Criterion F: Product evaluation and future product development

Client Evaluation:

The product was evaluated and feedback was given by my client Ms Maeve McKeogh on 3rd December 2021, via a face-to-face interview at her school.

Evaluation of specific performance criteria outlined in Analysis Section (Criterion B)

1. **The school logo must be visible on all forms and the access switchboard.**

This specification has been met. The school logo and the school footer is clearly visible on each form and access switchboard. The school logo was modified to connect the theme of chemistry practicals and is displayed on the top left-hand corner of every form. My client was absolutely satisfied with the consistency and placement of the logo and the footer on every report, form and switchboard.

2. **The background and color scheme is consistent throughout the database.**

This specification is thoroughly achieved. There is a plain off-white background on all forms, tables, reports and the switchboard too. The color scheme of cool colors is used consistently throughout the database, making it professional. My client likes this color combination including colors like green, blue, purple, and turquoise.

3. **All operation buttons on the forms must be bright and distinct for visibility.**

This specification has been met. The operation buttons are green colored and this color makes it extremely vibrant and distinct on a white background. Hence these buttons are easy to spot. The operation buttons are also all placed at the bottom of the page, together which makes it convenient to find the necessary buttons and makes navigation easier.

4. **All forms, receipts and tables are hyperlinked in one platform (switchboard).**

This specification is satisfied. All forms are hyperlinked to the main access switchboard in both edit mode and add mode which allows the user to add and modify records on the forms. Reports and navigational forms are also run and operated using the function buttons on the switchboard. Based on the client feedback received, my client was pleased with the comprehensive functionality of the main default switchboard and ease of navigation.

5. **All equipment/ lab apparatus is categorized into Vernier, Analogue and Digital.**

This specification has been met. For the apparatus table, there is a field type titled “Type” where the lab technicians can classify the apparatus into Vernier, Analogue, Digital, Chemical and Consumables. This criteria is also used to create queries to filter all the vernier and digital equipment as requested by my client.

6. **Validation and verification rules are applied for fields where appropriate.**

This specification has been met. Appropriate validation and verification rules are applied where needed including, presence check, input masks, data-type check which ensures the correct type of data is inputted within the forms.

7. **The database has all forms appearing as pop-ups.**

This specification has been met. All the forms, switchboards, and reports are automatically set to open as pop-ups on the property sheet which provides for an interactive and user-friendly interface and makes it graphically more appealing.

8. **All buttons, text boxes, the background is evenly orientated and centred.**

This specification has been met. There is an asymmetrical balance throughout all the forms, reports and switchboards with minimum negative/empty spacing. Because all objects from the navigational buttons, operational buttons, command boxes, text boxes are centred and evenly orientated, the form is visually appealing to the users.

9. **The database is encrypted with a password.**

This specification is achieved. For security and confidentiality, every time the Microsoft Access Switchboard is opened, it prompts the user to enter the password. Furthermore, the teacher forms containing the personal information of the staff members is kept confidential using a hard-code embedded password. All credentials and instructions to proceed to the password page are provided to my client on a Notepad file.

10. **All operation buttons are functional and navigate to the correct forms.**

This specification has been completely met. All the navigation/operation buttons are functions and hyperlinked with the correct form operation and sub-form. Each operation button conveniently prompts the user to close the application, save the form, modify the record and proceed to the following or previous record. Command buttons have also been enabled on the individual reports to generate specific filters of records in the report view.

11. **The database opens by default with a navigation form.**

This specification has been met. The Microsoft Access Database by default automatically opens the Main Access Switchboard after the correct database password is entered. My client finds this default process of opening the switchboard very convenient for navigation purposes based on the feedback.

12. **The relationship page creates a one-to-many relationships between all primary and secondary IDs.**

This specification has been met. There was a relationships table with a one-to-many relationship between all primary and secondary IDs which helped reduce data redundancy and minimized the chance of incorrect data being entered by a user.

13. **All data is only accessible to authorized personnel.**

This specification is fulfilled. The use of database encryption and hard-code embedded passwords on forms help maintain confidentiality and integrity of the data and it also prevents any unauthorized or guest user from accessing the database. Based on the client feedback, my client appreciates the use of hard-coded passwords because it prevents the students from accessing private teacher information.

Recommendations for Future Development of Product:

After completing the product and testing the specific performance criteria, I personally think that this Access Database was successful in meeting my client's needs and serving the purpose of monitoring the distribution of chemical apparatus. This database certainly improved her lab's efficiency and staff productivity and minimized the chance of incorrect data being entered. As Ms Maeve McKeogh stated in the interview, she really liked the interactive and user-friendly interface of the database and the fact that it is less time-consuming in comparison to a conventional paper database.

However, despite the usefulness of the database and its ability to satisfy my client's current needs, further future developments were suggested by my client that can be incorporated into the database to enhance its functionality. The following improvements were recommended:

1. **Log-in Credentials for each Student and Staff Member**

To improve the security of the database, and monitor which student is using and accessing the information in the database, Ms Maeve advised that creating a unique login credential for each student and staff member and a login page for all the users can help record and track the user visits and changes made to the database. This will be very useful to maintain confidentiality.

2. **Insert a Background Picture to the Main Access Switchboard**

To make the overall graphics of the database more graphically appealing for students, my client suggested that instead of a plain white background, a chemistry-related background can be used instead to connect with the core theme of experimental exploration and investigations. This is because only a limited number of pictures and images have been used throughout the forms and reports.

3. **A calculated field for the Cost of Broken Items.**

Because broken items are a significant cost to the school and factored into the purchase of the apparatus by the chemistry department, my client feels that having calculated queries to calculate the cost of all damaged, malfunction and broken items. This will help the lab technicians to monitor and finance apparatus for future needs of the chemistry department.

4. **Colour Code Filtering for Unavailable Apparatus**

For any apparatus that is broken or already borrowed by a student, my client Ms Maeve advocated incorporating colour-code filtering that will help students identify unavailable equipment and prevent them from requesting such equipment for their apparatus orders. This will make the overall process less time-consuming.

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