

Group 9:

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## Tut2

### Activity 1

**Q1.** Which of these are functional requirements?

- a) **Users of the library will be either normal or staff**
- b) **A user will be able to borrow a book**
- c) **A staff person will be able to borrow a book**
- d) The library contains one million books
- e) **If a user asks a book that has been borrowed, her request shall be inserted in a waiting list**
- f) **Staff shall have no priority in borrowing books**

a,b,c,e,f

### Q2

Which of these are non-functional requirements?

- a) Pressing the switch, the room shall get lightened
- b) **Pressing the switch, the room shall get lightened in less than one second**
- c) If the room is dark, pressing the switch it shall get lightened
- d) **The light in the room must be sufficient to read**
- e) If someone is reading then the light must stay on
- f) After two minutes that the room is empty the light must switch off

b,c,d

### Q3

Which of these are functional requirements?

- a) **A person can enroll in a course**
- b) Only 10 persons max can enroll to this course
- c) **A student is a person**
- d) **A course is taught by a professor**
- e) **A professor is not a student**
- f) Each course terminates with an exam
- g) **Every exam produces a ranking of all participants**

## Q4

Which of these are functional requirements?

The iPhone

- a) can function as a camera
  - b) has a camera with 2.0 megapixels with geo-tagging**
  - c) is a portable media player
  - d) offers an Internet client**
  - e) renders a virtual keyboard by its multi-touch screen**
  - f) is connected to a PC via a USB plug
  - g) includes a digital compass in the 3GS model**
- b, d, e, g**

## Q5 – Ticket Sales System

Below are some initial “raw” requirements for an online ticket sales system (theatre, concert etc.). Identify the Functional and Non-Functional components in each sentence and, for the NFRs, state the category into which they fit.

1. Users must be able to browse for events by name or date or venue (FR).
2. Searching for events by keywords should also be possible (FR).
3. User will select ticket price from those offered and also specify the number of tickets they require (FR).
4. The system should display availability of the tickets (FR) within five seconds (**NFR – performance**).
5. Users must be able to choose their seats and purchase tickets (FR) 24/7 (**NFR – availability**).
6. Only registered customers can buy tickets (FR).
7. Daily (**NFR – availability**) reports of ticket sales must be generated (FR). These must be retained for two years (**NFR – archiving & retention**).
8. All data is to be backed up nightly (**NFR – backup**).
9. It should not be possible to double-book tickets (i.e. buy a ticket that has already been sold) (**NFR - robustness**).
10. Ad hoc (**NFR – availability**) reporting will be required, showing ticket sales over a week (FR). It should be possible to vary that time span and look at any duration up to six months (FR).

## Activity 2

Analyze your requirements using the following guidelines:

## 1. Requirements should be “atomic”

...meaning that each piece of requirements should state a single feature. Try to divide any sentence in your requirements which can still be divided. For example:

- *Students shall be able to enrol in a course and edit his personal info in the user profile.*

The above requirement is bad because it combines 2 different requirements in one sentence, therefore making it difficult to sort requirements into categories.

## 2. Requirements should be uniquely identified

Group requirements into groups and give each piece of requirement a number (such as 1, 2, 1.1, 2.1, etc).

## 3. Requirements should be complete and specific

Avoid requirements such as:

- *A user can register an account by provided username, password, and other related information.*

## 4. Requirements should be consistent and unambiguous

Avoid requirements that can have multiple meanings. Avoid requirements which may oppose other requirements. Avoid requirements which make other requirements become impossible.

## 5. All requirements should be traceable to specific features in the software product 6.

## Give a priority number to each piece of requirements

## 7. Non-functional requirements should be measurable

### Employee Management System

#### 1. Employee Features:

- Learning and practicing how to fix devices by videos, documents and other materials (with new employees)
- Fix devices
- Make a report at the end of day
- See list of work have to do and their rank every months.
- Read notification
- Edit profile

#### 2. Management Features:

- Manage their employees

- Notice of information to employees
  - Assign work and be responsible for the output quality control of the product
  - Create and give cash receipt for payment
  - Make a report at the end of day
  - Edit profile
- 3. User Features:**
- Call consultant for help
  - Payment
  - Feedback to company

<p style="text-align: center;"><b>Security</b></p> <p>Login ID and Password</p> <p>Staffs' rights</p> <p>Employees or administrator' rights</p>	<p style="text-align: center;"><b>Performance</b></p> <p>Response time: check notification within 2 seconds, call consultant within 10 seconds</p> <p>Capacity: supports at least 50 user at a time</p> <p>UI/UX: easy to see and access, easy to use</p>
<p style="text-align: center;"><b>Maintenance</b></p> <p>Backup</p> <p>Errors: has a lot of every mistakes</p>	<p style="text-align: center;"><b>Reliability</b></p> <p>The system is always available</p>