

Bedtime Buddy

~improving sleep quality using foot massage and Bluetooth technology~

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1 PROBLEM

Good Cycle



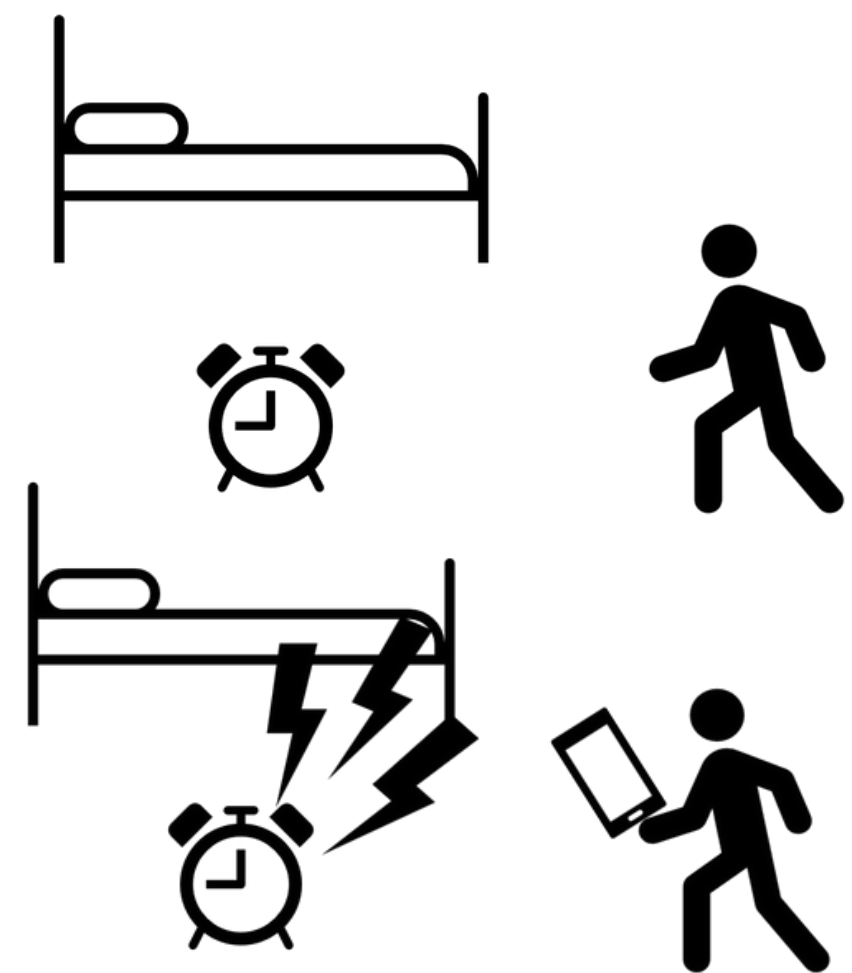
Bad Cycle



- In Japan, people tend to sleep less than people in other countries around the world.
- Younger people in Japan are also more likely to feel dissatisfied with their sleep[1].
- One big reason to feel dissatisfied is using smartphones before going to bed[2].
- Many people in a lot of countries don't sleep well because using smartphone.
- Short sleep duration makes it difficult to wake up comfortably in the morning.
- We are developing opportunities to address these issues.

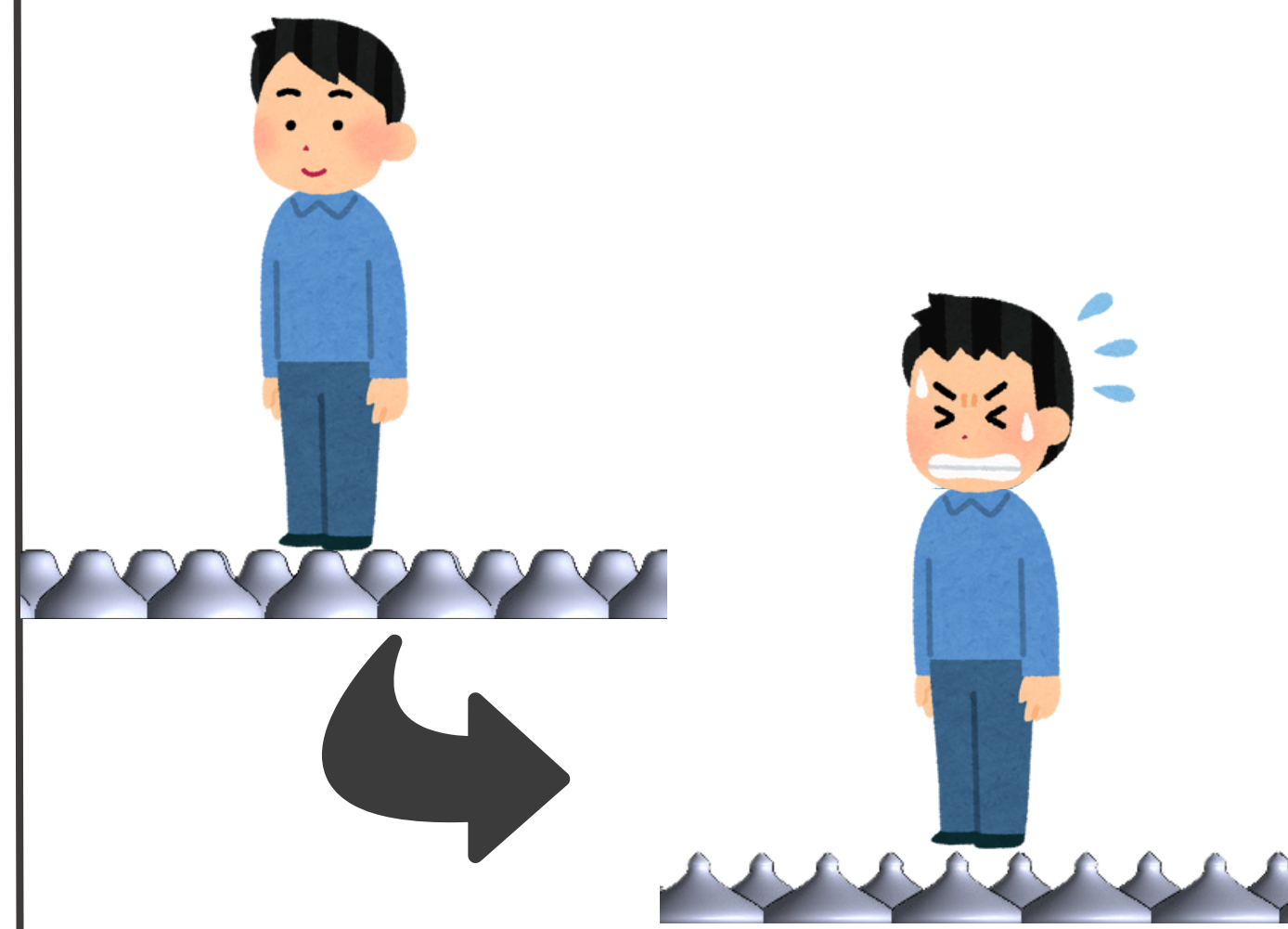
2 FRAMEWORK

Plan1 Keep user phone away from your bed



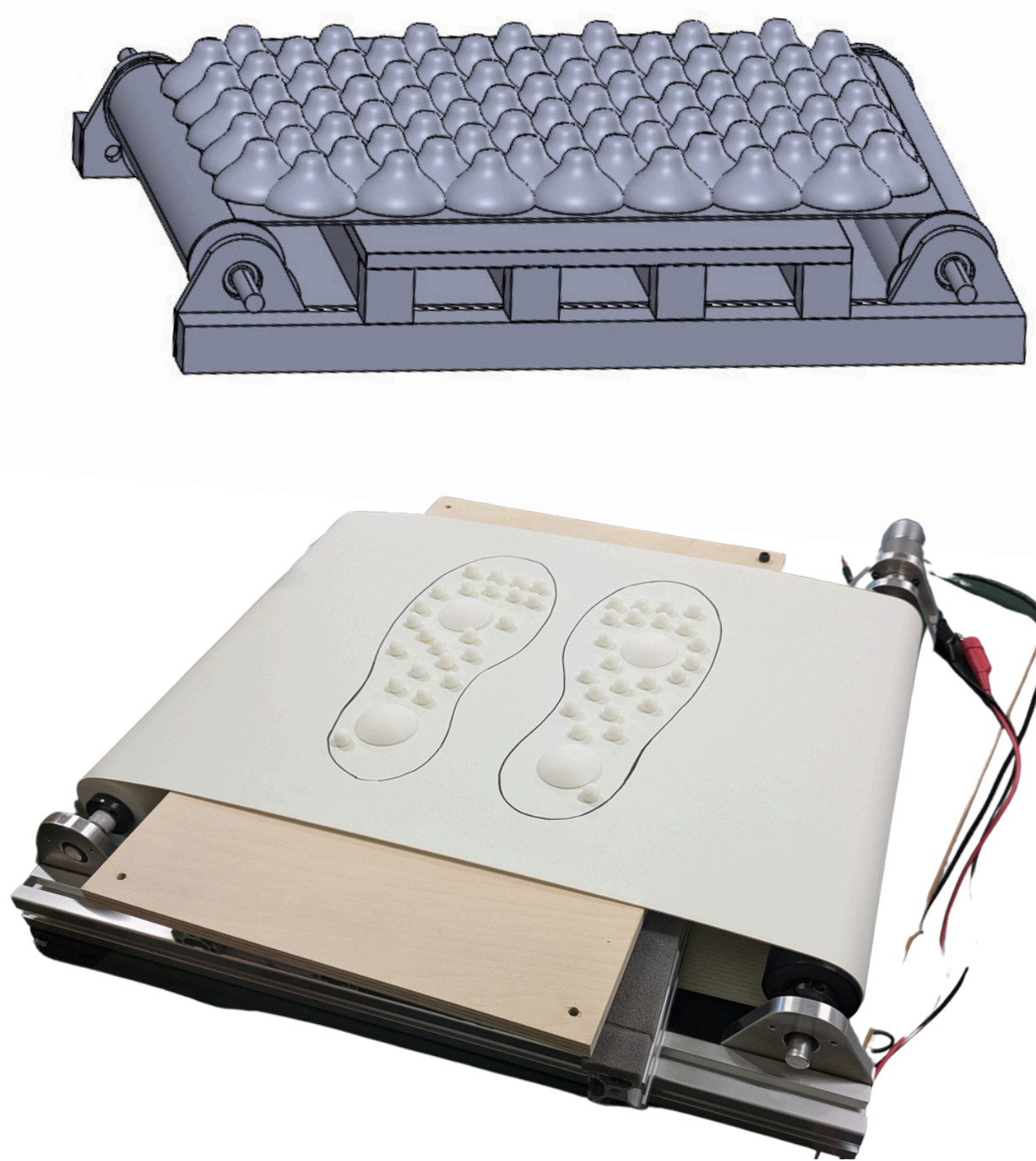
- If you close user phone to the bed, the warning tone ring.
- If the warning tone ring more the once, penalty is incurred the next day.

Plan2 Using foot massage to wake up user



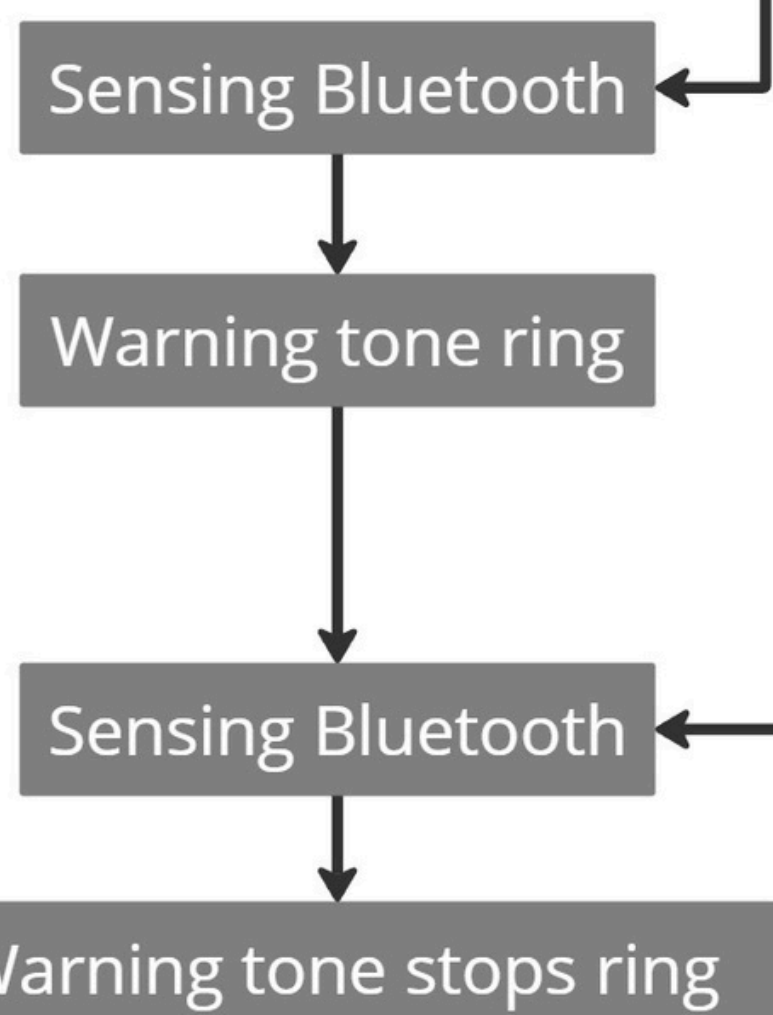
- If the warning tone ring, you feel more pain.
- You must ride more pain foot massage mat in the next morning.
- The alarm is stopped by riding on the machine.
- User can wake up clear because using foot massage.

3 PROJECT DESIGN



Plan1

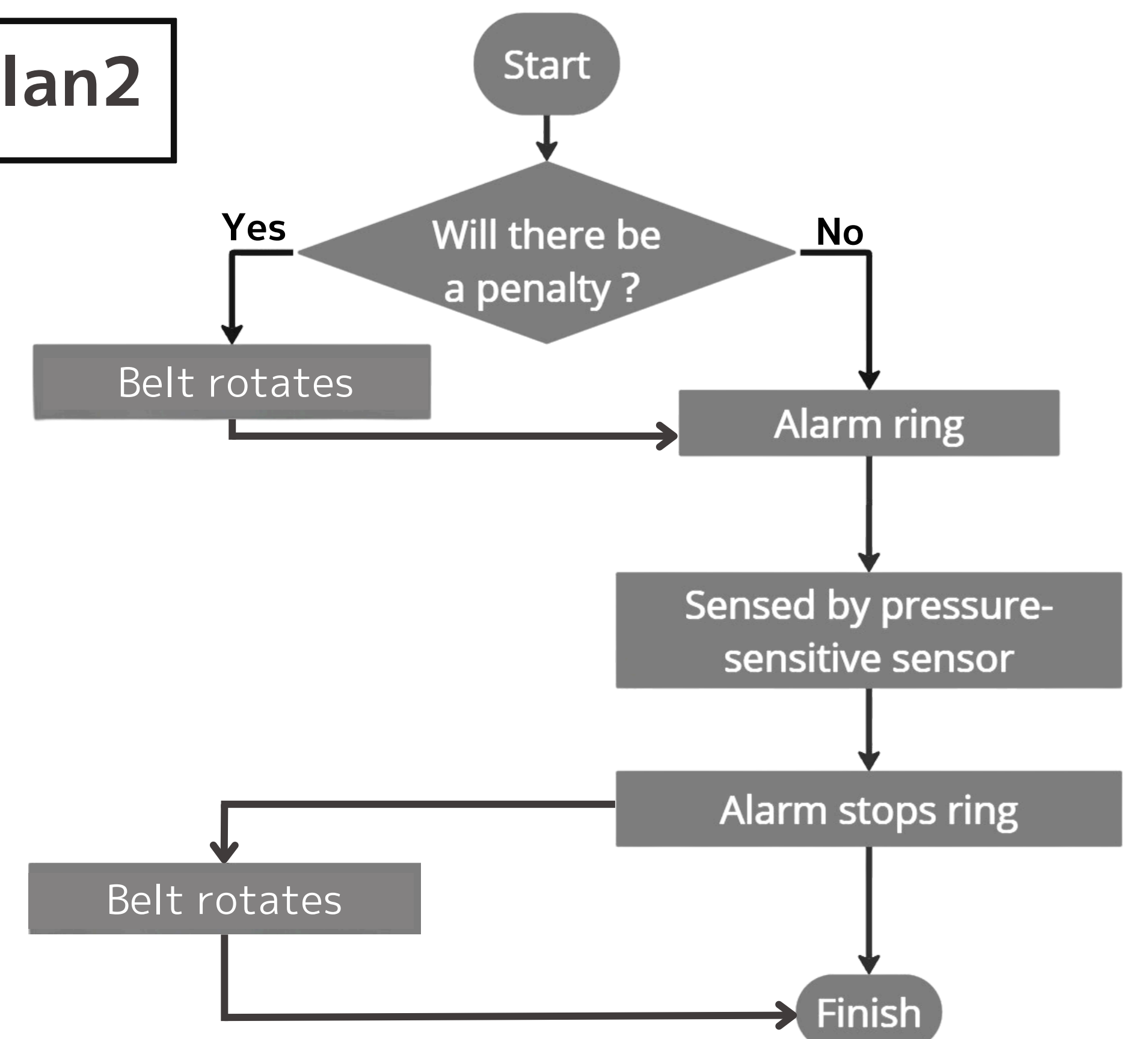
Device



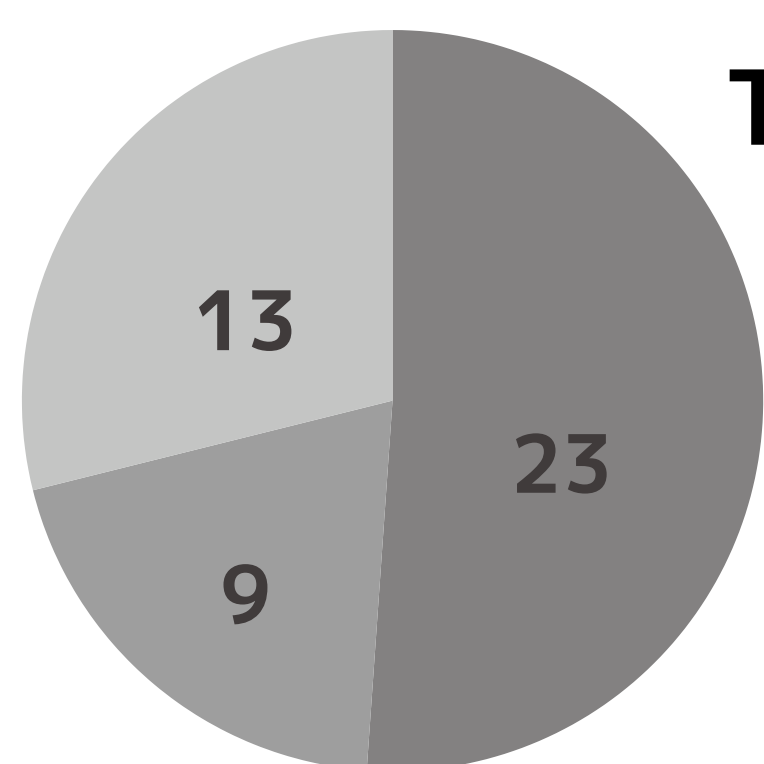
User



Plan2



4 PROJECT DESIGN



The benefits of foot massage

- That woke me up
- That woke me up a bit
- That didn't wake me up

Tested and surveyed 5 people in the same environment as the Bedtime Buddy.

Name	Usual Sleeping Time	Sleep time during the experiment
A	6hours	7hours
B	6hours	8hours
C	6.5hours	7.5hours
D	6hours	6.5hours
E	7hours	7hours
Average	6.3hours	7.2hours

Average increased by over an hour

5 INTERPRETATION AND CONCLUSION

The results of the experiments conducted with the alternative products confirmed that Bedtime Buddy was effective enough to achieve the above goals, and we intend to continue with the creation of Bedtime Buddy.

6 REFERENCE

[1]Takuto Nonomura et al. "西川睡眠白書2023". Japan Research Laboratory of Sleep Science. (2023)

[2]Mookrawee Bunyalug and Naowarat Kanchanakhon. "EFFECT OF USING SMARTPHONE BEFORE BED ON SLEEP QUALITY AMONG UNDERGRADUATE STUDENTS AT CHULALONGKORN UNIVERSITY, THAILAND". College of Public Health Sciences. (2017)