

**MICHIGAN STATE**  
**UNIVERSITY**

# Alpha Presentation

## Augmented Reality Mechanic Training

The Capstone Experience

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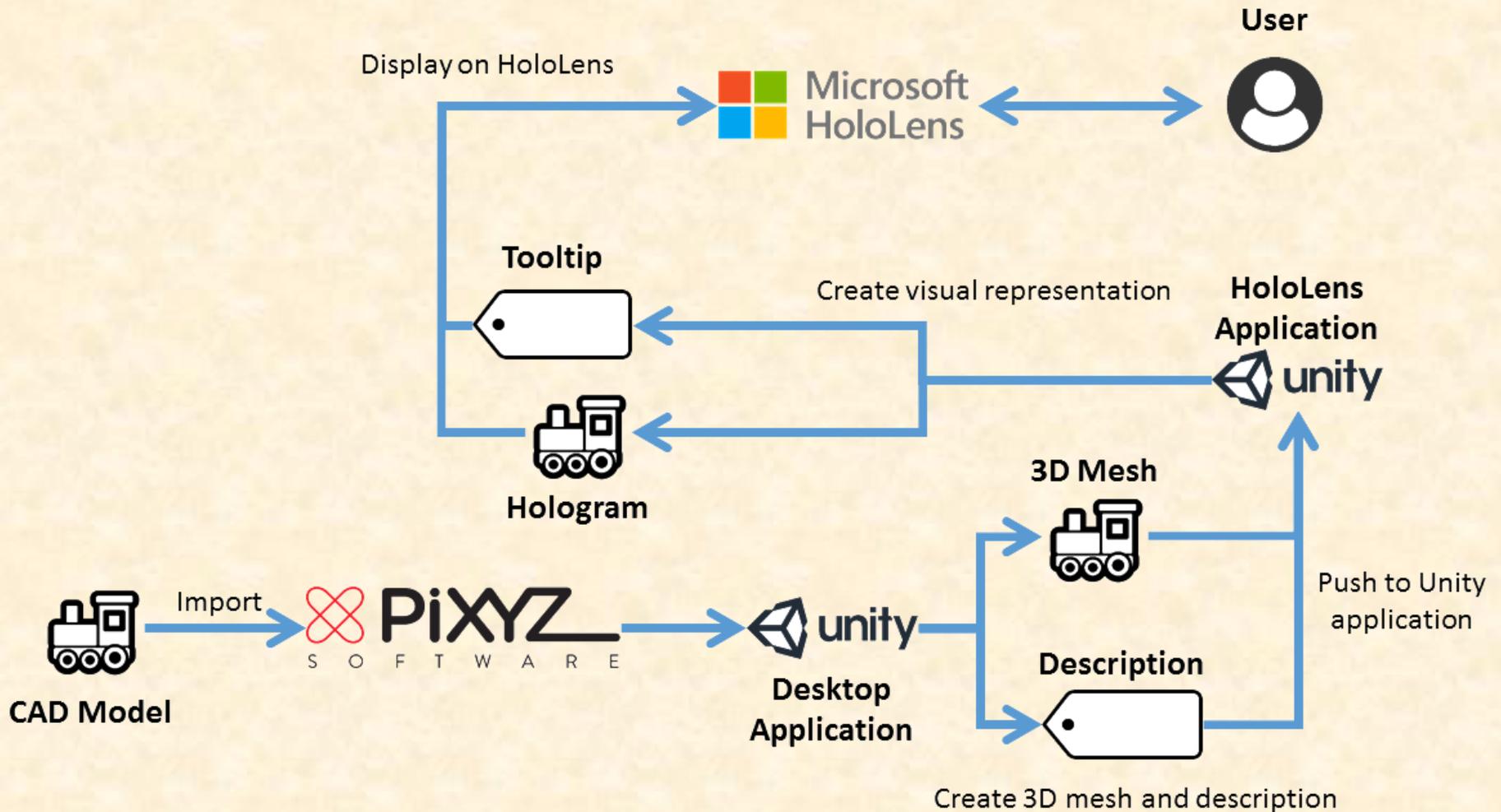
*From Students...  
...to Professionals*

# Project Overview

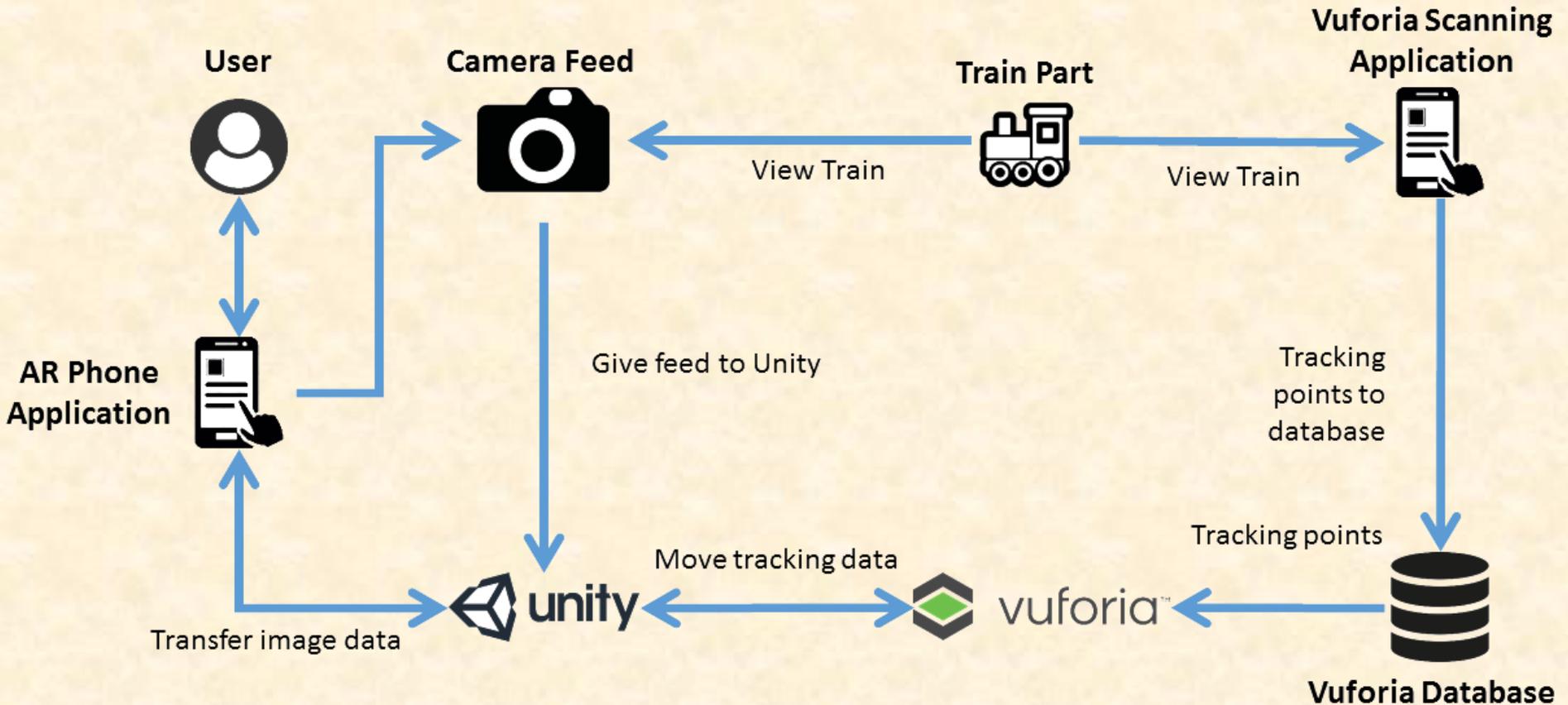
- Two immersive training experiences for mechanics
- *Learn About Machinery (HoloLens + PC)*
  - View labeled holograms of CAD models
  - Select parts to display information
  - Import CAD models through PC application
- *Build a Train (Android)*
  - Guides user through assembling a 3D printed train
  - Uses object recognition to locate train cars



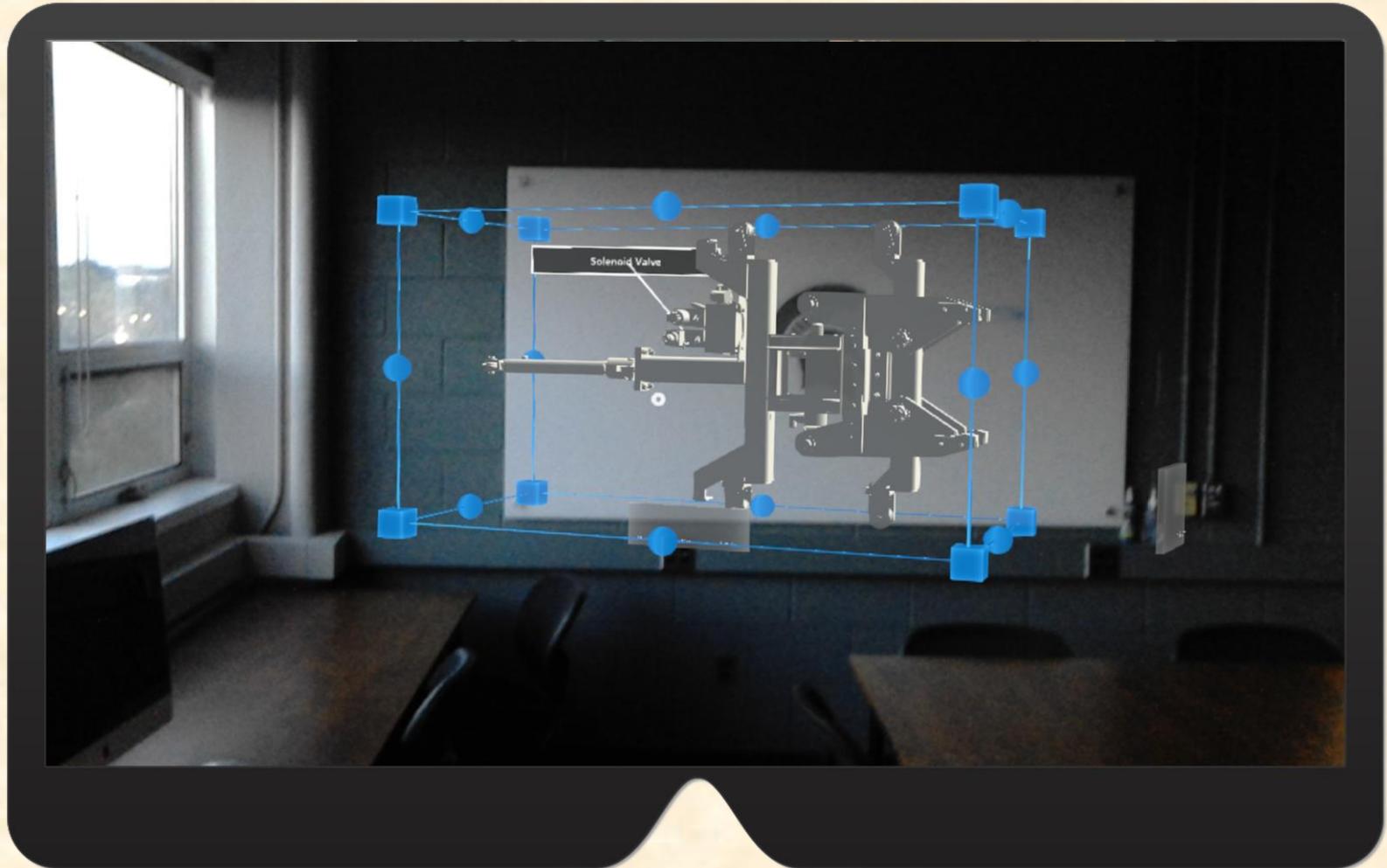
# System Architecture



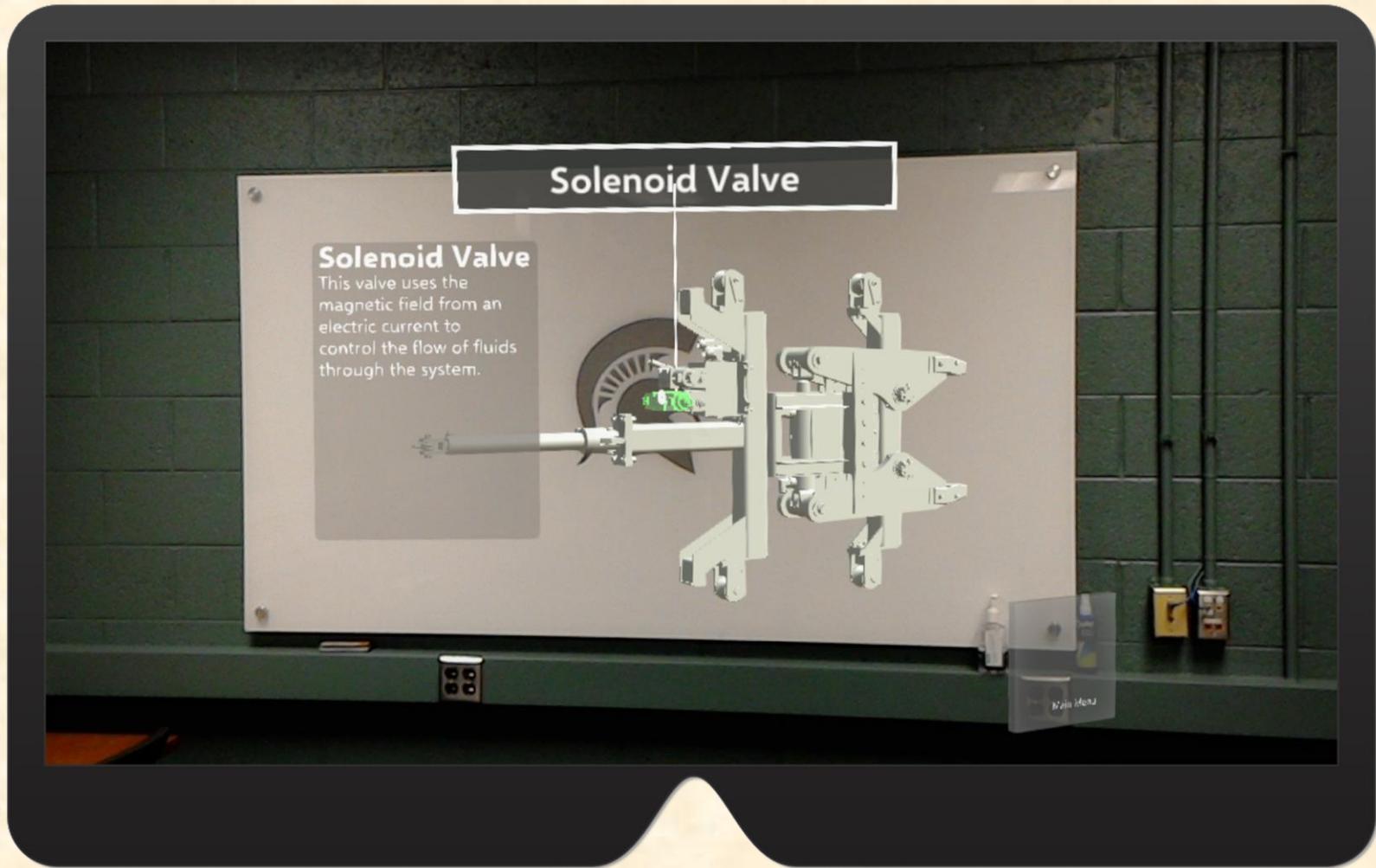
# System Architecture



# Learn About Machinery – Bounding Box



# Learn About Machinery - Tooltip



# First Step of Build a Train

Connect the engine to the passenger

Engine

Passenger



Development



# Second Step of Build a Train

Connect the passenger to the caboose

Passenger

Caboose



 vuforia™

Developer



# Completion of Build a Train



# What's left to do?

- *Learn About Machinery*
  - HoloLens UI/UX improvements
  - Finish desktop UI
  - File transfer from desktop to HoloLens
- *Build a Train*
  - Indication of user errors
  - UI/UX improvements
  - Enhance detection abilities



# Questions?

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