Project Design Phase-
IProposedSolutionTemplate

Date	15 October 2022
Team ID	PNT2022TMID26773
ProjectName	FertilizersRecommendationSystemforDisease Prediction

ProposedSolutionTemplate:

S.No.	Parameter	Description
1.	Problem Statement (Problem to besolved)	Agricultureisthemostimportantsectorin today'slife.Most plants are affectedbyawide variety of bacterial and fungal diseases.Diseases on plants placed a major constraint onthe production and a major threat to foodsecurity. Hence, early and accurateidentification of plant diseases is essential toensure high quantity and best quality. In recentyears, the number of diseases on plants and thedegreeofharmcausedhasincreasedduetothe variation in pathogen varieties, changes incultivation methods, and inadequate plantprotection techniques. So, based on abovesituation,howtohelpthefarmers tochoosethe right fertilizer based upon the data given bythem to promote productivity as well aseradicate the crop disease? What kind of modelis suitable for this task? These are the mainproblemswhichareneededto beconsidered hereinthisscenario.
2.	Idea/Solutiondescription	The proposed ideais basedon theusageofCNN primarily. The images with respective classnames are made to train using CNN to classifythe disease present, then based upon theresults,therequiredfertilizerwillbe suggested totheuserviathewebinterface.
3.	Novelty/Uniqueness	The novelty of the project lies on theparametersusedontheCNNmodel.Another aspect is the usage of both sample and realtimedataduringmodel training.
4.	SocialImpact/ CustomerSatisfaction	The proposed idea will impact the farmers a lotsuch that the right kind of fertilizer will besuggested to eradicate the diseases present incrops as well as increase the production bypromotingtheirgrowth.Thefarmercanhave insights aboutthefertilizersaswell.
5.	BusinessModel(RevenueModel)	Theproposedmodelcanbe deployedboth in web as well as containerized model (docker,k8s)forenterprise usage.The webappwillbe

		made for free with certain limitations to allusers. The enterprise app could be provided tobusinesses as standalone app which they couldrunontheirown servers andthen provide servicestoconsumersforspecificamount.
6.	ScalabilityoftheSolution	At present, the model will be trained withcertain crop diseases and provide suggestionson the fertilizer to use on the crops. By time,the model will be trained with more images toclassifymorecropdiseasestopredictand suggestfertilizersinefficient way.