**Project Design Phase-Is**

**Proposed Solution Template**

|  |  |
| --- | --- |
| Date | 14 November 2022 |
| Team ID | PNT2022TMID52418 |
| Project Name | 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** |
|  | Problem Statement (Problem to be solved) | Erythema means reddening of the skin due to inflammation which is usually a result of accumulation of cells of the immune system and chemicals these cells release. There can be many reasons for the occurrence of erythema: exposure to heat, insect bites, infections, allergy, non-ionizing radiation (sunlight, UV) and ionizing radiation (X-ray, nuclear radiation). |
|  | Idea / Solution description | The treatment for erythema multiforme depends on the subtype. EM minor usually goes away on its own, but if symptoms persist, a doctor might recommend topical steroids. If EM minor symptoms recur because of a suspected herpes flare-up, doctors may prescribe antiviral medications such as acyclovir or valacyclovir.  The presence of EM can also be a sign of a more serious condition or a compromise of the immune system. When your doctor examines you, they may choose to recommend additional testing.  Those diagnosed with EM major may require more care. Aside from steroids, eye drops and mouthwashes with topical anesthetics, they may need to be admitted to a hospital for IV fluids. |
|  | Novelty / Uniqueness | The symptoms associated with erythema vary from one type to another. The most common symptoms of erythema multiforme include:   * Itchy skin * Joint pain * Vision problems with dry and itchy eyes * Fatigue * Photosensitivity (sensitivity to light or sun) |
|  | Social Impact / Customer Satisfaction | The psychological impact of skin diseases in patients is a discussion that has been thoroughly discussed in medicine in recent years. The advancement in the understanding of the skin and its diverse disorders have yielded new medications and treatment modalities. Medicine’s approach to skin diseases has expanded from the aspect of physical health to a multidimensional perspective. Moreover, a higher incidence of psychiatric disorders such as anxiety and depression in patients with skin diseases emphasizes the importance of multidisciplinary care. While the social impact of skin conditions is recognized, the manner and extent in which it affects patients, especially adolescents, still merits further exploration. |
|  | Business Model (Revenue Model) | Facial Erythema Treatment market is expected to register 5.5% CAGR to create higher revenue opportunity for engaged companies. The market revenue will increase by 1.8X during the forecast period (2018 and 2028). Majority of facial erythema drugs are supplied through drug store followed by hospitals, pharmacies and other convenience stores. As per the estimates, drug stores accounted for 39% of total revenue share in 2017. |
|  | Scalability of the Solution | Exfoliative dermatitis is characterized by erythema and scaling involving the skin’s surface and often obscures the primary lesions that are important clues to understanding the evolution of the disease. |