

“PIXEL COPTER FOR SEARCH & RESCUE OPERATION”

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A project report submitted in partial fulfillment of the requirement for the award of the Degree of Bachelor of Engineering in Electronics & Communication Engineering of the Visvesvaraya Technological University, Belgaum.

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ABSTRACT

In recent years we have witnessed that there are many things that could go wrong and affect certain part of population. There can be wildfires, tsunamis, earthquakes, and man-made disasters such as Chernobyl or 9/11. When dealing with a search and rescue situation in an urban environment, usually, the rescuers have to deal with collapsed buildings, victims trapped under the rubble and other problems unique to such environment. An earthquake can affect a wide area ruining a city, wrecking a dam and disrupting communication with some hikers. Sometimes it is said that there are man-made disasters and natural disasters. This project presents a system called Pixel Copter which is a small unmanned aerial vehicle. The immediate assessment of damage and the continuous collection of information when natural disasters such as large earthquakes strike are important for developing a disaster recovery plan for damage mitigation.

In this study, we develop a small device which is wireless, controlled from long range and can take live images and videos of the situation and aid in rescue operation. It automatically sends the geographical information of its present location to the user. It is a real time system that can collect the information about the disastrous environment where the reach of human being is not possible. The effectiveness of the proposed system is confirmed by a flight experiment. This project can have wide range of applications in defense military system as well as in the navy systems to gather useful information. This device can be used under high temperatures as well as relatively cold conditions too. It has a Fire Resistant Coating which makes it a fully fledged fire proof device. The main objective of this project is to help in the search and rescue operation in case of hazardous and disastrous conditions.