Higher isolation
Faster
Cheaper