Ideation Phase-
Literature Survey

Date	19 September 2022
Team ID	**Team ID - PNT2022TMID24575**
Project Name	Nutrition Assistant Application

S.NO .	Journal Paper Title	Author's Name & Year	Source	Finding
1.	Measuring the calories and nutrition from food images using machine learning techniques	Dr.M.Kiran	Research Gate	The images obtained from the mobile device are pre-processed followed by the segmentation step to extract the color and texture features through K Means clustering. The extracted options are used for food classification using Support Vector Machine (SVM). The food portion volume measurement is done by superimposing a grid of squares onto the image segment which matches the irregular shape of the food images easily. The calorie measurement is done based on the food mass and nutritional tables. The system has limited cuisine varieties and mixed food images have not been considered.
2.	Calorific value prediction	R.Kohila	Research Gate	The image of the food is transmitted through a

	mechanism using image processing and machine learning.			mobile device and it initially undergoes segmentation with Fuzzy C-means Clustering Segmentation which fixes the cluster center based on the group data unlike the K-means Clustering which can be erroneous if the cluster center is not defined properly by the user. The mathematical morphology is utilized as a tool for extracting the image components and the region shape description such as erosion, dilation, opening and closing. Feature extraction is performed to retrieve interesting parts of the image and then calorie measurement is done. It has limited scalability and diversely mixed food images have not been considered.
3.	A survey on nutrition monitoring and dietary management system	Kamaks9hi Priyaa Prakash Dr L Arockiam	Research Gate	A well balanced diet with an estimated nutrient intake is vital for infants and children which reduces the risks of deadly diseases namely cancer, diabetes, obesity and cardiovascular diseases. Unlike adults, infants require some assistance in their food intake. The survey provides valuable insights about the various advancements of IoT in the healthcare industry and the need

				for nutrition and dietary monitoring. A varied number of nutrition monitoring systems for the estimation and prediction of calories have been developed using various machine learning techniques and also with advanced deep learning based techniques. A comparative view of the previous works of researchers in recent times has been provided.