PROPOSED DESIGN PHASE I
PREPARE SOLUTION FIT

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| DATE | 26-09-2022 |
| TEAM ID | PNT2022TMID22317 |
| PROJECT NAME | IOT BASED SMARTFARMER |
| MAXIMUM MARKS | 4 MARKS |

## According To Research, Smart Farming Solutions Can Be Structured In The Below Application Area:

1. Fleet management: tracking of farm vehicles
2. Storage monitoring: water tanks, fuel tanks
3. Large field farming and small field farming
4. Tracking Time of Watering tomato field

## 1. Fleet Management: tracking of farm vehicles

Track run hours and schedule preventative maintenance reminders for equipment with farm equipment tracking devices.

## 2. Storage monitoring: water tanks, fuel tanks

When checking the water level in a tank, two possibilities are your primary concerns. The first is a tank overflow, while the second is a lack of water supply. Without a monitoring system, either the tank overflowing with water until the operator notices it and switches it off, or if the tank is empty, it stays that way until the operator discovers it and turns on the water pump. With the aid of built-in sensors, our smart water tank system continuously checks the water level in the tank and gives real-time data.

When the water level drops below the threshold, it turns on the water pump, and when

the water level rises, it turns the pump off.

When monitoring the fuel tanks in farm vehicles using sensor, if the fuel reaches caution level in the fuel tank a notification or a beep or a pop up will emerge and reminds to refill the tank for next use. This monitoring may empathize the quality and quantity of fuel to be saved and applied affordable for farmer efficient.

## 3. Large field farming and small field farming

Yields on large field tomato cultivating on followed crops are on normal 60-100 tons for each hectare *(53.553 - 89.255 lbs per section of land)*. Determinate assortments, be that as it may, don't as a rule yield more than *30-50 tons* for every hectare *(26.776 - 44.627 lbs per section of land)* because of their more modest harvest cycle.

## 4.Tracking Time of Watering Tomato Field

The best time to water your tomatoes is early in the morning. This will allow any moisture that makes its way to the leaves an opportunity to dry before the heat of the day, and that can help to prevent diseases and burning of the plants. You need the water you're administering to be efficiently used. Avoid watering in the evening at all costs. Once the temperatures drop and the water becomes cold, your plants will be exposed to health risks.

Our solution for this project is to initiate the reliability
of the irrigation system using the sensor sensed information
from the field and also make the automation on and off
of water pump. Setting up the timing alarm in beep system makes sure it opens the valves for watering the tomato field, As scheduled. Checking of field irrigation level also the sensor can change when the water could be supplied to the tomato field.