

IDEA PROPOSAL FORMAT

e-Yantra Ideas Competition 2019-20

Project Name:

SMART BOT TANK CLEANER

Introduction/Motivation:

Now-a-days we are busy with our schedule, so there is no time to clean the water containers. We need casual labourer to get the tank cleaned. They are also unable to clean the tanks which has small mouth to get in. Due to uncleanness in the tank we will suffer with water contaminated diseases and cleaning labours also facing problems. So everyone facing this problem directly and indirectly. The key causes are lack of knowledge, proper cleaning not done by labours, using harmful chemicals and those effects are over expenditure, causing Health hazards and even Deaths also. Here the primary stock holders are investors and house holders.

Market Research / Literature Survey:

- The final product comes with the best quality and with reliable cost.
- Market consists different types of cleaning kits.
- There is no automated cleaning machine.
- There is a plenty of Opportunities.
- There is more demand & need on automated cleaning machine.

Hardware requirements:

- 1) Gear motors
- 2) Brushes
- 3) Transmitters
- 4) Battery
- 5) Camera

- 6) Programming chips (Arduinomega 2560,breadboard,etc.,)
- 7) Sensors + UV Lights
- 8) Sprinklers
- 9) Pneumatic flow control valve(5/2)
- 10) Double acting cylinder
- 11) Portable compressor
- 12) Hinged joint

Software requirements:

- 1) Python
- 2) IOT

Implementation:

Here we implementing this by three phases:

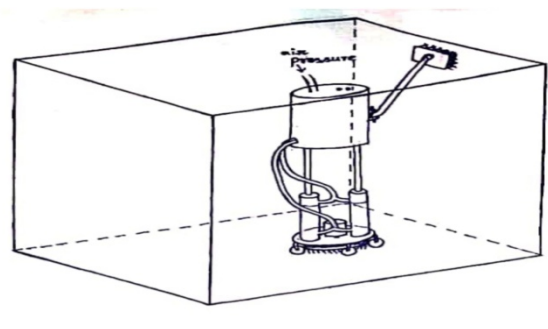
Phase 1: It consists of selecting suitable components which are listed above.Especially hardware components.

Phase 2: In this phase the different hardware components in a proper way for good working condition.

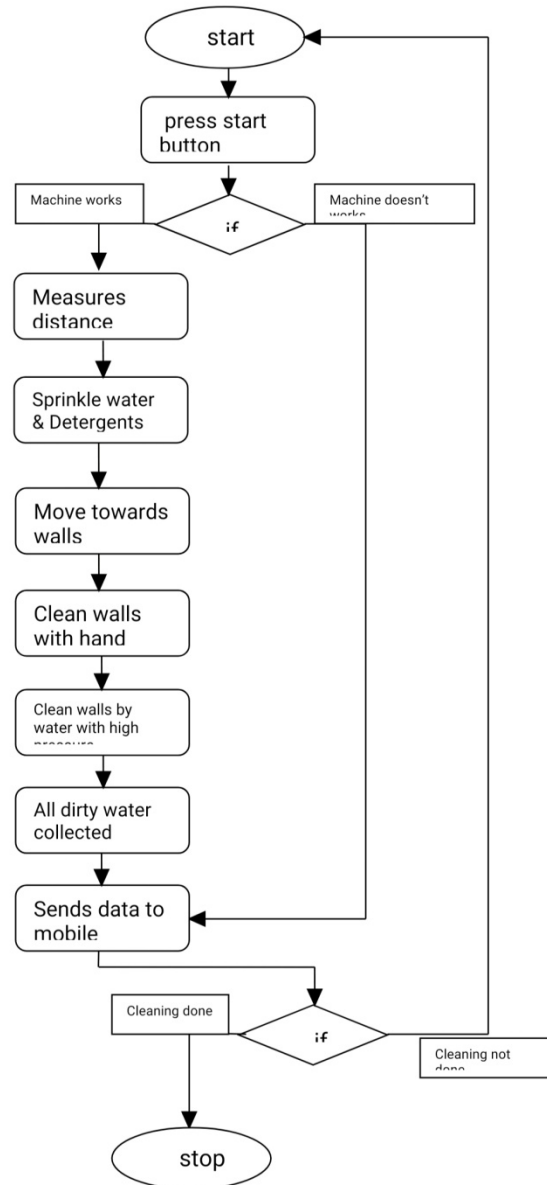
Phase 3: In this phase we concentrate on the coding part to work automatically.

Finally we deploy the code in to the machine.

Below diagram shows the overview of the machine and Flowchart shows the flow of actions.



Feasibility:



Flowchart

It is very easy to operate and also implement. Here the components used are suitable for implementation. To achieve best quality product, we are using quality materials so there's no default. According to the customer needs, we are implementing the product in a better way. Just need an app to clean the tank and the working of the robot is shown in the flowchart, which can be easily understandable to everyone, and that's of low cost.

References:

[1] Shelke Prasad K, "Automatic Water Tank Cleaning Machine" volume:4,issue:2,Feb
2017