CS 461 Homework 5

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1- Dim

Before the command:

After the command:

When all the lights are on with maximum brightness in all the rooms, the command "dim" decreases the lights a little bit. The lights are dimmed in all of the rooms and another "dim" command dims the lights a little more.
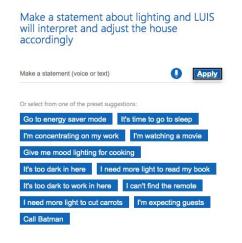
The "dim" command gradually decreases each light until every light turned off. This is a pretty straightforward command for the program to understand since the word "dim" is pretty self-explanatory.

What we have also observed is that different combinations of the word "dim" also work as intended. For example, if we input "dim the lights", it has the same effect as "dim" meaning all the lights in all the rooms are dimmed a little. If we input "Dim the lights in the bedroom" only the lights that are in the bedroom are dimmed.

What we observed is that the program probably interprets keywords. For example, if we input "Dim blabla bedroom" it works as intended, dimming the lights in the bedroom. Most probably the program sees the keywords "dim" and "bedroom" and operates according to these keywords. We are impressed with the 'dimming' feature of the LUIS as it successfully and gradually decreases the lights.
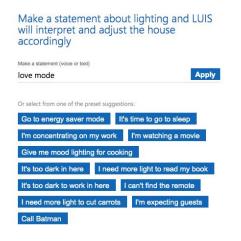
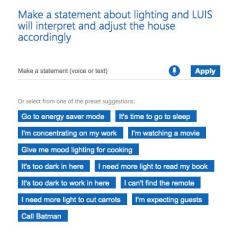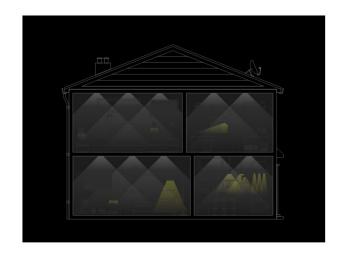## 2- Love Mode

Before the command:

After the command:

When we input "Love mode" we observed that the lights are dimmed to the lowest possible brightness. We thought that the program sees the "Love" keyword and creates a romantic environment. However, when we tried "Party Mode", "X mode" or "Y mode" it did the same effect. So we figured it is not the "Love" keyword that dims the lights, rather it is the "mode" keyword which does the dimming. For some reason "mode" keyword dims the lights to the lowest possible brightness. At first, we were really impressed with what LUIS did but then we were disappointed since any mode is the same.
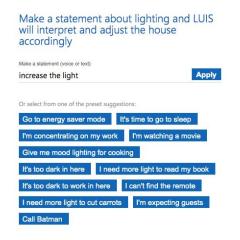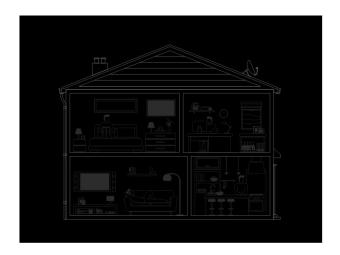
3- Increase the Light
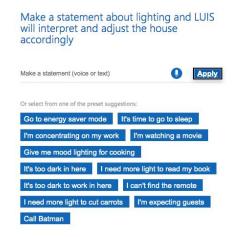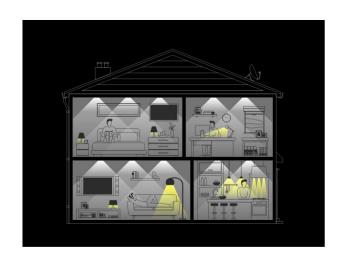
Before the command:

After the command:

When we input 'increase the light' command, what we saw is that the program does the *opposite*, which is decreasing the brightness. We were really unimpressed because the program should have interpreted the keyword 'increase' and act accordingly. It is a

straightforward command. We can suggest that it can do the same effect as 'turn up the lights'. "Turn up the lights" is the current alternative to "increase the light" and it works as intended, increasing the lights in all rooms level by level. Maybe in the future, we can use "increase the light" and "turn up the lights" both.
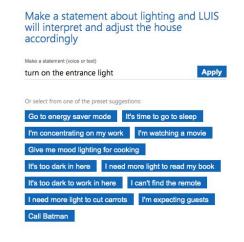
4- Turn on the entrance light

Before the command:

After the command:

Here, we examined the ways of turning on/off the entrance lights. Initially, we tried challenging commands to test out how well LUIS comprehends the desired action. For instance, we tried the following commands: "Someone is knocking on the door", "Is someone at the door?" and so on. In all of those cases, we expected the system to turn on the entrance lights. Unfortunately, LUIS could *not* comprehend any of such statements.

On the other hand, when we used the words "turn on/off" and "entrance lights" explicitly, LUIS turned on/off the entrance lights successfully. In other words, we observed that it comprehends the command "turn on/off the entrance light" easily.

Here, we are disappointed by the fact that LUIS did not understand our initial "challenging" commands. The reason behind this situation, we assume, is that LUIS expects particular words to be mentioned explicitly. In other words, without seeing the words "entrance" and "turn on/off", it would *not* alter the state of those lights.
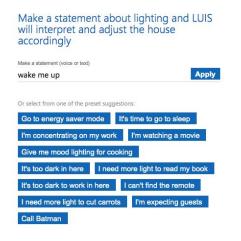
5- Wake Me Up

Before the command:

After the command:

This command turns on the lights of every room at a minimum level. However, this is not the case that we expect because lights should be increased to a maximum level to wake a person up. We are unimpressed with the effect of this command because only the lights of the room where the person is sleeping should be turned on (since turning on lights of other rooms are unnecessary for waking a person up).

We suggest that this behavior of LUIS can be improved with a timer. For example, the statement "Wake me up at 8 am" may turn on the lights at 8 am. Such a feature would be more effective when it comes to waking up a person.

References

[1]   "AI Demos", *aidemos.microsoft.com*, 2019. [Online]. Available:
        https://aidemos.microsoft.com/luis/demo. [Accessed: 14- Dec- 2019].