

## Project Design Phase-I Proposed Solution Template

Date	28 September 2022
Team ID	PNT2022TMID33733
Project Name	Project – AI based localization and classification Of skin disease with Erythema
Maximum Marks	2 Marks

### Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	This article presents a new method for analyzing the spreading of skin erythemas. These occur as a result of the cutaneous vascular axon reflex which can be evoked by a noxious stimulation of the skin. Series of true-color images of the observed skin patch were recorded using a video camera.
2.	Idea / Solution description	The images were digitized and stored on computer disk. The delineation of the reddening was segmented for every image of this sequence by a newly developed image processing method.
3.	Novelty / Uniqueness	Each image taken after the noxious stimulation was compared with the baseline before the stimulation and each image point was classified as: "unchanged" or "changed skin color." To improve the classification the CIE Lab color space was used.
4.	Social Impact / Customer Satisfaction	In this work an objective method for determining the time course of the flare response was developed. For this, video images of the observed skin were recorded, digitized, and analyzed by a computer-based image processing system. The advantage of this method is the high spatial and temporal resolution.
5.	Business Model (Revenue Model)	To determine the size of a skin erythema, the reddening was usually traced on a translucent paper lying on the skin [4]. It is difficult, for practical reasons, to use this procedure for the determination of the development of an erythema, because it takes time to mark the reddening precisely.
6.	Scalability of the Solution	The method developed in this work can be used to analyze the extension of a skin erythema based on the changes in skin color. The automatically detected borders of erythema are reproducible and independent of the operator. For recording, a conventional video system is used which allows a high spatial and temporal resolution limited only by the performance of the computer system.