Ideation Phase
Empathize & Discover

Date	1/10/2022
Team ID	PNT2022TMID24431
Project Name	Project – Deep Learning Fundus Image Analysis for Early Detection of Diabetic Retinopathy
Maximum Marks	4 Marks

Deep Learning Fundus Image Analysis for Early Detection of Diabetic Retinopathy:

Diabetes is a globally prevalent disease that can cause visible microvascular complications such as diabetic retinopathy and macular edema in the human eye retina, the images of which are today used for manual disease screening and diagnosis. This labor-intensive task could greatly benefit from automatic detection using deep learning technique. Here we present a deep learning system that identifies referable diabetic retinopathy comparably or better than presented in the previous studies, although we use only a small fraction of images (<1/4) in training but are aided with higher image resolutions. We also provide novel results for five different screening and clinical grading systems for diabetic retinopathy and macular edema classification, including state-of-the-art results for accurately classifying images according to clinical five-grade diabetic retinopathy and for the first time for the four-grade diabetic macular edema scales. These results suggest, that a deep learning system could increase the cost-effectiveness of screening and diagnosis, while attaining higher than recommended performance, and that the system could be applied in clinical examinations requiring finer grading.

What do they THINK AND FEEL?

what really counts
major preoccupations
worries & aspirations

- Increased thirst
- Vision problems
- Depressed and burnt

What do they HEAR?

what friends say
what boss say
what influencers say

- Daily intake of aspirin
- Keep your vaccination up to date

What do they SEE?

environment
friends
what the market offers

- Costliest chronic disease
- Unhealthy person

What do they SAY AND DO?

attitude in public
appearance
behavior towards others

- Dont smoke
- Keep BP and Cholesterol under control
- Schedule regular physical and eye exams

PAIN

fears
frustrations
obstacles

- Not able to eat sweets
- Control and strict diet

GAIN

"wants" / needs
measures of success
obstacles

- Exercise benefits
- Regular health checkups