HATCH

Vision recognition application in an industrial plant setting

DeltaHacks IV | Jan 27-28, 2018

Prize

500$ in cash to the winning team for the “most creative hack”

The scenario

Imagine a plant maintenance worker is walking through an operating industrial facility and needs to know some background information about a particular piece of equipment. In the old days, the worker would have to walk back to the office and pull up the binder or the spec sheet on the screen.

But now the plant worker can move their AR glasses/phone/tablet while in the plant and continuously identifying the process equipment around and displaying a general information for that specific equipment such as name and alarm conditions or required maintenance.

The worker notices one piece of equipment (e.g. pump) indicating a problem and requests more detailed information such as time to next maintenance, data from IoT sensors (e.g. vibration, temperature, operating instructions, flow curves, etc). The worker reviews the data and decides to submit a maintenance request to resolve the issue.

The goal is to be able to track the physical location and identifying equipment in relation to the user’s movements. In some instances, the discrete pieces of equipment to be tracked and identified are within inches of each other or are physically attached. Achieving a high a level of spatial accuracy or other method for recognizing individual equipment pieces is required.

Your mission

Create an intuitive user interface to identify the position and location of a piece of equipment in relation to its surrounding, that can then return any relevant information related to that asset. The information displayed has to be in an easy to understand format that does not interfere with the user’s vision and awareness of their surroundings for safety reasons.

Your plant for the mission.

Potential Technologies to complete the mission

Hardware

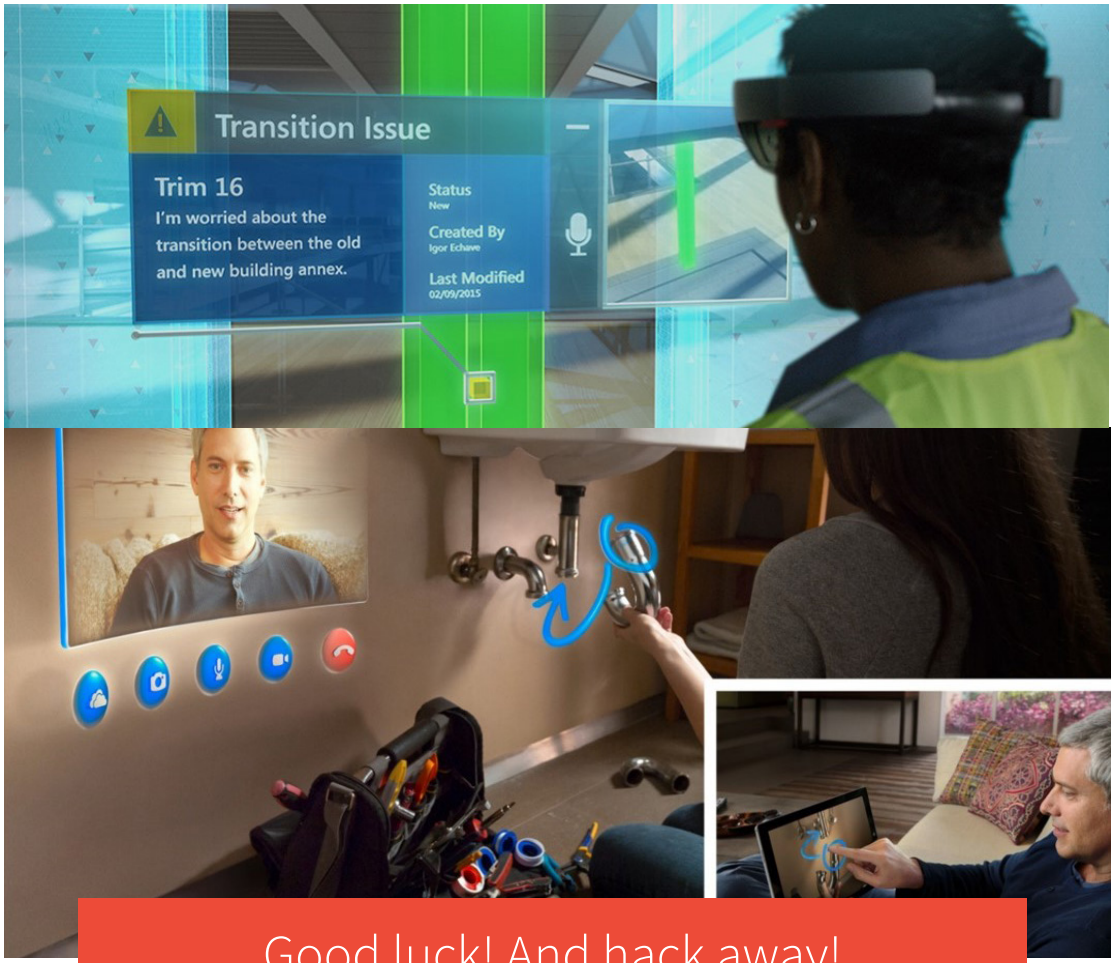
- Mobile phone or tablet (ARKit support iPhone 6 and higher; ARCore supports Pixel and Samsung S8)
- GPS if necessary although not relying on signal would be preferable

Potential Software

- Unity3D or Unreal
- Apple ARKit or Android ARCore
- C#, web services
- Database to store mockup equipment records
- Blender or 3D modeling software for virtual environment
- Plus Slack (https://slack.com) to stay in touch

For inspiration

This is what the app could look like but hey, you know best!



Good luck! And hack away!

Let's connect!

Come and chat with us at the workshop! We're at Table #33 on the 5th floor. We will walk-through the problem and answer any questions you have. **Slack workspace** hatchdeltahacksiv.slack.com

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