Project Design Phase-I
Proposed Solution Template

Date	19 September 2022
Team ID	Team-592213
Project Name	Early Diagnosis of Diseases Using Image Processing of Human Nails
Maximum Marks	2 Marks

Proposed Solution Template:

S. No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Nail Abnormalities indicate underlying health issues, Early diagnosis can improve the prognosis of various diseases. As Human Examination of nails is subjected to "**Human Error**". As "**Accessibility**" to specialized healthcare for nail examination is "**Limited**", manual assessment of nails can vary "**subjectivity**" of Diseases among the professionals, and also it is "**Time Consuming**" and may not be "**Efficient**".
2.	Idea / Solution description	We propose the development of an automated system that utilizes image processing and deep learning techniques, and diagnosis of diseases based on the human nails. This system will accurately classify the diseases of human nails, by eliminating human intervention. This AI System also considers the subjectivity of Diseases. It detaches the complication of Time in a more efficient way.
3.	Novelty / Uniqueness	Here we are prone to introduce the convolutional neural networks(CNN) to find the patterns of human nails specific to a particular disease, however model will be get trained on multiple diseases instead of targeting it to a single disease. The use of pre-trained models like VGG16, VGG19, ResNetV2, DenseNet201, and InceptionV3 by employing hyperparameter tuning gives the best model and parameters that give better accuracy and efficient model to train. This makes the model a productive approach to diagnosing Human nails.
4.	Social Impact / Customer Satisfaction	The proposed solution holds the potential to revolutionize the field of healthcare and significantly impact society at large. By enabling early and accurate detection of various diseases through an accessible and non-invasive method, this technology stands to improve public health outcomes and reduce the burden on healthcare systems. It empowers medical professionals with a valuable tool for prompt diagnosis and

		personalized treatment.
5.	Business Model (Revenue Model)	This solution can generate a substantial business revenue. The proposed revenue model includes offering the disease prediction technology as a service to healthcare providers, implementing a subscription-based model for ongoing support, and establishing partnerships with pharmaceutical companies for research initiatives. Licensing the technology to medical device manufacturers also presents a lucrative opportunity for generating revenue through fees and royalties.
6.	Scalability of the Solution	The proposed solution exhibits strong scalability potential, allowing for seamless integration and expansion across various healthcare settings. By designing the deep learning model with adaptable architecture and efficient data handling mechanisms, the system can accommodate a growing dataset without compromising performance.