



# AKQA Technology VR Bike

Exploring digital sensory technology

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## **WHERE WE STARTED**

**Verizon - Get Fit Retail Experience**

**Nike - Free Running Retail Experience**

**Jordan - Last Shot Event**



Amplify  
it

Customize  
it

Explore  
the 2<sup>nd</sup> floor  
**verizon**

POWER YOUR PASSION ON  
THE VERIZON NETWORK





SPEED RUN: FREE  
SIGNUP

NIKE.COM/NYC

07:36

Stretch

NEXT:Stretch





NRC

20 21



1982  
THE FIRST SHOT

1998  
THE LAST SHOT

1998  
THE LAST SHOT



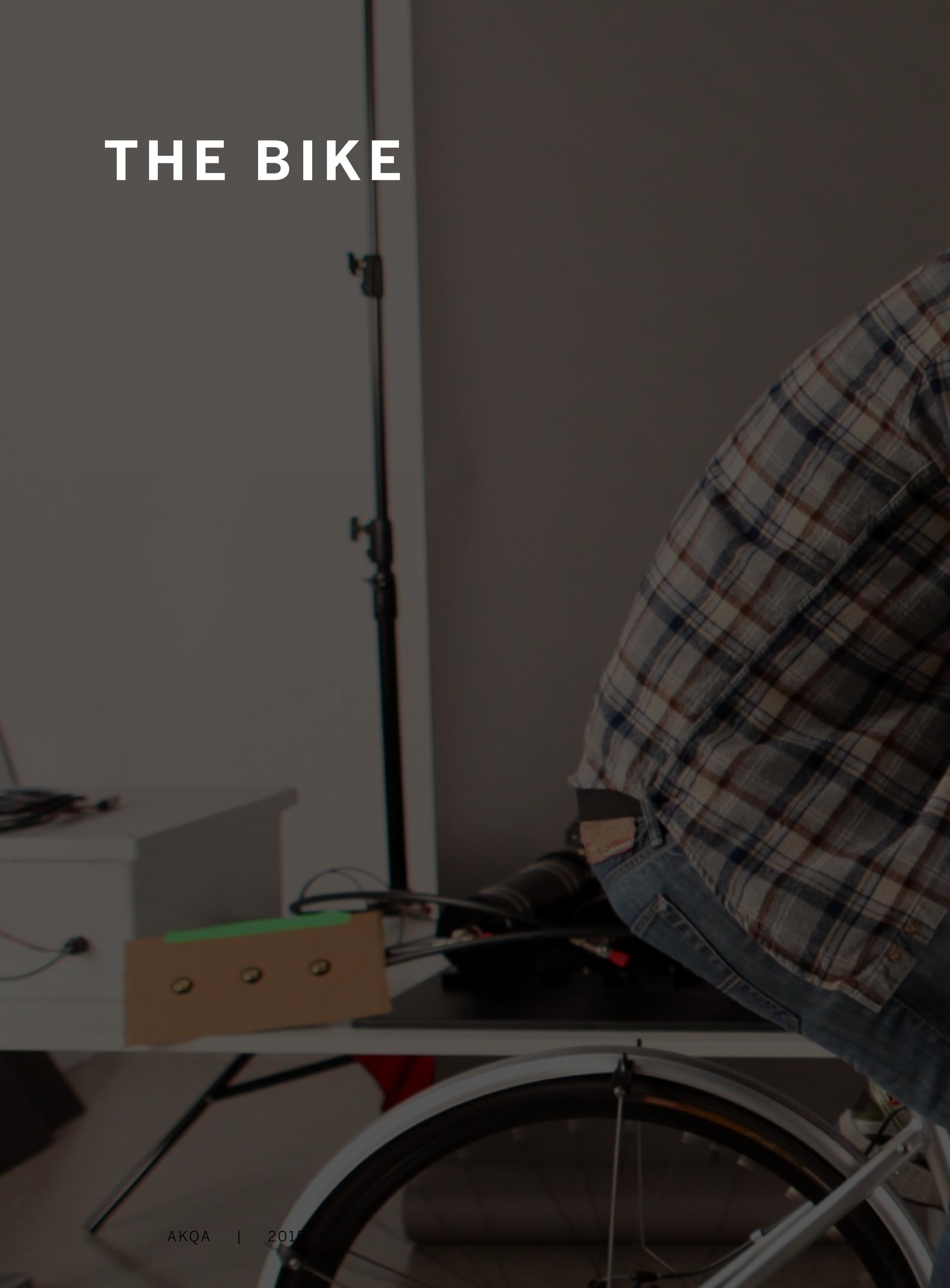
## **GOALS**

**Explore the features and limitations of immersive technology**

**Learn the strengths and weaknesses of the technologies**

**Create a demonstrable proof-of-concept**

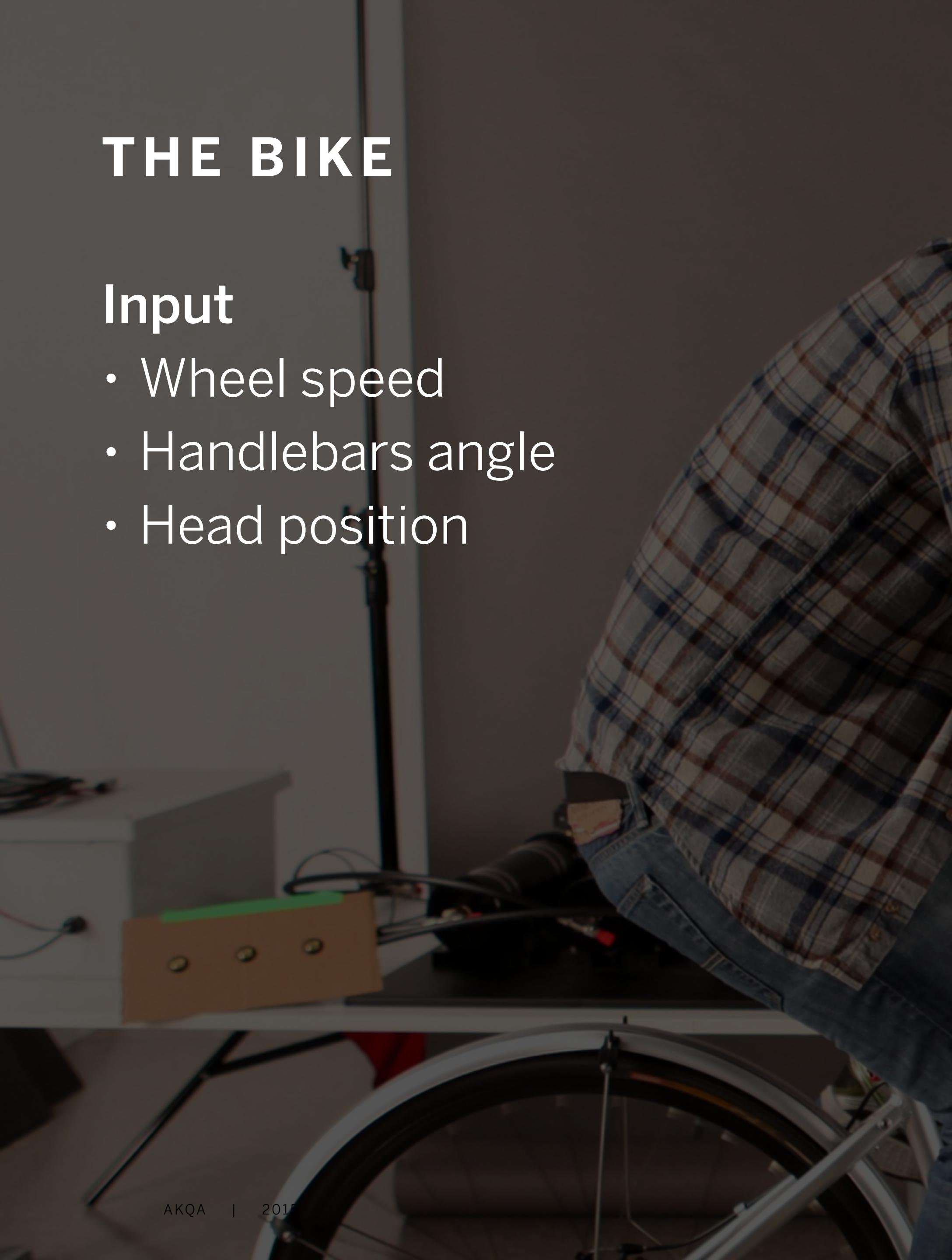
# THE BIKE



# THE BIKE

## Input

- Wheel speed
- Handlebars angle
- Head position



# THE BIKE

## Input

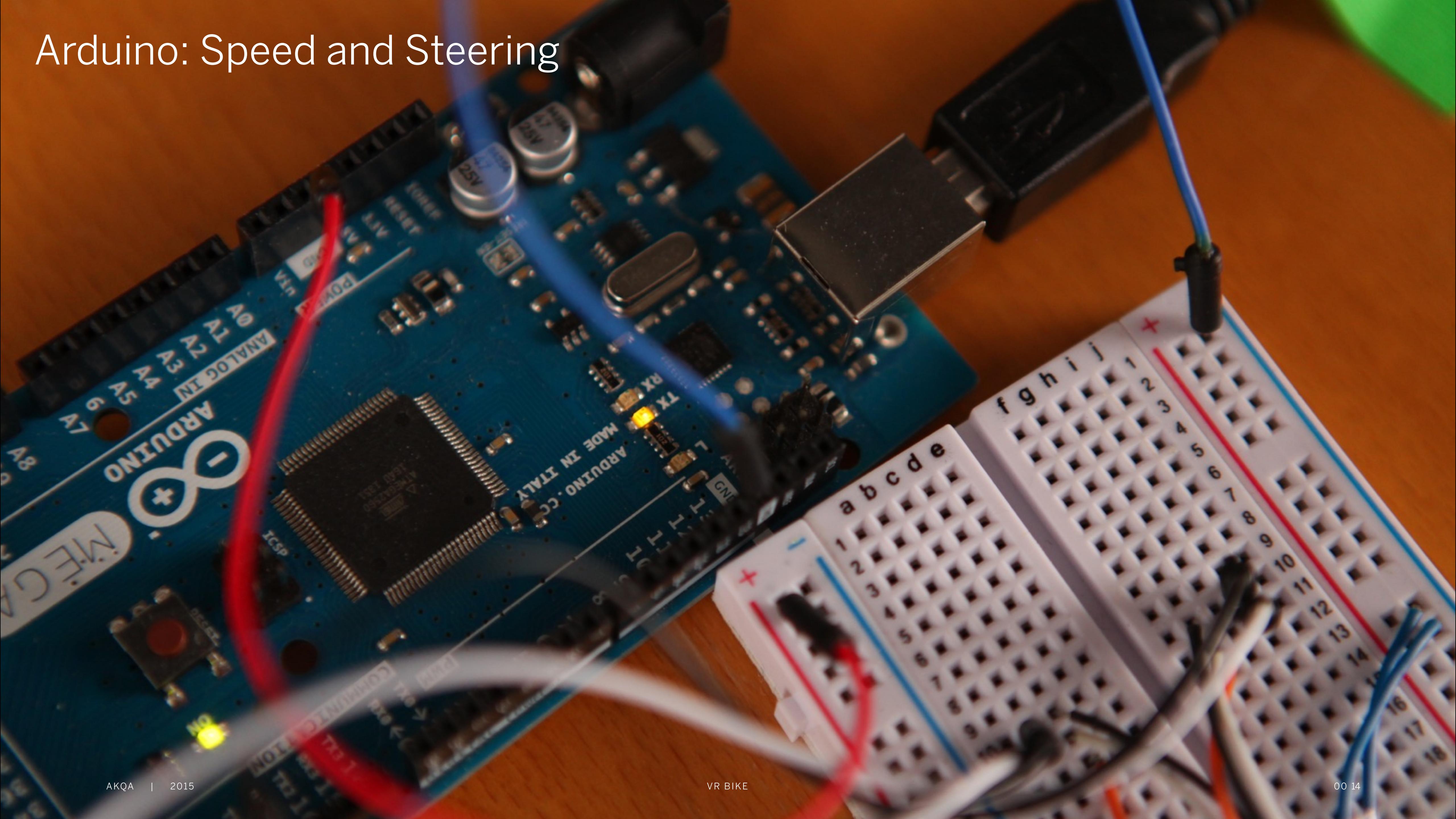
- Wheel speed
- Handlebars angle
- Head position

## Output

- Wind
- Scent triggers
- Stereoscopic 3D environment
- 3D audio



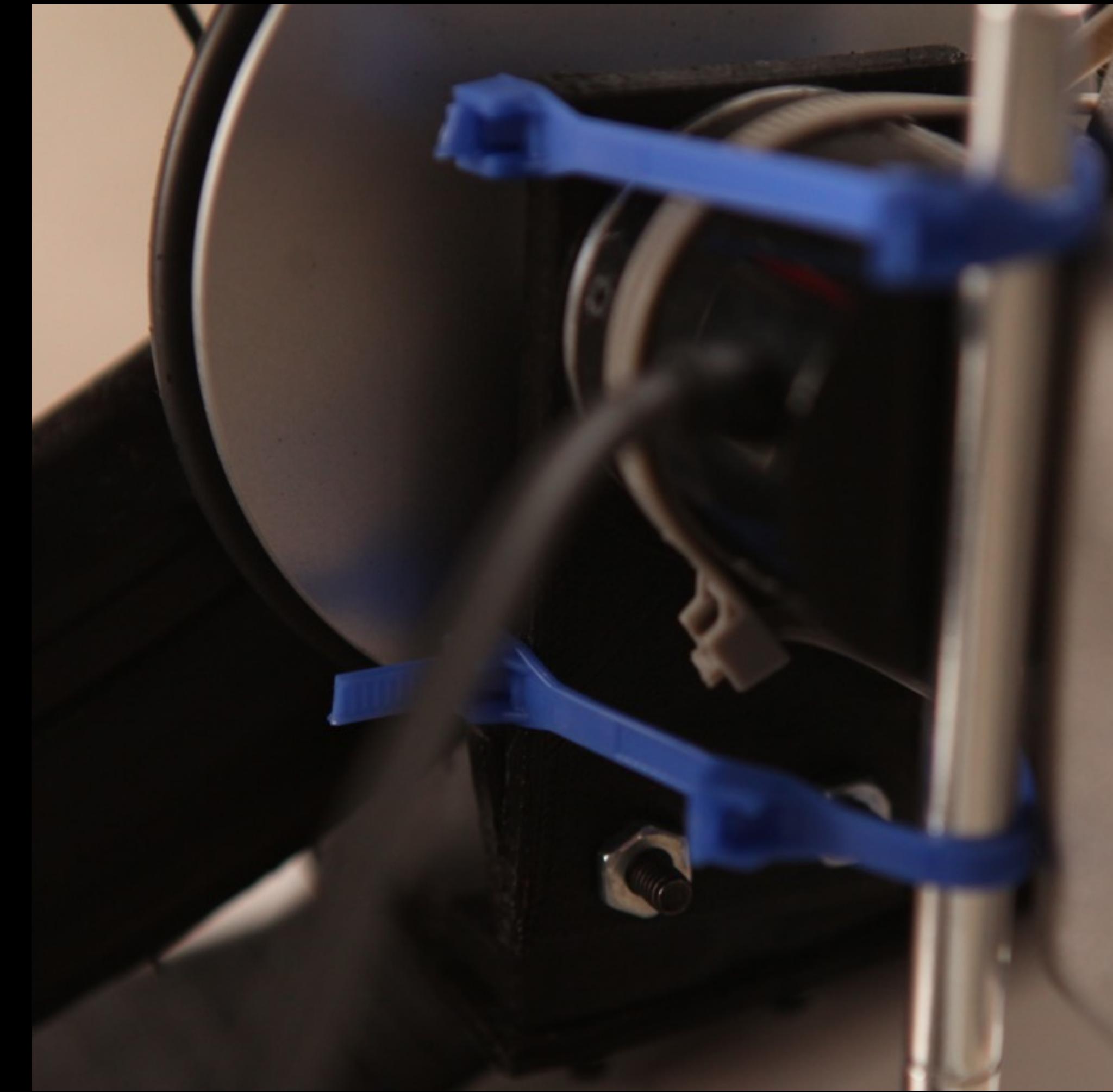
# Arduino: Speed and Steering



# Rotary Encoder: Speed



# 3D Printing (and Zip-ties): Rotary Encoder Mount



# Rotary Encoder: Steering



# DMX: Environmental Control



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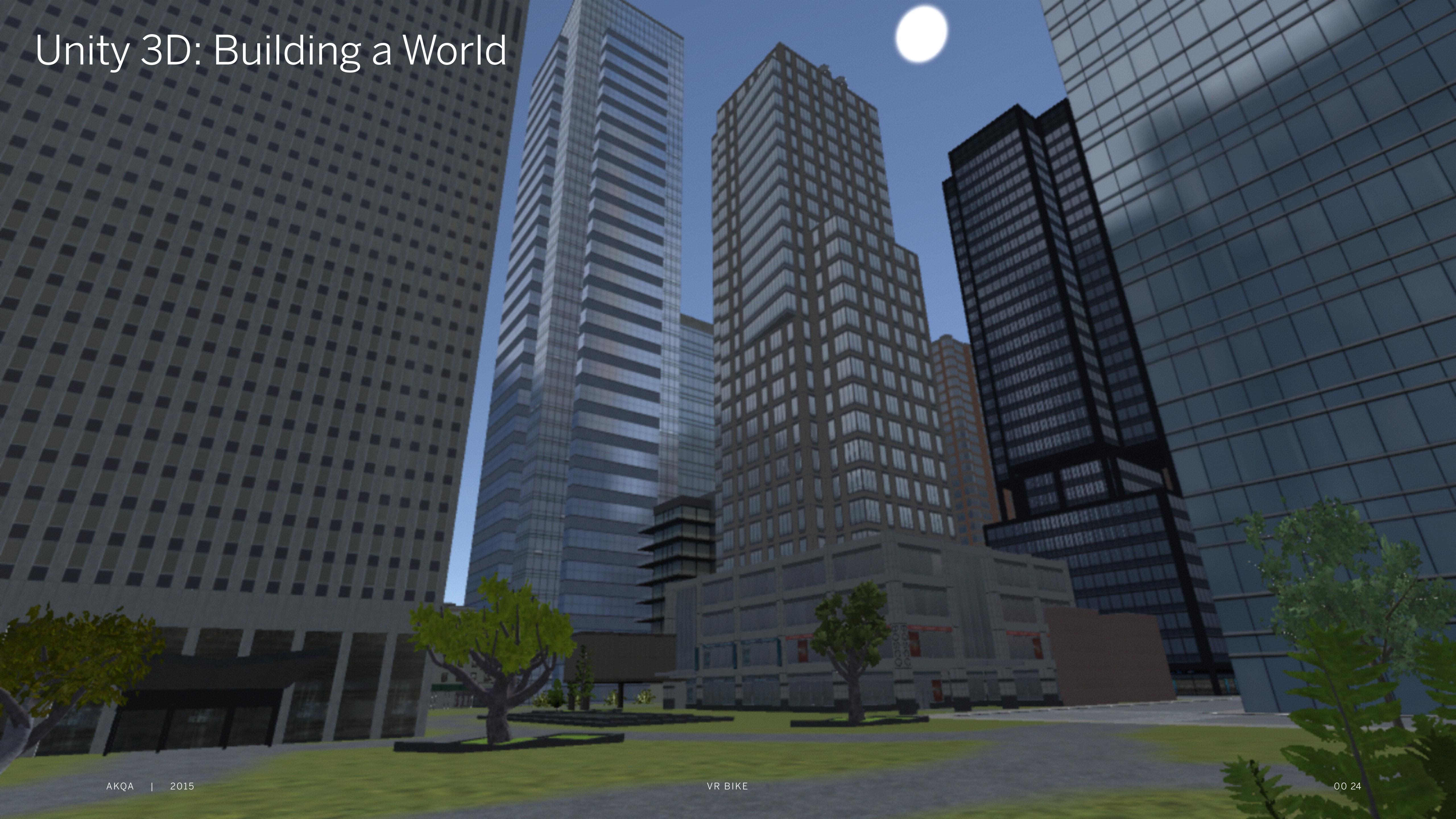
# Oculus Rift: Immersion



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# Unity 3D: Building a World



# Unity 3D: Controlling Systems



# Unity 3D: 3D Sound



## WHERE DO WE GO FROM HERE?

Redo steering, using more reliable mechanical means

Improve realism in regards to bike speed and feel

Adapt for newer VR headset technology

Collision detection—without frustration (how do you go backwards on a bike?)

Improved 3D environment

Arcade style leaning

AKQA