IT Infrastructure Resource Management and Maintenance

BTech IT Sem 4 DBMS Project

**Problem Statement**

VJTI is large institution which has a variety of laboratories. The equipments in these labs need to be maintained on a regular basis, and the old ones need to be replaced to ensure a proper working environment. This can be achieved efficiently by maintaining a database containing the information of all the equipments and their working status. Each equipment will be assigned a unique id.

**Overview of Database**

The database will comprise of 3 main tables :

The first table will comprise of fields like id, date of purchase, manufacturer, price, technical specifications, manufacturer warranty and working condition.

The second table will contain the list of suppliers and their their details like location, price quotation.

The third table will hold the complaints about the equipment and their details like date of complaint, if the complaint was resolved or not, date of repairing/replacing the equipment.

The database will also contain some tables to hold the temporary data like storing the complains before they are confirmed by the lab admin.

**Complaint System**

Student/Faculty can visit the website to report any complaints about some component of the equipment not working. This would save the work of management to check the condition of these equipments at regular intervals of time. The working condition of every equipment would be displayed along with other details of the equipment. The person who lodging a complaint will be able to see the complaint status.

**Usages Modules**

There will be following usage modules :

• Management Level : Has full access of the database. It resolves the complaints approved by the lab admin and decides which supplier to buy the components from. It also maintains the resources by regularly replacing the old components by new ones. Keeps a check on the regularity of the lab admin.

• Lab Admin Level : View and modify any data regarding the components of the all the computers. Verify and approve the complaints lodged by students and staff members. Assign priorities to the approved complaints.

• Student/Staff Level : View the component details of all the computers in all the labs and also their working status. Lodge complaints regarding faulty components and also check the status of their lodged component.

**Example Queries**

Apart from the main table displaying the equipment id and other fields some of the queries supported would be :

Display all the equipments from a particular manufacturer.

Display all equipments purchased before or after a given date. Hence we can find a list of old equipments and they can be replaced.

Display all equipments that are not working or have some faulty components.

Display names of all the manufacturers and their quotation price which can serve as reference for future purchases.

Add a new complaint.

Update the status of complaint whether the problematic equipment has been repaired or replaced

**Advantages :**

• No requirement for periodic monitoring.

• PC status will be updated as soon as anyone finds out the problem and lodges complaints resulting in real-time tracking.

• Data can be used for analysis of quality of components supplied by the suppliers.

**Disadvantages :**

• Students may lodge fake complaints and thus all complaints have to be reviewed by Lab Admin.

**Future of the Project**

Initially the system will be implemented only for Computer labs in the colleges as tracking the equipment there is fairly simple as compared to other labs. After this is implemented properly other department labs and their equipments will also be included.

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