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Competitive Analysis

Google Home

The google home is a device that attempts to solve a similar problem, using a design language geared towards blending into the features of a typical room. It employs a voice only approach to daily assistance, taking in queries and returning answers in spoken form. It is definitely a well-designed device that blends in seamlessly with a typical room setup but it lacks any sort of visual output, and would not have the ability to present information in a visual form that my mirror would.

Software:

MagicMirror, MirrorMirror

I also looked into some existing magic mirror software. The first option I looked at was called "MirrorMirror", which included some premade code to allow you to open a hosted website on a raspberry pi and pull information using a web based approach. While this method is simpler to execute, and is more portable and available to transfer from one device to another, it lacks the algorithmic complexity that I want to achieve in my project. Due to the web based nature of the software, it's difficult to interface with local devices, such as the microphone, to do things like speech recognition. I want to use a locally based software base so that the program runs even without connecting to the internet, and also it has more control over the hardware it controls.

The next open source mirror platform I examined was Magic Mirror, which has nice benefits in being open source, as well as modular. Users can create their own custom modules, or install ones created by other users, to augment the base feature set of the software without a lot

of extra work. The modular design makes it easy to develop for the platform, although drawbacks lie in not having complete control over the code base.

Google Assistant

The design of google assistant is similar to what I want to achieve with the mirror, in that it also provides a voice assistant that takes voice as the primary input, and then can perform actions through natural language processing. It has a very robust and well developed voice recognition and processing algorithm, and also has deep linking into the various devices that it runs on. However, the software is closed source, and only runs on mobile devices. I especially liked how the assistant is able to use the android intent system so that it can enable integration with a number of other applications, with no extra programming done by the other app developers. This allows the assistant, and the apps connected, to be more connected, with little extra development. I wanted to include something similar, such that the software would be able to launch into other applications as needed.