

Emmanuel Lotubai

When I am outside working on a vehicle, I occasionally need to check my progress. Either it be checking the steps in the repair process, torque specs for a nut, or just taking a water break. I am always met with a locked door when I try to enter the house. Assuming that the door would not be locked, I leave my keys behind. The process of knocking and waiting for someone to open the door, throughout the day, can waste up to or more than 5 minutes.

My engineering solution to avoid the time wasted is an ADL. ADLs have two mechanisms of unlocking a door. A person can use a key or a passcode to unlock a door. I will improve this technology by adding a third method to unlock a door. My improvement would allow for a door to unlock from a person's appromity to a door. This method will utilize bluetooth technology.

Bluetooth technology is feasible for this improvement due to the prevalent use of bluetooth capable devices such as smart phones, tablets, and watches. The improvement to this automatic door lock would be to embed a bluetooth device in the design. The bluetooth security will utilize the built in hard set passcode.

For example, when connecting a phone to a TV app such as youtube or to a game console such as a Playstation 4. A person is required to enter the passcode on their smart device or on the TV/Playstation 4. This concept will be used for the bluetooth on the phone and the ADL. The bluetooth connection to the ADL will be established when the correct passcode is entered.

The smart device will connect automatically to the ADL if its bluetooth is enabled. To avoid unwanted functions such as unlocking the door unnecessary. At this moment, I have two solutions. One solution can be a timer. A person can stand by a door for a certain amount of time for the ADL to unlock the door. The second solution can be "directional bluetooth." By directional bluetooth, the smart device will only connect when a person is standing outside the door. If a person does not have their smart device, they can use the keypad to enter a passcode or use a key to unlock the door.