LifeLens

360 SOCIAL IMPACT STUDIOS

DIGILENS

Our Team

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Anthony Zhang
Backend Developer

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Product Manager

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AI Developer

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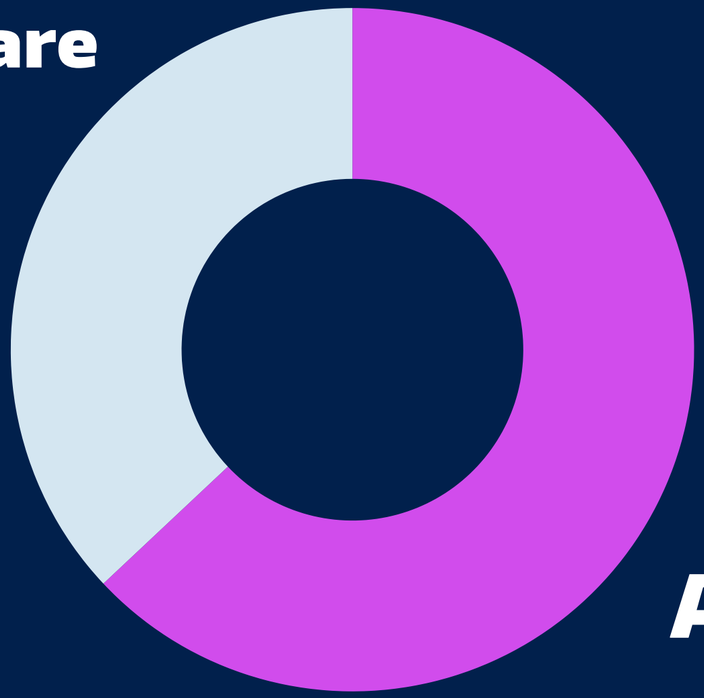
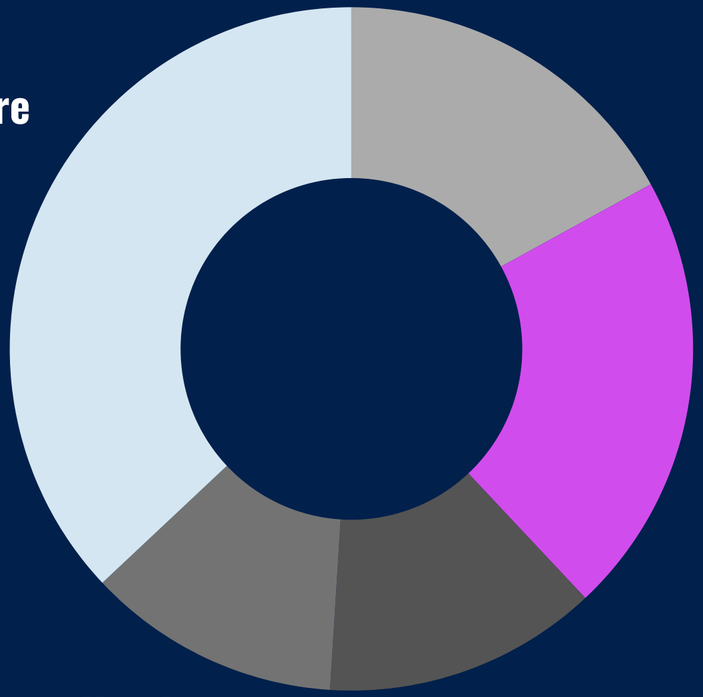
Frontend Developer

Actual Patient Care
37%



Administrative Task
63%



Charting
21%

1 NURSE

155 HOURS PER YEAR

Problem Statement

While charting is critical to modern healthcare, the physical nature of data entry in a time-critical environment results in mass amounts of wasted time that could otherwise be dedicated to patient care.

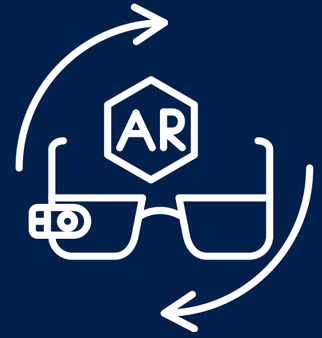
How might we save nurses time in their charting processes?

Market insights

Importance of Physical Comfort

Clarity and Durability

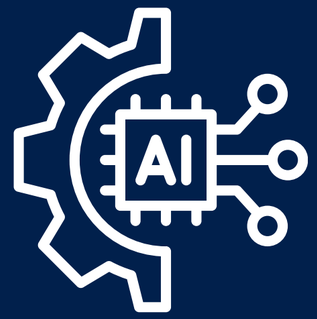
Hardware Capabilities



Localization and Cultural Relevance

Cleanliness

User research



Need in automating administrative work

Streamlining charting and make it more efficient.

“Can take five to ten minutes when I could spend five to ten minutes in my patient's room.

Handsfree

A handsfree and sanitized experience will users to fully engage in more important work such as one-on-one time with patients

Empowerment not replacement by AI

Solution should empower nurses by giving them information to make their own decisions as needed.

Personas

Emily | ICU Nurse | 28 | B.S in Nursing

Needs:
The ability to spend more time with patients, and more intuitive recording practices.

Painpoints:
Multitasking and high workloads due to complex documentation, medication, assessment, etc.

User Story:
As an ICU nurse, I want to have tools to help me in my job, so that I can have less workloads on complex documentation or assessment.

Personas

Alex Parks | Family Doctor | 35 | M.D

Needs
Stability, consistency, and efficiency in recordkeeping methods. A cheaper alternative to a human medical scribe

Painpoints
Constant repetitive recordkeeping creates added stress for FDs

User Story
“As a family doctor (head of staff), I want to reduce the time I spend on the repetitive manual work, so that I can have more time and less administrative workload.”

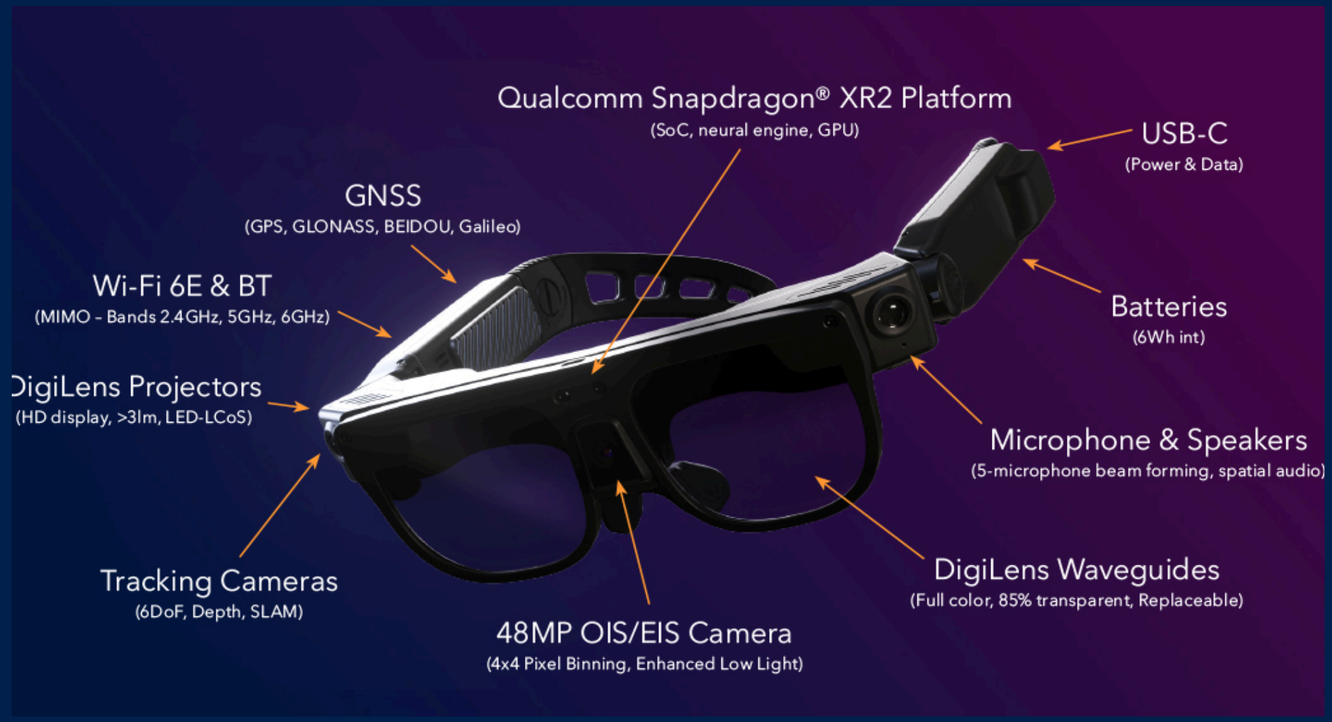
Key Concepts

Realtime Physiological Monitoring:

Display physiological monitor measurements in real-time for data viewing.

Enhanced Communication:

Speech-to-text transcription for automated data entry, handover, and on-call communication.

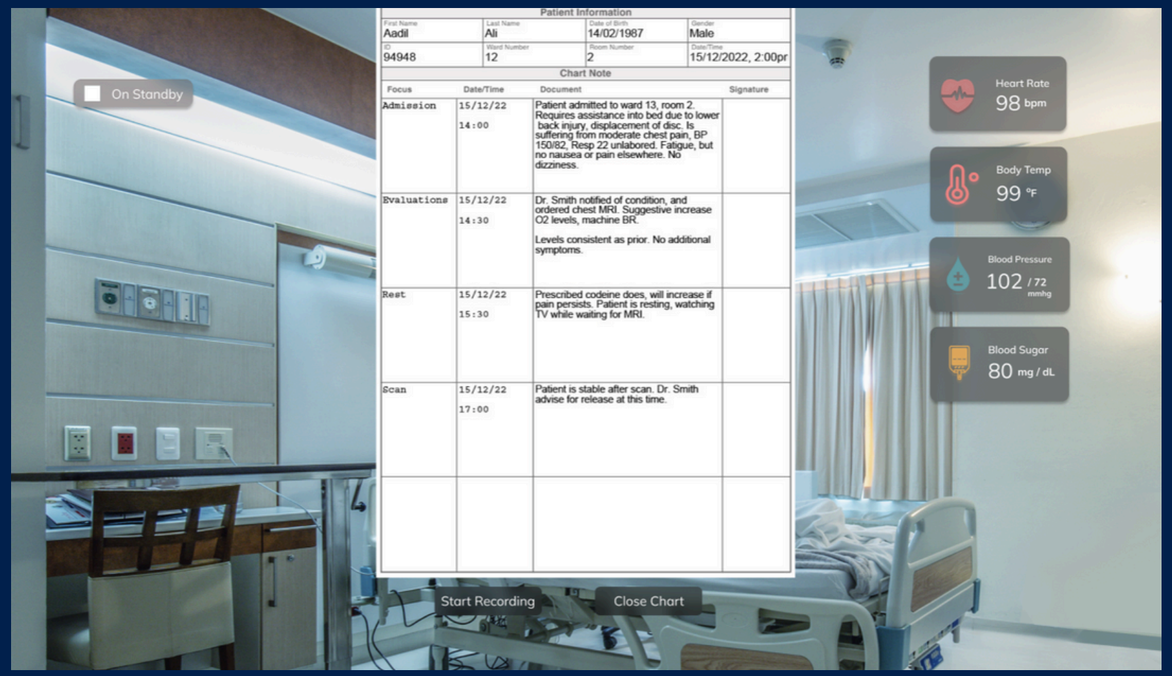


Utilize DigiLens Argo Platform

Final Features

Capstone: AI Medical Scribing

Speech-to-text transcription of patient assessments and automated patient charting with EHR integration



Post-capstone: AR Handtracking Health Monitoring

Physiological monitor with Handtracking interaction for minimum workflow intrusion

Dev process

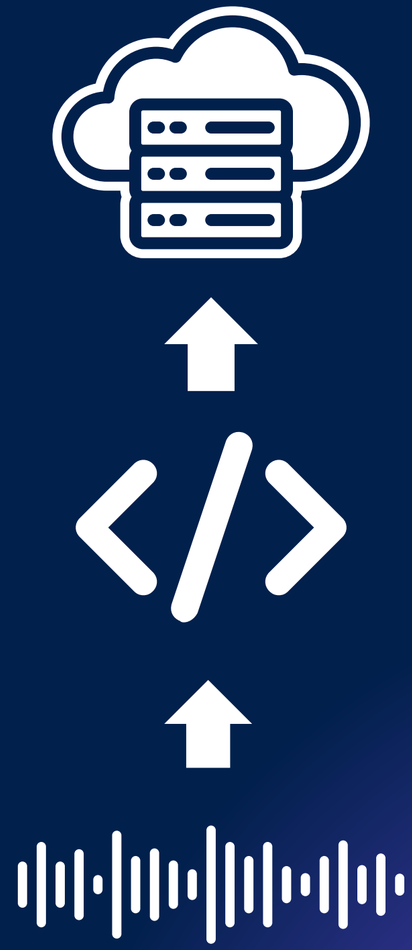
Mutiple Iterations

Iteration 1:

- **Implement HTML frontend with Azure hosted backend python scripts**
- **User uses service through the browser**
- **AR glasses collect audio input and upload to cloud for all processing**

What’s the problem?

- Insufficient software support from digilens
- Takes too long to process



Dev process

Iteration 2:

- **Migrated to Android native application**
- **Sucessfully intergrated existing python script**
- **AR glasses collect audio input and upload to OpenAI for partial processing**

What’s the Improvement?

- More compatible software with a lot more support
- Shorter process time

Concept Validation

1

Is the AR Monitoring Display a need or want?

2

Can we save enough time on charting?

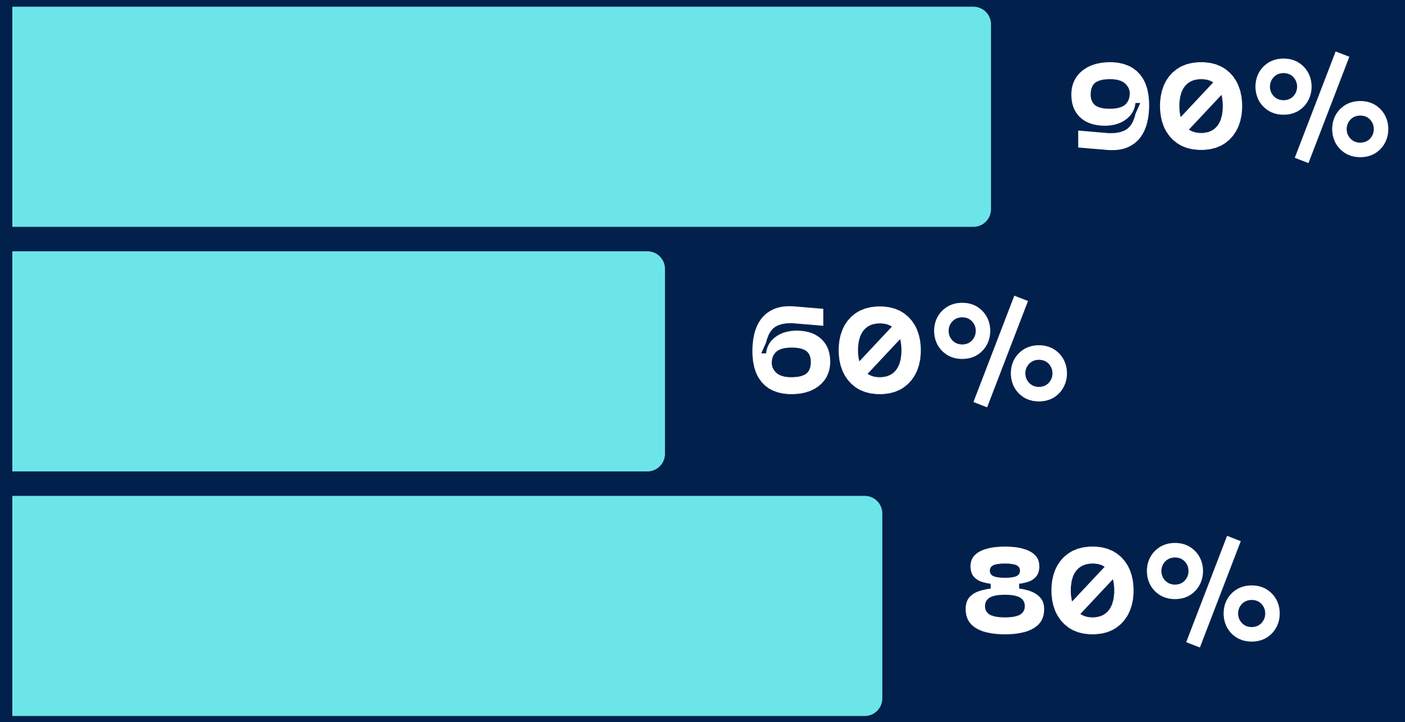
3

Will users adopt the DigiLens Hardware?

4

How, if at all will our design direction need to change?

User Testing Insights



Validation Results

1

AR Display will be a need to provide relevant data

2

We can save at least 10% time on tasks

3

All users stated willingness to train on LifeLens platform

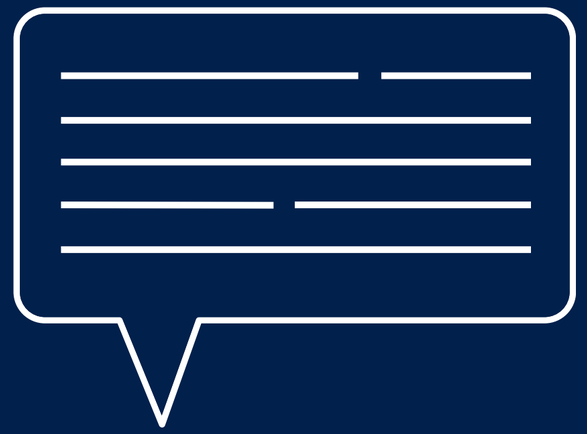
4

Will need to provide more prompts in AR UI

Opportunities

Need Guided Text Prompts on AR Display

Optimize voice accuracy algorithm/hardware to isolate nurse voice



Provide Real-Time Transcription UI to confirm output

Demo video

https://www.youtube.com/watch?v=RE5itOrsGAU

Ethical Consideration

Risk

Replacing healthcare jobs

Mitigation

Design training services to reskill nurses, allowing them to adopt LifeLens with ease.

Ethical Consideration

Risk

Data Privacy

Mitigation

Utilize HIPPA Compliant Cloud Services

Ethical Consideration

Risk

Legal Risk: Inaccuracy in transcription

Mitigation

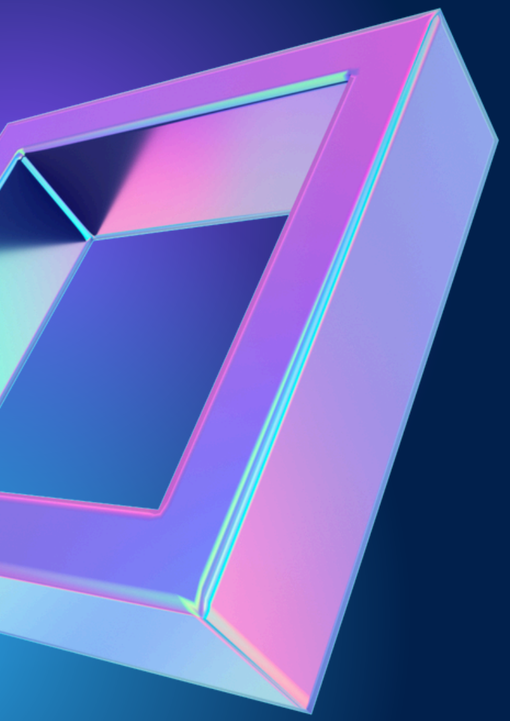
Accuracy Validation Feature:
Timestamp within video recordings

Next Steps – Sponsored Project

How we're moving forward

- Handoff - Handoff our code repository and documentations to sponsor

- Continued development
  - Usability testing with the Ensign Group LTC facilities
  - Refine charting feature
  - Begin development of AR Health Monitoring UI



Thank You

Any questions?