Economical Automatic fish feeder system-A review

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Abstract

The fish feeder system is now a days a necessity to keep alive the fish in the aquarium when the people are going out of station for a long time period. In this review the area cover buy different researcher in the field of fish feeder system is being discussed.

KeywordFeeding system, Fish food, aquarium

Introduction

Over the centurial, the present day fish-keeping is a popular enthusiasm since long back which gain popularity to kept the marine products in aquarium like container. Unlike in ancient time people used to keep those fish in earthen pots. And also, they always prefer the worm only for the fish feeding. Since then, numerous advancement and innovation were made for developing fish keeping as a enthusiasm and one of the discovery was made as automatic fish feeder system.A programmed fish feeder is an electronic gadget that has been intended to administer the perfect measure of fish nourishment or known as fish pellets at a foreordained time. A review work is done to understand the work done in this field.

Review of literature

Prancgchumpol designed the automatic fish feeder system using IOT based mobile application system. This research study was made to control the timing, pH value of water and amount of food to be dispense as per the number of fish in the aquarium. Through this the spoiled water rate and the improper feeding decreased.

Hye et al. have observed that the implementation of automatic feeding systems in aquarium ease the handling of the food during the owner leaving for a prolonged period of vacations. This design had been made which can control by both manually and automatically through an arduino microcontroller. In this user can able to set the time by manual input to dispense the food through the RTC module.

Lin and Tseng design the IOT based aquarium which monitors the abnormal situation of the tank.It used an intelligent mechanism to activate the actuator automatically and drive the actuator in real time. It uses both manual and automatic mode

Afifah et al. studied the automatic fish feeder using IOT based which maintains the temperature of water and turbidity and also uses the camera for monitoring activity in the tank, where they use the raspberry pi for controlling through mobile.

Sabari et al. observed the cleanliness level of water & dispense food use sensor, microcontroller to control the system, GSM module to notify the user about cleanliness, LCD & push button to interact with the user. It dispenses food according to the user & detects water clean level.

Uddin et al. in this system they studied the fish feeder where they have tower motor, fish storage, PLC, GSM module. The whole system is controlled by PLC. The amount of food to be released is decided by a hole whose size is controlled by the motor. This system has a sensor in the storage unit to determine the amount of food left. Where the food is less the system sends an SMS to the user through the GSM module.

Harsha et.al. design the fish feeder system by using of android through the raspberry pi and used the filter to maintain the cleanliness of water to pumping continuously the temperature of the water. Servo used for feeding, here they used as a switch to control lights, filter and heater, webcam used for real time recording of the aquarium.

Conclusion

It can be observed that most of the researcher were focusing to design the fish feeder system by using the raspberry pi, IOT based mobile application, PLC controller which control the motion of the gate opening and closing as per the amount of the fish kept in the tank. Some have used the LCD and push button to interact with the user.

References

1. Prangchumpol, D. "A Model of Mobile Application for Automatic Fish Feeder Aquariums System." *International Journal of Modeling and Optimization* 8.5 (2018)..
2. Hye, Mohammad Abdul, Md Manjurul Akter, Atiq Mohammad Jahangir, and Hasan U. Zaman. "A Novel Design and Implementation of Automated Feeding Mechanism in Fish Aquariums." In *2018 2nd International Conference on Electronics, Materials Engineering & Nano-Technology (IEMENTech)*, pp. 1-7. IEEE, 2018.
3. Sabari Akilesh, K., V. Savitha, N. Vinithra, and J. Dhansekar. "Smart Fish Feeder." (2017).
4. Uddin, Md Nasir, M. M. Rashid, and M. G. Mostafa. "Development of automatic fish feeder." *Global Journal of Research In Engineering* (2016).
5. Adil Athavani, Akshay Desai, Harsha Ruthwick S, Raviteja A (2017).Smart Aquarium. *IJAREM, (vol-3, ISSN 2456-2033, pp 51-54).*