IC470 Software Engineering (w/Capstone Design)

- Software engineering: Analyzing user needs and designing, building, testing software systems that satisfy these needs.

- Course Coordinator: Major Brian Hawkins, USMC
  - Office: Michelson 348, x3-6803, bhawkins@usna.edu
  - Extra Instruction (availability, scheduling)

- Fly Marines!

- Roll call
- Pick section leaders
- Course Web Page: http://faculty.cs.usna.edu/IC470

IC470 Software Engineering (w/Capstone Design)

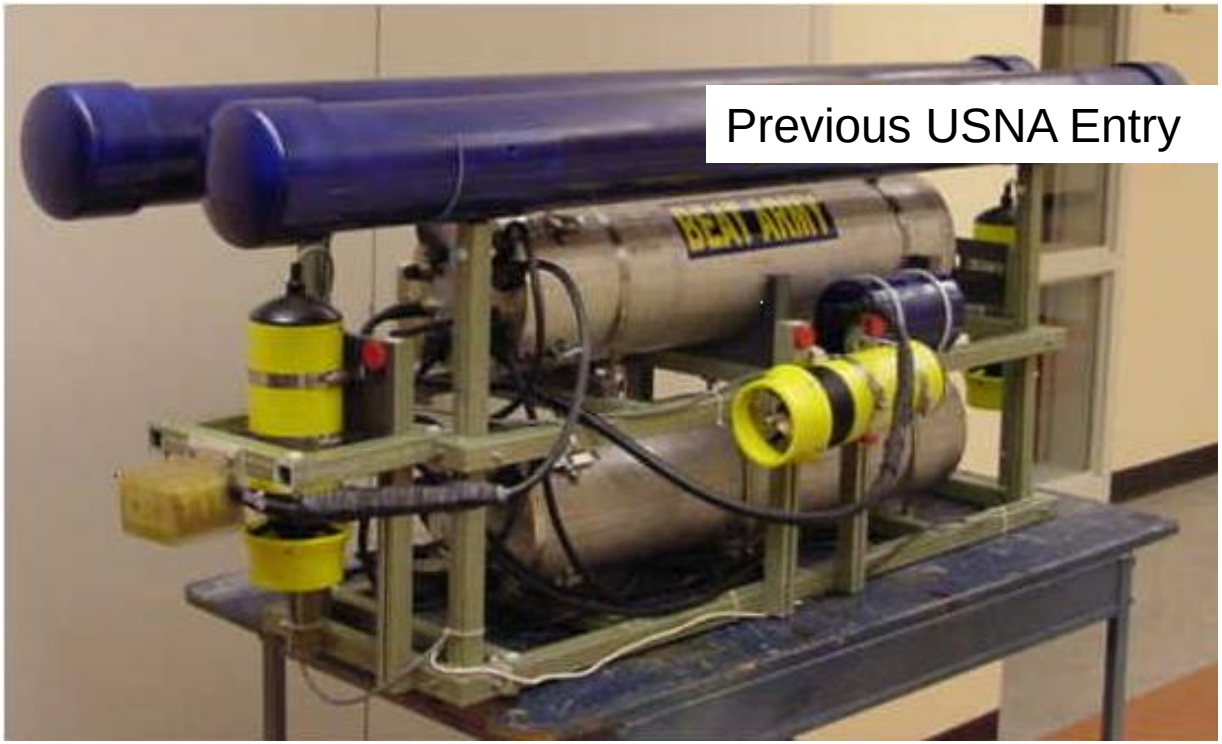
- Software engineering: Analyzing user needs and designing, building, testing software systems that satisfy these needs.
- Instructor: CAPT(sel) Rick Sarmento, USNR
  - Office: Michelson 331, x3-6810, sarmento@usna.edu
  - Extra Instruction (availability, scheduling)
- Go Navy Intel!
- Roll call
- Pick section leaders
- Course Web Page: http://faculty.cs.usna.edu/IC470

Course includes the start of your Capstone Project

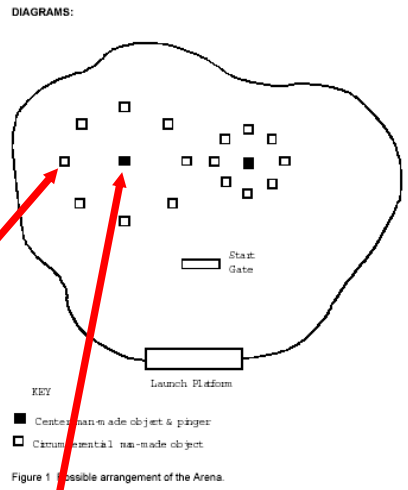
- **Team Software Development Project:**
  - More on this later today
- **Team size.** 4 mids +/- 1. Do NOT have to be from same section
  - You MUST have at least 1 CS major *and* at least 1 IT major on your team. Dual Majors (CS/IT) may count as either CS or IT for this purpose.
  - Instructor reserves right to add a Mid to a 3 person team or otherwise balance teams
- **Team leader** (duties: admin/tie breaker):
  - e-mail instructor the names of team members (see syllabus for due date)
  - (cc rest of team),
  - Otherwise team-members randomly assigned.

Sample Project: Autonomous Underwater Vehicle Competition

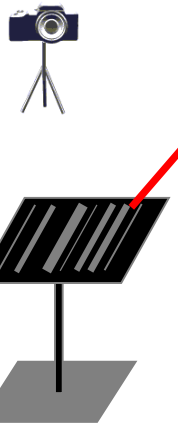
- Goal: To stoke interest in AUVs and associated technologies by challenging a new generation of engineers to perform realistic underwater missions.

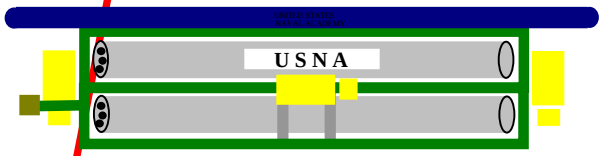


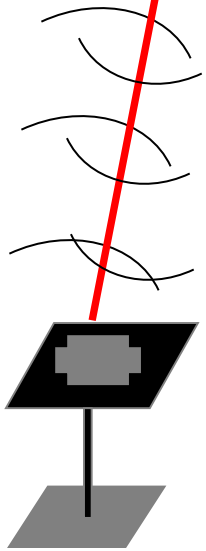
Typical AUV Mission



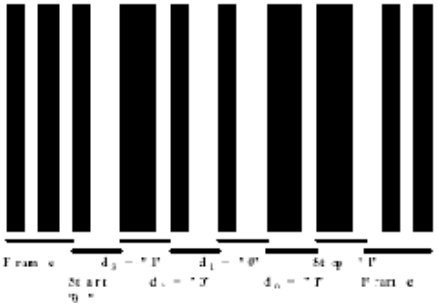
Camera takes picture and stores barcode in file – the depth of the barcode is also stored



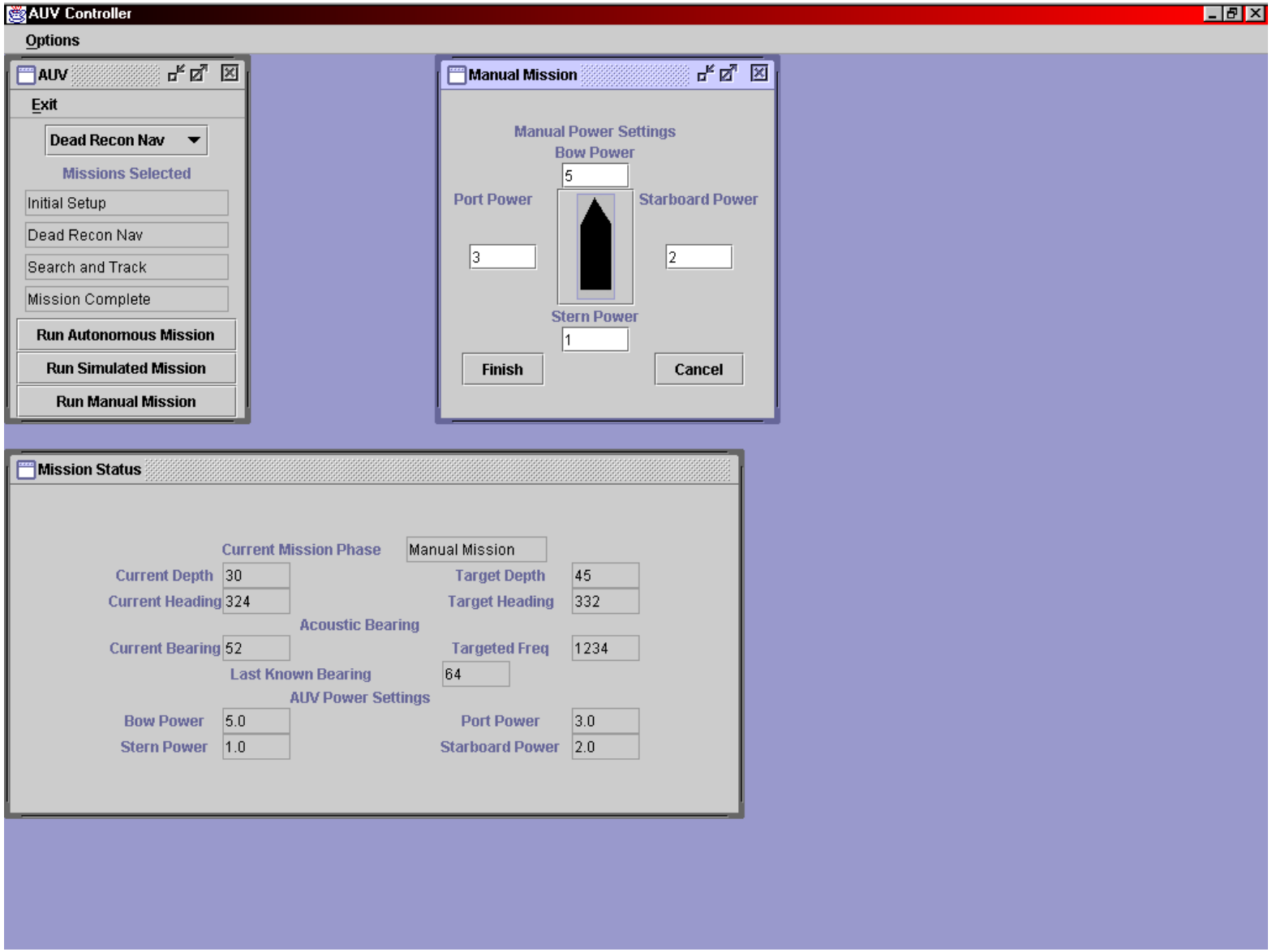




Depth Sensor and Altimeter work together to figure out depth of pinger



Sample: AUV Controller Software



AUV SEA TRIALS

The AUV in action . . .

Your IC480 Capstone Project

- As part of IC470, teams will propose, design and begin to implement their capstone project, and continue development thru IC480:
  - Milestone 0 focuses on picking a project.
  - Course webpage has some capstone project topics.
  - Contact indicated Customers to ensure that they are available. Customer involvement is very important!

Online Notes

"I need someone well versed in the art of torture—do you know PowerPoint?"

- Slides available from the course web page.
- Next: **Course Policy/Course Syllabus**