**Feature/Objectives Planning:**

The main goal of this project is to ensure safety and traceability of food supply chain and to make sure that the consumer is made aware of each step of the process - production, manufacturing and retail. Following are the objectives of this paper:

1. To trace each farmers crop produce – the fertilizers used, pest control methods, food value, disease management, environmental pollutants, pathogens control.
2. Post-harvest handling- Transportation conditions of harvest
3. Storage- how the grain is stored or milled, drying process
4. Retailers safety precautions and any frauds that might occur in terms of adulteration, black market hoarding, use of false weights/measurements. Standardization is the key aspect of this objective. (grading)

The project can be divided into the following tasks:

1. Front-End: (using HTML, CSS, Angular, nodeJS)
   1. Registration and login pages for-
      1. Farmers
      2. Harvesters
      3. Retailers
      4. End-user/Consumer
   2. A page to furnish necessary details of the produce-
      1. In case of farmers:

Type of fertilizer used, Pest control method, food value of the crop planted, disease management methods, types of environmental pollutants that affected the crop (if any), pathogens control methodology.

* + 1. In case of distributors:

The transportation of harvested crops, storage areas, temperature of storage based on the crop, drying process, contamination exposure.

* + 1. In case of retailers:

Grade of the production, standardization, storage methods, perishability, food preservation methods,

1. Back-End: (using Ganache, Smart contracts- Ethereum)
   1. Storing data in Ganache Software in hashed format-

A blockchain is used to test solidity contracts. They are stored in blocks and transactions are authenticated.

* 1. Smart contracts using ethereum are used to validate each block.
  2. Using web3js to

**User stories:**

* As a user, I should be able to know the quality of the product when I buy it.
* As a user, I want the process to be certified by a trusted party when the details are being entered by farmers, distributors or retailers.

**Task Distribution:**

So far, in the beginning stage of the project, we’ve undertaken literature analysis which was done by 4 of us. We’ve read various papers that focused on food supply chain, blockchain as domain, traceability papers.

User interface/front-end: Vivek, Nachiketh

Back-end: Manogna, Arun