# The building and using aspects of an Unmanned Aerial Surveying Vehicle

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The high-precision and high-resolution surveying is not an easy question. The newest tools for those tasks are the unmanned systems, especially the aerial systems.

The author built and developed a small and low-cost aerial surveying system, which fundamentally was based on a commercial model airplane and open-source hardware/firmware. The adaptation of these latter components allowed the semi-automatic or automatic stabilization and navigation of the airplane along a trajectory during surveying flights.

The current used camera system is a small compact digital camera, which provides digital photographs with true-colour palette. During these flights, the camera was triggered automatically regarding to the requirements of the survey.

With this configuration, very-high resolution photo mosaics were taken during several survey projects.

This paper introduces the structure of the represented aerial system, especially the open-source autopilot system and some results.

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