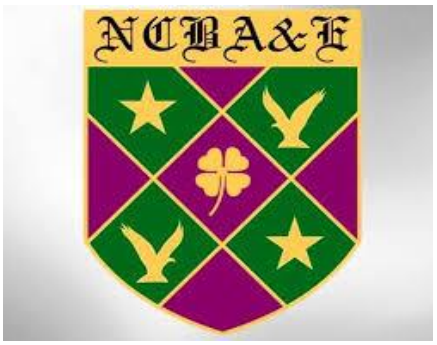

NATIONAL COLLEGE OF BUSINESS ADMINISTRATION AND ECONOMICS

Course:

Parallel & Distributed Computing

Submitted To:

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Assignment #:

2

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Q: Explain a case study of System requirements of any organization. Divide the system into small chunks according to requirements.

Sol:

I have selected the software organization name Meissasoft. Let they make the system for Book Store Online.

First of all they have to gather requirements Two types of requirements:

1) Functional
2) Non-Functional

1) Functional:-
    - Software requirements specification document:

      Functional and nonfunctional requirements can be formalized in the requirements specification (SRS) document. The SRS contains descriptions of functions and capabilities that the product must provide. The document also defines constraints and assumptions. The SRS can be a single document communicating functional requirements or it may accompany other software documentation like user stories and use cases.

    - Use cases

      Use cases describe the interaction between the system and external users that leads to achieving particular goals.
      Each use case includes three main elements:
        - ✓ Actors. These are the users outside the system that interact with the system.
        - ✓ System. The system is described by functional requirements that define an intended behavior of the product.
        - ✓ Goals. The purposes of the interaction between the users and the system are outlined as goals.

- User stories

  A user story is a documented description of a software feature seen from the end-user perspective. The user story describes what exactly the user wants the system to do.

2) Non-Functional:-

Nonfunctional requirements describe how a system must behave and establish constraints of its functionality. This type of requirements is also known as the system's quality attributes.

- Usability

Usability defines how difficult it will be for a user to learn and operate the system. Usability can be assessed from different points of view:

- Efficiency of use:

  The average time it takes to accomplish a user's goals, how many tasks a user can complete without any help, the number of transactions completed without errors, etc.
- Intuitiveness:

  How simple it is to understand the interface, buttons, headings, etc.

- Low perceived workload: how many attempts are needed by users to accomplish a particular task.
- Security

  Security requirements ensure that the software is protected from unauthorized access to the system and its stored data. It considers different levels of authorization and authentication across different users roles.
  Example: Access permissions for the particular system information may only be changed by the system's data administrator.
- Reliability

Reliability defines how likely it is for the software to work without failure for a given period of time. Reliability decreases because of bugs in the code, hardware failures, or problems with other system components.
Example: The database update process must roll back all related updates when any update fails.

- Scalability

Scalability requirements describe how the system must grow without negative influence on its performance. Scalability has both hardware and software implications. For instance, you can increase scalability by adding memory, servers, or disk space. On the other hand, you can compress data, use optimizing algorithms, etc.

Example: The website attendancy limit must be scalable enough to support 200,000 users at a time.