



Category Name:

Gizmo Geek

Unique Challenge ID: SCL2471

Challenge:

Rat them out

During the 14th century, the Black Death, caused by the Bubonic Plague, killed an estimated 75–200 million people. Beyond disease, rodents contribute to significant damage to crops and the eating of stored food supplies. For these reasons, rodent control isn't merely dealing with nuisances but is essential to the maintenance of public health and safety. Even though lots of solutions for rat control exist, they aren't full-proof and effective over the array of situations where rats can infest. In this challenge, we invite you to rethink about the problem of rats in the context of 21st century and design smart devices to solve this problem.

Background

It was 14th Century and Europe was facing the pandemic of Bubonic plague that was taking lives at an alarming rate. Nobody even knew what they were fighting against unlike today, when we know that Covid 19 is actually a virus. By the time people realized that it was actually being spread by a flea travelling on top of rats, it was 19th century and losses of lives had already scaled to millions. It's believed that the population of the world had dropped from 450 million to 350 million in mere 5-7 years.

Even today, rats cause widespread destruction not only through diseases they spread but also due to their ability to chew down electrical systems at domestic as well as at an industrial scale. Lot's of solutions are available in the market from rat poisons to traps- each having their pros and cons. Poisons for example can inadvertently affect the predators of rats and traps can be easily outsmarted by a significant number of rats.

In this challenge, we invite the participants to take a fresh take on the problem of Rats by designing smart solutions using mechanical or electromechanical devices, IoT, or any other out of the box approach that they can come up with. The solutions being designed should cater to the places where rats can cause huge problems- farms, houses, railway stations, industries and so on. Participants may also use multiple strategies working in sync to solve the problem. The submission has to be a working prototype of the solution being proposed and a detailed report including sketches and design of the solution, the approach and the science behind it.

Evaluation Pointers

Originality

- Does the solution already exist in the market?
- Is the solution original?
- What technological innovation has been used to design the solution?

Usability (effectiveness, design)

- Does the solution effectively solve the problem?
- How well is it designed?

Accessibility

- Who all will be able to use the solution?
- Will it be feasible to use it in different scenarios?

Presentation of the submission

- How clearly have you presented the prototype in the video?
- How well is the report written and presented?

Note: The Project (video) uploaded should not be offensive, abusive, or contain explicit content of any type. Such entries will be directly disqualified.

Sample Submission

1. Working video of the prototype
2. Detailed Report outlining the design, proof-of-concept, wireframe.