When the smart lock is set, it will give a default number to enter, when this is put in the app it will set up everything. And this default code will be changed by the first user, and the first user will add another admin. When doing this it will send a text to the other admin (not yet admin), he will get the house code and then a code given to the first admin when adding someone. This has to be given by the first admin. When adding a close member everyone agrees and when this happens it will send a message to phone with the house number and it will add it into the app and then given by the admin a joining code (this can be available for certain minutes).

If you unlock door with faceID and you don’t open the door in 30 sec it will lock again.

Votes are anonymous (optional).

Parents – Residents

-Full Permission (admin)

* Set roles
* Delete members
  + It will send notifications to up to 5 priority members you have chosen.
  + If they all agree it will be sent to all the close members of both residents.
  + There should be 50% or more to kick someone out.
  + Delete from GUI, “please confirm with the finger ID inside the house.”
  + So is in the house they have more priority
  + Friendly remover – another button
  + Other admin will get notification and agree.
    - You get one week
    - If you put your fingerID in this week it will automatically eliminate this.
    - It will notify other admins if will
* Add minor members (not close members that will be chosen without anyone else agreeing on it)
  + Most residents should agree on this
  + Depending on what member they will have fingerprintID some won’t
* Update roles
* Set trusted role
* Open all doors
* Lockdown feature
* Configure doors
* Set who gets alarm notifications
* Get notifications
* Access database
* Access-configure camera

Children 0 to 12-13

* Nothing, assumed always with parents

Teens e.g. 13- upwards

-New resident

Safety member

* Up to e.g. 5 are chosen by each the residents, no agreeing has to be done
* They don’t have to have access to the house
* They will get a code if a safety alarm is triggered to open the door

Close member

* Can have FingerID or FaceID and has to be chosen by all of residents
* Choose them and then configure their faceID and fingerID
* Can be deleted just with one person
* Get phone number or email

Other members e.g. Neighbour, Friends, Cleaner...

* Temporary codes that can be created for a time length and can be changed and texted every week. ( It will give a different code every week)
* Majority not everyone

Delivery man

* Voice saying you have 30 seconds before the alarm goes off
* Look at camera when going in and when going out.
* Code will be given and deleted after use

Guest

* People from work, not necessarily people you know well.

TEMPORARY ACCESS can be given without members to agree, will send notification to all admins, and an admin can deny entry.

* There is a majority, if 2 agree and 1 doesn’t it will be accepted
* If one doesn’t agree then it won’t accept and they have to open the door manually, so member inside the house.

Lock doesn’t lock automatically if there is power cut, and the inside will have a physical way to open it. You can’t open it if the power is in.

How to access the data

* Finger ID to access data
* Check how many times you went out and in
* Access your profile

How to access data

* Check data of yourself
  + Go to the app
  + Choose your name
  + FingerID scan inside the house
* Check data of close members – other members
  + Go to app
  + Choose name of member
  + Send a message to member
  + FingerID of the member chosen
* Check data of delivery or other members
  + Go to app
  + Choose member and use your own ID
  + Log who and when this is done

What data is accessed

* When people access the house
* Optional (detect if someone has left)
* Who and when one of the residents have added, deleted or altered a member. (This will only be accessible for residents)
* When another resident has viewed your data.
* Even if you allow another resident to access your data they won’t be able to see your security members

Division of labour

* Raspberry Pi
  + Beginning, we all work in groups of two each with 1 raspberry pi and one different peripherals, then we put all of them in one raspberry pi.
* Database/Server
  + Start with database and then go with server
  + If all groups work fine then same two groups will work in the server
    - User interactions
    - Database Interactions
* App
  + If all groups work fine then same one group will work in the server
    - Front-end
    - Interacting with server

Architecture design

* Lock with a pin or lock and keypad separately
* Face ID to open
* Finger ID to access data and security issues

What we want to buy

* Nuki smart lock
* 1-3 Raspberry Pi’s with:

# BIlinli Optical Fingerprint Reader Sensor Module For Mega2560 R3 Raspberry Pi 3

* + <https://www.amazon.co.uk/BIlinli-Optical-Fingerprint-Mega2560-Raspberry/dp/B07VCSBYX8/ref=asc_df_B07VCSBYX8/?tag=googshopuk-21&linkCode=df0&hvadid=372447135270&hvpos=1o1&hvnetw=g&hvrand=15189361496698837916&hvpone=&hvptwo=&hvqmt=&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=1006965&hvtargid=pla-830519867013&psc=1&tag=&ref=&adgrpid=77250170340&hvpone=&hvptwo=&hvadid=372447135270&hvpos=1o1&hvnetw=g&hvrand=15189361496698837916&hvqmt=&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=1006965&hvtargid=pla-830519867013>
  + Adafruit Lock-style Solenoid - 12VDC [ADA1512]
  + 3x4 Matrix Keypad
    - <https://www.adafruit.com/product/419>
  + Camera module V2
    - <https://www.raspberrypi.org/products/camera-module-v2/>

Language of use

* Raspberry Pi: Python
* Database: SQL, …
* Server: