



# Dynamically Reallocating Image Processor

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## Background

Fashion is a way for people to express themselves however, picking out the best outfit can sometimes be frustrating and time consuming.

This issue is present both when one is at home or out shopping. Specifically in retail, a technology like this could be a way to improve the consumer experience, when shopping both at stores or online. It would allow consumers to get an idea of how they will look in their soon-to-be purchased clothing items [1].

## Milestone Goals

1. Build the mirror
2. Image tracking using OpenCV
3. Facial tracking, loading sprites over video
4. Implement placing glasses on user's face
5. Body tracking, skeleton mapping
6. Implement try on software:  
jewelry and hats

## Future Tasks

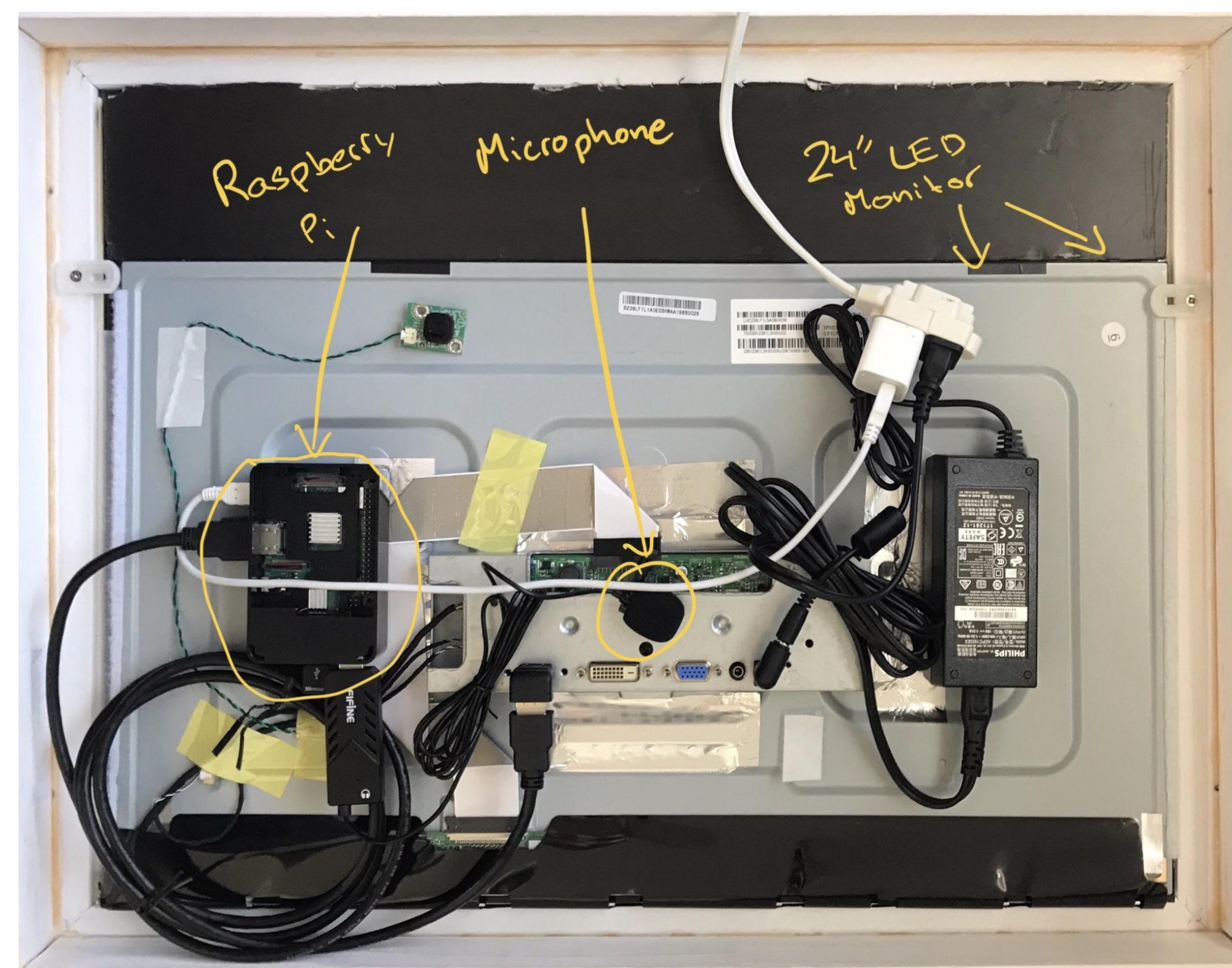
We discovered that due to depth perception, we can not simply display the clothing items and line it up with the mirror's reflection. We will aim to return a live feed as well as the articles of clothing.

## Accomplishments

We completed the hardware construction of the mirror and implemented the open source MagicMirror Software[2].

We used OpenCV with python and incorporated third party haar cascade algorithms to detect facial features. Given the information returned by these algorithms, we were able to manipulate the numbers and overlap a pair of sunglasses on a face.

## Diagram



## Purpose

The purpose of this project is to create a smart mirror that is connected to the Internet of Things. The main task of this mirror is a virtual wardrobe feature, which will allow users to try on accessories and clothing items. Rather than going through the excruciating, time-consuming process of taking clothes on or off, we aim to offer a solution which allows users to change clothes from the comfort of their pajamas.

## Contact

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## References

- [1] J. Peckham, "Your mirror may soon be able to decide the clothes you wear," TechRadar, 09-Jan-2019. [Online]. Available: <https://www.techradar.com/news/your-mirror-may-soon-be-able-to-decide-the-clothes-you-wear>. [Accessed: 03-Nov-2019].
- [2] Teeuw, Michael (2019). MagicMirror<sup>2</sup>, The open source modular smart mirror platform. Retrieved from <https://magicmirror.builders>



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