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Technology today is more obvious than ever, and nearly everywhere you turn you can see examples of technology being used, from the smartphone in your pocket to the now touch screened refrigerator you just got installed. However, it is often forgotten that technology can be simple, and minimal, working only when you need it, and hiding away in the everyday object when you do not. My term project is an attempt to build a useful piece of hardware that displays information you need, as well as the information you might request from it as needed. Overall, I want to create a piece of technology that assists the user through conveniences such as parsing speech requests and turning those into actions on the computer, while not being overall "techy" in design

All the components are hid behind a mirror, and a minimal interface allows it to appear as a normal mirror when needed, and show information only when asked for

Module	Purpose
Google Calendar AP	The google calendar API allows for easy access to pulling the current list of events, and also allows for adding new events to the users calendar
OpenWeatherMap	The openweathermap api lets us put in a coordinate and receive the weather at the location. It also allows for some extra features, such as finding the weather in the areas surrounding a certain coordinate
PyAudio	Pyaudio plays a minor role, but it allows for a hardware connection to the microphone.
Speech Recognition	Python speech recognition lets us use a variety of different speech recognition engines, and then return the final result as a string
NLTK	The NLTK library allows you to break down a sentence or string into sentence parts, and then based on the words used, can provide context to what the intent of the sentence/string is.

Hardware	Purpose
Raspberry Pi Model 3	The raspberry pi allows for a compact solution to run the python code as well as control the display
Display	Displays the screen

On the software side, I plan to use TKinter to display information pulled from various web API's (Google Calendar API, and OpenWeatherMap), and these will serve as the "constantly updated

dynamic displays” that will be the default home screen of the mirror. Behind the surface will be a background audio listener, that will take in voice commands based on a specific trigger phrase, and then process it and perform the action desired using natural language processing (nltk library).

Feature Rank:

1. Display basic information: Time, Weather, Calendar
2. Allow for modification of basic information: adding events to a calendar, setting alarms
3. Complete simple voice recognition: What the time is, what the weather is, after clicking a “prompt” button
4. Develop constant listening so that it can be activated by a trigger phrase
5. Process speech requests so that the program can respond to variable phrases that mean the same thing.
6. Add contextual information: adding weather to locations of calendar events, automatically finding travel time to the next event.