

**MICHIGAN STATE**  

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**U N I V E R S I T Y**

# Beta Presentation

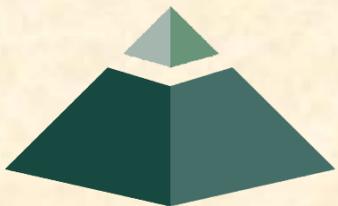
## IMAGINE: IMAGE INTake Experience

The Capstone Experience

Team Auto-Owners

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Spring 2018



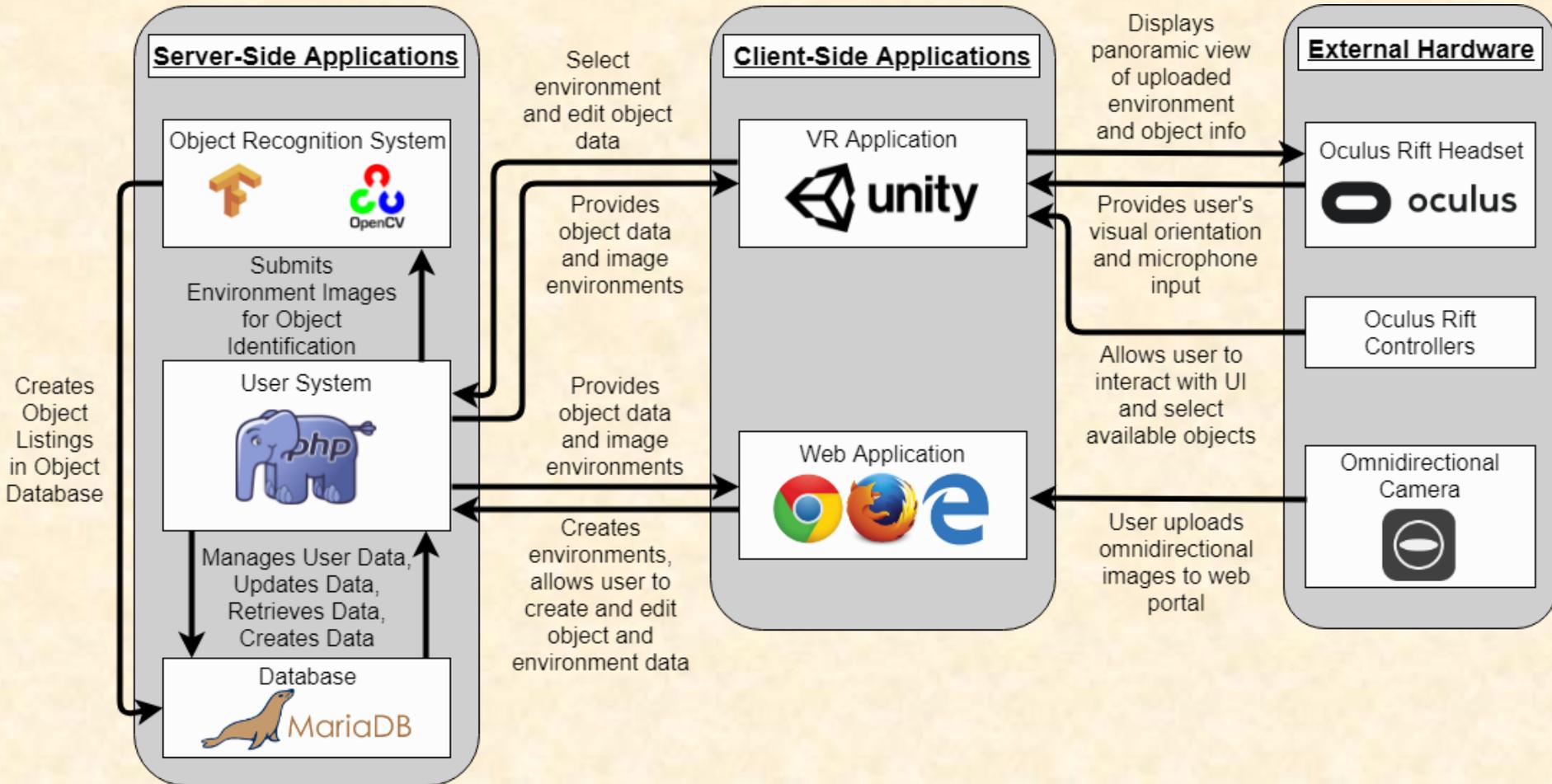
*From Students...  
...to Professionals*

# Project Overview

- To appraise risks, Auto-Owners underwriters must evaluate environments such as homes or businesses with as much information as possible. Our software detects objects of interest in those environments, and allows underwriters to view those environments remotely; saving time and money.
- A Website that allows users to store information about insurable environments
  - Upload 360 degree pictures and automatically detect objects of interest within them
  - Export the object inventory to various formats (xml, csv, etc.)
- A Virtual Reality Application that allows users to view an environment from the center of each room
  - Ability to view and interact with detected objects in a room
  - Users can make notes about objects and store them for later use



# System Architecture



# Website Environments Page

The screenshot shows a web browser window with the URL `127.0.0.1:8000/environments/`. The page header features the **Auto-Owners INSURANCE** logo. Below the header, the page is titled "Environments Page".

The main content area is titled "Housing" and contains a search bar. Below the search bar is a grid of six property listings, each with a street view image, a title, an address, and a "View" button.

Property Name	Address	City, State, ZIP
Jones Home	428 S Shaw Ln	East Lansing, MI 48823
Smith Home	366 W Circle Dr	East Lansing, MI 48823
Miller Apartment	325 W Shaw Ln	East Lansing, MI 48823
Berry Home	223 Kalamazoo St	East Lansing, MI 48823
Case Apartment	842 Chestnut Rd	East Lansing, MI 48823
Kellogg Home	211 Ann Street	East Lansing, MI 48823



# Website Inventory Page

The screenshot shows a web browser window with the URL `127.0.0.1:8000/environments/1`. The page header features the **Auto-Owners INSURANCE** logo. The main content area displays the following information:

- Jones Home**
- 428 S Shaw Ln
- East Lansing, MI 48824
- 4 Bed / 3 Bath / 1,498 sq ft

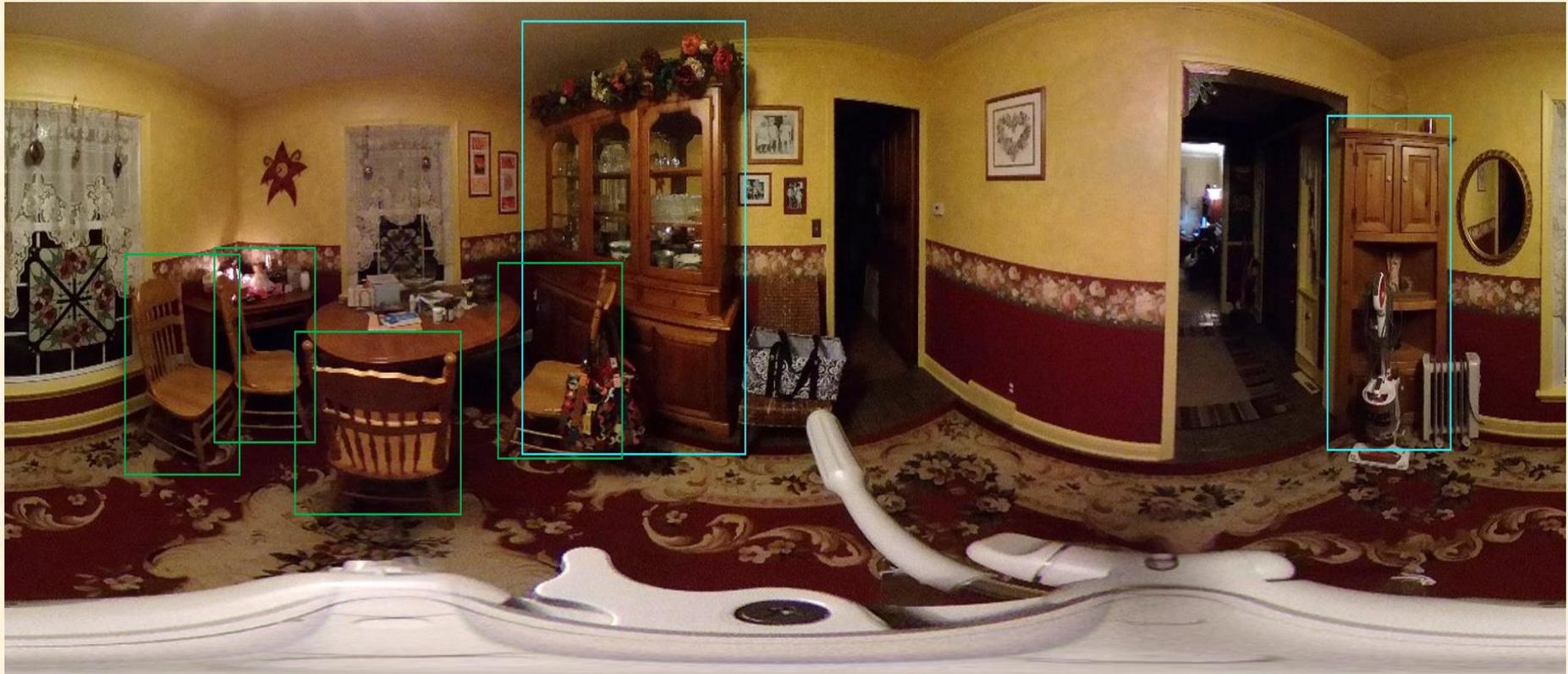
Below this information are three blue buttons: **View in VR**, **View Images**, and **Edit**. To the right is a Google Map showing the location at 428 S Shaw Ln, with a red pin and a 'Save' button. The map also shows nearby locations like 'MSU Dairy Store' and 'Wilson Rd'.

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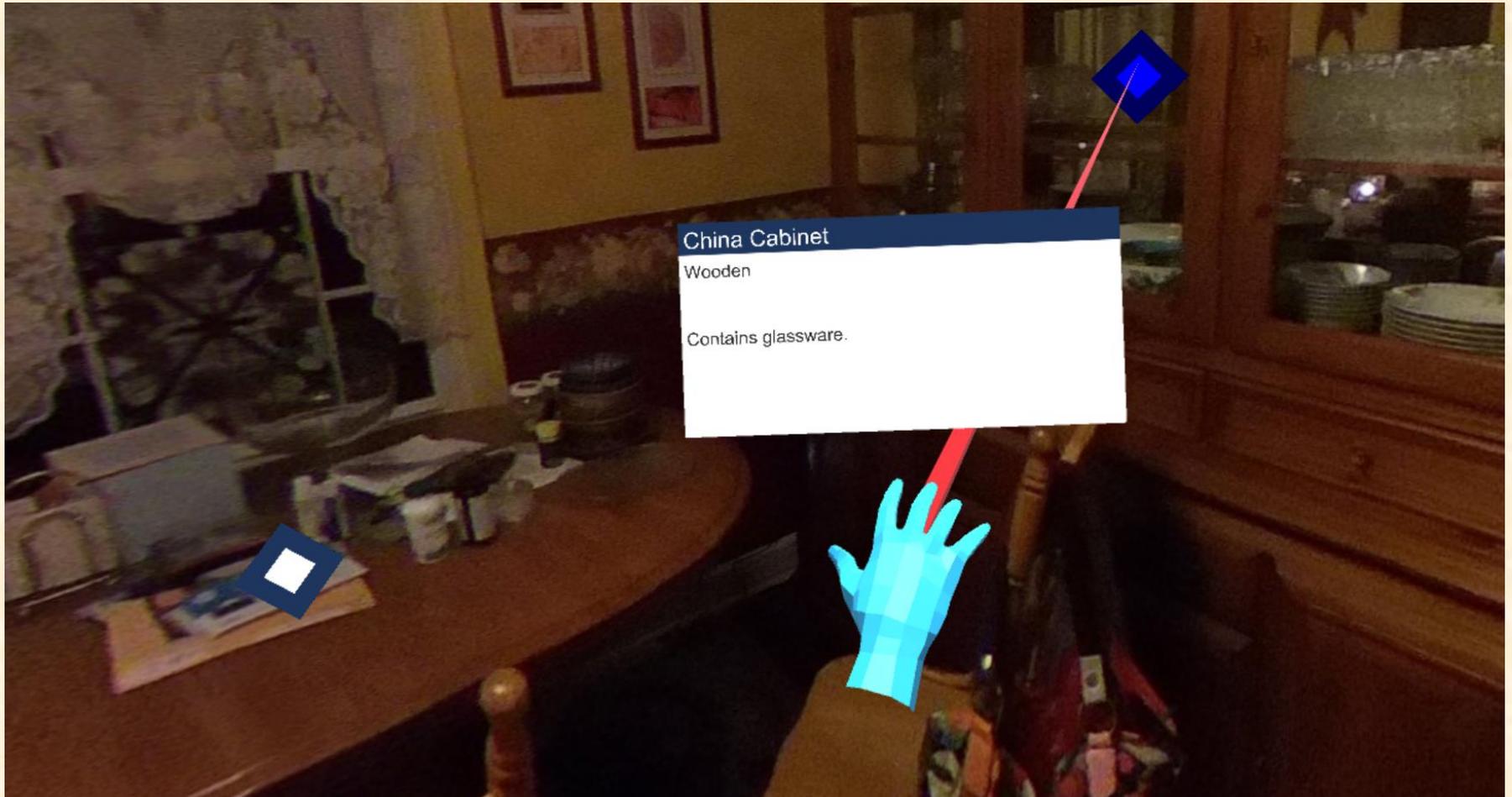
Image	Object	Room	Characteristics	Notes	
1	Table	Kitchen			
1	Stove	Kitchen	Gas range		
1	Chair	Kitchen			
1	Chair	Kitchen			
1	Sink	Kitchen			



# Object Recognition Bounding Boxes



# VR Object Nodes and Info Display



# What's left to do?

- Make Improvements to Visual and User Interface Elements of the Software
- Continuously Improve Object Detection
- Clean Up and Improve Code Documentation
- Optimize Existing Code for Performance and Efficient Resource Usage
- Further Modularize Existing Code



# Questions?

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