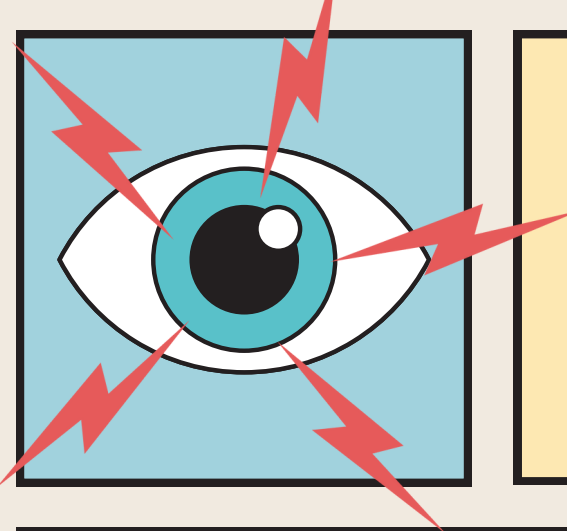# DIGITAL EYE STRAIN

WHAT IS IT?

Also known as **asthenopia**, it is a common condition that occurs when your eyes get **tired from intense use**.

Eye strain can be relieved by resting your eyes, but in extreme cases it may require medical attention.

Studies indicate that up to **80% of computer users experience eye strain** or eye strain related symptoms.
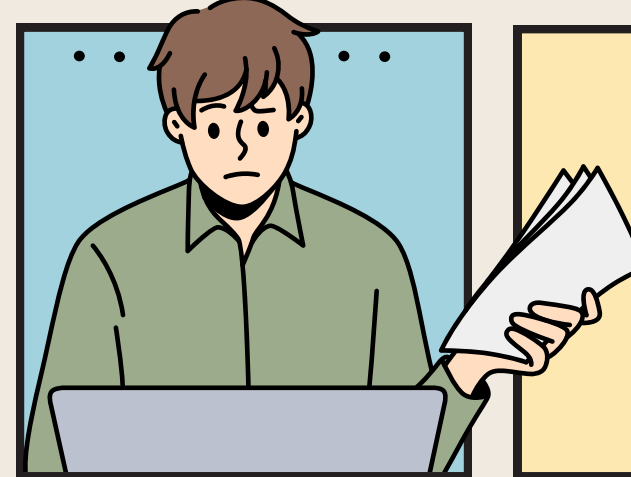
EFFECTS OF EYE STRAIN

Discomfort and pain in and around the eyes

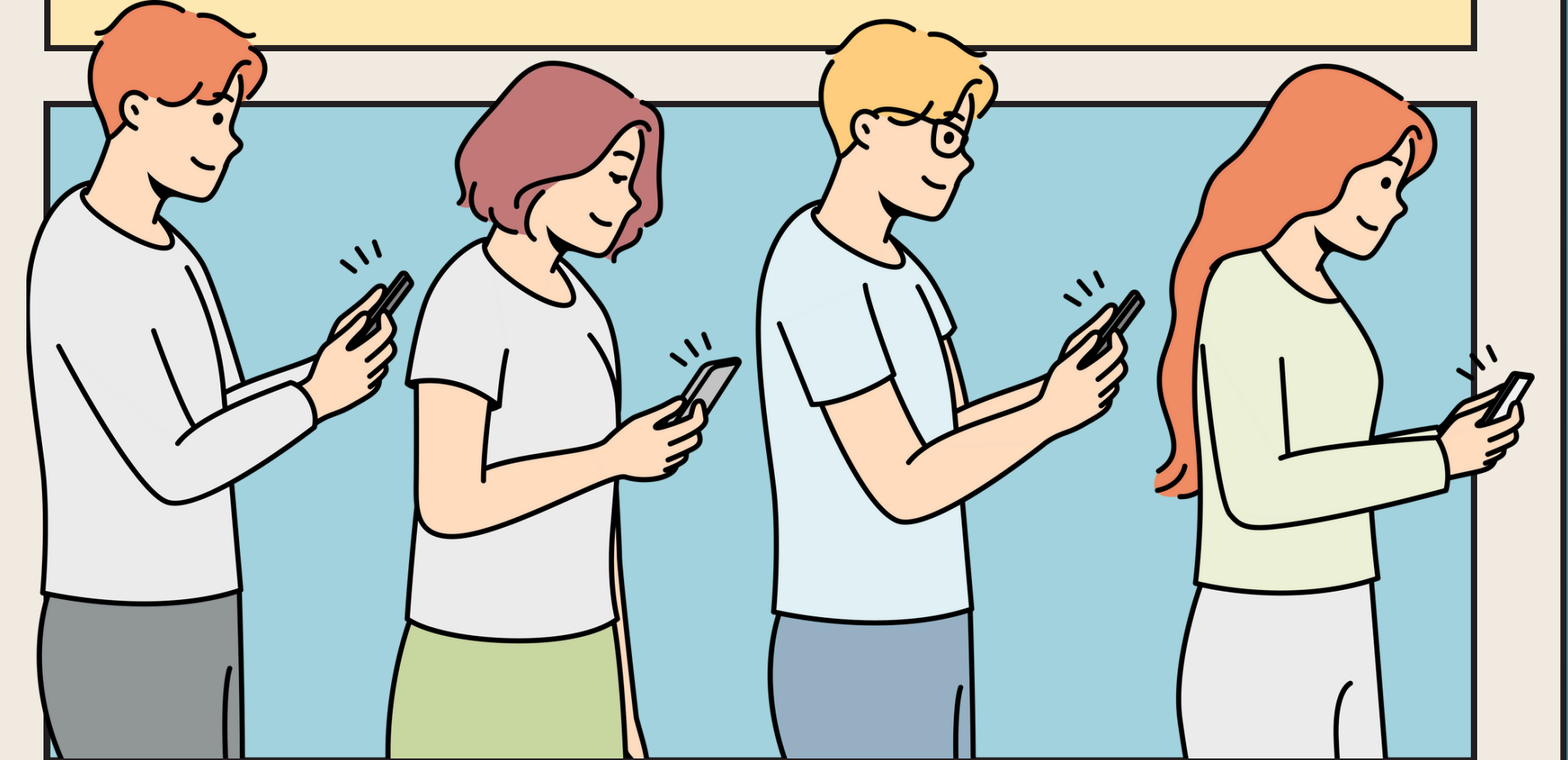**Vision problems**, such as blurred or double vision

Significantly **decreased productivity**

PROBLEM STATEMENT

People experiencing digital eye strain due to **overuse of screen devices**.
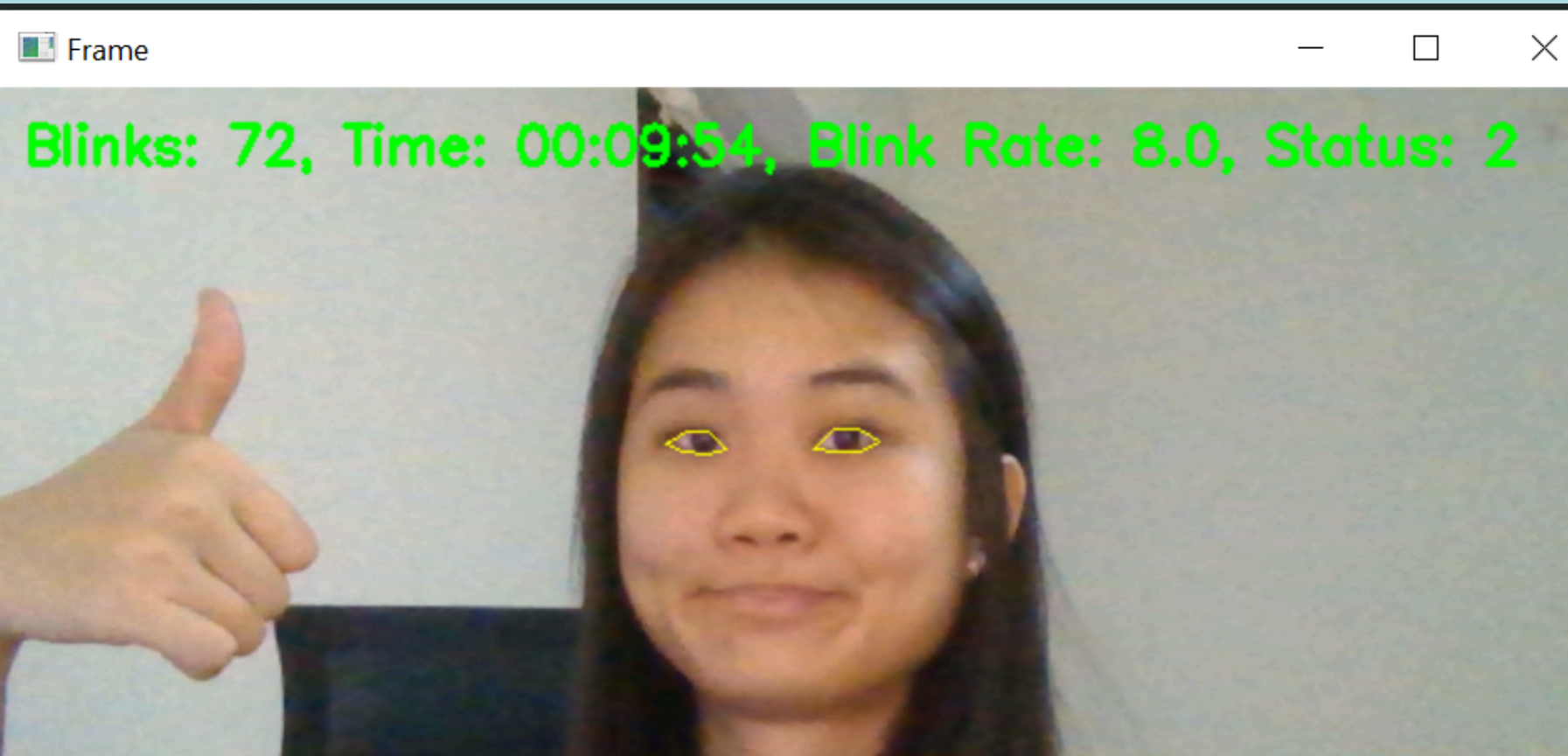
OUR 🅘🅞🅣 SOLUTION:

EYE STRAIN DETECTOR

An app that helps **detect user's eye strain** using their laptop camera📷 and provides timely reminder for users to take a break to **prevent eye strain**.
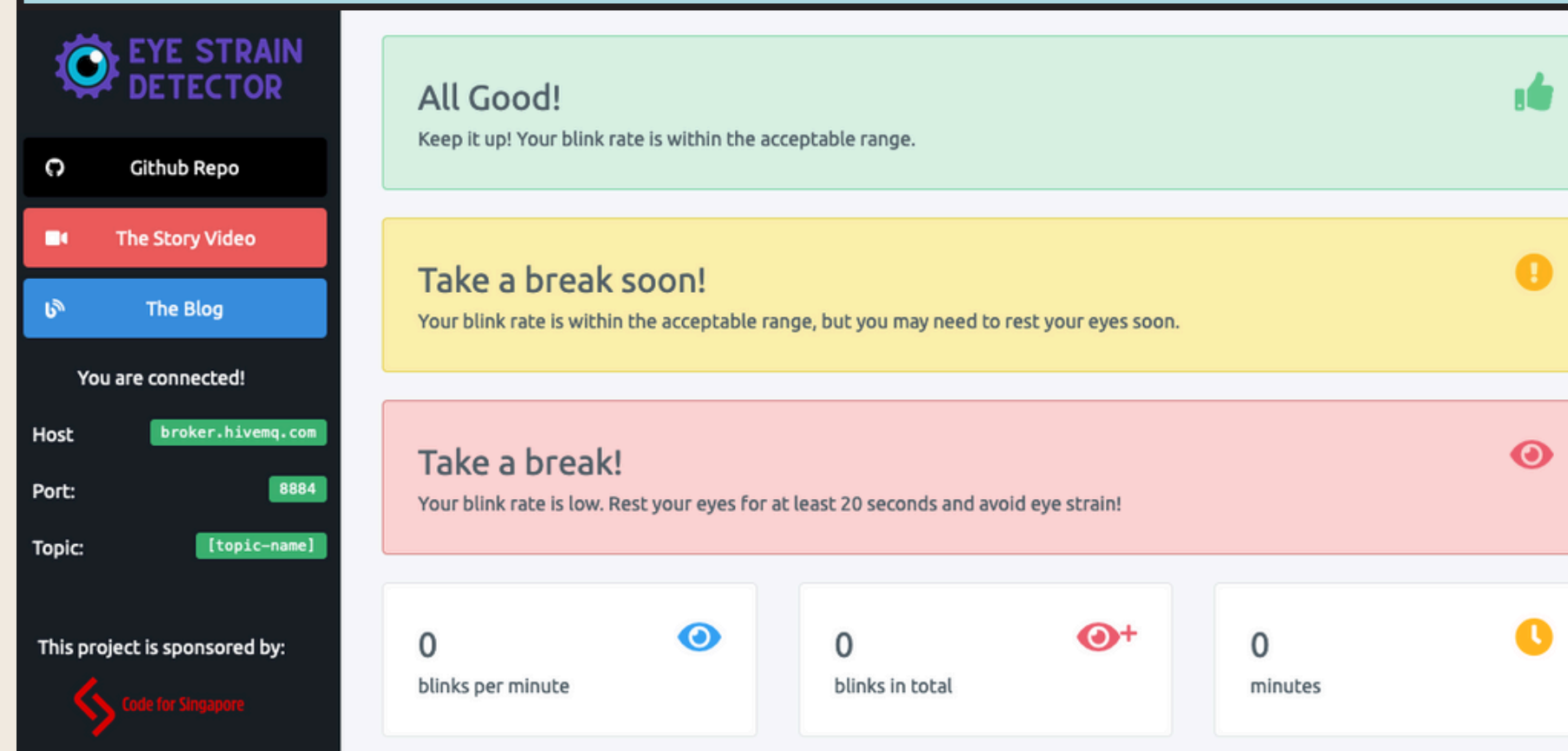
PROTOTYPE FEATURES

BLINK RATE COUNTER

Blinks: 72, Time: 00:09:34, Blink Rate: 8.0, Status: 2

Detects and counts the user's blink rate.

$$blink\ rate = \frac{no.\ of\ blinks}{minutes\ passed}$$
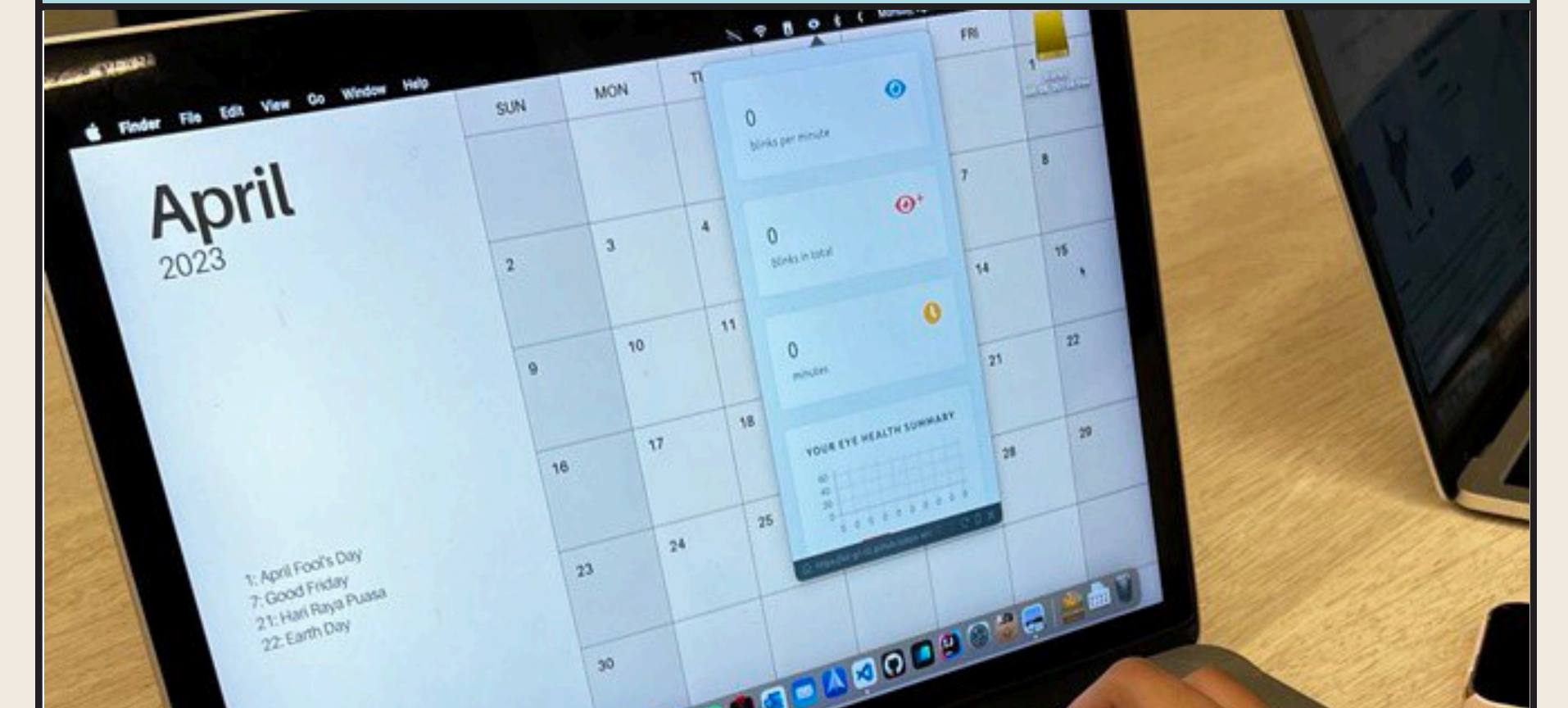
TRAFFIC LIGHT SYSTEM

Colour indicator for varying levels of eye strain.

🟢 = Low   🟠 = Moderate   🔴 = High

DESKTOP REMINDERS

Users can check their eye strain levels and be reminded to rest their eyes.

PROTOTYPE LIMITATIONS

1. Users need to be **always in front of the webcam**
2. Face must be fully shown- **no masks**
3. **Limited to desktop**
4. **Unable to detect** when user go out
5. Limited to **one user's** blink rate

TECHNOLOGY USED

OpenCV   HiveMQ   Github   Vue.js   Chart.js
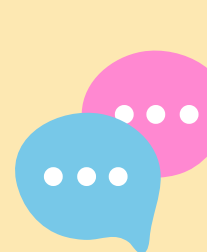
MORE FEATURES PLANNED FOR THE THE FUTURE!

Mobile Integration & **Telegram Bot** Notifications

Machine Learning to identify other eye conditions

Real-Time Charting and Historical **Data Dashboard**

Personalised suggestions to prevent eye strain

SCAN FOR OUR DEMO!

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