Simulated UAV with command, control and surveillance

Overview
Imagine a look-ahead reconnaissance mission. We have four main components, a ground crew, an aircraft on a mission (e.g. cargo helicopter), a base station controlling the mission, and a UAV providing reconnaissance. Our objective was to simulate these four operations with a commercial flight simulator, providing control to the three operators through a windows client, or an android tablet for the ground crew. The UAV would in turn relay its own video feed as well as the ground crews to the clients.

Objectives
- Simulate a UAV with control and camera surveillance
- Connect the UAV to the three different clients to provide control
- Stream UAV video to the different clients

Approach
- Discussed with the sponsor any specifications they have already determined for the project
- Created a list of requirements to meet
- Translated these requirements into exact specifications
- Divided the project into 5 different facets (windows client, android, server, UAV, video streaming)
- Divided the different facets amongst ourselves
- Decided on meeting times to update each other on progress and provide feedback
- Incorporated all facets into one project and tested

Outcomes
- A simulated mission of the type that our patent and existing product research has turned up no relevant results for.
- Our simulation software is extraordinarily cheap compared to developing new software, allowing Lockheed Martin to save money in terms of the simulation.
- Our project has the ability to connect with existing projects within Lockheed Martin.