International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056
Volume: 06 Issue: 02 | Feb 2019 www.irjet.net p-ISSN: 2395-0072

Fish Feeder using Internet of Things

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Abstract - *The scope behind developing IOT based fish feeder is to reduce manual work. This device can provide regular feeding without disrupting the owners work, owners can monitor feeding process with their smartphone virtually. This project deals with the idea that the fish will be fed even when you are out of station. The fish keeping is popular fad. Fish feeder using wireless communication the system can be implemented by setting fish feeder feed fishes at a certain time you can command it for dispatched the food. It will replace the manual maintenance of the fish aquarium. The Fish feeder will be atomized and can be easily controlled from the mobile phone via mobile application anytime anywhere in just one click using a dashboard.*

***Key Words*: IOT, reduce manual work, wireless communication, mobile application.**

1. INTRODUCTION

The fish keeping is popular fad. Fish Keeping is itself an industry which comes in agriculture. The scope behind developing IOT based fish feeder is to reduce manual work. This device can provide regular feeding without disrupting the owners work, owners can monitor feeding process with their smartphone virtually. Fish feeder using wireless communication the system can be implemented by setting fish feeder feed fishes at a certain time you can command it for dispatched the food. It will replace the manual maintenance of the fish aquarium. In this system we using two container (one big and one small container) big container is fish food storage and small container is dispatch container. Small container dispatch food in tank when users command to dispatch. The Fish feeder will be atomized and can be easily controlled from the mobile phone via web application anytime anywhere in just one click using a dashboard.

2. OBJECTIVES

- To monitor and control the fish feeder through internet.
- The system should be able to monitor the status of the fish and the amount of the food that has been dispersed.
- To enable fish owner to customize feeding time or feeding their fish immediately without pre-set timing.

3. LITRATURE SURVEY

3.1 Smart Pet Care System using Internet of Things.

This project relates to our project so we decided to take into consideration. As we were surveying here we found this journal paper as useful because in this paper they give solution for pet feeding but they use only one large food storage unit, and dispatch food directly to pet, and if there is a system failure it may dispatch whole food to the pet.so to overcome this problem we add one small storage unit to prevent from overfeeding. Large container consists of whole food which is dropped at smaller one after it gets empty such that food from smaller container gets dispatch. Luckily this all steps are done over internet. So this will preserve productivity of owners as well as their time and effort.

3.2 Development of Automatic Fish Feeder.

As we are discussing more problems associating with feeder we found this paper as useful. Fish Feeder became more worth to have it as more features and functions are came into existence. The system implemented here is fully automatic. Having fish is very delicate issue and one problem is sufficient for fish to die. Here, the user need to put the food in one container. The bowl consisting of food resource are being kept or fitted inside the fish feeder. The facility provided here is that the owner can set his/her fish feeding time. Time can be set either in 12 hours or 24 hours format per day. This will be better in its place, when the time triggers it automatically fed the fishes. In this case owner has set many different time variations based on the species of fish as their requirements are different. As we know this is a brilliant feature having a time instance is not enough. But time always not the constraint to deal with as they have to maintain their system in tip top conditions with battery always on in advance and stock of battery.

When the system has no battery supply it will shut down and owner have to fed fish manually respective to time and whole mechanism will be disturbed and fish will die as their conditions are very critical. Without compromising your fishes, your fish will be fed in one click. In our feeder, user is capable to select the number of fishes based on the number,

the algorithm will be used to calculate the weight of food and amount based on the fish species. As in above project, it's not possible to set amount of food to feed to their fishes. In above system servo motor are being used which will be rotated when the specific time will trigger and food will be dispatched into the fish tank. So in our feeder the problem is avoided as we are using internet there are hardly any chances that our system will suffer from any. For maintaining healthy conditions of fishes we have avoided to implement timers in our project.

4. PROBLEM STATEMENT

The fish owner facing a major issue of feeding fishes on time or feeding them while in absence of owners.

5. PROPOSED WORK

In our system there are three modules on that the basic project idea is stand .The modules are given below.

1. Storage and Dispatch Module

2. Wi-Fi Module

3. GUI

4. Notification and Alert

5. Report Generation

These module can make the system smart and effective.

5.1 Storage and Dispatch Module

The storage module notify the user that efficient amount of food is present in the container or not .then dispatch container take note of this that the food get dispatch as the container get empty .

5.2 Wi-fi Module

The Wi-Fi module contain the connectivity of the system with the internet and stay connected with the user command. The command get accepted by the Arduino uno server so that Wi-Fi module is the heart of our system which communicate with user and the system.

5.3 GUI

The GUI module is design for the user to stay connected with the system and give command to the system.it is basically app which is run on android devices.

5.4 Notification and Alert

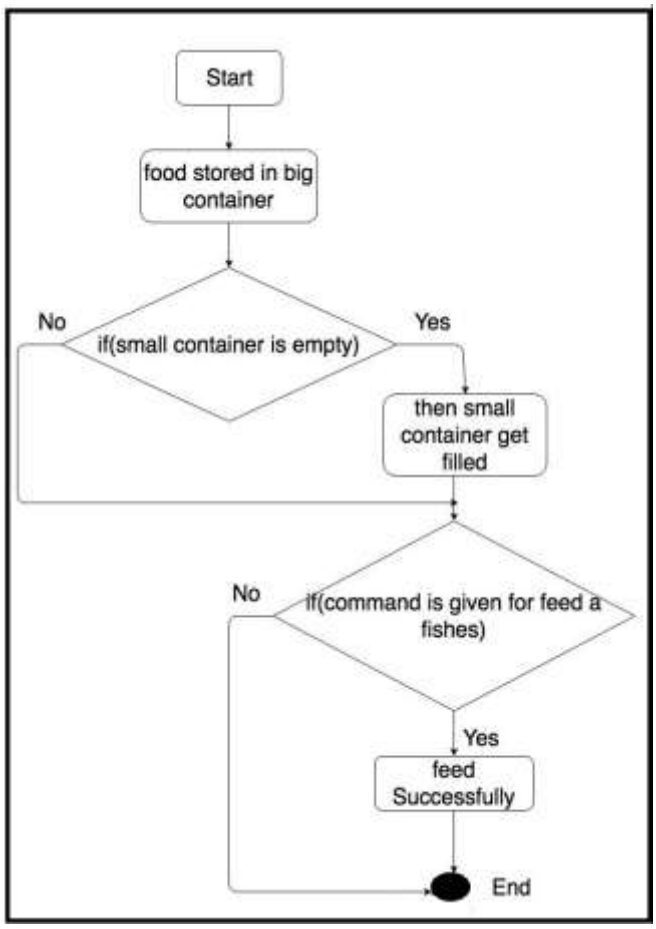
The notification and alert module provides the user with notification whenever there is a lack of food in storage and notification comes a day before the food storage becomes empty to save owners time and owner doesn't need to rush to shop to market as he's always have stock.

5.5 Report Generation

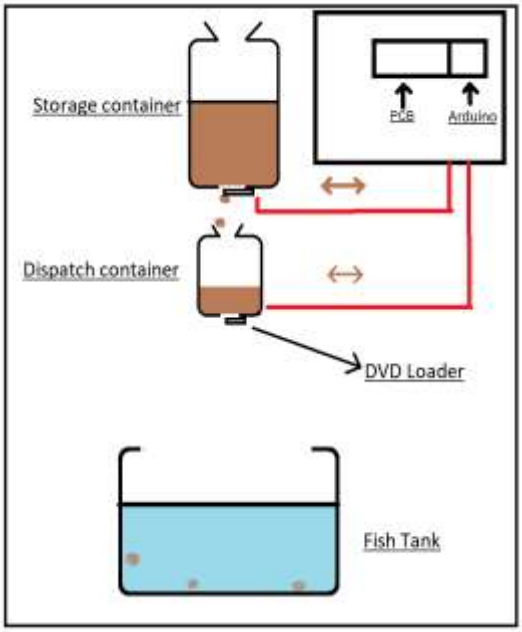
The report will be generated as well as to provide user with acknowledgement such that owner will get overall costing of fish food. How much fish food will be required? The owner will also get overall estimate of cost. The application intelligently stores all the generated values regarding cost and overall fish food consumed during feeding process as well as how many fishes have been feed during the process in a monthly period. All necessary values are stored in a database.

6. SYSTEM DESIGN

6.1 Flowchart



6.2 System Architecture



7. CONCLUSION

As we study and learn in future most used technology is internet of things, and fish feeding is one of the issue while owners Absence, and this system is going to help it.

8. ACKNOWLEDGEMENT

Guided by Prof.Chandraditya Mandhata, Dept. of Information technology, S.B.Jain Institute of Technology, Management and Research, Nagpur 441501, Maharashtra, India.

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