MICHIGAN STATE UNIVERSITY

Project Plan Presentation

Help Me See!

The Capstone Experience

Team Auto Owners

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From Students…
…to Professionals

Overview

- Founded in 1916 in Mount Pleasant, MI
- Headquartered in Lansing since 1917
- Hire many MSU students, especially MSU Engineers
- Provides Home, Car, Business, and Life insurance to the Mid West
- $10 billion yearly revenue with $32.5 billion total assets

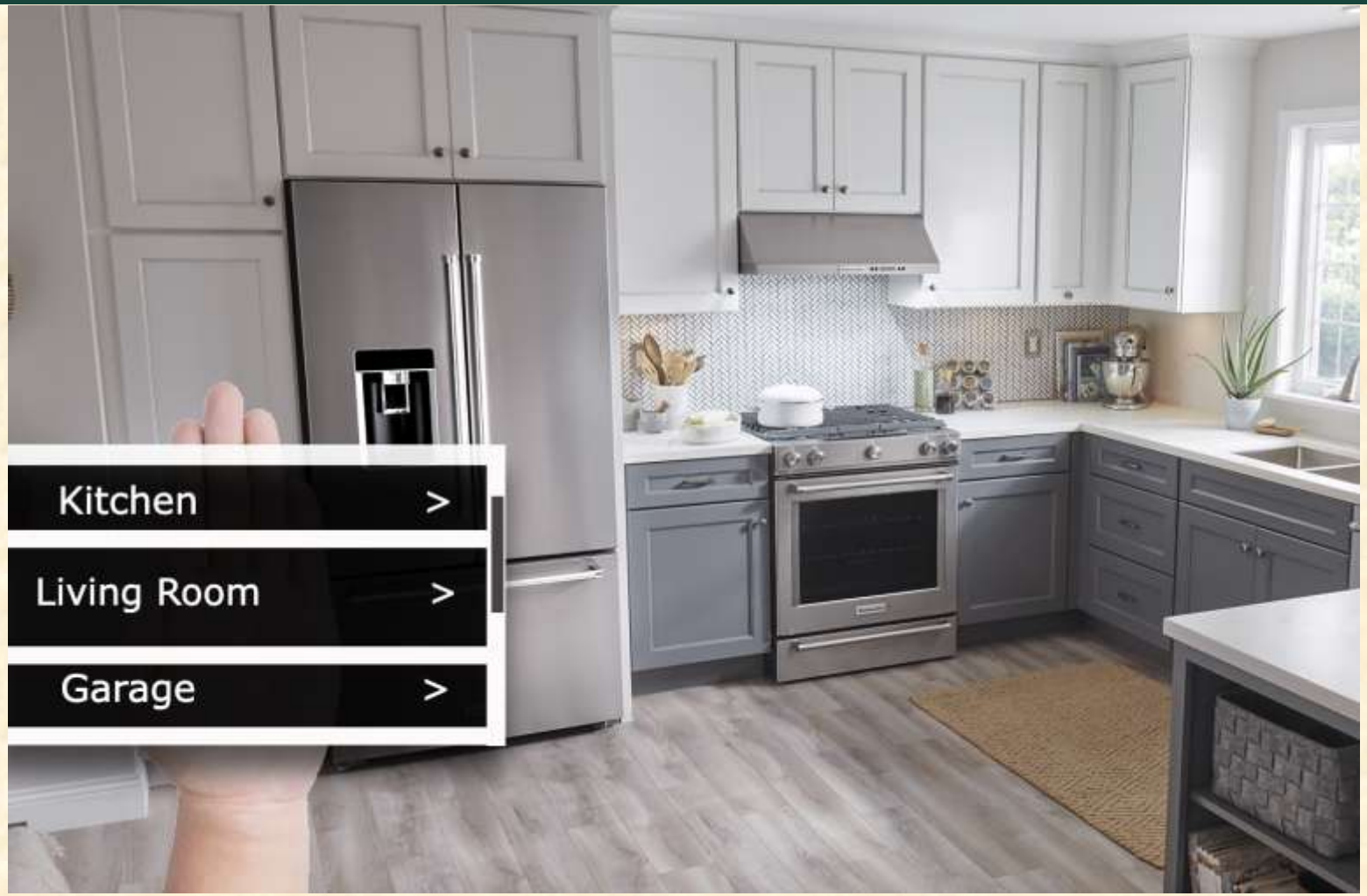
Project Functional Specifications

- Use Augmented Reality to simulate insurance experience
  - Hololens 2
- Detect or Overlay Household Objects
  - appliances, objects and common issues and show the user the loss exposure and loss prevention information
- Provide customers with insurance knowledge
  - This will hopefully reduce the number of insurance claims because the user is more knowledgeable about risks and how to avoid them
- Wide Target Demographic
  - Renters
  - Owner

Project Design Specifications

- Start Menu Screen
  - AR HoloLens
- Overlay Mode
  - Object menu to spawn 3D appliances
  - Overlay onto real-world mapping
  - Select 3D appliance to display insurance loss exposure and loss prevention information
- Object Detection Mode
  - Use machine-learning to detect and identify real-world objects
  - Display object's insurance loss exposure and loss prevention information

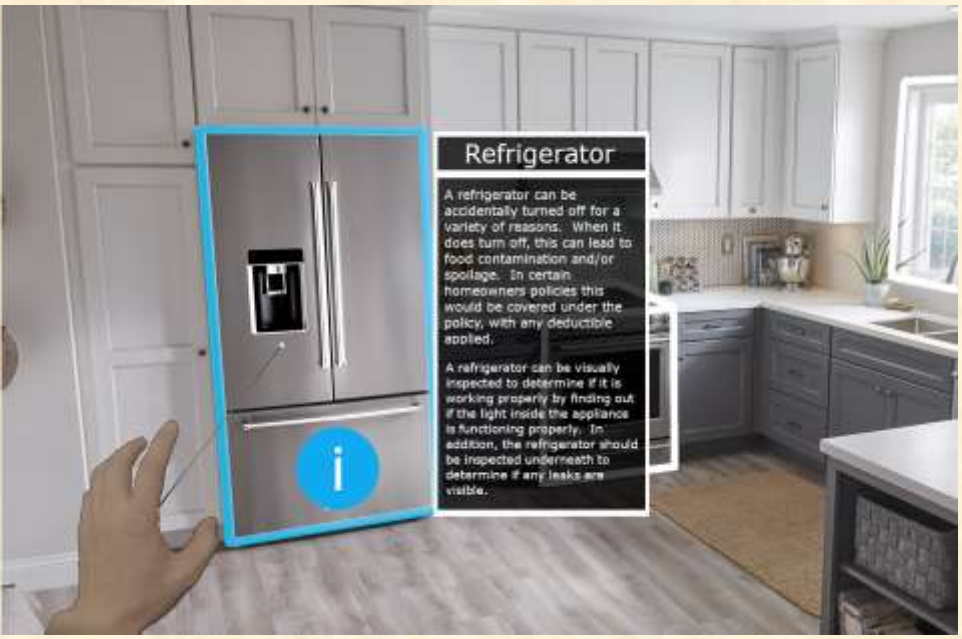
Screen Mockup: Overlay Mode Menu

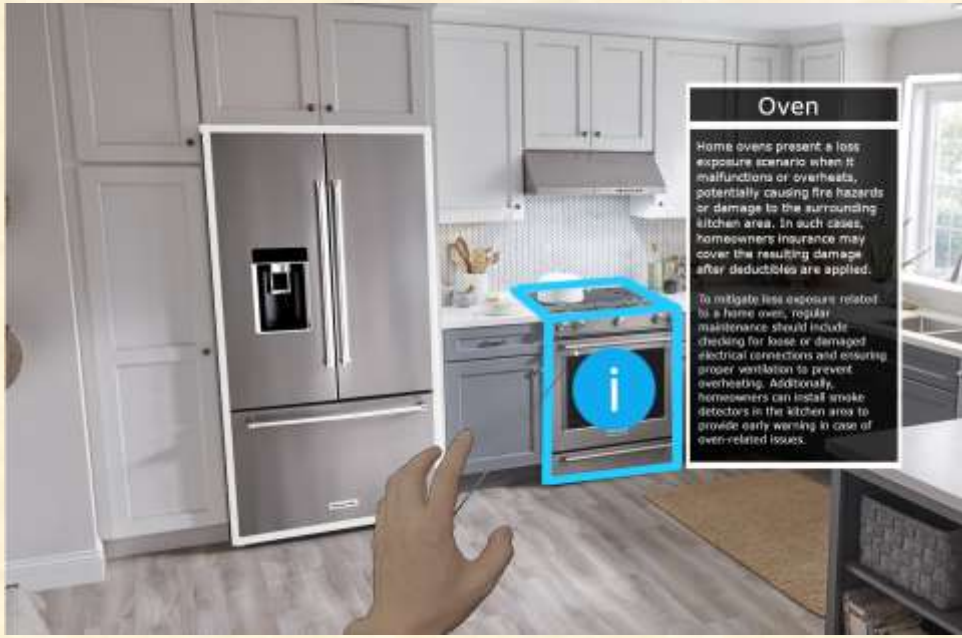


Screen Mockup: Detection Mode Startup

Screen Mockup: Detection Mode Hover

Screen Mockup: Loss Information



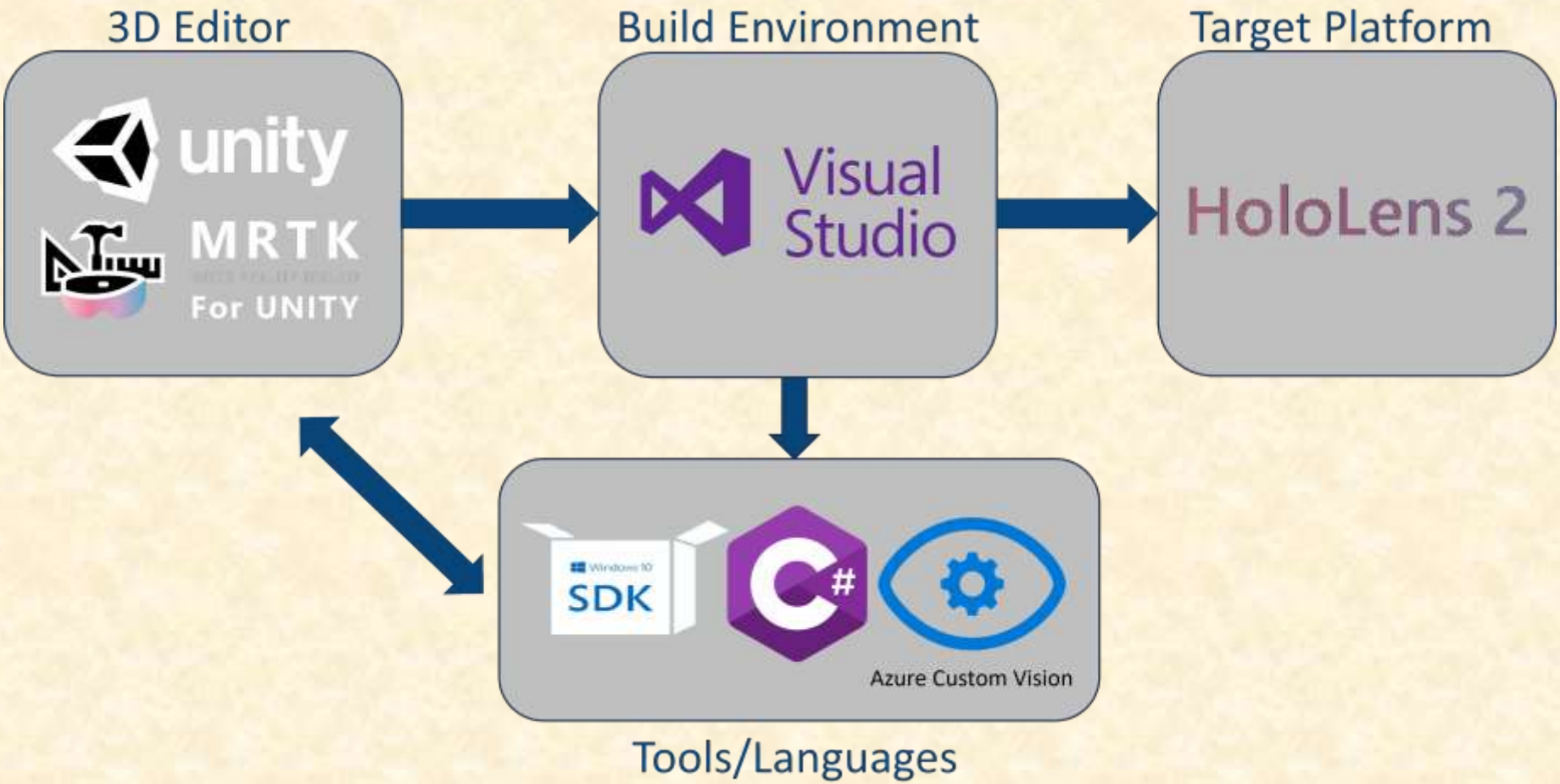


Screen Mockup: No Hovering

Project Technical Specifications

- Using Unity for the 3D editor and game engine
- Project is deployed onto HoloLens 2 from Visual Studio
- Scripting done for Unity in C#
- Azure Custom Vision for Object Detection mode
- Windows 10 SDK used for HoloLens 2 features

Project System Architecture



Project System Components

- Hardware Platforms
  - HoloLens 2 (only target platform)
- Software Platforms / Technologies
  - Unity, Microsoft Mixed Reality Toolkit for Unity
  - Visual Studio
  - Windows 10 SDK
  - C# Programming Language
  - Azure Custom Vision

Project Risks

- Working with Augmented Reality (AR)
  - Augmented Reality is a relatively new medium for applications, thus we are unfamiliar with common practices in AR
  - Playtest existing AR applications to learn common techniques and methods of presenting information to the user
- Utilizing the HoloLens
  - Test the capabilities of the HoloLens
  - Create Object detection demos and see how far we can push it
- Building our application in Unity
  - For the most part we lack real Unity experience, and our application is going to be built in it
  - Begin doing simple demos to better grasp Unity's workflow and capabilities

Questions?