

Ground Security

Securing wide areas with low power

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Problem Statement

The lack of security in widespread ground areas is problematic, and even dangerous in many instances. For example, BBC reported that there were 96 stowaways who boarded planes from the airfield, avoiding the security measures already in place; only 26% of the stowaways survived their flight. This danger with stowaways can be largely attributed to the lack of security in widespread areas, such as airport airfields.

Justification

Since the 9/11 attacks on the United States there has been a huge increase in protection of areas such as airports and military bases, and the U.S. as a whole with the creation of Homeland Security. Although even though the protection of the country has drastically increased since the attacks but has not ceased due to the lack of a full cohesive security system. The large area and open ground space as shown in airfields, military bases, golf courses, and other areas as well are lacking a proper protective solution to keep the area secure.

Research

There are preexisting inventions created in an effort to protect large outdoor areas but all of the solutions are not fully protective or efficient. There are wireless camera systems that exist that require monitoring, and a power source limiting, their range, and accuracy. Animal trackers exist that have a small area of coverage, and are not modular so there is no way to connect the systems in order to cover a larger area. This makes this option Expensive, and ineffective since the option has a monodirectional aim and with separate unconnected units they are harder to pinpoint the intruders location. We aim to take the most effective parts of the pre-existing solutions and modify them to create a more efficient and cost effective option.

Performance Benchmarks

- Cheaper Alternative to pre-existing solutions
- Utilizing solar power
- Requiring less labor or human surveillance
- Sends alerts to bring attention to a possible problem
- Modular units will allow adjustable coverage

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