Ahsanullah University of Science & Technology

Department of Computer Science & Engineering

Project Proposal on

[Cattle Feeder]

CSE 3215
Microcontroller Based System Design Lab

Submitted By:

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Introduction:

'Cattle Feeder' is a hardware project to implement the automated feeding process in farms where tons of animals stay. This project is planned for reducing the manpower of the farm and help the management to feed the cattle in an organized and systematic way.

Objective:

The project named **'Cattle Feeder'** is based on feeding and controlling the feeding process of the pets' from a distant place with the help of technology. This machine will be designed to feed the stocks in a given time interval. This machine can be controlled remotely by a smartphone with an active internet connection. In a farm, there is a huge collection several types of animals, in order to feed them properly in a particular time this machine will be present in front of a row of animals. The owner sets the time from his/her phone to feed, at that particular time the previous installed food in the food storage opens its gate by the help of motor. For a fixed range of time the motor serves to put food down into the cattle's food bowl. There will be LCD screen set in front of the machine which specifies the previous feeding time and the next feeding time as well. The time will be shown on the owner's phone also.

The project will use the WIFI module to connect with the smartphone through an application named 'BLYNK'. We will use Arduino UNO for implementing the project on a demo version of its. The machine will be powered on by 9V lithium-polymer battery to support all the motors and sensors.

Importance in Society:

The world is now running very fast with the help of technology. The current technical inventions and the projects to come in near future have the potentiality to change the world by making it faster and doing good to society. The idea behind our project is to help the society in a technical way where manpower and cost will

be reduced in a great manner. From the very beginning of human cycle, people need dairy products and meat to help the need of protein. As well as there is many equipment which are made from animals. So, to serve this process farms are made. In these farms, it needs a lot of time, money and manpower to feed the animals and to take care of them. So, we plan in a manner that how can we reduce the cost and the labor to manage a farm. That is why we planned to make a cattle feeder which helps to run the farms in an organized and reduce the cost of staffs. As well as, it is a smartphone-controlled process so, someone can control it from a distant place and check the records. We hope our project will serve to reduce the cost and manpower of managing a farm and make it more comfortable.

Software:

- Arduino IDE
- Blynk App
- Proteus

Hardware Equipment:

The following parts and tools are required for building this project:

Parts:

- Arduino UNO
- 4*4 Matrix Keypad
- Servo Motor SG90
- DS3231 RTC
- 16*2 Display
- NodeMcu (esp8266 Wi-Fi module)

- Ultrasonic Sensor
- 9v battery
- Battery connector
- Resistor
- Potentiometer 5k
- Push button
- Plywood base
- Bread Board
- M-M wire
- M-F wire
- F-F Wire
- Plastic bottle
- Steel can
- One time plastic cup

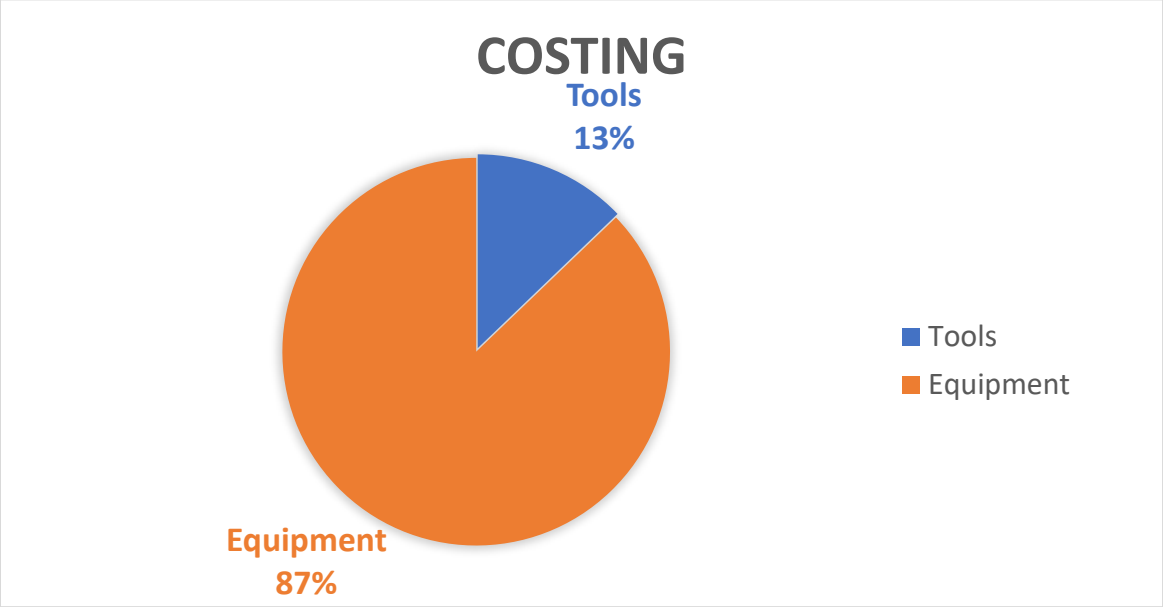
Tools:

- Soldering iron solder
- Soldering Led
- Soldering stand
- Soldering paste
- Hot glue gun
- Glue sticks

Approximate Budget:

Equipment	Quantity	Rate(In taka)	Price (In taka)
Arduino UNO	1	500	500
4*4 Matrix Keypad	1	100	100
Servo Motor SG90	1	150	150
DS3231 RTC	1	180	180
16*2 Display	1	150	150
NodeMcu (esp8266 Wi-Fi module)	1	500	500
Ultrasonic Sensor	2	90	180
9v battery	2	35	70
Battery connector	3	10	30
Resistor	30	2	60
Potentiometer 5k	1	80	80
Push button	30	2	60
Soldering iron solder	1	150	150
Soldering Led	1	70	70
Soldering stand	1	70	70
Soldering paste	1	50	50
Hot glue gun	1	280	280

Glue sticks	3	20	60
Plywood base	1	300	300
Bread Board	4	80	320
M-M wire	120	1.5	180
M-F wire	80	1.5	120
F-F Wire	40	1.5	60
Plastic bottle	3	15	45
Steel can	1	25	25
One time plastic cup	5	5	25
Others			200



Total cost of the parts: **4015 Taka** (approximately)

Conclusion:

The world is moving faster day by day. Now a days, no one needs to depend on anyone for anything. Everyone is having a smartphone and with the help of internet it is easy to achieve anything through the phone. The ‘Cattle Feeder’ will help the farm owners to manage farms in a systematic way where they can look upon the previous records. In a nutshell, this project will help the society and ensure the assurance of taking care of animals.