Project Proposal

**Binary Bosses**

Ramootsi T M 201902300 | Sello B 201901952 | Ramokhoro T F 201804373 | Sesinyi L 201902934

**KFC DISTRIBUTED DATABASE MANAGEMENT SYSTEM**

**PROJECT PROPOSAL**

A lot of business data needs to be stored by businesses that embark in online daily sales. KFC Lesotho is no exception. Herein is proposed a homogeneous [1] distributed database management system which shall allow customers to order meals from the comfort of their homes. The goal of this project is to design and build a system that will store available meals, process contactless payments, [2] track customer orders and receive and transmit orders to relevant KFC restaurant in the country given the customer’s location and availability of the required meal.

Currently restaurants have their individual central database systems, which are housed in respective locations. Several challenges faced this system, which rendered it unsuitable for use. For instance, single point of failure [1] in which it could not be accessible in the unavailability the system caused by factors such as; power cuts or maintenance. Other factors such as lack of scalability were still present. As a result, the distributed database system (DDS) is going to address these challenges.

The system will be designed will have three components namely the graphical user interface, the distributed database management system and the individual nodes at different branches. The user interface will allow the customer or the business to interact with the system. Customers will be presented with meals to choose from and will be able to place their orders through the platform. The business will be able to track orders, view accounting statements and add or remove meals from the system. The management system will give an integrated view and provide management of all databases. The nodes will be made of the centralized database systems which will store data related to respective branches. For instance, orders pertaining to a branch and available meals in that branch. The system will control access to information via users’ accounts with login usernames and passwords, to facilitate authentication and authorization. The data should be maintained in a consistent manner to ensure the same data structure across all nodes.

The system will be able to scale up with less impact on the overall database as this may be achieved with just the addition of a node in the whole system. High performance is necessary in order to provide fast and efficient data processing regardless of network load. Some other non-functional requirements the system needs include availability, reliability, maintainability and compatibility between all nodes.

Given the mentioned challenges facing a centralized database system, this project comes as remedy to improve management of KFC’s data. The goal of it is to bring about a distributed database system, which shall be used to accomplish the mentioned data storage, and management needs of the business.

# References

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| [2] | Stax, "staxpayments.com," 2023. [Online]. Available: https://staxpayments.com/blog/how-to-modernize-your-restaurant-billing-system/. [Accessed 15 April 2023]. |
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