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RESEARCH ABSTRACT FORM

TITLE: Integration of Bi-Camera Imaging System on Smart Balloon

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The purpose of the research project was to launch and retrieve a balloon which would reach near-space altitudes while still transmitting wireless data back to a ground command system. In addition, throughout the flight it must periodically take aerial photos (2 angles), and at all-times send wireless GPS data for the purpose of tracking and retrieving. The data categories tracked were altitude, internal temperature, external temperature, and humidity. The cameras were strategically placed 90 degrees apart from each other with one camera facing downward out the bottom of the box, while the other was facing out the side of the payload box. Lastly, the cameras were attached to a microcontroller and relay which sent a pulse every 3 minutes triggering the shutter to constantly take pictures.