

What's next for ALICE

The following is a response to a request for actions items needed to develop a fully functional prototype of Animal Lair Inspecting Cartographic Equipment (ALICE).

To-Do:

- Purchase the appropriate balancer end connector for proper charging of the three cell LiPo battery from the existing battery charger, ensure that the connection is keyed to prevent user error.
- Install an external power switch.
- Isolate video failure.
 - Verify composite to USB dongle functionality
 - Determine camera(s) mode of failure
 - Remedy failure modes, and install replacement components as necessary
- Wire in a begin and stop recording command from the remote client, utilizing the existing button on the DVR.
- Mount LED light source for camera visibility.
- Construct a durable, keyed tether for burrow exploration
- Attach Accelerometer
- Mount range finder array
 - Write code for sensor data storage, example data available.
 - Implement method for 3D map generation utilizing the data from the infrared range finders, accelerometer, and motor encoders to generate a point map. Could take further by applying a “skin” in Rhino or similar program.
 - Implement a method for determining the volume of the burrow, example equations provided. Test and develop a correction factor for different burrow shapes.
- Create a comprehensive user interface

The 2014-2015 Capstone Design Team highly suggests field testing so as to produce a high quality user interface, and remedy any problems that may arise as soon as possible.