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Assignment 1: Establishing Requirements

My product is a home automation interface and control panel that will allow the user to view information and control their smart home devices. It will feature a touchscreen tablet style device that gets installed on a wall or into a stand for tabletop usage. Its touchscreen control panel will allow the user to connect to their smart home devices and control those devices from the panel. The control panel will integrate with Google Home and Amazon Alexa which allows for maximum compatibility with all smart home devices (such as Philips Hue and Aqara). The control panel will work like how most touch screen interfaces work. The user will be able to tap to toggle, or to press and hold for more options. When a user selects more options, it will open a menu that allows the user to select various options relating to the device. The control panel will be completely customizable, the user can set which buttons appear on the home screen, and these buttons can be set to a certain size. This is so that the user can set the interface to match their needs.

The general user base for this control panel is going to be mostly homeowners as they are the users who have the most control of their living situation and can do a permanent install of all their smart home devices. Homeowners are the users who are typically the most immersed into home automation. These are the users that would install this control panel onto a wall. Another significant portion of the user base would be people that rent, weather that is a house or an apartment. These users won't be as immerse because they can't make any permanent installations of smart home devices. These are the users that would probably use the desktop stand. Some other users would be tech enthusiasts and others who live with these users.

Our first user is Robert, a 27-year-old corporate employee from Atlanta, Georgia. He and his wife recently had their first kid and just bought their first house for his family to grow in. He was raised in technology era and has a good understanding of technology. Robert finds technology fascinating and thus has taken the time to upgrade most devices in his house to newer smart home variants, creating an immersive smart home experience. He has his control panel setup in his bedroom and has it setup to be a way for him to view the status of his home.

Robert is winding down for the night and about to go to bed. Robert takes one last glance at the control panel to get a quick status of the house. While looking at the panel, he notices that he left the living room light on and that the front door was unlocked. Robert toggles the living room lights to turn them off and does the same to lock his front door. Lastly, Robert turns of his bedroom lights and gets into bed. A little bit later, Robert wakes up feeling a little bit hot. He is

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able to adjust the thermostat temperature from his control panel without leaving the comfort of his room.

My second user is Sophie, a 24-year-old IT worker and general technology enthusiast located in Houston, Texas. Because she must stay up to date on the latest technology for her job, Sophie was an early adopter of smart home technology. She started out with an early model Amazon Alexa voice assistance device and has followed along since. However, Sophie rents an apartment, so she can't permanently install smart home devices, so she doesn't have too many. She has her control panel setup in the desk stand on her desk allowing Sophie to view and control her devices from her desk.

Sophie often works from home, so she is often sitting at her desk with her noise canceling headphones on. On this occasion, she was sitting in a meeting with her coworkers and a mail carrier rang her doorbell to deliver a package, which she did not hear due to her headphones. However, Sophie was able to see the doorbell alert on her control panel and she used the control panel to view her doorbell camera to see that it was a mail carrier. Sophie excused herself from the virtual meeting to receive her package.

My third, and last user is Donald, a 50-year-old construction superintendent. Don is a long-time homeowner, having owned his house in West Palm Beach, Florida for the last 15 years. Don is not knowledgeable when it comes to technology, but not completely inept. He has older kids who he calls "tech wizards". One of his kids got him a Google Home voice assistant device and that's what got him in to smart home technology. Besides all of this, he is still old school and only has a few smart home devices in his house. In fact, he only has a smart TV and a couple of multicolored LED lights. After having some trouble interacting with his few smart home devices, his son installed this control panel in his dad's living room and set up for his dad to use.

Don is having some friends over to watch the football game. He had his son setup a room scene specifically for game time, which turns the TV on and sets the room lights to his favorite team's colors. Prior to the installation of this panel, Don would have to ask his voice assistant to toggle the scene, or he would have to pull out his phone and open the app to toggle the scene. Having no physical interface to control his lights really bothered him. With this home automation control panel, all Don must do is to hit the "Gameday" scene button that is on the main screen of his control panel. When the game ends and all his friends leave, Don can hit the off button on his control panel to shut the lights and TV off.