



Team 4 - Life Robot

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In the past, rescue workers during a severe earthquake or natural disaster have to search on-site using hand-held sensors to locate survivors. They would utilize a blanket search technique in order to cover the entire area. This method is highly risky, inefficient, and costs valuable human resources. Currently, there lacks a method that can cover large area space and stream live information from the disaster area. Real time data regarding the effects of the disaster is crucial to determining possible locations of trapped victims. Life Robot aims to reduce rescue time and increase efficiency of search methods by utilizing drones and mini robots (containing IoT sensors). These devices will be used to survey the surface for structural conditions and monitor the activities underground. The solution proposed by the design team is a network of portable sensors deployed by drones that can work alongside rescue workers. When disaster strikes, rescue teams can send out drones to distribute mini robots and scatter them throughout the disaster site. The sensor data transmitted back to the rescue command center through an established network can be analyzed to plan rescue efforts. Each mini robot can identify life signals, detect fire hazard and volatile gas leakage, and monitor structural stability around the region. Drones and mini robots can replace humans to make searching more effective in search and rescue missions. They can work uninterrupted day or night and always maintain an objective observation, which will greatly improve search efficiency and rescue personnel efficiency to rescue as many lives as possible.