

COMM 268 Final Presentation

# **VAIL Car Study**

Driver Psychology in Automated Brake/Steer System

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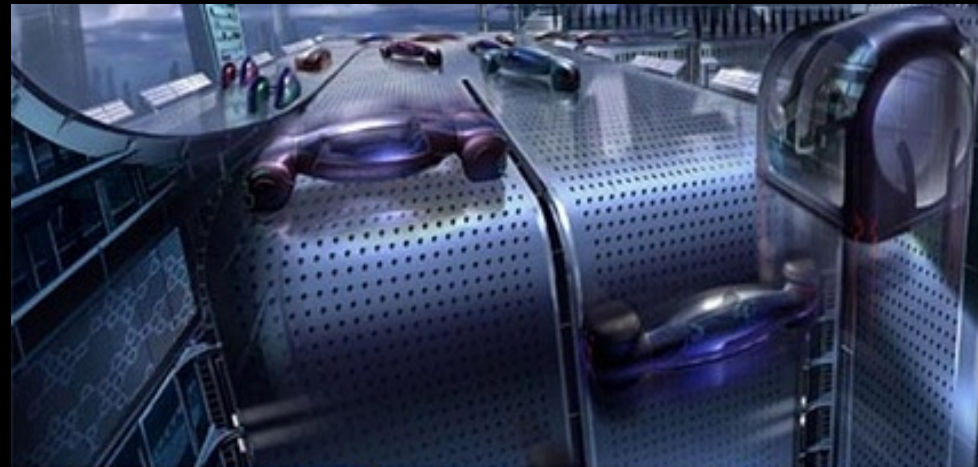
Hyunggu Jung

Jai Won Rhi

# inspiration

"observe, define problems, get inspired "

Halcyon days of..  
simply dreaming about autonomous cars



**ARE YOU NUTS?  
Just keep going!  
And be quiet!**

pretty good



But in reality....  
**NOT AN EASY PIECE OF CAKE**

Psychological Issues

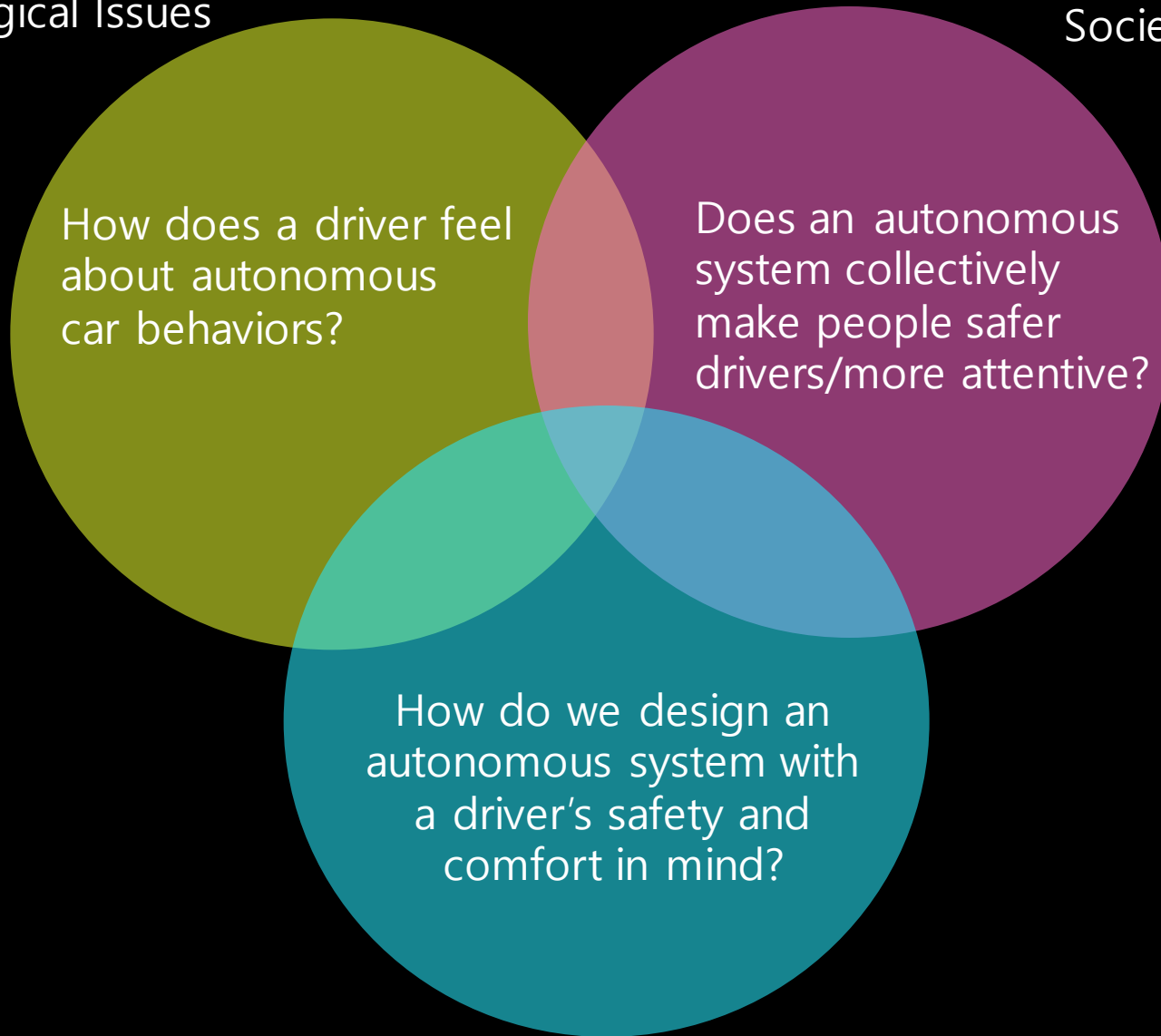
Societal Issues

How does a driver feel  
about autonomous  
car behaviors?

Does an autonomous  
system collectively  
make people safer  
drivers/more attentive?

How do we design an  
autonomous system with  
a driver's safety and  
comfort in mind?

Design Issues



# Inspiration

## 2 Major Concerns with Autonomous Driving



**Who Takes More Control?**

Driver vs Car



**What Is A Good Feedback?**

Sound, Voice, Vision

# Questions



How would drivers respond  
When a car start to take control over itself?



What type of feedback would make  
drivers feel safer and better while driving?

# Hypothesis

“what we question and try to solve”



# Hypothesis

1

Drivers feel safer and in control  
when voice feedbacks are given.

# Hypothesis

2

More detailed feedbacks would make  
drivers feel safer and better.

# Variables of Our Interest

## INDEPENDENT

auto brake & steer system

voice feedbacks on  
the fact & reasoning on  
a car's autonomous behaviors

a driver's response to a car's  
autonomous behaviors  
(behavioral & emotional)

a driver's response to  
different types of voice feedbacks

# Experimental design

“how we want to solve the problem ”

# Experimental Setup 1

Drive a car with  
an Autonomous Braking & Steering System



With Voice Feedbacks



Without Voice Feedbacks

# Experimental Setup 2

Give 3 different types of voice feedbacks

**WHAT**



"The car is slowing down (braking)"

**WHY**



"Construction Zone Ahead"

**BOTH**



"Car is braking because of construction zone"

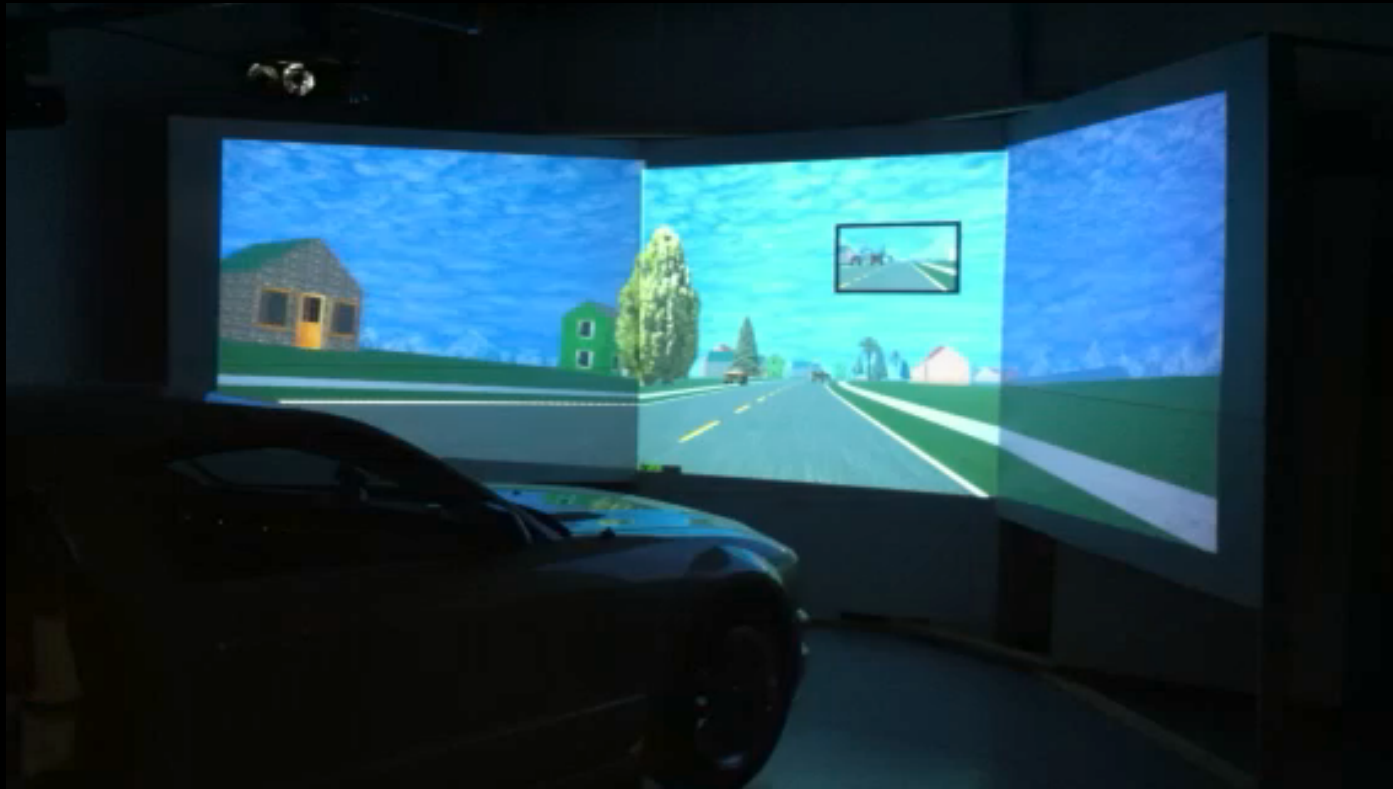
# Survey Design

**How well do the following words describe how you felt while driving?  
(Driving Feeling)**

**How well do the following words describe the CAR that you drove?**

**Please recall the statements that the car gave you while driving.  
Check only one statement that describes the car's behavior.**

# Study in Progress



Tested on 62 participants so far



Questions?  
Comments?