Alpro

NGENUITY 3D Visualization System

Alcon

MEET THE TEAM

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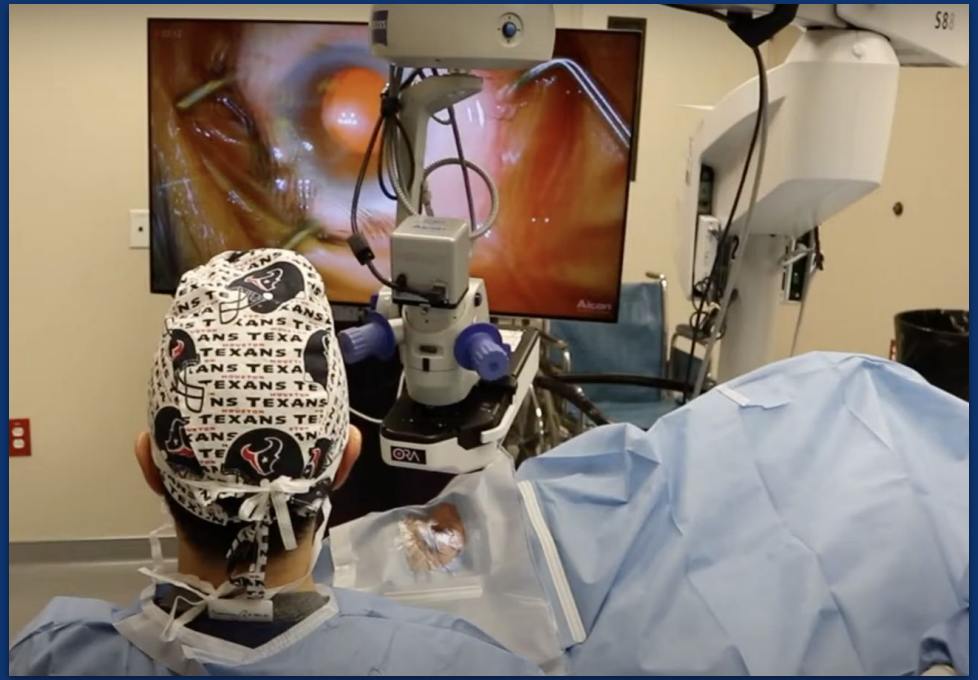
NGENUITY 3D Visualization System

PROBLEM

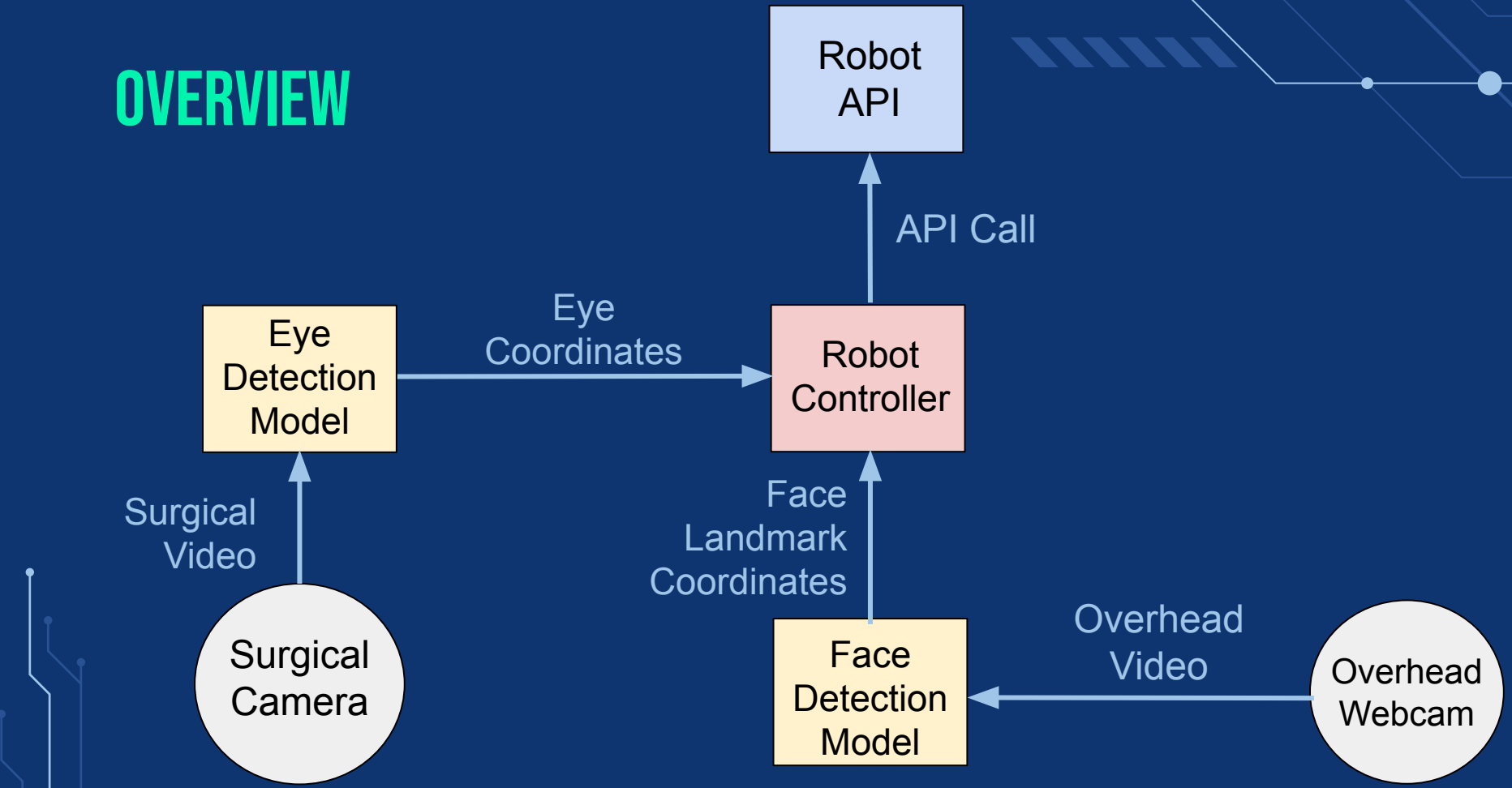
- Inefficient Setup
- Shaky Image
- Cataract surgery demand

SOLUTION

- Automated setup
- Eye Tracking
- Automatic Stabilization
- Optimization of surgery process



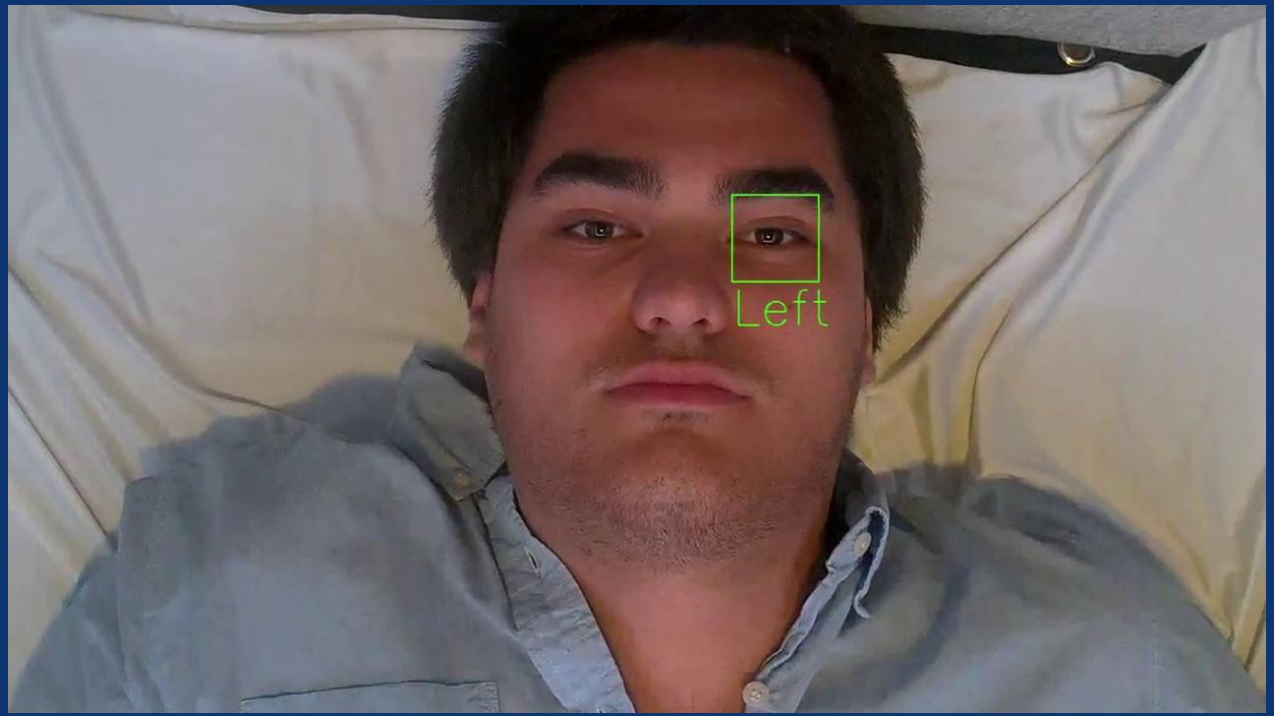
OVERVIEW


Robot API
API Call
Eye Detection Model
Eye Coordinates
Robot Controller
Surgical Video
Face Landmark Coordinates
Surgical Camera
Face Detection Model
Overhead Video
Overhead Webcam

GOAL

FACE DETECTION DEMO

FULL DEMO



TECHNICAL CHALLENGES AND COMPLEXITY

FACE DETECTION

State Saving

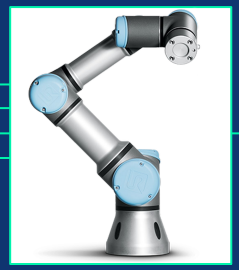
EYE DETECTION

Iris Detection

ROBOT

Simulation

NEXT STEPS

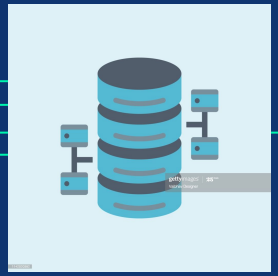


INTEGRATE WITH ROBOT

Interfacing with Alcon Hardware

STABILIZATION

Eye Tracking & Image Correction



PATIENT DATABASE

Patient Identification & Data storage

QUESTIONS?