Project Plan
Danger Diner
The Capstone Experience
Team Auto-Owners
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Functional Specifications

• Auto-Owners is always looking for new ways to train employees to recognize good and bad safety practices in businesses.

• Our project will help train employees to recognize potentially liable situations in a fun and engaging way.

• This program will offer real world experience without risk of financial loss or time consuming simulations.
Design Specifications

• Danger Diner is a VR game, where the player explores a diner and tags potential hazards as well as good safety features.
• Each correctly tagged item will increase the player’s score.
• At the end, the player will review all the items they tagged correctly or incorrectly.
• The player’s score will be added to a leaderboard to compare with their coworkers/fellow players.
Screen Mockup: Main Menu Scene
Screen Mockup: Level Concept
Screen Mockup: Item tagging (before)
Screen Mockup: Item tagging (after)
Screen Mockup: Review Scene

Extinguisher
< Hazard

Stove
Hazard

>
Technical Specifications

• Unity is the engine we’ll use to build the game and program all of the features
• The hardware is the Oculus Rift headset, two touch controllers, and two sensors
• We’ll also use SteamVR, an open-source template to implement basic VR interactions
System Architecture

- **oculus**
- **STEAM VR**
- **unity**

Game Engine

- Headset
- Sensors
- Controllers
System Components

• Hardware Platforms
  ▪ Oculus Rift
  ▪ Windows 10 Desktop

• Software Platforms / Technologies
  ▪ Unity Game Engine
  ▪ SteamVR
  ▪ C# - Visual Studio
Risks

• Motion Sickness
  ▪ VR can cause sickness through lag, inefficient programming, etc.
  ▪ Mitigation: Constant testing, minimizing code called within Update function.

• Recognition of Interactable Objects
  ▪ Objects could be interactable as well as taggable, and distinction might not be clear
  ▪ Mitigation: Interactable objects will have different highlight/effect, ask user preference

• Differentiation of Changing Objects
  ▪ Some objects will change between rounds (i.e. sink working in one round, broken in another)
  ▪ Mitigation: Each object state will have a unique model/object, will work with item generation

• Retention of Knowledge
  ▪ Players may focus more on learning the game mechanics rather than the actual business practices
  ▪ Mitigation: Randomized locations and appearances of objects, different interactions every round.
Questions?