Team Name: Inspire-SAIF

	Name	Branch and Semester	Contact Number	Email- ID
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Member 1	-	-	-	-
Member 2	-	-	-	-

Note:

1. One can participate either as a part of a team or an individual basis. Switching teams is not allowed.
2. The uploaded ideas will be screened to go to the second round.
3. Judging: competition entries shall be judged, or winners selected based on the following criteria
   - Is the problem worth solving
   - How innovative or novel is the idea
   - Scientific accuracy
   - Social impact
   - Scalability
4. Decisions of IIC JSSSTU in respect of all matters to do with the competition will be final and no correspondence will be entertained.
5. In second round, the selected teams will have to present their idea in front of the jury panel.
6. Idea should be submitted in **.pdf** format.

Abstract: (not more than 150 words)

Smart Agriculture is something fascinating and efficient which increases product output smartly. With the increasing technology, IoT, image processing applications farmers can adopt these to increase their production. The main aim of IoT in farming is to increase the circle of monitor, decision making and action. Isn't it fascinating to just monitor majority of your farm applications just by a click! SMART AGRICULTURE mainly presents this idea.

Introduction (not more than 200 words)

Agriculture is the scientific art of cultivating plants and livestock. It is the key development in the rise of human civilization, whereby farming of domesticated species creates food in surpluses that enabled people to live in cities. IoT systems play an important role for crop and soil monitoring and give a proper solution

accordingly. IoT leads to smart farming. Using IoT, farmers can minimize waste and increase productivity.

Image Processing: Through image processing techniques following smart assistance can be developed.

- Monitor of plant soil texture, thus suggesting the type of crop to be cultivated.
- Monitoring the soil mineral content and the chemical composition thus, effectively providing the deficient nutrients.
- Monitoring plant leaf disease thus, increasing the yield.

IoT: Benefits of using Internet of things

- Time to time monitor of the irrigation system.
- Monitor of thief through the use of Arduino connected sensor modules.
- **Your crop, right benefit**, an assistive app that exposes farmers to different prices for their produced crop.

Android App for Smart management:

- Android application which helps farmer to monitor the plant quality, assist the correct methodology of cultivating a particular crop.
- App that gives idea of their crop market so as to get right profits.
- An intelligent (AI) assistant that guides the farmer, the right crop for a right season. Calculates the harvest time and plans up for the next crop.

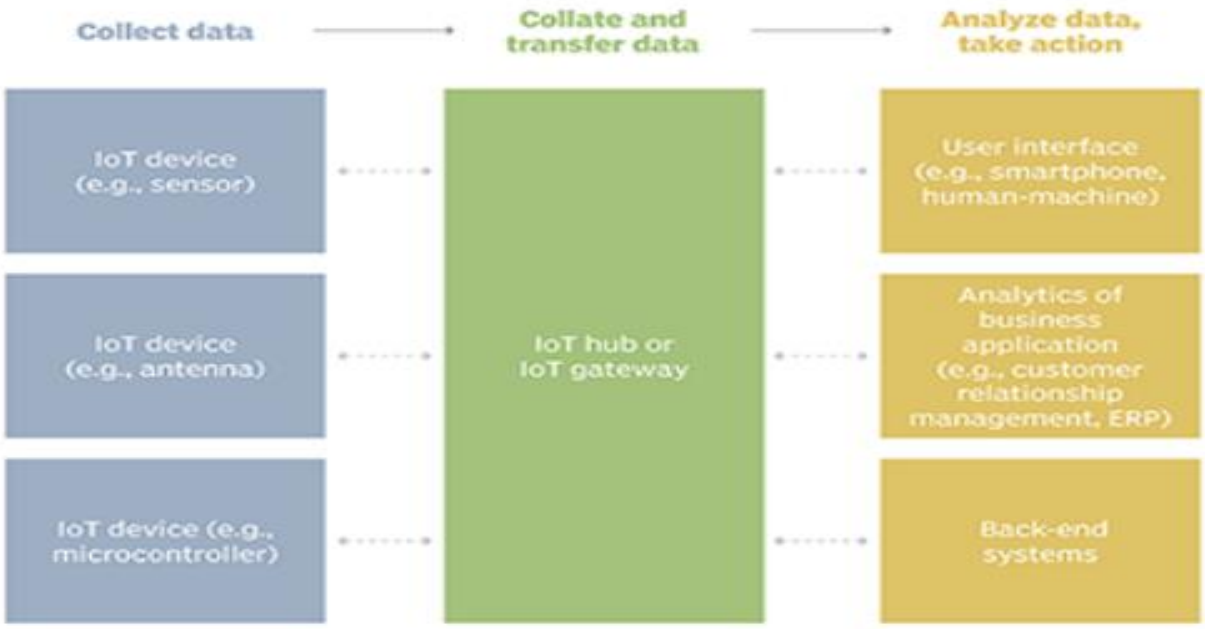
Smart machines that intelligently picks up the ripened fruit and harvests it, checks up the soil moisture and waters it, sows seeds for the farmer.

Weather Monitoring system further reduces the crop losses. **Testing of the compost fibre (from cow dung & other agricultural wastes)** produced thus could be used to increases crop production.

Motivation (not more than 100 words)

Looking through the current scenario, where our pillars farmers are going through losses due to variation in crop prices which lead to many farmer suicidal. Shortage in using up the available resource properly, dealing with plant problems becomes very difficult in large farm cultures, This scenario motivated, to bring up the smart assistive technology to the field of IoT.

Methodology (block diagram, related figures etc)



Social Impact

Social impact of this system includes:

- Right amount and right profits to the farmer.
- Increases crop yield, with advanced pest controls.
- Increases farmers economy, thus cultivating crop throughout the year.
- Proper nutrient and resource management.
- Proper utilisation of the existing natural resources.
- Decreased effort, increased production by the farmer.

Market Survey

According to the survey, the IoT in agriculture market size was valued at $ 16,330 million in 2017, and is projected to reach $48,714 million by 2025, growing at a CAGR of 14.7% from 2018 to 2025. Internet of things (IoT) technology is anticipated to play a significant role in increasing the current agricultural productivity to cater to the growing demand for food.