EDITION 2018

ENGINEERING THE EYE HACKATHON

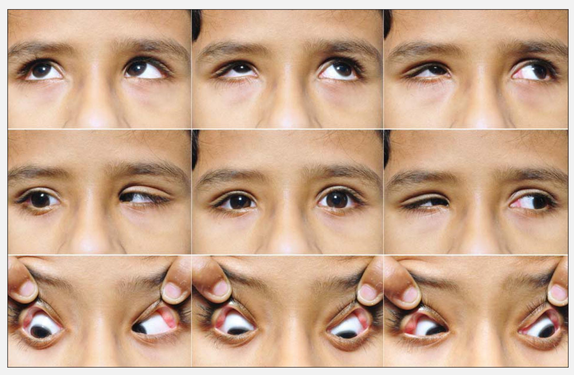
Eye-Fi
Screening for retraction and overshoot of eyes

Team: Kevin Jose, Mehal Rathore, Saurabh Sharma, Shivakshit Patri
Mentor: Kunal Parulekar
(**Team Eye-Fi**)

And the problem is..

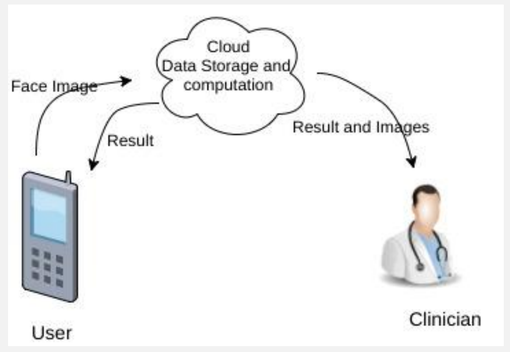
Strabismus in Duane retraction syndrome is frequently associated with significant globe retraction and overshoots.

However, there is no method to objectively grade retraction and overshoot. Our purpose is to describe an automated objective grading method.



"The problem is detection, not the disease"

- A digital photographic tool to measure the retraction and overshooting of eyes quickly, using the Microsoft Face Recognition API and Zeiss VisuHealth™ App.
- This procedure ensures a safe and standardized way of grading the patients for Duane's retraction syndrome.
- VisuHealth™ App adheres to the highest standards of data security and is HIPAA™ compliant.



What makes Eye-Fi Hi-fi?

In the remotest parts of the country, the syndrome can be detected with high precision and can be sent for further analysis to the best ophthalmologists of the country with high safety and speed.

With a prevalence of around 2 percent in strabismic patients, the detection of the diseases may be a challenge and an early detection may help in improving the quality of life of the individual.

This venture is ultimately aimed to reduce the burden of the disease on doctors and thus saving the valuable time of the doctor and the patient

Results:

The software successfully detects the coordinates on full face images that are used to detect any overshooting of eyes and accurately calculates the grades of retraction in the respective gazes.

- In the future, this prototype can be further developed into a revolutionary service by improving its working algorithm and increasing its accuracy
- This can be further explored to get Real-time video measurements for diagnosis and surgical purposes
- User feedback feature in the prototype can be added if necessary
- This can be further scaled to all grades of overshooting in accordance of the method proposed by Dr.Kekunnaya et al.
- Other APIs can be explored to further increase the efficiency
- This application can be further extended for data collection for future research

LVPEI So that all may see
LV Prasad Eye Institute

INTERNATIONAL INSTITUTE OF INFORMATION TECHNOLOGY
HYDERABAD

Microsoft

ZEISS

#LVPEI #6DH #ETE