

ABSTRACT

DESIGN UNMANNED AERIAL VEHICLE VTOL-UAV AS EARLY IDENTIFICATION AIR CONDITION VEHICLE BASED VIDEO SENDER

By

M. Yusuf Tamtomi

Air pollution or so-called weather pollution is defined as the presence of materials or foreign substances in the air that cause changes in the arrangement or the composition of air than normally. Air pollution caused by various chemicals both direct and indirect impacts that the longer it will even disrupt the life of humans, animals, and plants. Therefore to determine the level of air pollution that exist in a specified area, need the existence technology that is used to detect the level of air pollution. Thus it is necessary for an aerial vehicle that can be used to monitor and photograph the air condition in an area that can be analyzed and retrieved image process. One of the vehicle used is a vehicle for Vertical Take off and Landing (VTOL) unmaned Aerial Vehicle (UAV) with *fixhawk flight controller*. A VTOL-UAV vehicle is autonomously will follow the waypoint point with a predetermined height on the mission planner. By the tolerance limit of GPS M8N used up to 2 meters to reach the waypoint point you will get an image on the area to be observed the air-condition. A VTOL-UAV vehicle using video sender to transmit images from the waypoint point area to be identified. A vehicle will directly send the image to the ground control station via the GUI (*grafics User Interface*) has been prepared. The GUI will look the picture to be taken and the image data obtained from image processing is done. From the image data can be analyzed air conditions that exist in the area polluting or non-polluting.

Keyword : air pollution, VTOL-UAV, *fixhawk* , *video sender*, GPS M8N