ABSTRACT

**TITLE:** SMART FARMERS, SMART FARMING

**Problem Statement:** To provide a guide for the farmer for cultivating a variety of crops, to rate the farmers based on the soil quality and suitability, customer feedback and to educate the farmers about the aspects they should improvise upon.

Problem Description: With increasing risks in farming, the farmers are resorting to quitting it. Uninformed about the exact soil conditions required for their particular crop. The farmers also often find themselves lost as to which machinery is most required for their cultivation.

There is a need to patch the problems which are causing such happenings.

**Solution Statement:** The idea is to develop a platform where the farmers would be given a rating based on certain parameters that are collected from IoT sensors in the farm and the farmer itself.

1.To educate the farmer upon the aspects he should improvise based upon the analysis of the farm details, soil quality and customer feedback.

2.Anaysis of the susceptible conditions for the cultivation of a certain crop based on real-time soil information through a set of sensors in the farm.

3.To analyse the dependencies of the machineries for a given crop and give a best match of the machines required for a certain crop.

**Solution Description:** The idea is to create a virtual platform which shows the ratings of the farmers based on their hectare, quality of crops, variety of crops, quantity, fertilizers used, pesticides used, chemical composition of the soil etc. which will act as guidelines for the middle men while buying products. A customer feedback and rating system is also featured through which each customer can rate a farmer based on their experience with that farmer.

In addition to this, in the newer updates we will feature

* Verification of data and soil testing using IoT for faster rate.
* Quality of the crops can be verified using computer vision devices that test the crop and mark fit or unfit for sales.
* Using IoT, the updates will sense the present condition of the crops/land and give details of how much water or fertilizers the crop needs at that particular time.

**Technology stack:** We will develop an ANDROID APP based on JAVA Programming with a backend using Firebase.

**Outcome:** This will be certainly beneficial for the costumers since the quality of the crops from a particular farmer will be of

the specific variety of the crop that is will be more or less be as expected. Also due to customers inceptives, the farmers can grow a specific variety of the crop as per the demands from the market, suitable in his farm.

**Verification:** (To be continued...)