IT 314- LAB REPORT

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LAB GROUP – 1

Q.1. Identify FRs and NFRs:

Functional Requirements of library information system:

1. Ability to issue and return books.
2. Can send notifications to users about the deadline of an issued book that needs to be returned.
3. Analytics about the number of books checked out , popular books, active users etc.
4. Can update the users about upcoming book arrivals through notifications .
5. There must be a search option to allow users to search a book by name , author or other criteria.
6. Allows users to change or extend the date of return of books.
7. There must be security privileges i.e only the librarian should have the access to the information regarding book issue and other control over the LIS.
8. A non-member should be able to browse books but in order to issue any book, he must become a member first.

Non Functional Requirements of library information system:

1. The system must protect the confidentiality and privacy of the members.
2. It must have a constraint that it should run through institutes LAN only.
3. The UI must be easy to navigate.
4. The system must be able to handle large amounts of user and book data.
5. The system must have a backup and recovery feature to make sure data is safe in case of system failure.
6. The system should be compatible with other systems and have a fast response time.

Q.2. Identify scope, features and non-functional aspects of the following problem:

Scope:

This device will alert the person through immediate alerts after hearing noise in the surrounding area. The scope would be to assist individuals with hearing impairments in detecting and responding to sounds in their environment. This type of device would likely be used by individuals who have difficulty hearing or who are unable to hear certain frequencies of sound. The device would work by using a microphone to pick up sounds in the environment through AI technology and then alerting the person by alerts when a specific level of sound is detected. This could be particularly useful in situations where the individual is in a noisy environment or where a specific sound, such as a doorbell , smoke alarm, car horns and babies needs to be detected.

Features:

1. It consists of a microphone that picks a sound from the environment.
2. The processor needs to process the sound of the environment which is based on AI technology.
3. This will alert the user via vibration in the mobile phone.
4. The app can allow the user to select what alerts are needed and customize it accordingly.
5. Low-latency enables faster and immediate alerts without any delays.

Non-functional aspects:

1. Size and durability of the device.
2. Battery life of the device.
3. Price and ease of use.
4. Compatibility with other devices.
5. Sensors need to be accurate.