Project Dashboard

Below is a list of Uplift Aeronautics projects. If you are interested in volunteering on a project, please read our Volunteer Handbook and contact the project leader directly.

Hardware Engineering

Project: Waliid Aircraft

Waliid is a modified X-UAV Talon, designed to airdrop 1kg packages at the maximum range possible. We have demonstrated the ability to fly this profile at round-trip ranges of over 100km, but the plane is not very robust and needs further work to improve simplicity and reliability. We would like further modifications like detachable tail fins and a printed circuit board, and also need to do extensive optimization work.

Status: In Progress
Lead: Brandon Fetroe (brandon@uplift.aero)
Website: https://github.com/upliftaero/waliid
Needs: Local help in the Stanford area strongly prefered. We need help with designing and physically integrating parts, as well as flight testing.

Project: Launcher

We currently use a bungee launcher with a PVC rail system for launching Waliid (launching with 50 lbs of force). Our current system was only a first draft and has become steadily more complex, so we are looking to redesign the system. We would prefer to move to a self-contained catapult system.

Status: Not yet started
Lead: Brandon Fetroe (brandon@uplift.aero)
Needs: This would be an ideal project for a self-contained team to take on, especially if they are located within driving distance of Stanford or could ship the final product.

Project: Autopilot Carrier Board

This is on our wish list. We would like to design a printed circuit that could carry our autopilot, fuses, diodes, lighting system, etc.

Status: Not yet started
Lead: TBD
Needs: Electrical engineers with experience designing and manufacturing circuit boards

Project: Light Utility Vehicle

This is a custom aircraft designed specifically for Uplift's target goal: airdropping 2kg packages at a 100km round-trip range. It is a flying stick design with insulating foam wings. A self-contained team is working on this project in New York.

Status: In Progress
Lead: Julian Alvarez (info@uplift.aero)
Needs: Inquire for details

Software Engineering

Project: Custom ArduPlane Firmware

Uplift Aeronautics is interested in using drones for humanitarian aid in conflict zones, particularly in Syria. This introduces a variety of security concerns, so we are developing a custom fork of ArduPlane that includes numerous "responsible use" features.

Status: In Progress
Lead: Kevin Wells (kcwells@stanford.edu)
Website: Private repository. See https://github.com/diydrones/ardupilot for the master ArduPlane codebase.
Needs: C++ programmer who knows github and the ArduPlane codebase or is willing to learn. Use of Linux and software-in-the-loop (SITL) simulation is necessary for testing code. See the Volunteer Handbook for more information.

Project: Uplift Ground Control Station

This is an experimental tool for managing and communicating with multiple UAVs simultaneously.

Status: In Progress
Lead: Mark Jacobsen (mark@uplift.aero)
Website: Private repository.

Needs: Python programmers willing to learn the ArduPilot ecosystem, the Mavlink protocol (see http://ardupilot.com), and the PyQt GUI library.

Implementation Projects

Project: Syria Airlift Project

Uplift Aeronautics originally began out of a vision to provide humanitarian aid inside besieged cities in Syria. This remains one of our most important projects, although the political and legal issues are formidable. We are interested in growing a team of partners who can help us achieve our goal of doing demonstrations in neighboring countries, and eventually running a pilot project inside Syria itself.

Status: On hold until we can gain access to the region
Lead: Mark Jacobsen (mark@uplift.aero)
Website: http://syriaairlift.org
Needs:
- Supporters in US government, including State, DoD, USAID, or others
- Supporters in the aid community
- Pro bono legal assistance, particularly with US export law
- Inroads to the Jordanian, Turkish, or Israeli governments
- UAV expertise in Jordan, Turkey, or Israel
- Anyone else who can help… contact us

Other Uplift Projects

Humanitarian UAV Research and Advocacy

UAVs are an emerging technology, so there is a pressing need for research on how UAVs can be used for humanitarian purposes. Our research team is gathering data about specific use cases and writing reports, which can help with both project development and advocacy.

Status: Ongoing
Lead: Elise Thomas (info@uplift.aero)
Needs:
- Anyone interested in writing journal-quality articles
- Researchers with knowledge of, or access to, specific conflict zones, disaster response zones, or other areas where humanitarian UAVs could help

Information Technology Support

We are interested in growing the team that helps manage our information technology.

Status: Ongoing
Lead: Srinivas "Java" Javangula (java@uplift.aero)
Needs:
- Website administrator (including Wordpress)