

# Project Anywhere

## What is Project Anywhere?

System designed for a mobile base to project an image anywhere in the real world for the user to view on their screen.

## Our Design

System consists of a mirror rotating around a light source to direct the projection to various parts of the room.

- Projector vs. Laser Projector
- Rotating Mirror vs. Rotating Projector
- Servo Motor vs. Stepper Motor



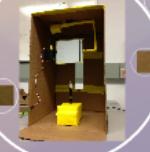
## Motor Control

To design the rotating mechanism, we used two servos motors controlled by an Arduino Uno micro-controller board.

The motors were arranged such that the center of the mirror coincided with the center of the projector.



## Final Product



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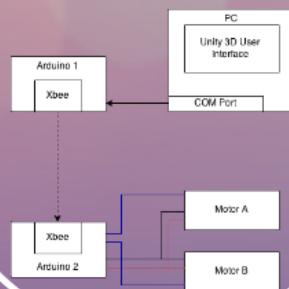
System designed for a virtual user to project an image anywhere in the real world for the real world user to see

# Our Design

System consists of a mirror rotating around a light source to direct the projection to various parts of the room

- Projector vs. Laser Pointer
- Rotating Mirror vs. Rotating Projector
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## System Overview

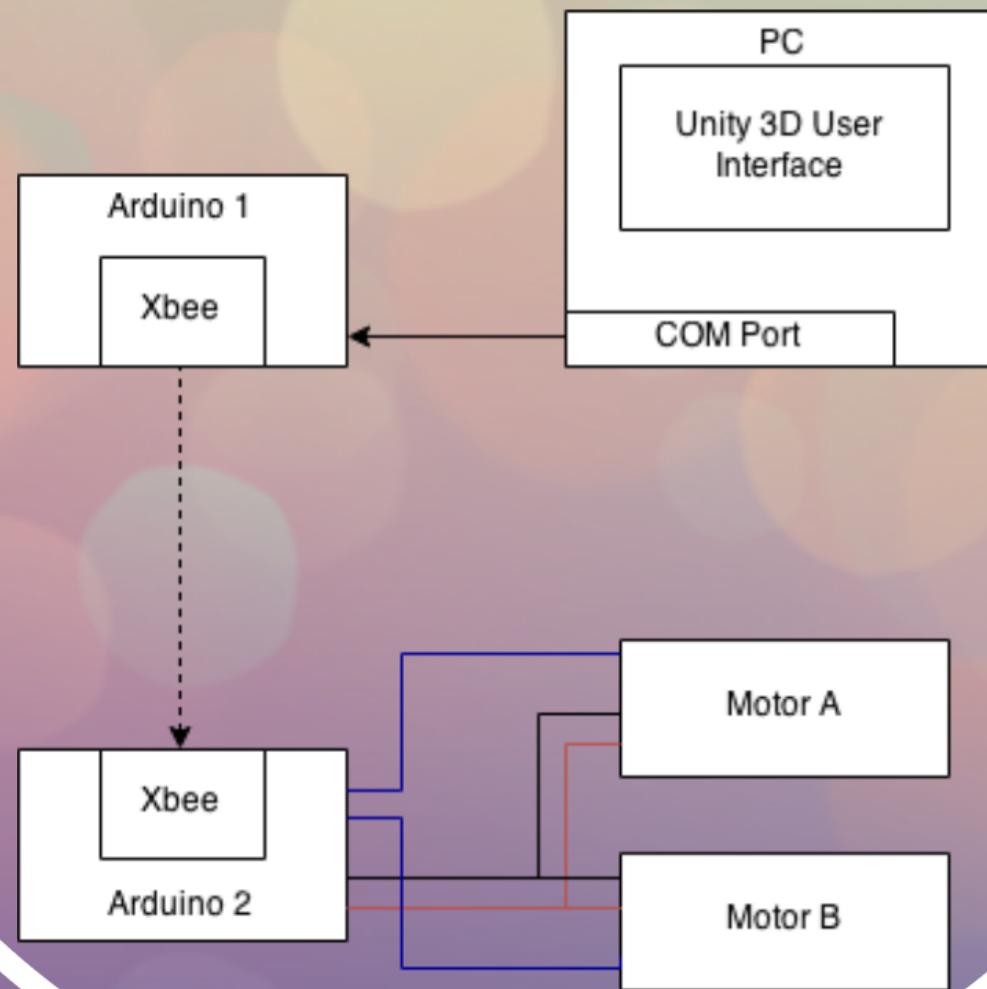


## Unity3D User Interface

Designed user interface using Unity3D. The interface allowed the user to click anywhere in the virtual rendition of the real world room to project an image/light source for the real world user to see.



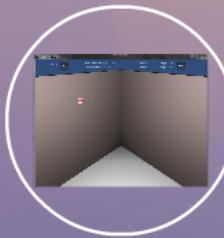
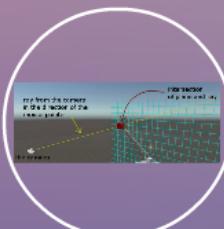
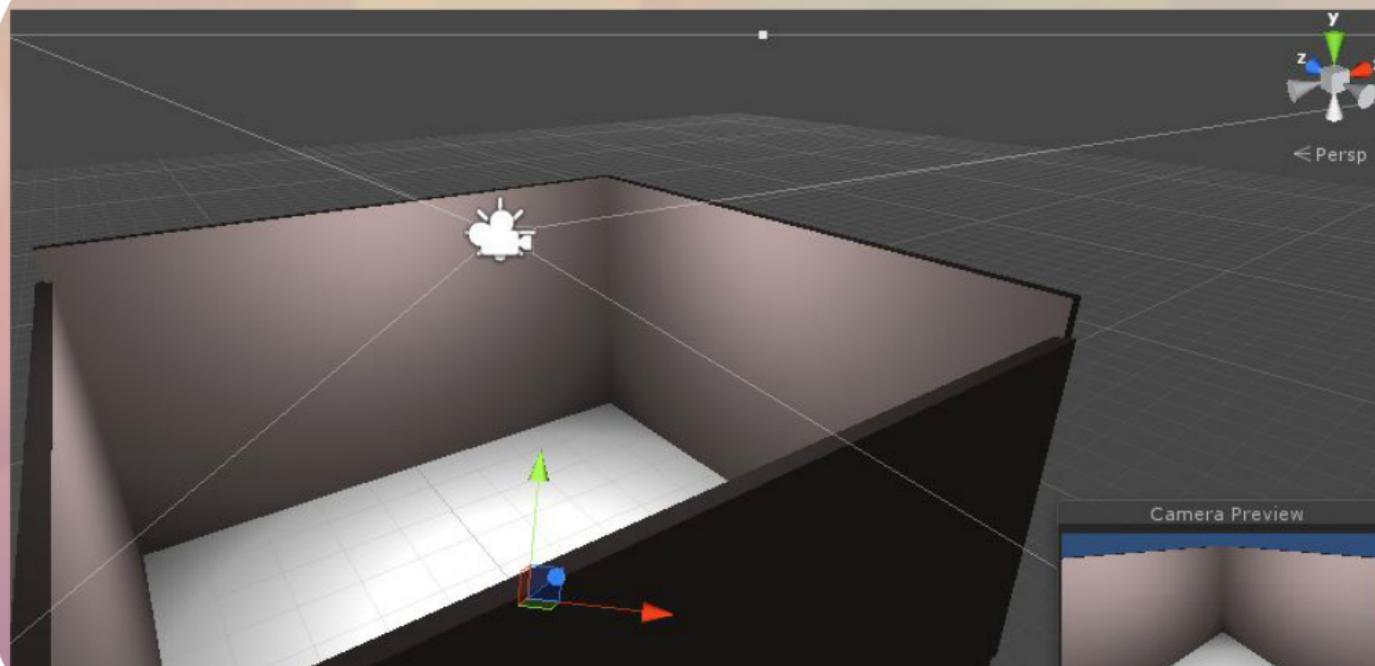
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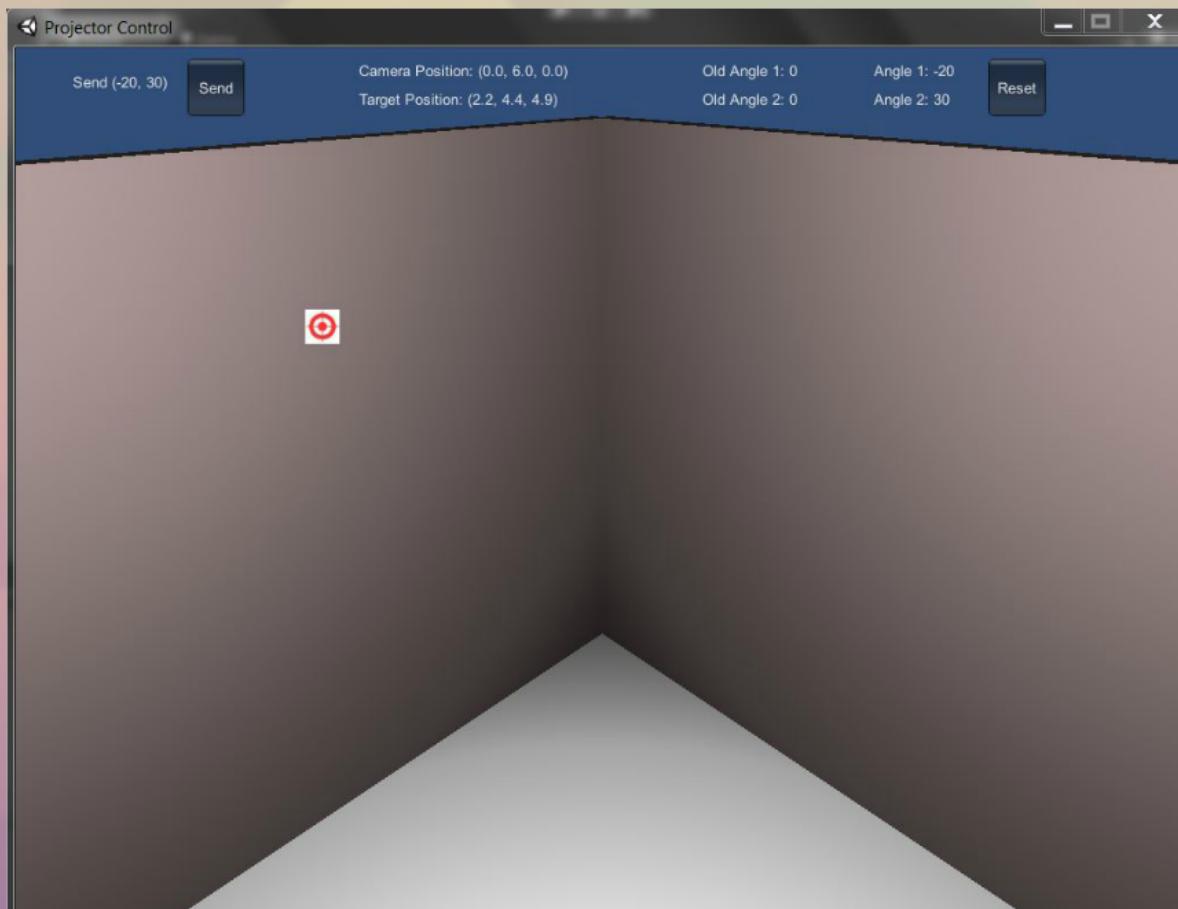


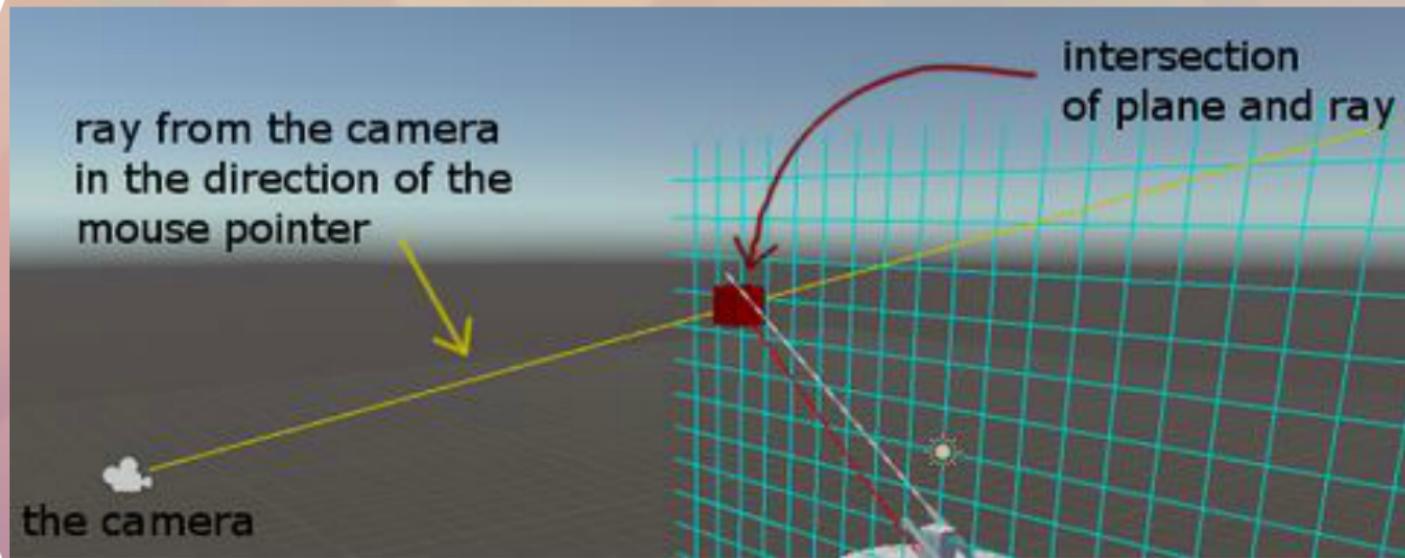
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## Rotation Design

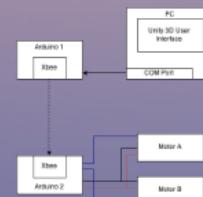
Motor A controls the projected image rotation in the horizontal axis

Motor B controls the projected image vertically



## Communication Network

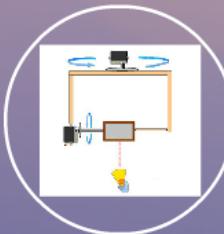
To bridge the communication between the user interface and the motor control, we used two XBee wireless radios

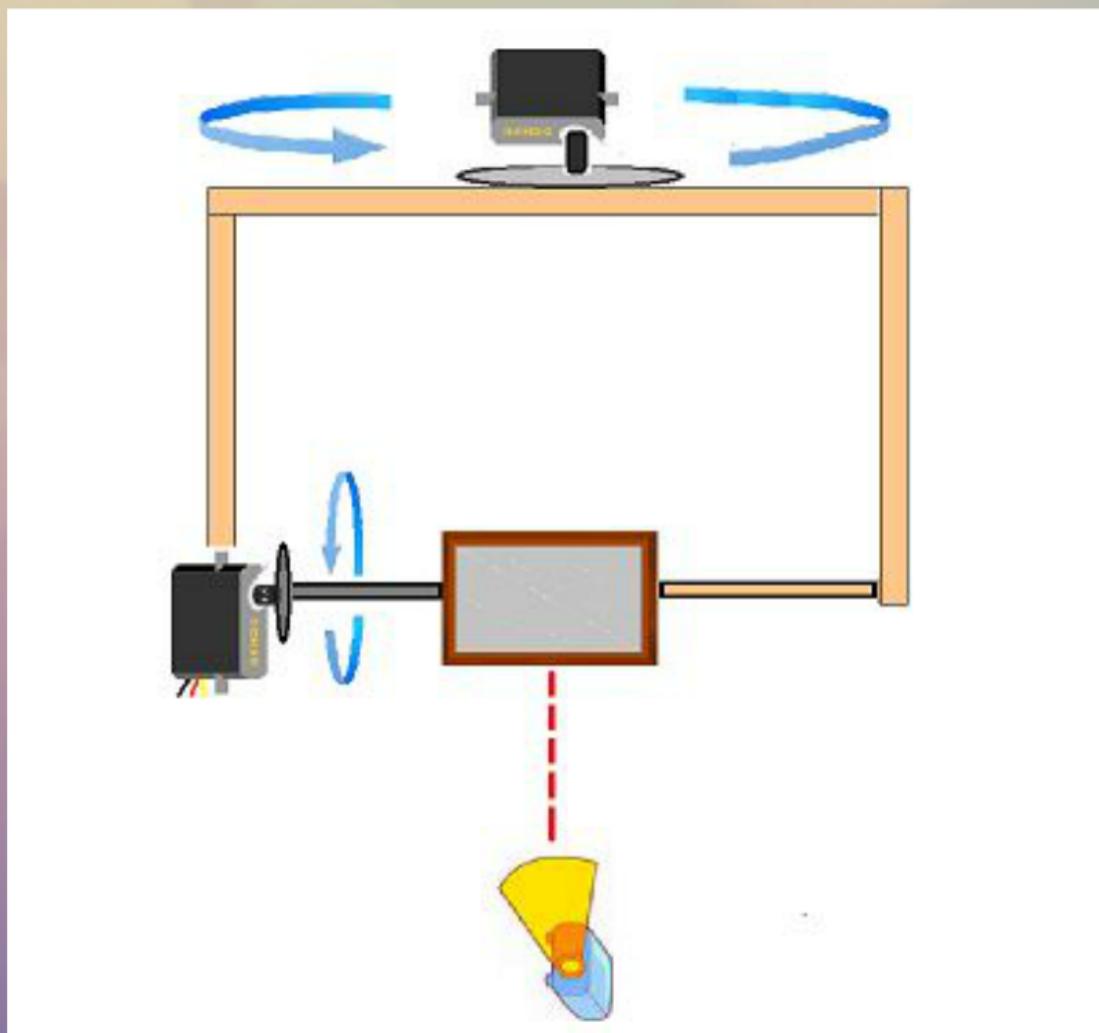


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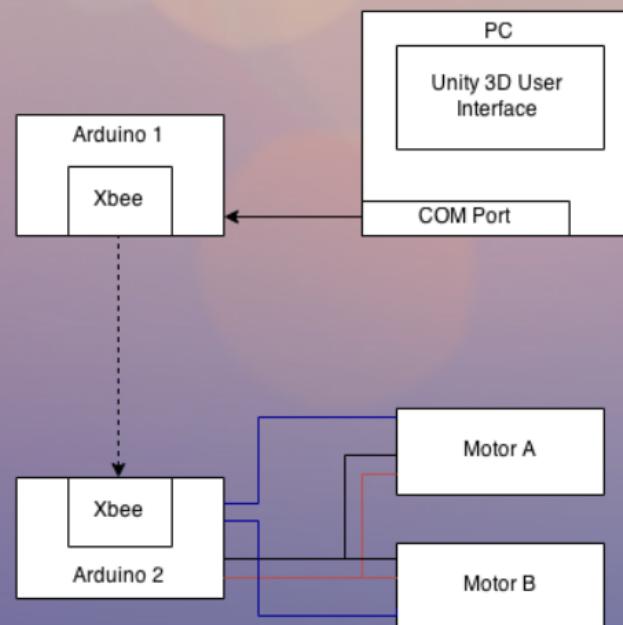
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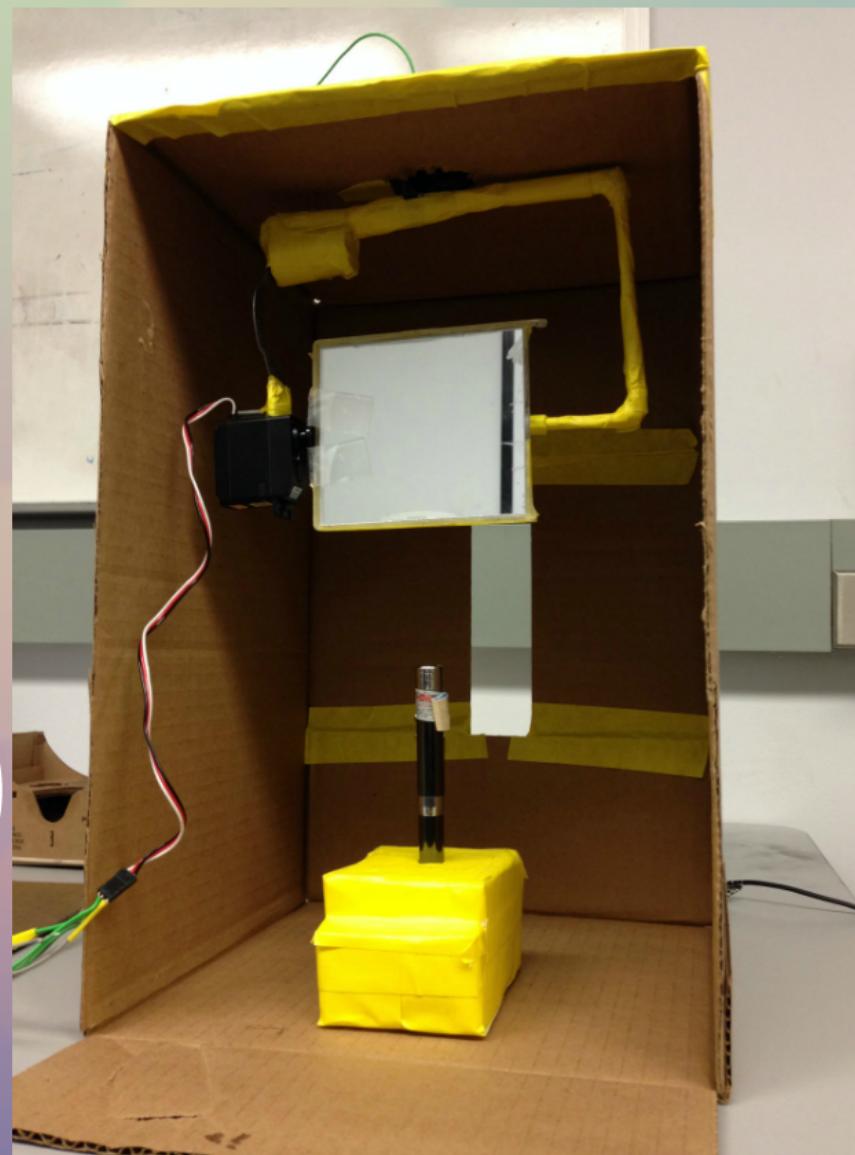


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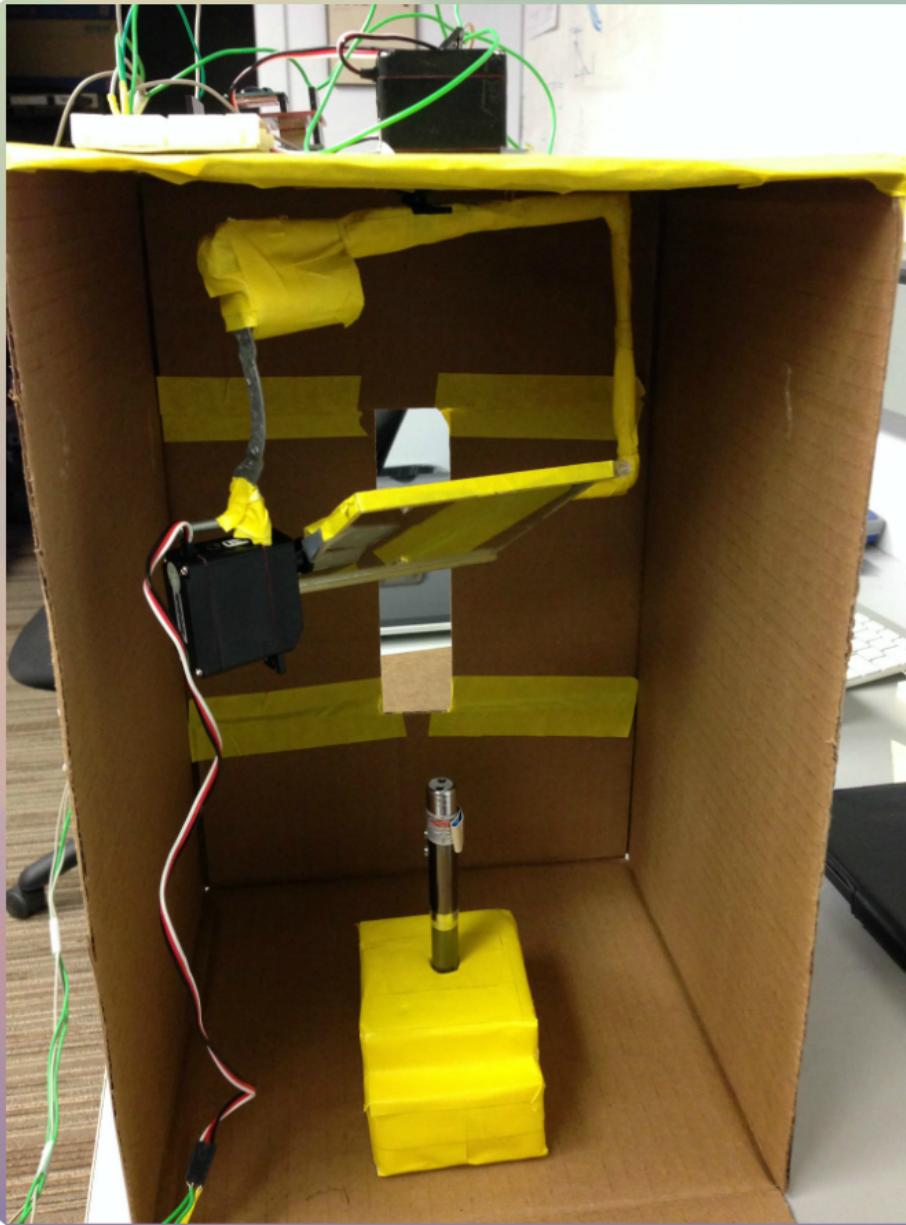
# Final Product



## Future Work

- Be able to project in the entire room
- Generalize to projector
- Have real world person be able to interact with the projection and virtual user
- Build a more stable casing for the system





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