



**ARtEYE**

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**The Future of Vision**



**The world is not clear**

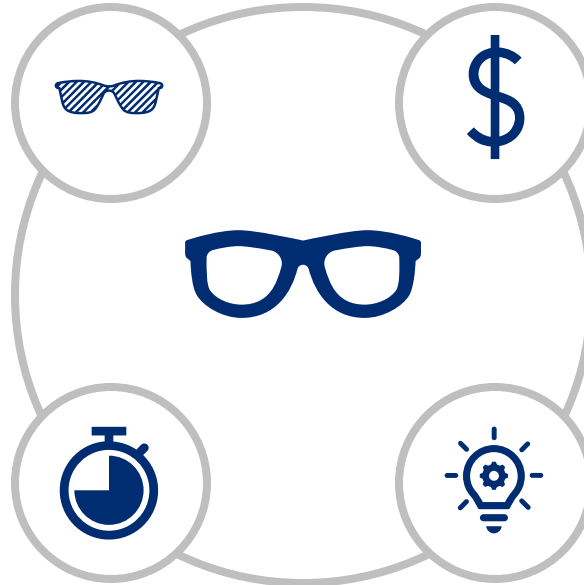
**3.361 Billion\***

**People will suffer myopia in 2030**



# Lenses are not perfect

**Frequent  
Replacement**



**High Cost**

**Long Waiting  
Time**

**Single  
Functionality**

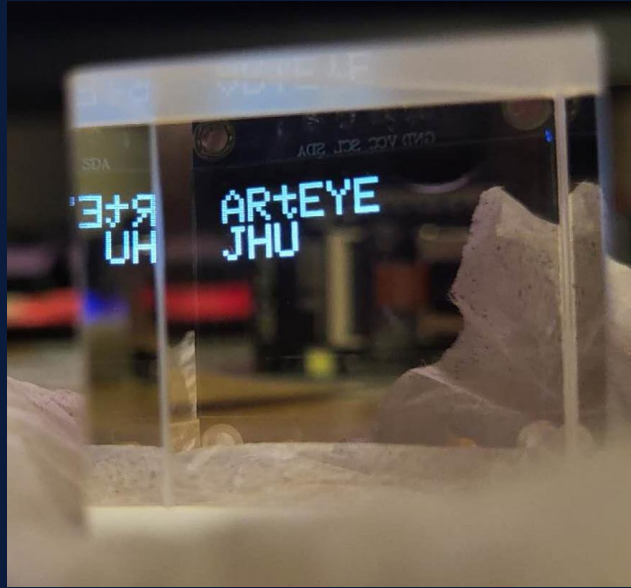
# Eyewear + AR = ?



Apple Vision Pro



HoloLens2



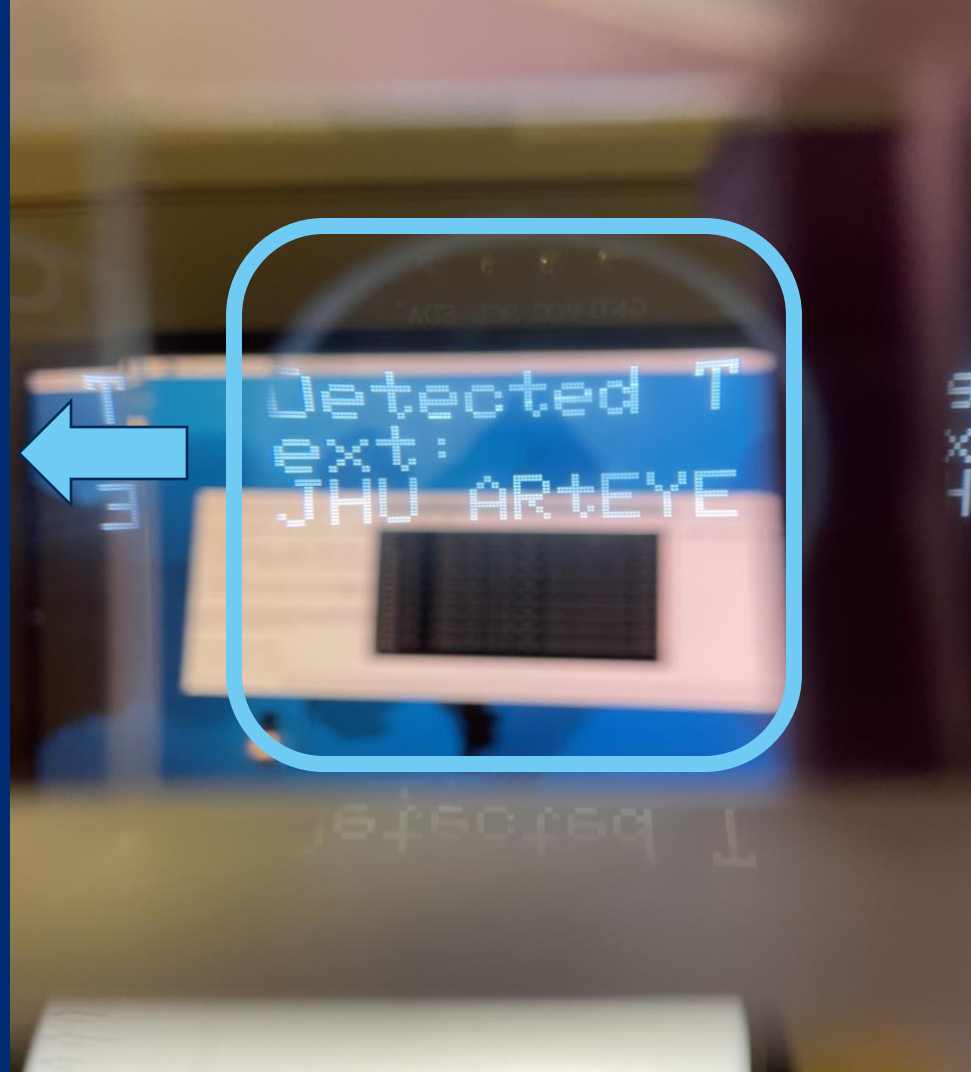
# A R t E Y E

**Augmented Reality Text & Eye-Enhancer**

# Our Solution

## Demo of working MVP

Handwritten “JHU ARtEYE” was recognized, magnified, and displayed right in front of the eyes.





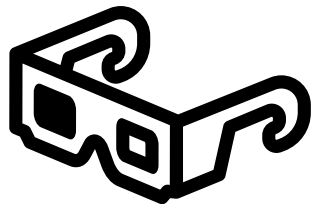
# **The world is blurry**



\$36.76 billion\*

Revenue of prescription eyewear in the U.S. 2027

# **But don't miss out the fun**



\$114 billion\*\*

AR & VR market size in 2027

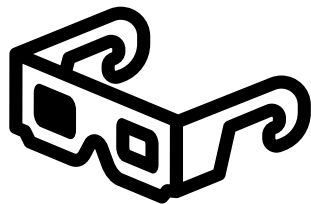


# We are serving



20 million\*

Myopia patients in the U.S.



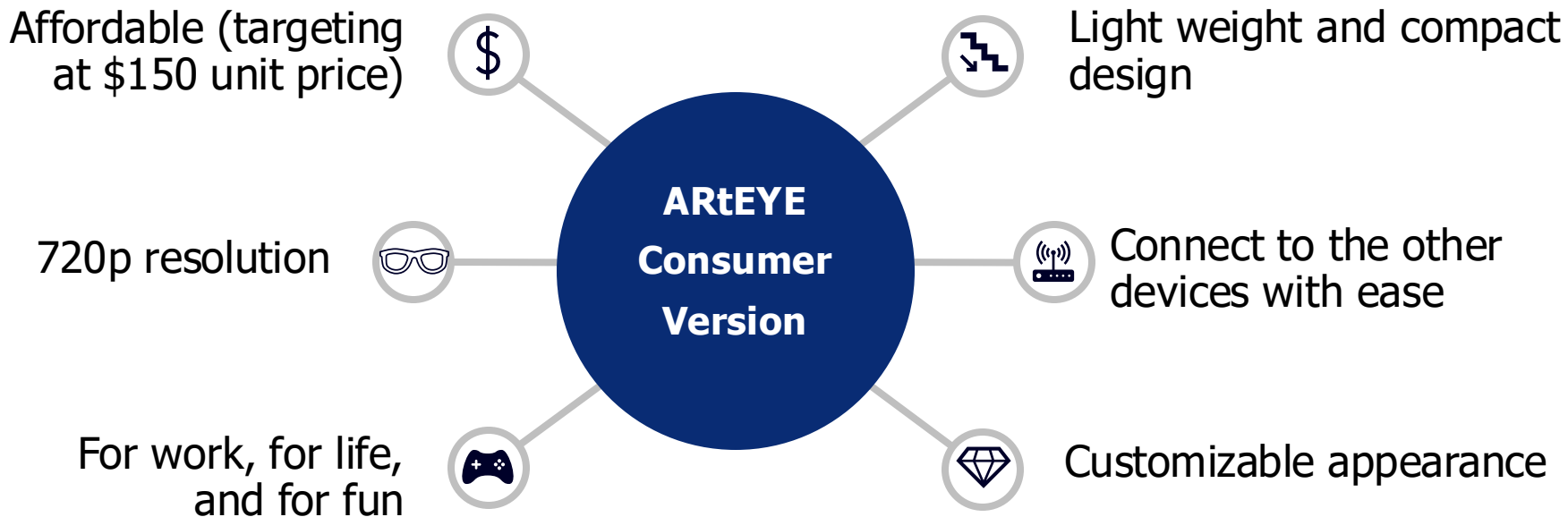
4.3 million\*\*

AR & VR users in the U.S.





# What we are envisioning





# Competitive Landscape

Device		Price	Instant Availability	Functionality	Optimized Vision Improvement
ARtEYE					
Prescription Glasses					
AR Goggles					
Vision Correction Lens					

# Revenue Streams (Phase 1: Hardware)

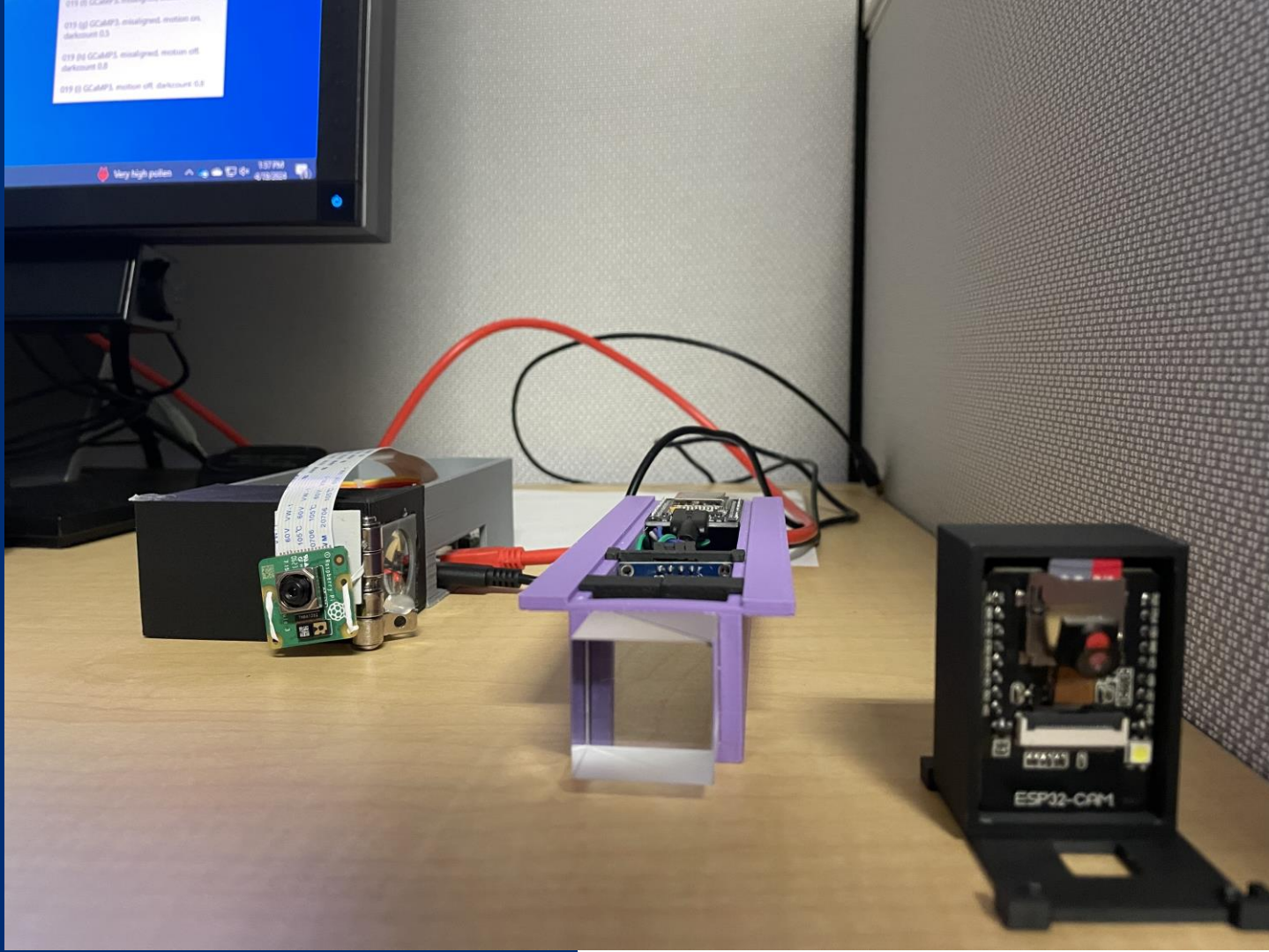
Hardware		Market Capture		SOM
<b>\$150</b>	<b>×</b>	<b>0.05%</b>	<b>=</b>	<b>\$1.5 M</b>
per customer per purchase		10,000 per year		per year

**COGS:** \$100 per customer || **Sales Price:** \$150 per customer  
**Prior Competitor:** >\$1,000

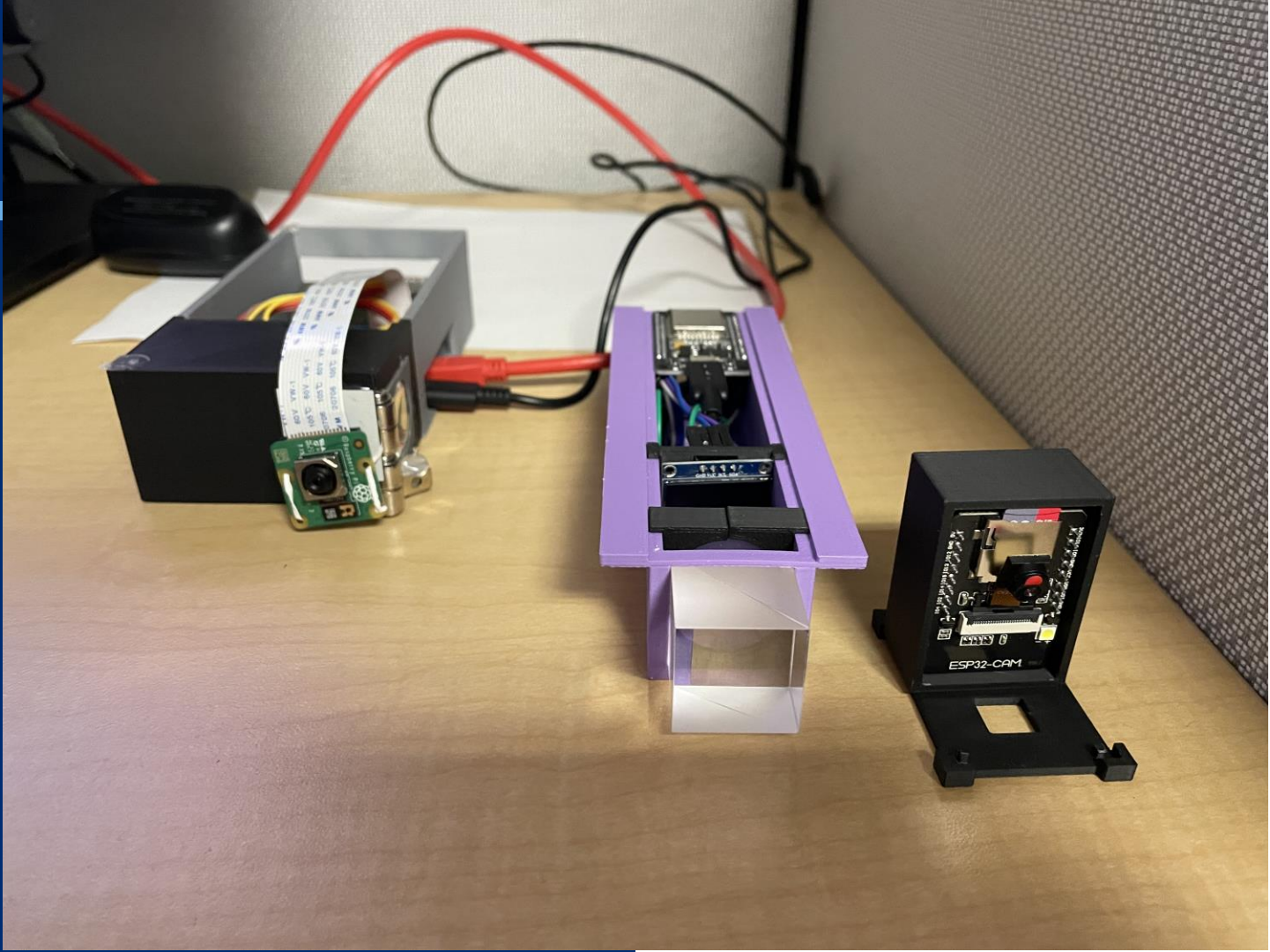
Detected 1  
ext:  
JHU ARtEYE

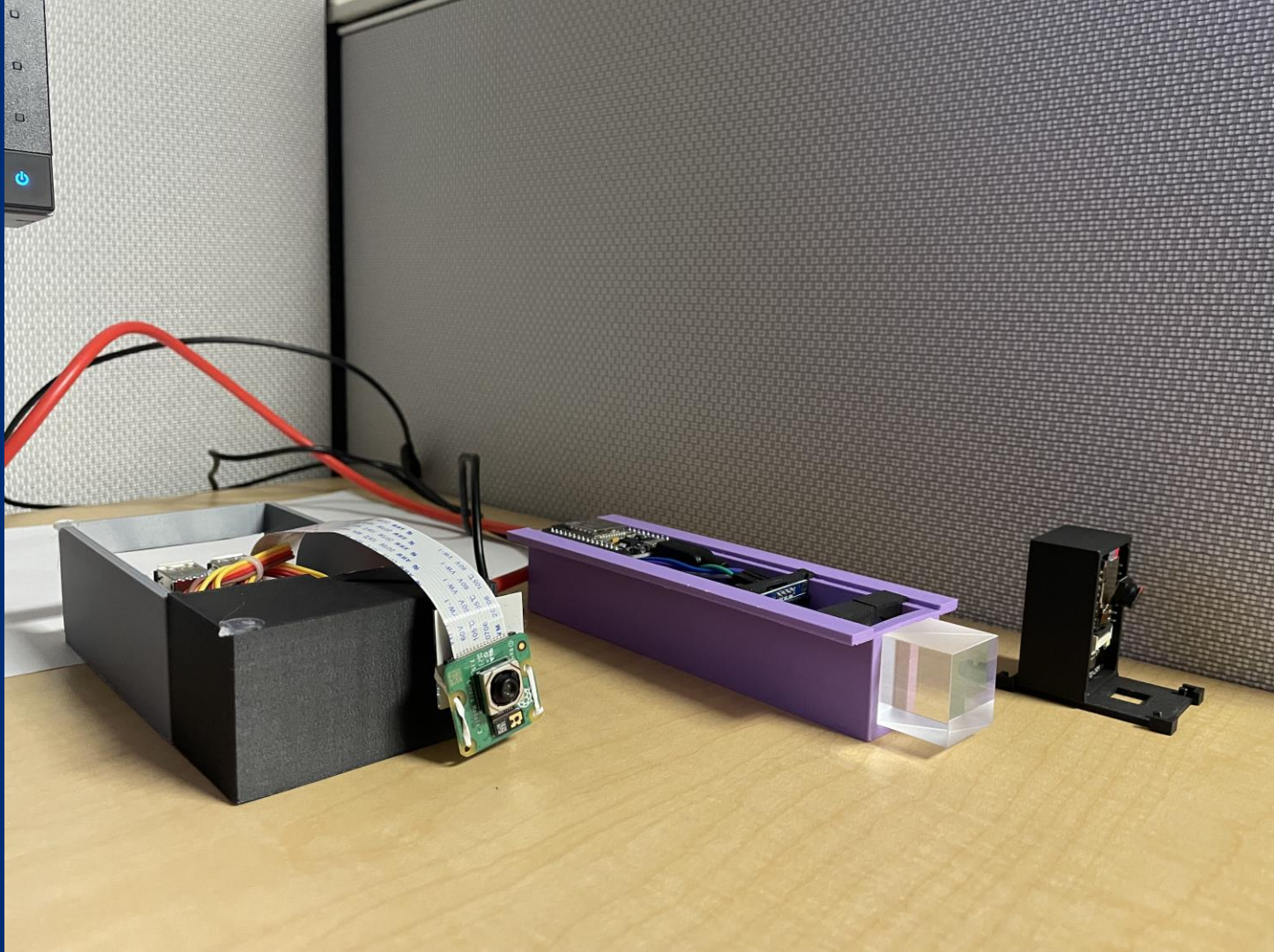
Detected 1  
ext:  
JHU ARtEYE

AR+EYE  
Johns Hopk



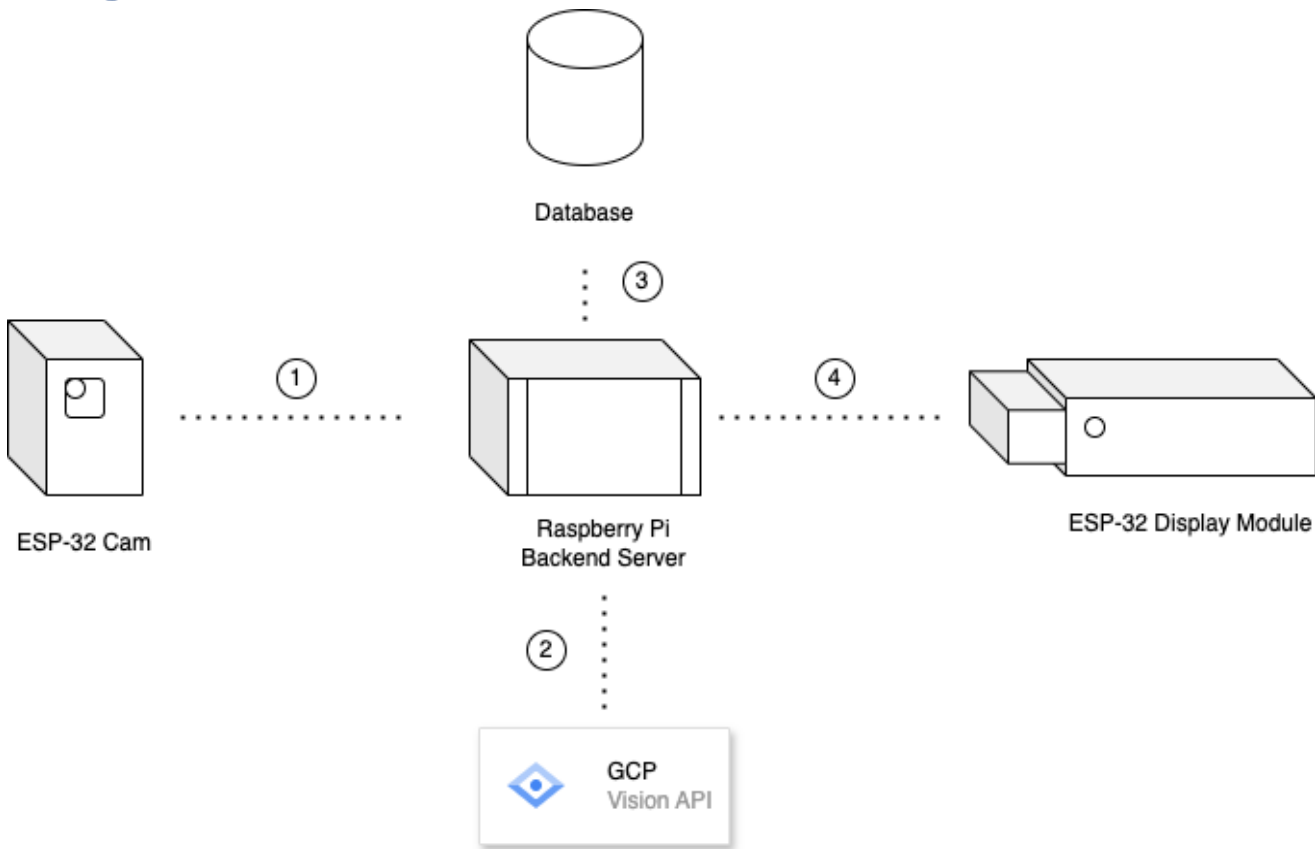








# Building Blocks







# Building Blocks

## ARtEYE API 1.0.0 OAS 3.0

API for ARtEYE application

Servers

http://localhost:5000

### default

GET /arteye/v1/healthcheckstatus Check server health status

GET /arteye/v1/imagetotext Detect text from image

POST /arteye/v1/imagetoserver Upload image for processing

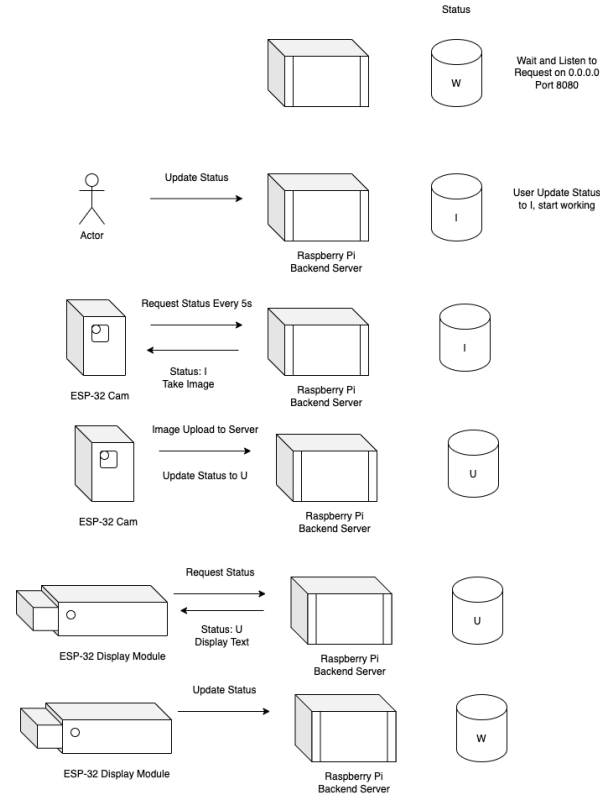
GET /arteye/v1/processstatus Get processing status

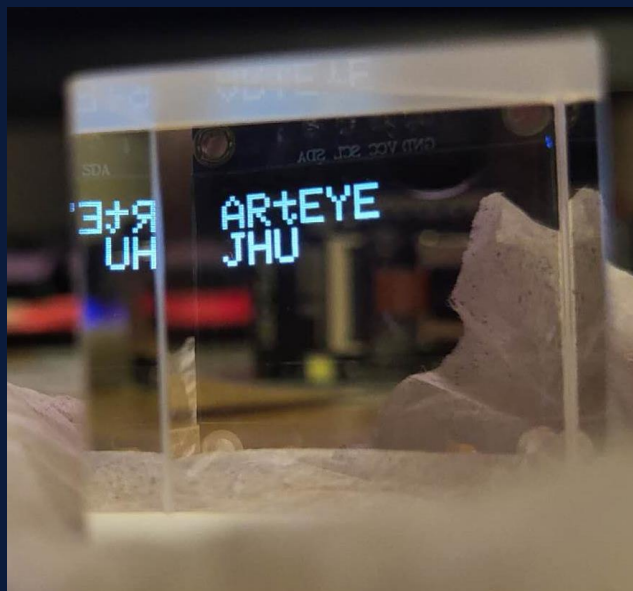
POST /arteye/v1/updateprocessstatus Update processing status

Code	Description	Links
200	Image uploaded successfully  Media type application/json <small>Controls Accept header.</small>  Example Value   Schema <pre>{   "status": "string",   "file_name": "string" }</pre>	No links
400	No image data received or unsupported media type  Media type application/json  Example Value   Schema <pre>{   "error": "string" }</pre>	No links
500	Error saving file  Media type application/json  Example Value   Schema <pre>{   "error": "string",   "details": "string" }</pre>	No links



# Virtual Status Management

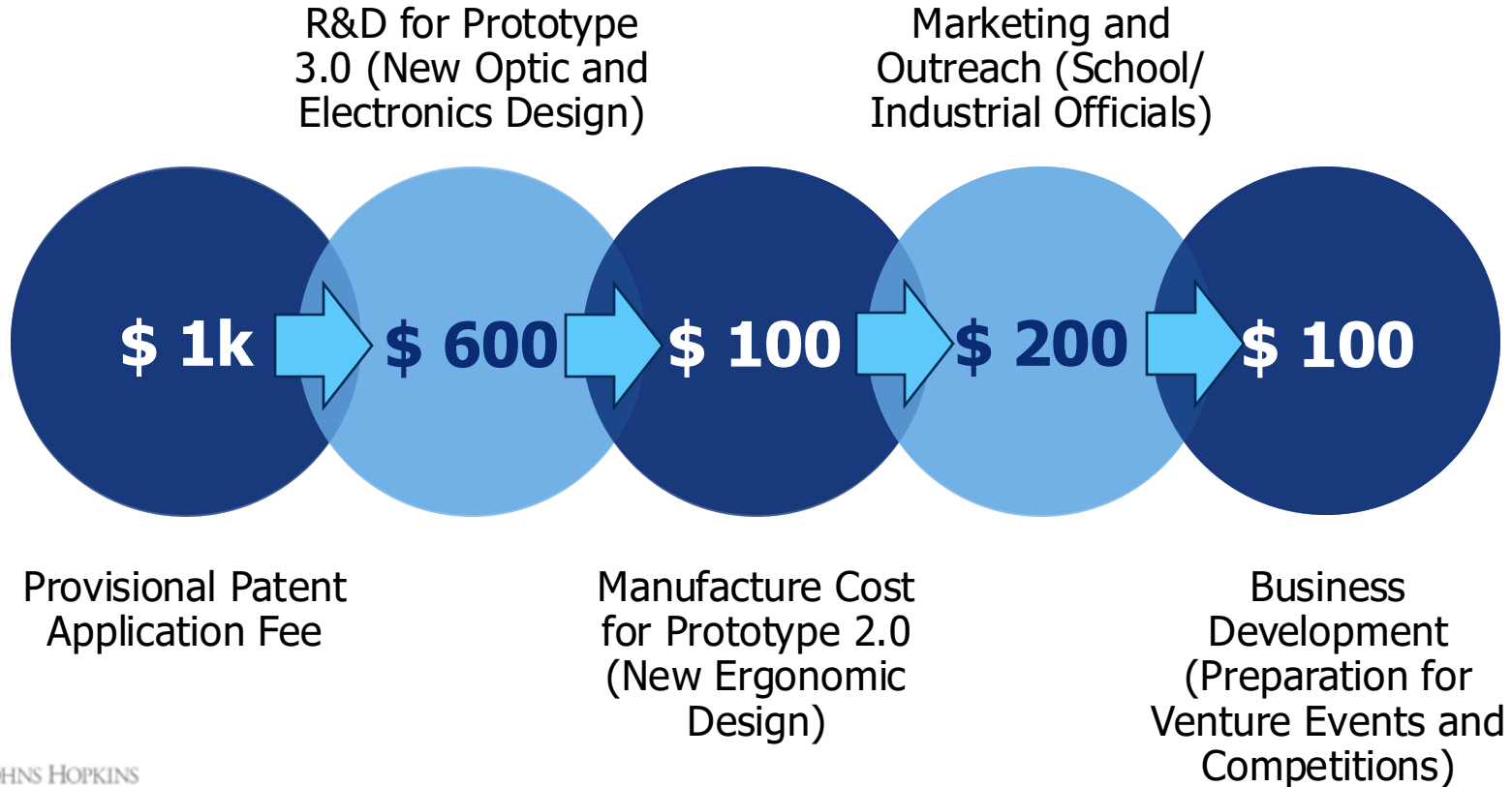




A R t E Y E

Demo

# Fund for the Future of Vision (\$2k Total)





# ARtEYE: Fund Us for the Future of Vision.

**Complementary**

**Text magnification for people with or without prescription glasses.**

**Modulization**

**Upgrade as needed, show fashion and tastes, for work and for fun.**

**Accessibility**

**\$150 per unit, serving 20 million myopia patients.**

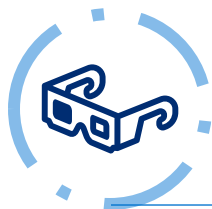


**[ARtEYE.2023@gmail.com](mailto:ARtEYE.2023@gmail.com) | Twitter: @ARtEYE\_**



# ARtEYE

FOR THE FUTURE OF VISION.



**20 M** nearsighted patients  
**4.3 M** AR/VR lovers



**\$150** per unit  
Capturing **\$150 B** market



Modularized design  
For work, for life & for fun!



Haochen Wang, CEO@ARtEYE

ARtEYE.2023@gmail.com

Twitter: @ARtEYE\_



# Founders



**Sijun Wang**

BME-MSE @ JHU

Neuro-Engineer

Hiker, Cook &  
Explorer



**Haochen Wang**

BME-MSE @ JHU

Neuro-Engineer

Competitive Pokémon  
VGC Player



**Zhaohan Yan**

Application Developer @ ADP

ECE-MSE @ JHU

Author, Photographer &  
Entrepreneur

# Appendix: How to use ARtEYE

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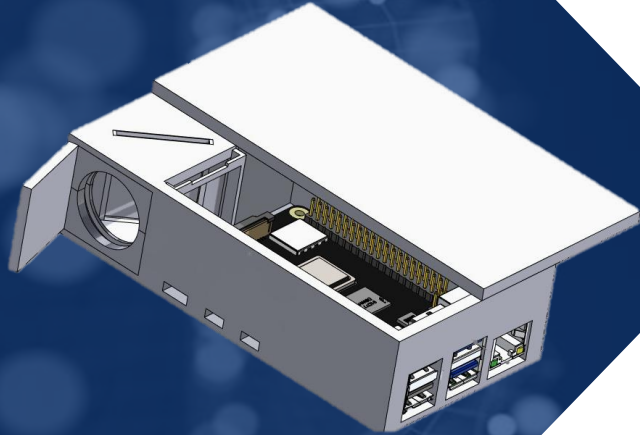
Just wear it over your ears. You can have your glasses on, and the display panel of ARtEYE will hang in front of your lenses.



It's that simple!



# Appendix: How ARtEYE works



- **Software:** controls the camera, sends picture to the cloud, receives recognized text, displays text
- **Optics:** reflection and refraction, directing light from LED display to your eyes
- **Electronics:** I/O controls, data communication, powers up the device



**I am telling  
my personal  
story!**

## **Appendix: Why ARtEYE matters to me?**

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**First**, the story of Tom, who cannot see blackboard or road signs at a far distance, is my personal experience. I feel the need of such a device personally when getting a new pair of prescription glasses seemed impossible under the insurance of my high school and undergrad school.

**Second**, it matters to my classmates. I have heard of similar complaints of students, especially international students who shared same concern of insurance as I did.

**Third**, it is expensive even with my grad school insurance plan. My current lenses cost me \$400 after deduction!

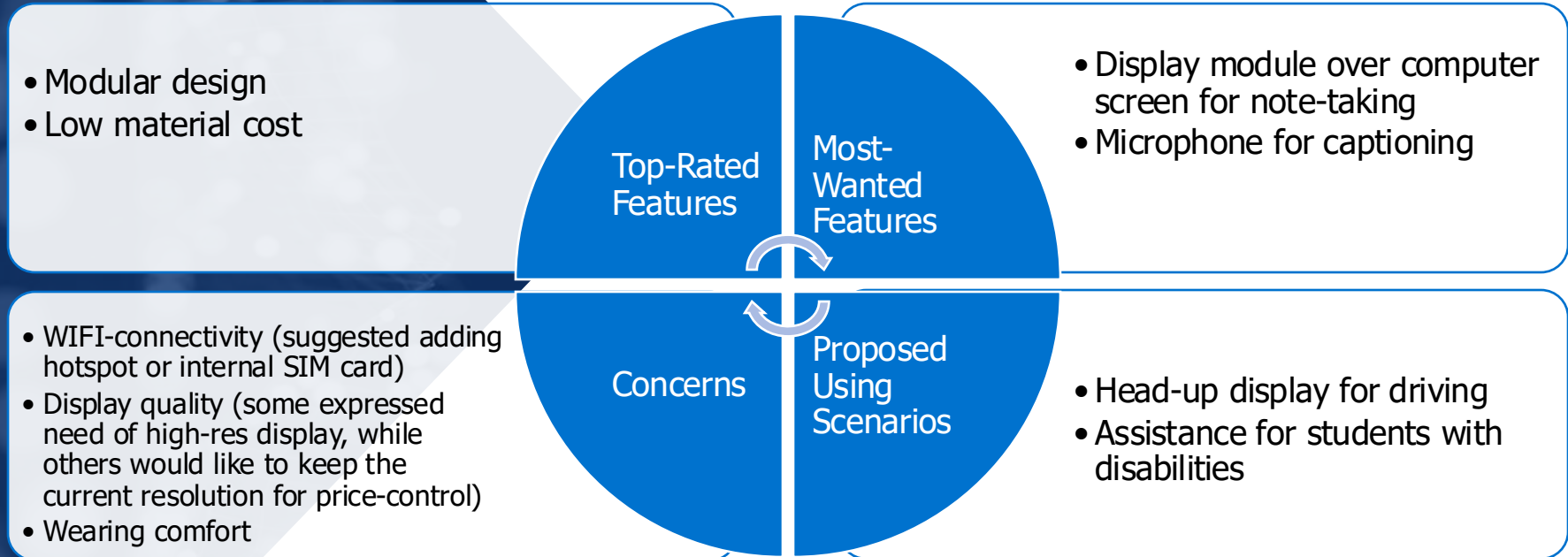
## Disclaimer:

ARtEYE is supplementary to but not a replacement of prescription glasses.

# Appendix: Why ARtEYE matters to the society?

1. **Road safety:** more than 1 in 4 drivers have caused a crash due to misreading a road sign (Robins and Day), ARtEYE can help magnify and display the signs
2. **Occupational safety:** 28% and 20% of total occupational injuries were due to “exposure to harmful substances or environments” and “contact with objects/equipment” respectively, ARtEYE will incorporate safety monitoring measures to display warning to the user before they are in danger (Bureau of Labor Statistics)
3. **Study efficiency:** myopia can significantly lower “school functioning scores” (Wong *et al.*), ARtEYE can help them see blackboards clearly

# Appendix: Feedbacks for our MVP





## Appendix: Phase 2 Business Model

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- **Software and service subscription:** for additional functions that empower ARtEYE
- **Customization option:** for bulk purchase from government/school/industry
- **Service fee:** for launching 3<sup>rd</sup> party software on ARtEYE ecosystem
- **Upgradable hardware module:** to expand functionality (like LEGO!)