

# Prototyping Mid-Air Display for Anywhere Robot Communication With Projected Spatial AR

RARE LAB



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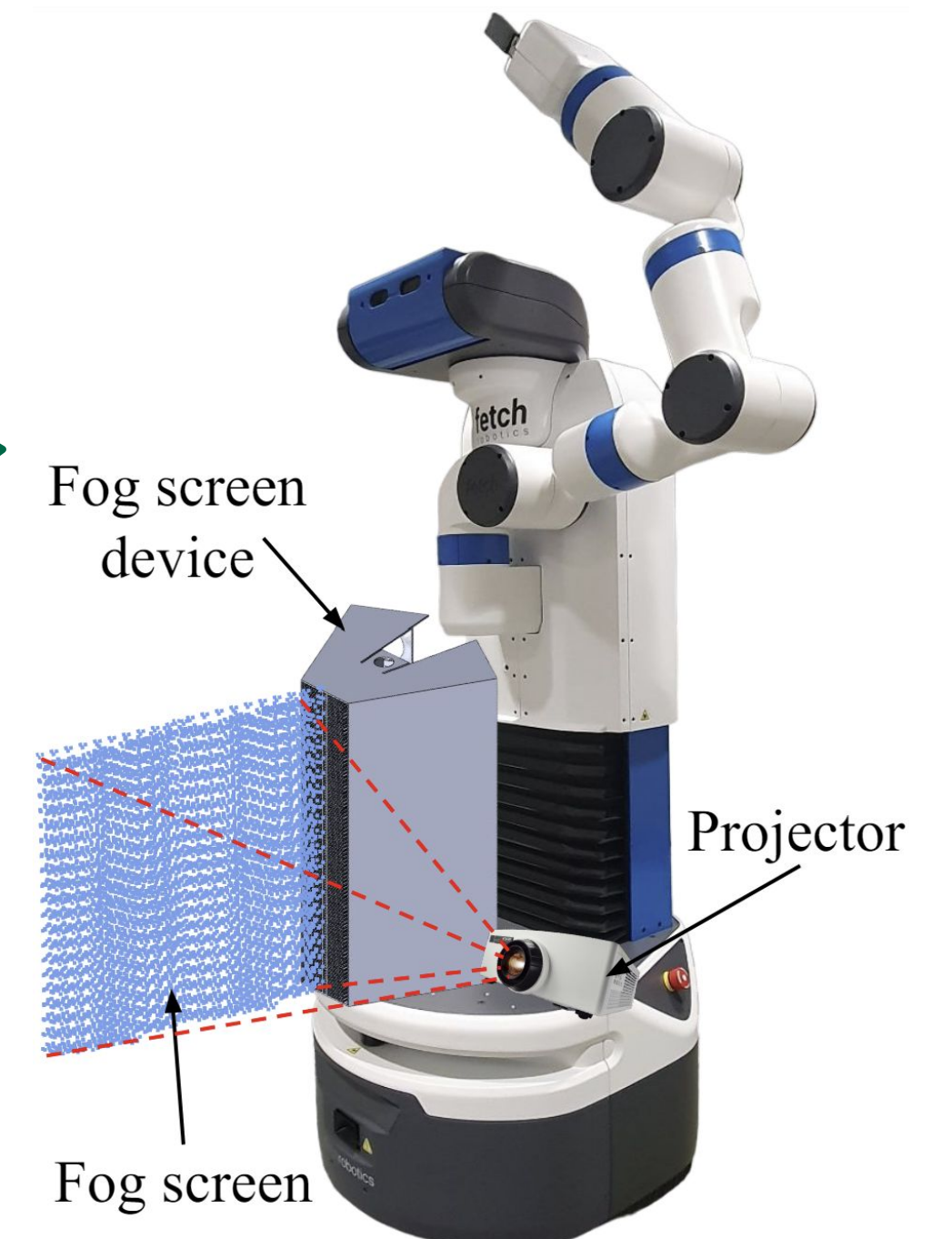
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## Motivation

- Headset-based AR suffers scalability issues as every viewer must wear a headset.
- Projector-based AR solves this, but it requires flat surface that some environments may not have.
  - E.g., warehouses, outdoor...

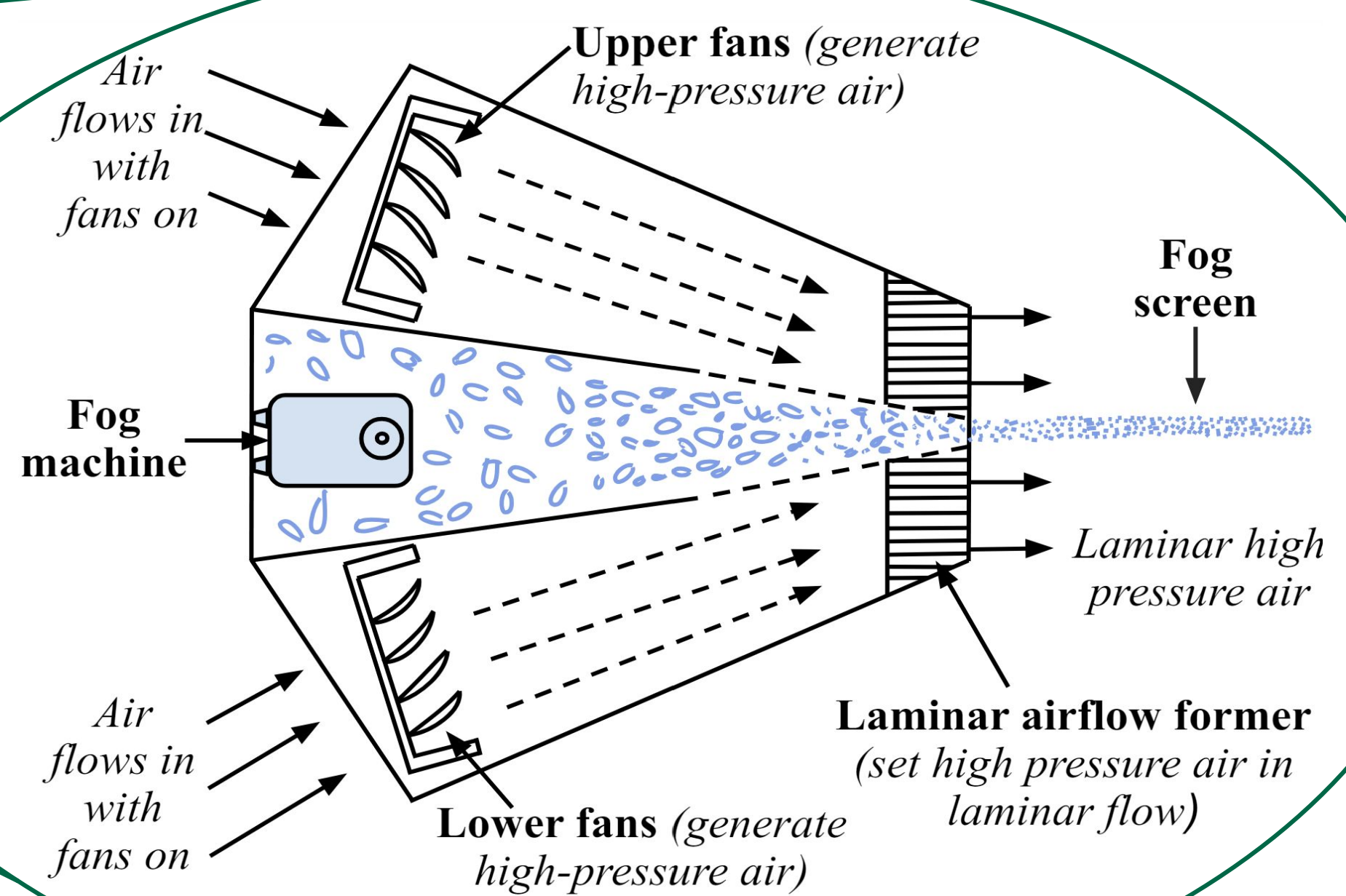
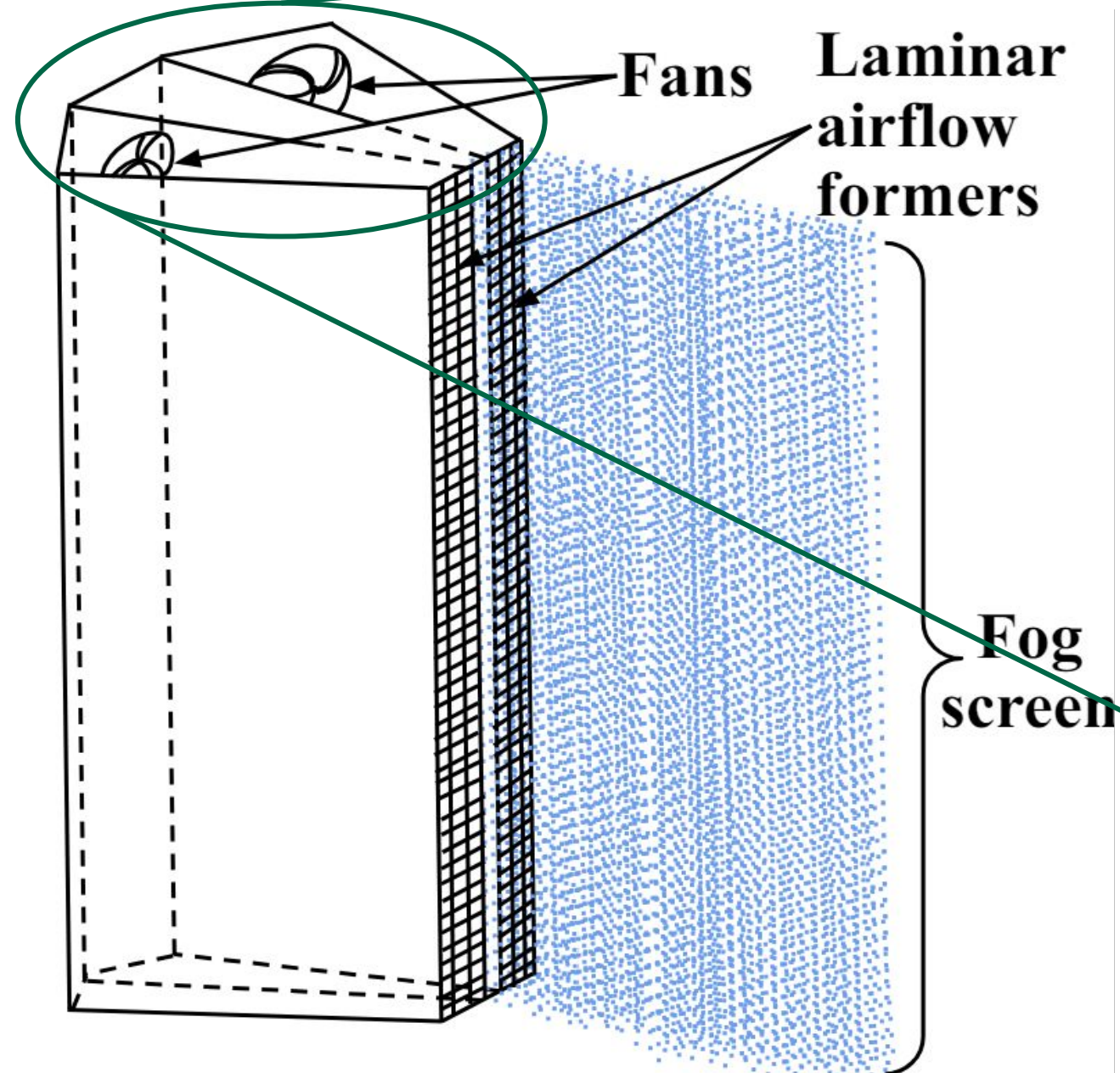
## Concept

Ask me about our prototype being built!



## Fog Screen Device Design

- We propose a fog screen device to create a mid-air flat display for robot communication.
  - **Fans** produce high-pressure air
  - **Laminar airflow formers** regulate the air in straight flow to ensure fog screen is flat

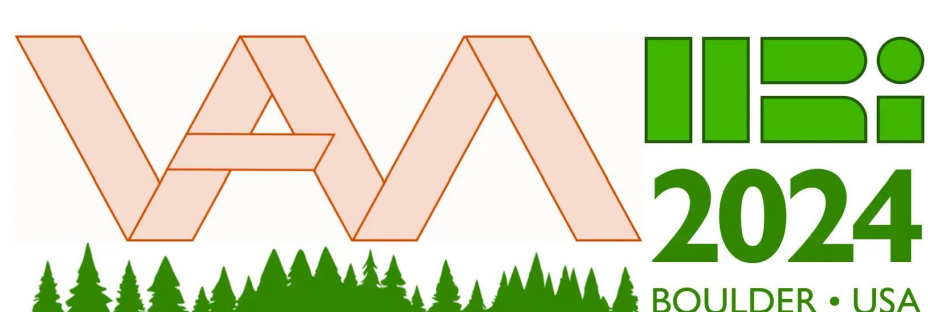


## Evaluation Plan

- Build the prototype & verify flat fog screen.
- Examine whether the airflow formers can maintain laminar fog flow.
- Conduct human-subjects study to evaluate user perception & gather feedback for improvements.

## Takeaways

- Proposed fog screen addresses the limitation of projector-based AR.
- The fans & the airflow formers keeps the fog flat.
- We are currently building the first prototype.



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Read  
the  
paper:

