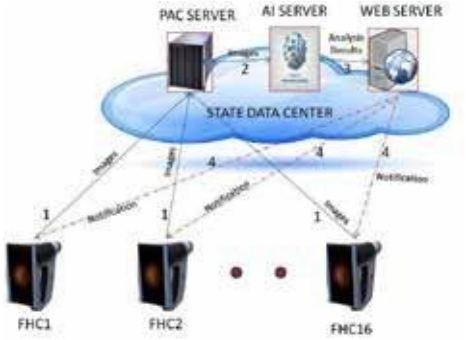
Health Department

Automated Retinal Image Quality Assessment and Feedback Generation using Artificial Intelligence

Business Case

- Use available infrastructure facilities and smartphone-based retina imaging systems implemented as part of the eHealth project in the 16 Family Health Centres (FHC) in the Thiruvananthapuram District.
- Currently majority of the retinal images acquired through the smartphone based retinal imaging system are not clinically analysable, primarily because of poor operator awareness.
- This project will reduce number of images which are not clinically analysable by using automated implementation of methods for image.



Artificial Intelligence

Outcome/Benefits

- Automated analysis of quality of images and generate feedback/remarks for each patient.
- With the offline achievement of sensitivity of 90.11% and specificity of 95.03% it is expected that we can achieve an overall gradeability of more than 90% online.
- In terms of patients the accuracy reported is 100% (sensitivity).
- Patients with only 1 or 0 images as Good are referred to the nearest TH/DH for detailed retinal examination.
- The time taken for image processing and interpretation of results is 0.3s/image.