The official definition of ‘a functional requirement’ is that it essentially **specifies something the system should do.**

Typically, functional requirements will specify a behaviour or function, for example:
“Display the name, total size, available space and format of a flash drive connected to the USB port.” Other examples are “add customer” and “print invoice”.

A functional requirement for a milk carton would be “ability to contain fluid without leaking”

Some of the more typical functional requirements include:

- Business Rules
- Transaction corrections, adjustments and cancellations
- Administrative functions
- Authentication
- Authorization levels
- Audit Tracking
- External Interfaces
- Certification Requirements
- Reporting Requirements
- Historical Data
- Legal or Regulatory Requirements

Simply put, the difference is that **non-functional requirements describe how the system works**, while **functional requirements describe what the system should do**.

The definition for a non-functional requirement is that it essentially specifies **how the system should behave** and that it is a constraint upon the systems behaviour. One could also think of non-functional requirements as quality attributes for of a system.

A non-functional requirement for a hard hat might be “must not break under pressure of less than 10,000 PSI”

Non-functional requirements cover all the remaining requirements which are not covered by the functional requirements. They specify criteria that judge the operation of a system, rather than specific behaviours, for example: “Modified data in a database should be updated for all users accessing it within 2 seconds.”

Some typical non-functional requirements are:

- Performance – for example Response Time, Throughput, Utilization, Static Volumetric
- Scalability
- Capacity
- Availability
- Reliability
- Recoverability
- Maintainability
- Serviceability
- Security

- Regulatory
- Manageability
- Environmental
- Data Integrity
- Usability
- Interoperability

1) Functional requirement is specified by User, while non-functional requirement is specified by technical peoples e.g. Architect, Technical leaders and software developers.

2) Functional requirement is also the activity System must perform, on other hand non-functional are depending upon criticality of application. For example, if your application is not critical and you can live with downtime, you may not need to develop complex failover and disaster recovery code, reducing your application total development time.

3) Functional requirements defines a software's functionality i.e. what can they do, while non-functional requirements defines, other things which is not required by user but requirement by service provider or software itself e.g. logging is a non-functional requirement to support an application, not directly used by user but essential to troubleshoot any issue in production environment.

4) Non-functional requirements are sometimes defined in terms of metrics (something that can be measured about the system) to make them more tangible.

5) Non-functional requirements may also describe aspects of the system that don't relate to its execution, but rather to its evolution over time (e.g. maintainability, extensibility, documentation, etc.).

Feasibility study

When the client approaches the organization for getting the desired product developed, it comes up with rough idea about what all functions the software must perform and which all features are expected from the software.

Referencing to this information, the analysts does a detailed study about whether the desired system and its functionality are feasible to develop.

This feasibility study is focused towards goal of the organization. This study analyzes whether the software product can be practically materialized in terms of implementation, contribution of project to organization, cost constraints and as per values and objectives of the organization. It explores technical aspects of the project and product such as usability, maintainability, productivity and integration ability.

The output of this phase should be a feasibility study report that should contain adequate comments and recommendations for management about whether or not the proj