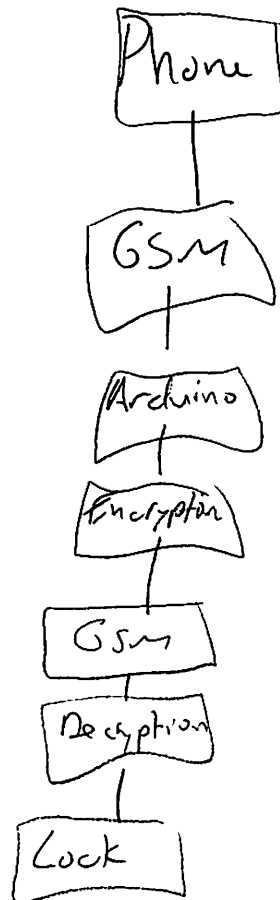
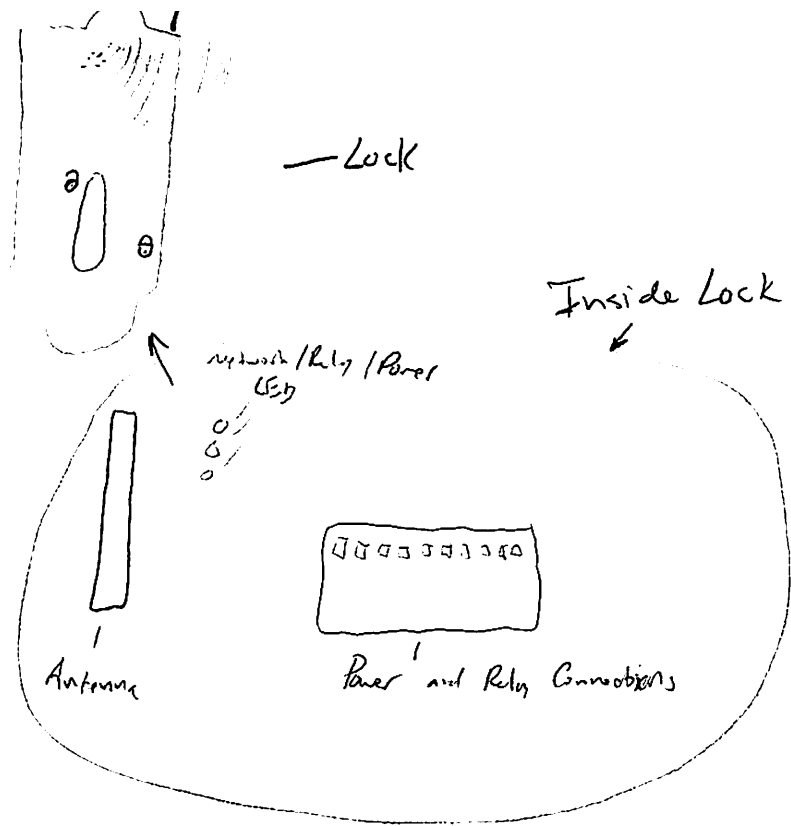


The user would use the App (8) on their phone to set their own personal encryption settings (4). These settings will be set up on the lock's central board (4) so they can be recognized every time. The user will call (3) using the encrypted app. The signal will come from the phone (5) over the GSM network (10) to the lock (6). The lock will receive this call and is connected to the board via SIM card (7) giving it its own personal #. The lock is programmed so you need the app (8) in order to receive an answer to the call. Once answered, the user will speak code (1). This code, once accepted, will unlock the lock (2). The lock can also be opened with a physical key (11) in case of battery loss or system failure.

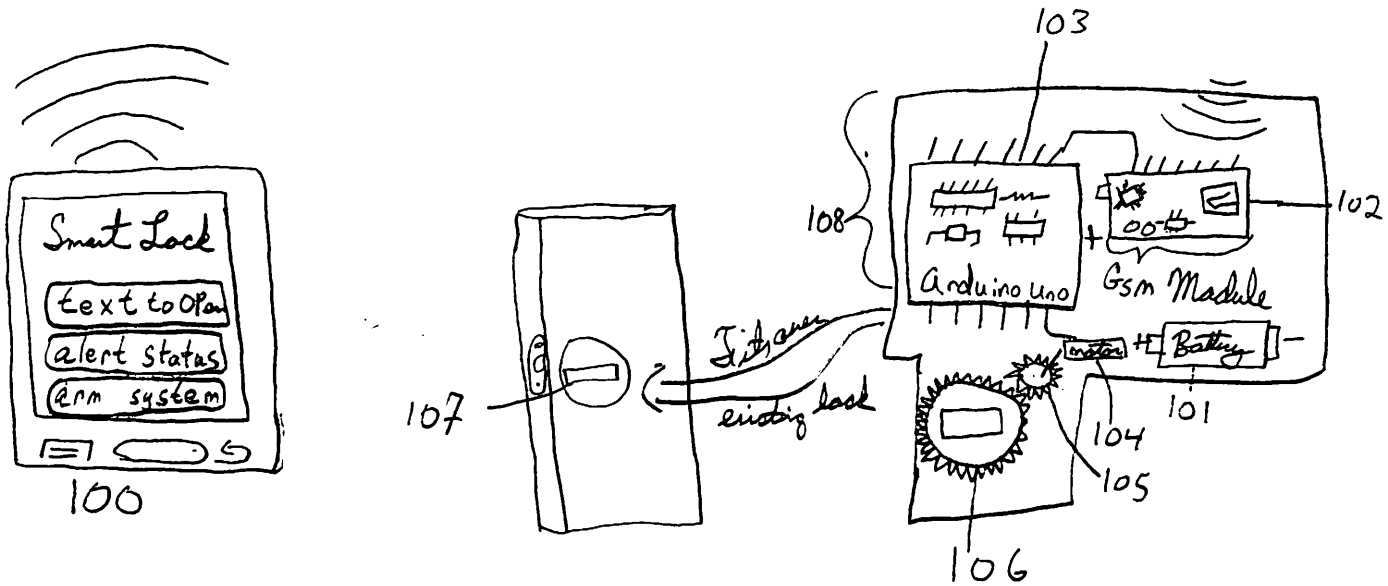
Design is to have a secure device that unlocks your door through an encrypted speech pattern unique to the user.

A security addition and different method of use is by using the GSM Network.

Over the network it will allow you to communicate with your doors lock from your cellphone. This was the original concept. Finding out that the GSM network has recently been hacked we implemented another level of security. By making the door now need a specific voice that is encrypted.



The Birth of an Idea



The goal of the project is to create a smart lock security device with the incorporation of a smart phone application while also utilizing the preexisting GSM cellular network. As we see in the figure 100 a smart phone application would be utilized for communication with the device. The device (108) as a whole will fit over pre existing lock mechanism as seen in 107. The signal from 100 will be received by 102 which will then be translated by 103 which will in turn use 104 and 105 to operate 106 unlocking the initial mechanism 107.

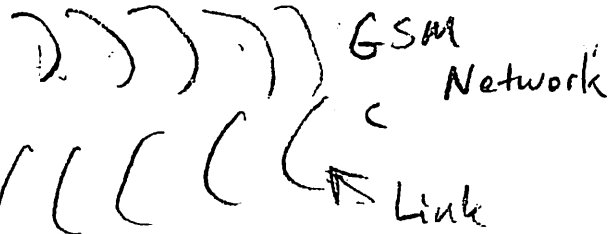
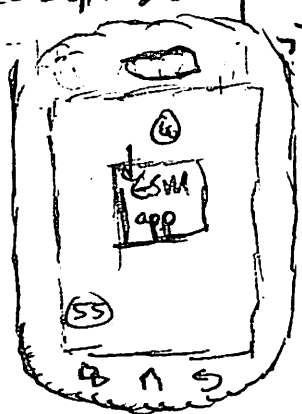
Individual Idea Generation

Cherith-Elen

Ideation:

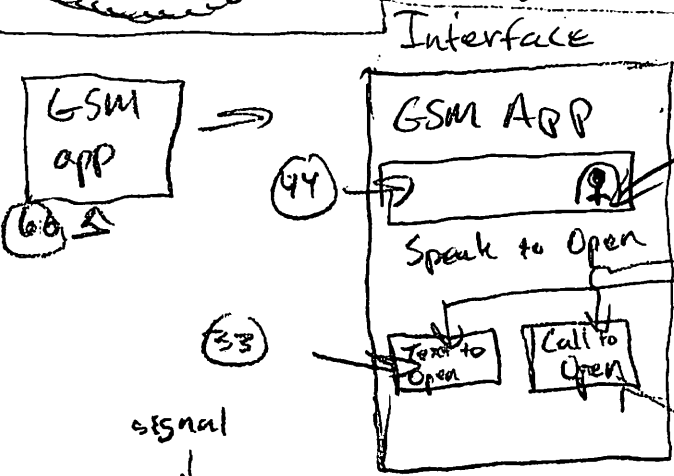
Mobile application that links with electronic lock over a GSM network, which in turn eliminates the use of keys to unlock a door.

Concept Development:



The mobile application will be able to establish a link to the GSM network. (Refer to Figure 1)

Figure 1
Design Interface



User speaks to open door
User calls to open door
User sends text to open

The mobile application will have three different options to open/unlock door. (Refer to Figure 2)

Figure 2

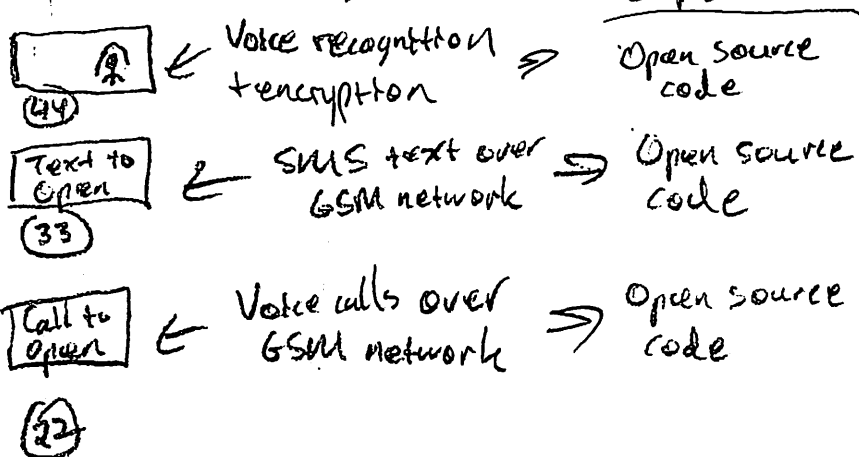


The voice, SMS text message, or phone call will open the lock. (Refer to Figure 3) (88+99)

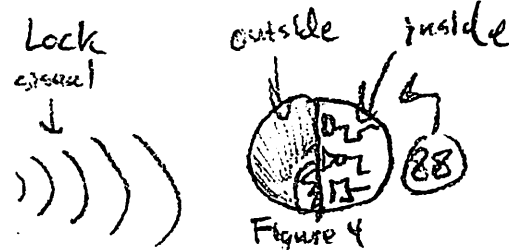
Figure 3

Concept Refinement:

* Breakdown of App



* Breakdown of Electronic Lock



(Refer to Figure 4)
Inside electronic lock will be receivers, gates, and a mechanical locking mechanism. Receivers will receive the signal and that triggers the mechanical lock.

Figure 4