

## Functional & Non-functional requirements

**Functional requirements** describe the task that is to be fulfilled. For example, a mobile banking app is to be able to *create a new account, add and remove bank cards, make payments, receive account statements* etc.

**Non-Functional requirements** for will be related more to usability. For example, it might require the capability to *carry out transactions online at any time of the day/night*.

More Examples	
Functional requirements (what the solution should do)	Non-functional requirements (how the solution should do it?)
"Software must authenticate all users attempting to logon to the system."	"The background colour of the screens should be light blue."
"A user must be able to edit messages after they are sent to correct any errors."	"The system must support up to 5,000 users per hour"
"The system should store details of all customers and their contact details (Name, Address, Telephone no.)"	"The system must provide a page response time of 6 second or less in a Chrome desktop browser"
"Sales assistant must be able to enter sales data remotely via the online app."	"The system must be automatically scalable when adding new [XXXXXX]s"
"Customers must be able to browse all sections of the products catalogue by 'department' or 'product type'."	"The system must be scalable enough to support 1,000,000 visits simultaneously, while maintaining optimal performance"
"Customers must have the facility to search through the complete product catalogue by product name and/or product description."	"The system must be compatible with... <ul style="list-style-type: none"> <li>• [Windows XX] or higher?</li> <li>• [IOS/Android version – X.X] higher?</li> <li>• [Browser version – X.X] or higher?</li> </ul> Without any change in its behaviour/ performance".
"Customers must be able to book a space at one of the 3 local restaurants (Harrogate, Leeds, Knaresborough)"	"The system must perform without failure in 95% of cases, monitored over a month of usage."
"Customers must be able to pre-order a coffee for collection"	"The payment processing gateway must be compliant with [Quality Standard/guidelines - XXX], [Law/regulation -XXX]."
"Customers must be able to register their own accounts, in order to speed up re-ordering."	"Each page/screen must fully load within load within 2 seconds."
"Customers must have the facility to rate/post/share their experiences via at least 2 social media platforms"	"The date format must be displayed as follows: month.date.year"
"Users must hold management level privileges or above, in order to gain access to staff personal records/finance data."	The page/screen must be easily accessible/viewable on small touchscreen devices
"After clicking the 'submit' button, a report should be generated in .pdf format, containing a table with the time, date and name of all transactions from a given month."	The payment processing facility must have at least [XXXXXX] level of encryption.
	Passwords must be displayed to the user as [*****] symbols
	The system must be clearly readable to individuals with visual impairments.

### Still unsure?

Sometimes non-functional requirements can be more specific instructions/restrictions of functional requirements. E.g:

Functional Requirement	Non-functional Requirement
"Users shall be required to complete a 'terms and conditions' agreement."	"Users shall be prompted to provide an electronic signature before the next page of the agreement."
"When an order is fulfilled, the local printer shall print a packing slip."	"Packing slips shall be printed on both sides of 4"x 6" white paper, the standard size for packing slips used by local printers."

! Where possible, try to make all of your requirements measurable !



**Wrong:**

"The user should complete a certain distance fast and smoothly"



**Right:**

"The user should move from the A to B point within 3 seconds max"



**Wrong:**

"The webpage download should be completed quickly"



**Right:**

"The webpage download should take no more than 2 seconds in the LTE network"