Our ISEF Project

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Problems

- Drug use has become a major problem inside of bathrooms all over the world. Specifically in high schools.
- This is damaging not just to student health but to the reputation of schools as well.
- The main problem is that in schools such as Samo, the use of Juuls and other recreational substances often will trigger smoke detectors causing a massive waste in taxpayer money as it alerts the SMFD.
- So far no advancements have been made for this problem, and fire alarms are triggered almost every week

Our Project

- It falls under the subcategory of *Electronic Engineering* because it falls under the branch of engineering that deals with the design, fabrication, and operation of circuits, electronic devices, and systems.
- Our goal is to engineer a new type of smoke detector to help schools detect drug use and negate the false alarms for fire departments.
- We will be making a light sensor “vapour” detector that will be calibrated to the smoke/ vapour from juuls, vape, and other smoked drugs.

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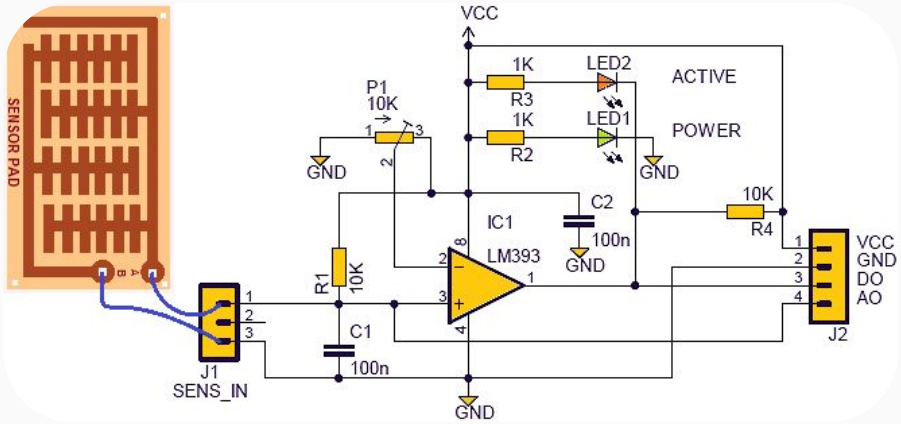
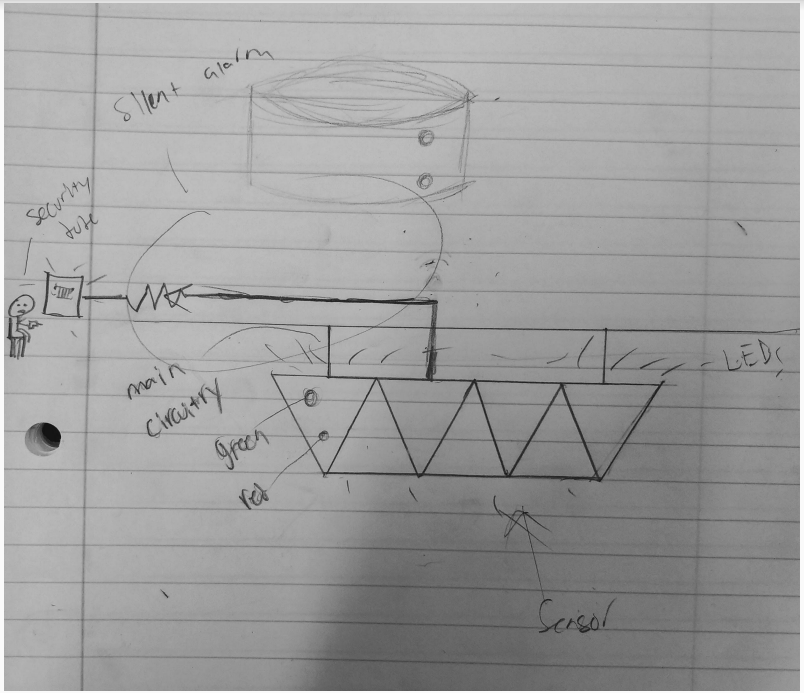
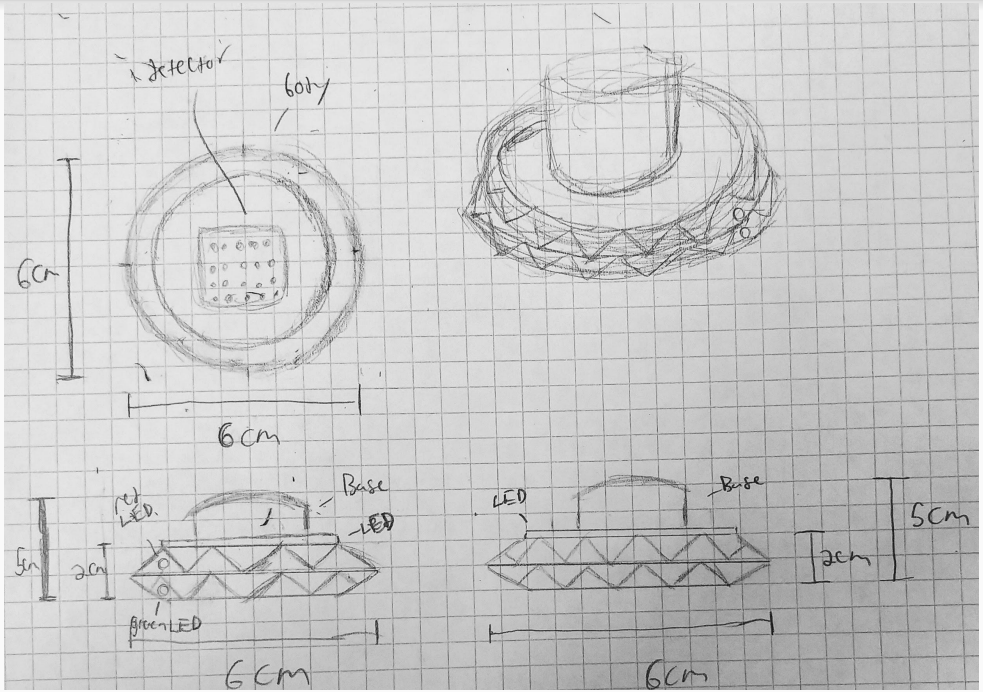
Solutions

- The solution is to invent a new type of smoke detector that will recognize the vapor and smoke from drugs before the normal fire alarm does.
- It will then send a silent alarm to staff who can come and handle the perpetrators with appropriate punishment.
- The detector will either be using gas detectors to find a specific type of vapour or can use a light sensor to detect the smoke and send out an alarm before the conventional fire alarms.

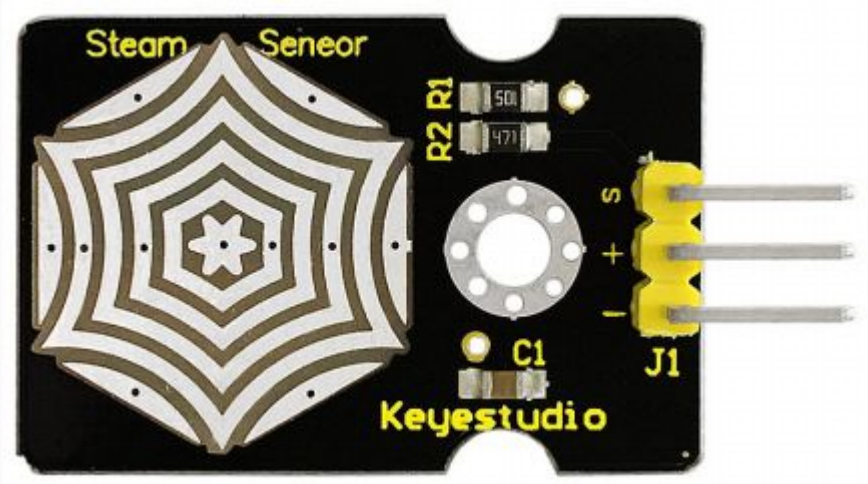


Additional Sketches/ Concept Art





Potential Hardware



Potential Resources

https://www.veeder.com/us/products/vapor-sensor