Criterion A

Scenario/ Issue:

At the Gupta's Store, currently the workers manually take orders from the customers and make the bills on paper and pen (Appendix 1B)[1]. The Gupta's Store has to manually take each customer's order manually every day, and this data can easily get lost, or misread, resulting in the wrong calculations of profits or even wrong calculation of stock management. Every month there is always an error in the profit calculations for which there is a requirement of a solution. This is a huge problem as Mr Gupta will never know how much he profits by. In the past people have pulled the scam against him where he has been tricked into giving a refund of items which he does not believe he has sold to the customer, with a digital solution, he can have billing history so this means he can keep track of his orders.

The Client (Appendix 1A)[2]:

My client for this product is Mr Gupta himself. He owns a shop in Kanchenjunga Market. This shop has serviced from more than 15 years. They sells daily need items such as chips, chocolates, biscuit and other snacks. Gupta's Shop is a grocery store which has been running for over 15+ years now.

My Proposed solution:

The proposed product will be a Java desktop app which has an online database so that the Application itself will be independent of an internet connection and yet will have the capability to have a ready Database to be transferred to an online database and vice versa in the future. The proposed system will have built in authentication and access rights for and the store owner. Additionally, inventory management and ordering as well as managerial information system reporting will be automated. Data entry will be aided with built in validations to ensure data integrity. Object oriented programming will be used so as to implement code reusability and address the issue of scalability of required in future in terms of increasing number of records or amending a field of information within any table.

Rationale For Solution:

Visiting Gupta's store weekly, and getting my weekly snacks and watching my client manually write the bill 2 times has made me realise that this problem can be solved with a digital solution which could really increase work efficiency and help my client keep track of his orders. After all research, I think that a desktop app would be the best solution. Having a web application could be difficult for the locality of the shop as there is no stable network there and there is no WIFI installed in the shop and since the client is not that good with technology, an offline app would always be better as it is less technically complicated. Having an offline application is better as the servers hosted will be locally so it is more secure, has more resilience and is more functional reliant. Offline applications also have a faster-loading speed and efficient data storage management. Java would be the best language as java is object-orientated, so it will help me achieve my target of satisfying my client's needs. Another advantage of java is that it is a secure language so it helps in keeping my clients data secured. I will be using NetBeans as my primary IDE as NetBeans helps in creating a standalone Java applications and its rated as one of the Best IDES to use with Java and it is user friendly. It has an immediate error detection system which can really save a lot of time with debugging.

Word Count- 474 Words

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[1] Appendix 1B (Page 3)
[2] Appendix 1A (Page 1)

I sat with my client before creating the success criterions and discussed all features which are feasible for the application. (Appendix 1C)[3]

Success Criterions:

1. Report graph – analysis for past month.
   - Monthly analysis of profit's, etc. graphs will be generated, and the report will be shared with the admin.
2. Informs admin about low stock.
   - Informs the admin once he logs in with the items which are low on stock.
3. Printing the bill.
   - The admin can print the user's bill.
4. The admin can Add/delete/edit stocks.
   - This feature is for the admin if decides to add new items to sell, or he decided to remove an item or he wants to add stocks of an item.
5. Manager can Add/search customer.
   - Every new customer will be given a customer profile where they can earn points for discounts, schemes, etc.
6. Admin can Add/delete manager.
   - The adding, deleting, and editing user feature will be there If Mr. Gupta wants to expand his business or hand it over to someone else when he retires.
7. There is an admin help pdf.
   - My client is not good with Technology, so I will add a pdf guide to help my client.
8. There is OTP verification in my app.
   - For improved security, I will add the feature of two factor authentication.
9. The Till Total takes GST into consideration.
   - My client asked me to include GST into the consideration while working out the total the customer must pay.
10. Usage of a blue colour scheme
    - A light sky-blue colour palette would be used to make the application more aesthetically and based on the theme of the client's company.
11. Search for customer in the database.
    - The manager should be able to check if there is a customer in the database with their customer's name in case, they forget their customer ID.
12. Search for customer transaction.
    - Searching with customer ID in the database to find the Customer's Bill.
13. Separate interface for both the Admin and Manager.
    - There are 2 separate interfaces for the desired resignations as there are several features which managers will not be able to have access too.
14. Data should be saved and stored in non-volatile locations.
    - If the power is out, its utmost important that the data is still getting stored.
15. The application is easy portable.
    - Creating a JAR file and an exportable database
16. The admin can access the manager dashboard.

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[3] Appendix 1C (Page 4)

- ▪ Admin is at a higher rank in the hierarchy, he should be able to have all rights which a manager has. I will create a button to navigate to the manager dashboard.

17. Each customer gets his/her own folder.
- ▪ On the entry of a new customer in the database, a folder also simultaneously gets created.

18. All Customer Bills are saved in their respective folders.
- ▪ All the bills which the customer has will get generated and saved in the customer's folder.

19. Informing the admin about the monthly Profit.
- ▪ The application provides the admin with the total cost of the past month and the profit he has made over the month.

20. The Manager can create a bill for the customer.
- ▪ The manager should be able to have access to the till.