

Client Interview

Sizing/Operation space

1. What is the desired size of the entire device?

Must fit in 2x2 incubator

2. Is the size for the belt size firm at 12cm x 20cm? If not, what is the maximum/minimum sizes the belt could be at to still be acceptable.
 1. Some wiggle room, with client approval
3. Will the treadmill be moved around a lot or will it have a dedicated space? (Battery operated or wall plugin(preferred))
 1. Wall plug in
4. If the treadmill is computer controlled, will there be a dedicated laptop/computer? Or should it be able to easily run on any computer (more difficult)
 1. Standalone preferred

Rats

6. What are the approximate measurements (size and weight) of the rats
 1. Very light, exact weights not known
7. Are we building the apparatus to hold the rat as well?
 1. no
8. What length are the rat's legs as they grow/ does the support bar need to be adjustable, if so, by how much?
 1. Support bar already fabricated
9. Do we need side cameras as well as a bottom up camera? How many cameras? What kind of cameras? (dimensions, mounting). If so would they need to be controlled by the same program as the belt apparatus?
 1. Bottom up

Safety/Cleaning

10. Does the treadmill need to be enclosed for the safety of the rats?

1. Only to insure they stay on treadmill
11. What other specific safety features other than the stop button?
 1. none
12. Questions regarding to material selection for apparatus and belt: necessary weight, waterproofing, tear resistant, thickness etc.
 1. Better than current material- dental dam
13. Will the treadmill get very dirty while in use? Should it be easy to clean?
 1. Disposable or easily cleaned preferred
14. Is soundproofing an issue with the tests running on newborn rats?
 1. Quieter is better
15. Are there any materials (other than materials known to be toxic) that should be avoided?
 1. None specified

Performance

16. How do you want the speed/angle control to function? Insert an exact value? Dial/slider controlled? Simultaneous control of speed/angle?
 1. Angle changes can be made while machine is off
17. Will speed/angle changes need to be made while the device is running?
 1. See above
18. How many hours will the treadmill run in an average week? How long will it run continuously?
 1. Up to 12 hr a day
19. It was mentioned that the previous version was fragile, other than the computer issues, what part of the device was weak? ("Maybe" question, not that important)
 1. Belt, interface, speed control
20. If the treadmill breaks or malfunctions, will there be somebody available to make simple fixes? (i.e. loose screws, belt loose, etc).
 1. yes
21. Is it important for the product to be made with easily available, replaceable components?
 1. preferred

Project Management/Misc

23. Do you have your own timeline for construction of product for internal testing? Proof of concept prototype?

1. No client checkpoints

24. Is there an internal budget schematic you'd like us to follow, i.e. \$400 for parts, \$300 for etc. or is it as we see fit.

1. no

25. What does this project look like in cooperation with the department in ISU? Any needed trips or communication?

1. Most communication occurs through Schiele

26. Are there plans for more replicas of our treadmill to be made in the future?

1. Possibly