

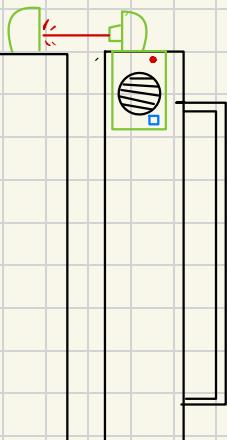
Ideas to combine

1. Alarm
2. Close door automatically
3. Magnet
4. Laser
5. Digital Notification
6. Wire
- 7.
- 8.
- 9.
- 10.
11. Applicable Suppression door?

Use hinge area?
User friendly
No use battery

Look at Pros & Cons & Remove all the cons

1. Audio Alarm with laser



Notes

- When door opens laser will not detect other side of padding and will alarm if time away from padding is too long
- Button to turn off alarm if still using fridge, restarts timer
- Maybe add more buttons to alter timing settings
- Placed on top of fridge
- Maybe add alarm notification

Pros

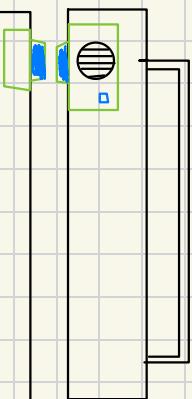
- Simple, not complex
- Easy alarm sensor
- Compact
- User friendly

Cons

- You may hear alarm even while in use
- Adding buttons may be confusing for new people
 - May not be popular if too complex
- Might become ineffective if laser is blocked by particles
- Will require battery

2 Audio Alarm w/ magnet

Notes



- Door detects if open if magnets do not touch
- Timer set when magnets are separated, after duration, alarm will activate
- Button to deactivate alarm if still in use
- Buttons added for fine alarm duration
- Placed on top of fridge
- Maybe add alarm notification

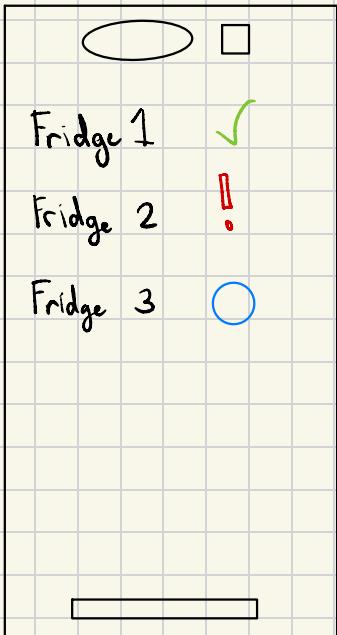
Pros

- Simpler, not complex
- Easy alarm sensor
- Compact
- More effectively detectable if open versus laser
- Magnet adds more security to keep door closed
- User friendly

Cons

- You may hear alarm even while in use
- Adding buttons may be confusing for new people
 - May not be popular if too complex
- Will require battery

3. Notification



Notes

- Notifications on phones may be a good add on
- Can see multiple fridges in use
- Green means okay status
- Blue means open
- Red means open for too long
- Can rename fridges name

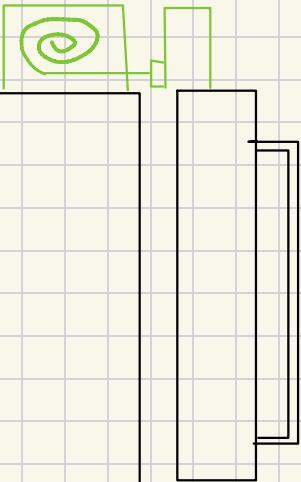
Pros

- Good if away from lab
- Can keep watch over multiple fridges

Cons

- Requires battery
- May not be liked by people in lab due to lack of wifi & difficulty with use of phone
- Will require app coding

4. Wire



Notes

- Wire will help keep door closed even if door is left open
- Retractable
- Maybe set a mechanism to retract after some time?
- Maybe make mechanism flat on its side

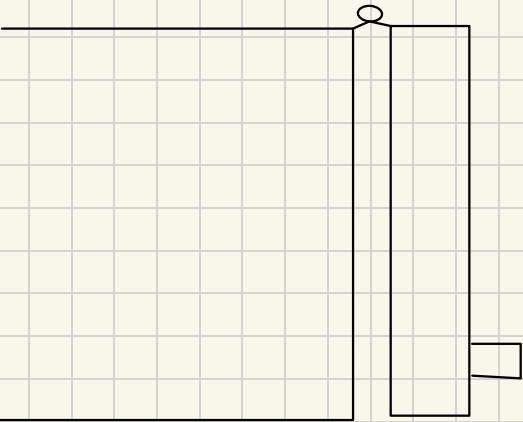
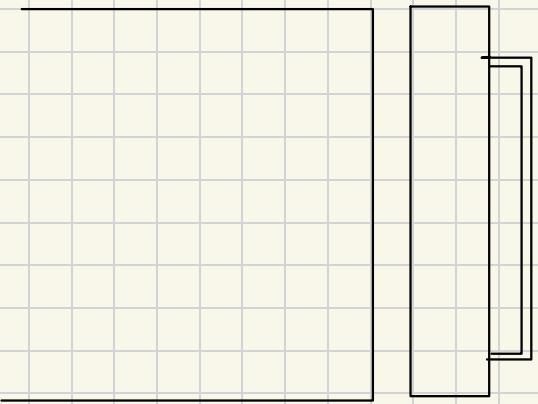
Pros

- Will automatically close door when forgotten open
- Simple mechanic, won't use battery

Cons

- Wire might become entangled
- Wire will close even when you want fridge to be open
- Wire can break, be cut
- One might hit Wire

5. Suppression Door



Button