

2008 AG Retreat Program Proposal
Submitted by Paul Mercer, Arctic Region Supercomputing Center

Title: ARSC Remote Control Device Project

Time needed: 30 minutes

Demonstration needs: Multi-cast enabled network preferred

This presentation will cover:

- Project overview from the idea stage to present time
- Goals
- Road blocks and pot-holes
- Types of demonstrations that we have done
- The future
- ARSC project personnel

Over the past year I have received many positive comments from the AG community about this project. I feel that our project is at a point where it can deliver a consistent and reliable product to users and those who might want to start their own projects. I would like to share our project with the AG Retreat.

Project Overview

The ARSC Remote Control Device Project had its beginnings at the AG Retreat at San Francisco in 2005 when Darran Edmundson and Paul Warren from the Australian National University presented a talk titled "Remote Control of AG Hardware". Their demo of a robot tank controlled via the AG was the moment that sparked the idea for our project.

Our project got off the ground in early 2006 when I proposed to ARSC to form the ARSC Remote Control Device Project, see

<http://www.arsc.edu/science/remotecontroldevice/index.phtml>, consisting entirely of our student employees. I proposed seven goals:

1. Expand and demonstrate the capabilities of the AccessGrid
2. Create a tool to practice collaboration skills
3. Create opportunities for students in Alaska and worldwide to learn about each other
4. Increase interest among prospective students that UAF is a great place to attend college
5. Expand ARSC's outreach
6. Create an ARSC student project
7. Have fun

The project was accepted and was given initial funding of about \$1000.

Our first demo was at SC Global 2006 where we demonstrated our first device. That first device was a Boe-Bot that had power and a serial cable attached. Users could move the device around a 2'x4' table.

Currently our project consists of 3 robots controlled via blue-tooth, 4 cameras, 2 which can be controlled, a 4'x8' two level table and a task to be performed. Many other configurations are available including first person view cameras on the robots. First person views give the user a closer to real-life experience. Those cameras can be panned and tilted.

We have demonstrated the project to many groups and supported local and remote events over the past year. We even have equipped the robots with markers so people could create their own piece of art.