CEng 490

Proposal Report

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Members & Duties

Ebru AYDIN	1394691	- Project Leader & Time Keeper
Berk DEMIR	1448588	- Optimist & Recorder
Ender EREL	1395029	- Devil's Advocate & Gate Keeper
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Company: Milsoft
Project: Photogrammetry Lab

Date: 08.10.2007

Definition:

The aim of the project is to design & develop software that will process aerial photographs gathered by UAVs (Unmanned Aerial Vehicles) in military reconnaissance missions.

Photographs will be shot from UAVs with different positions, altitudes and camera orientations. Hence, the software will use some external calibration parameters (a subset of them are aforementioned) together with the photographs to extract the relevant information embedded in the photographs. The outputs produced by the software will be:

- DEM (Digital Elevation Model) of the terrain photographed.
- Orthophotos of the terrain, obtained by using the raw images and the DEM.
- Mosaics obtained by combining the orthophotos.
- Super resolution orthophotos (optional)

Contact Procedure:

Communication and coordination will be achieved by the following means:

- An e-mail group will be used for intra group communication.
- A wiki page will be set up to provide an efficient media for company-group communication.

Tentative Project Schedule:

We plan to have a well established design and a prototype with partial functionality by the end of the first term. One other major goal is to accumulate all required technical knowledge (mainly image processing basics and linear algebra) by the end of this term.

Initial Risk Analysis:

As one can see above, the outputs of the software are dependent in a linear fashion. Thus, any delay in an early stage can delay the whole project schedule. This constitutes the main risk that can be foreseen at this point.