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IoT Based Cashew Grading Machine

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***Abstract*: Automation in agro grading machines has increased. The grading machine can sort grains and dry fruits at high speed efficiently. It is very difficult to operate, control and manage such grading machines. So there is a need of developing a software application that can create a communication between users and grading machines. Cashew grading product that can be made specific by configuring. It has simple user interface so that anybody can operate it easily. Here user can vary parameters for grading food products, raise issue if any, Owner of machine can view daily and historical reports and also can do data analysis.**

***Keywords*: Agro, grading, Owner, Supervisor, Operator, pi**

1. Introduction

Cashew grading machines are known for their accuracy and efficiency. Now cashews can be sorted based on its colour, size and type in single pass. There is a assured return on investment with demand for cashew grading machines rising from other parts of the world.

To design and develop generic Human Machine Interface (HMI) agro grading machines. Agro grading machines classifies dry fruits and grains into a various types based on parameters. It is very difficult to control and analyze the fast grading machine because of its complexity. Hence to avoid manual setting and paper work there is need of developing software that can set parameters, provide authentications to users, manage, and analyze the machine. The software product being developed is an android application to give native look and feel to the application. Agro grading machines vary from one to other based on their parameters hence every machine tailored for owners are different from one another. So the software has configuration to convert generic product to a software specific product. Later it is easy to control the machine.

2. Literature review

There is no system which provides generic HMI to grading machines. According to the survey the HMI is generic to different food processing machines is not developed. Existing systems have manual setting and no common software for configuring the parameters that affect multiple types of the machines.

The Systems available have the following drawbacks.

- Have manual setting.
- Need paper work for analysis and reporting.
- Machine specific hence less portability.
- Poor User Interface.
- No remote access.

3. Figures

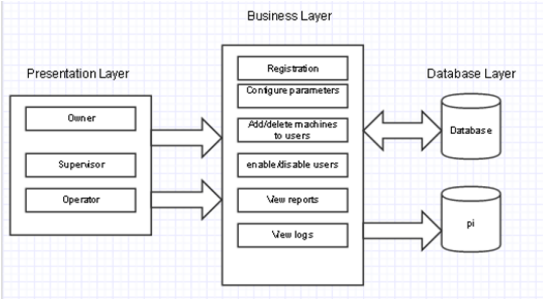

Fig. 1. Architecture

4. Conclusion

The proposed system is unique and can be configured to any agro grading machine. It reduces manual work and keep track of various activities. It facilitates various kinds of users. The software is efficient, easy to use and has good interface which reduce communication gap between users and system. It is suitable for android devices. Application is tested with a sample data and output obtained results are according to the requirements. The performance is evaluated and is found to be efficient.

References

[1] Manual of Hamsa grading machine to understand the working of the Machine.
[2] HMIs of various companies.