The Avionics and Ground Station for Autonomous Indoor Flyer

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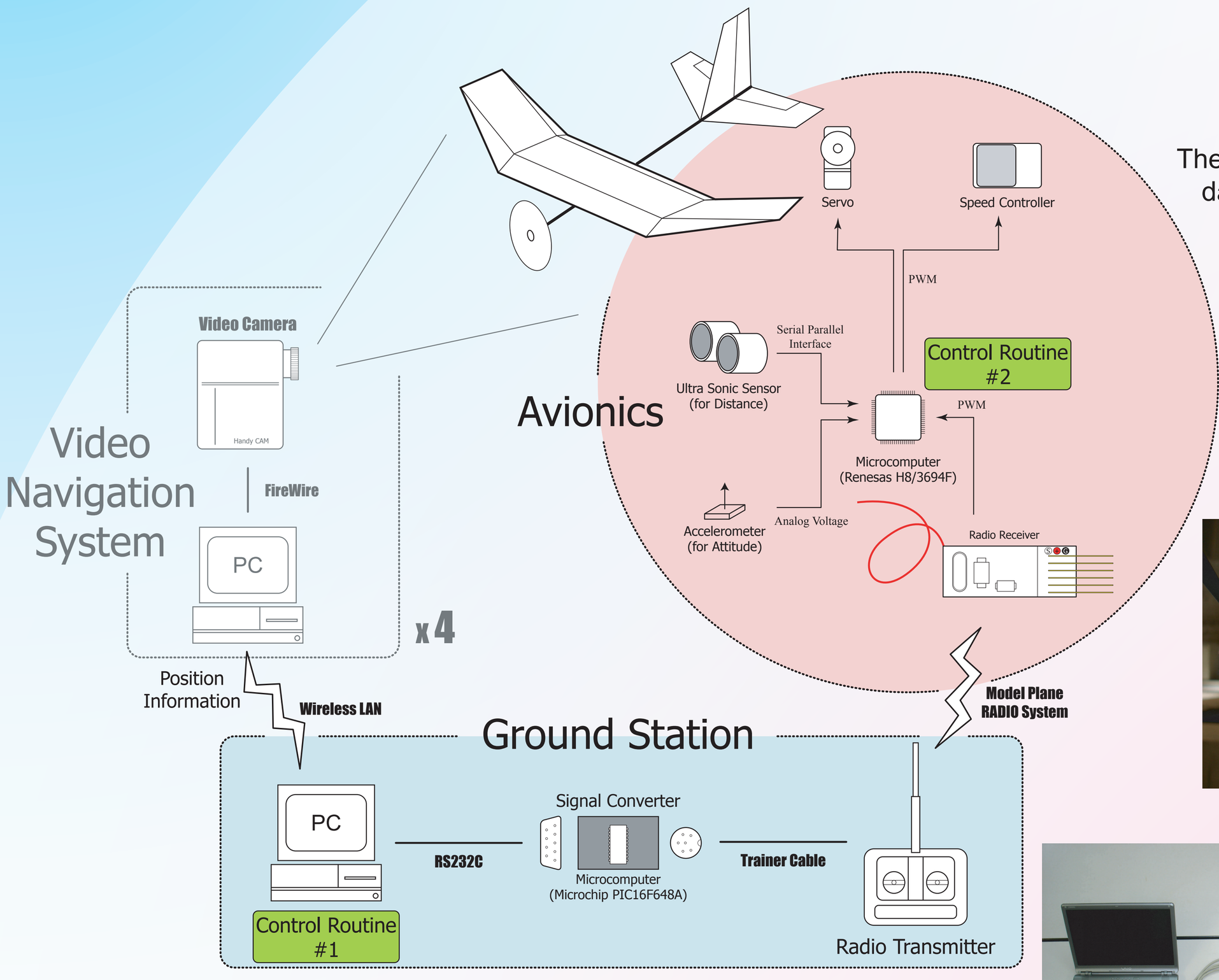
INTRODUCTION

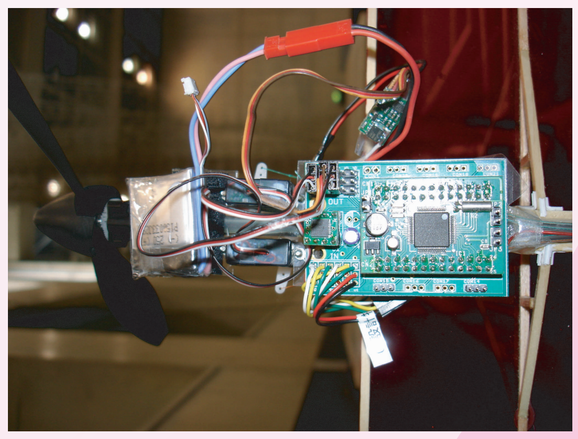
Indoor model planes (the authors call them *indoor flyers*) are considered to be the best way for learning aeronautics comprehensively, because they can be handled much safer and easier than outdoor model planes. In addition, deepening aeronautics knowledge and experiences, autonomous indoor flight has been considered to be the appropriate future subject matter.

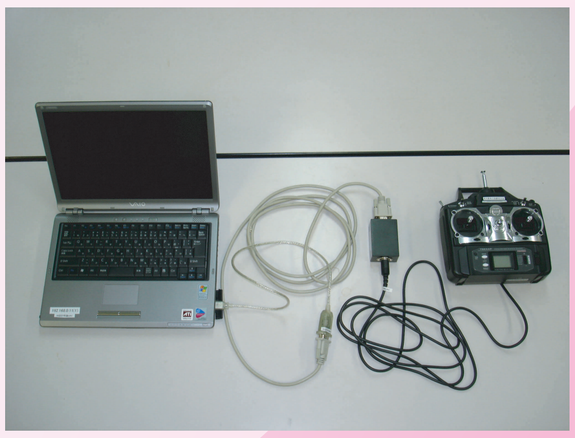
Thus, the authors developed system for autonomous indoor flyers.

DEVELOPED SYSTEM



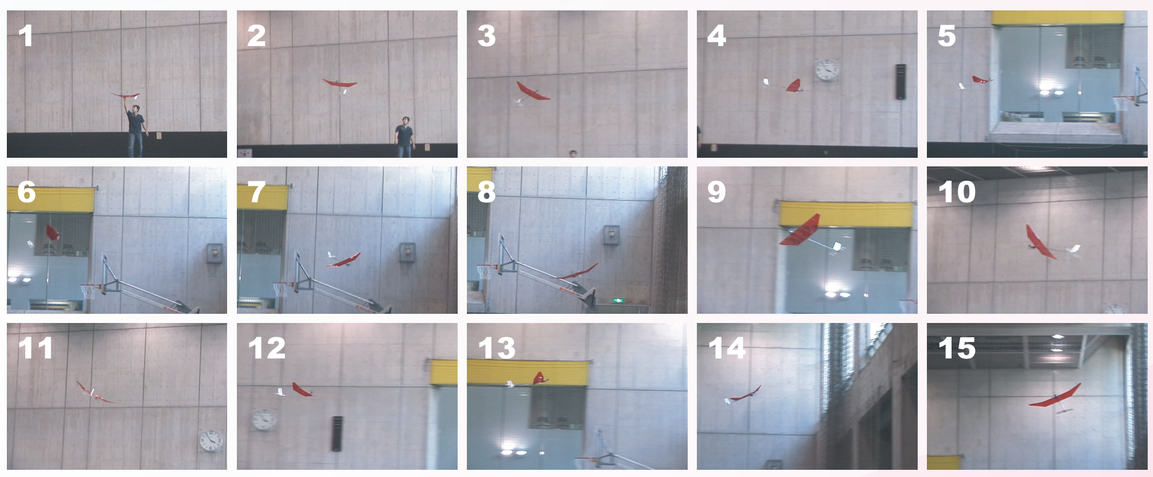
The avionics mixes sensor data into commands that are received form the ground station, and recalculates commands to control the flyer more closely.





The ground station calculates commands for an indoor flyer based on position information and send these commands to the avionics via model plane radio system.

A Flight Test (Autonomous Turning Flight)



CONCLUSION

In this study, the avionics and the ground station for autonomous indoor flyers were developed. They worked correctly during flight tests. The developed system is hoped to act as a reference design of the future indoor flyers.