CENG 317

Progress Report

Software Controlled Drone (SCD)

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Introduction

This project is a drone controlling project. In this project we decrypt the radio signal between a toy drone and its controller in order to reproduce similar signals to control the drone through a custom programmed transceiver.

Parts

1. Litehawk Drone
2. Drone controller
3. Arduino UNO
4. Sparkfun nrf24l transceiver
5. Raspberry PI or a laptop

Progress

So far we managed to successfully connect the transceiver to Arduino UNO board and make connection between two different transceivers. One transceiver is used as data sender and the other works as the receiver. Necessary code for the transceiver is uploaded via Arduino UNO board connected to a computer using the standard IDE provided by the Arduino organization.

To do

We still have to decrypt the radio signal used by the drone controller in order to find the exact signal pattern which connects to the drone and controls its flight. More research is being done in order to address this issue.

Conclusion

This is a fairly complex project requiring advanced knowledge of both hardware connection and software programming. The progress is on schedule and will be completed before the final project presentation. New questions and challenges are rising as we progress towards signal decryption which is discussed with team mates and professor and resolved as necessary. We hope to gather in depth knowledge about drone technology upon finishing the project.