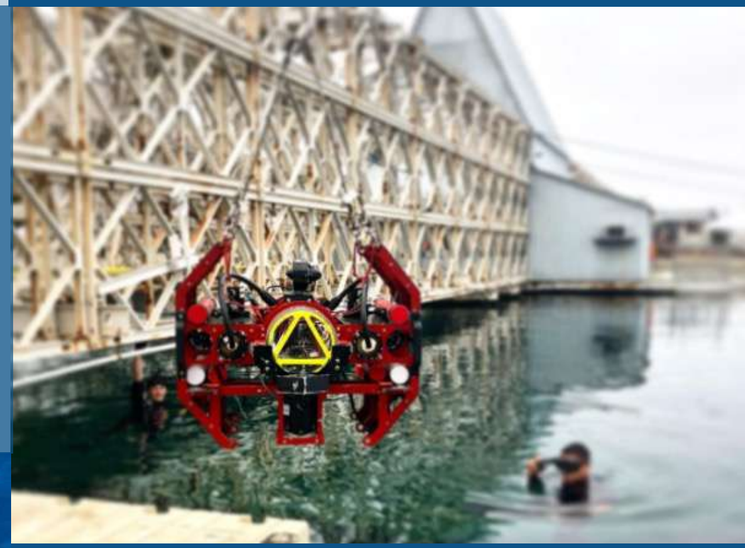
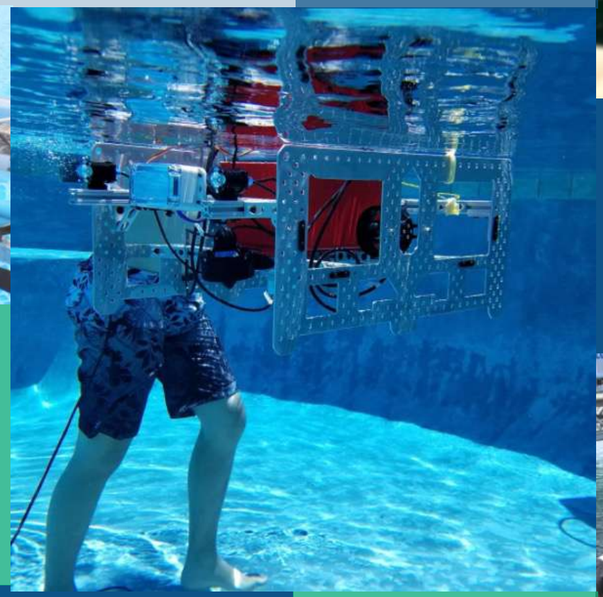
robosub

ROBOSUB TEAM TIME

Friday, October 15, 2021 | 7:00 PM Eastern Daylight Time





Welcome 2022 RoboSub Teams!

GET STARTED

1. Edit your name to "Name | Team Name"
2. Let us know in the chat:
   - Why does a duck have feathers?
   - Where are you joining from?

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ROBOSUB TEAM TIME

AGENDA

[19:05-19:10] Welcome and Introductions

[19:10-19:15] 2022 Dates, Location, Theme

[19:15-19:30] RoboSub 2022 Tasks

[19:30-19:45] Questions?

[19:45-19:50] How to Get Involved: Data Sharing + VRX

REC

Meet the Humans

Lindsey Groark,
Program Director

Dr. Dave Novick,
Technical Director

Julianna Smith,
Program Manager

Cheri Koch,
Senior Events Manager

Laverne Imori,
Community Engagement Coordinator

4 RoboSub Courses
6 Days of Competition
1 Champion
....and many ways to win!

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25-31 JUL 2022

– VENUE –
to be announced

California
USA

Competition Timeline

October

|| October 12-25 ||
Task Ideas Feedback Period Open

January

Registration Open

June

Pre-Competition Submissions Deadline

- Team Information
- Technical Design Report
- Skills Video
- Team Website

July

|| July 25-31 ||
Competition

robosub.org/2022

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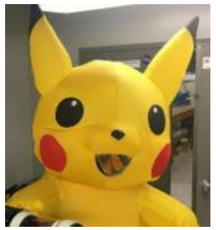
RoboSub 2022

THEME

Roarin' 20's



robosub.org

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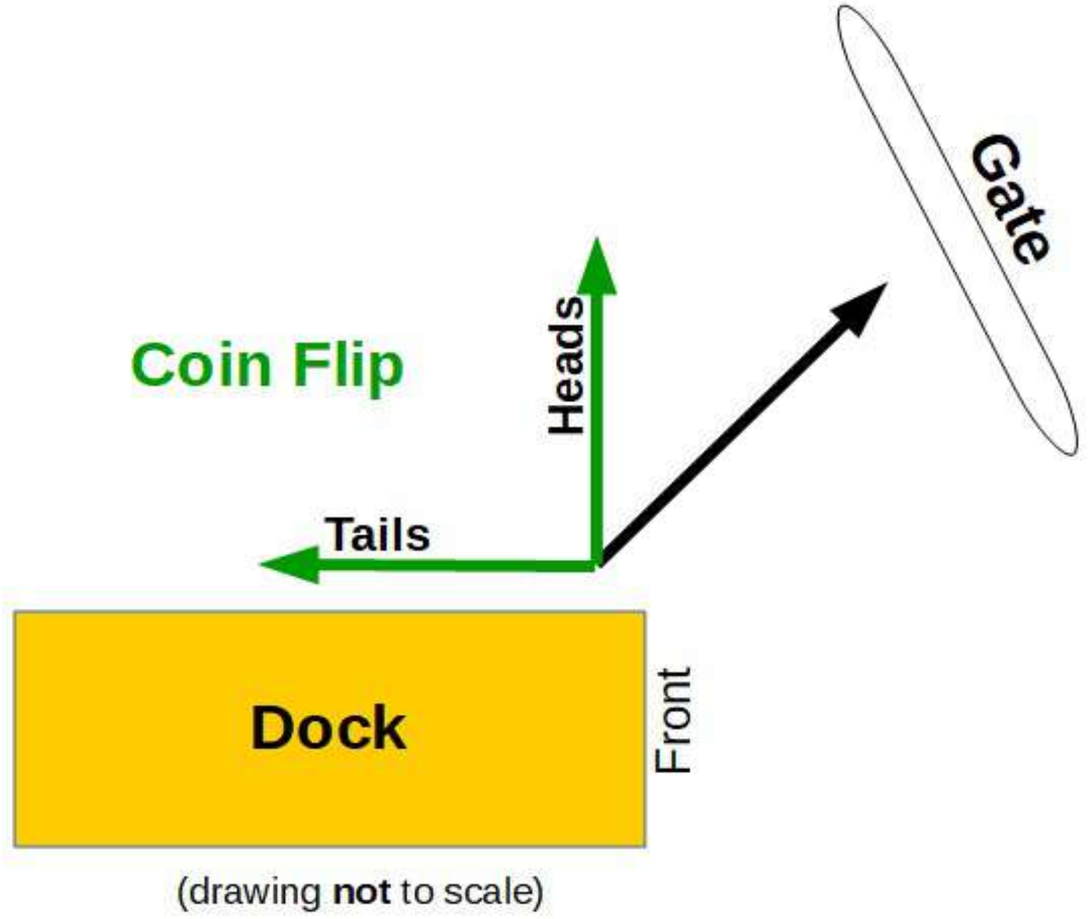
Task Ideas

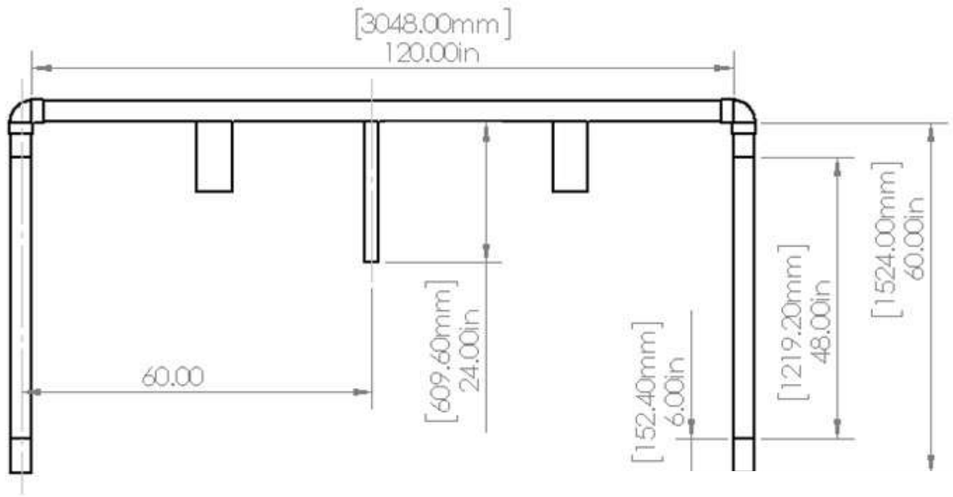
Roarin' 20's

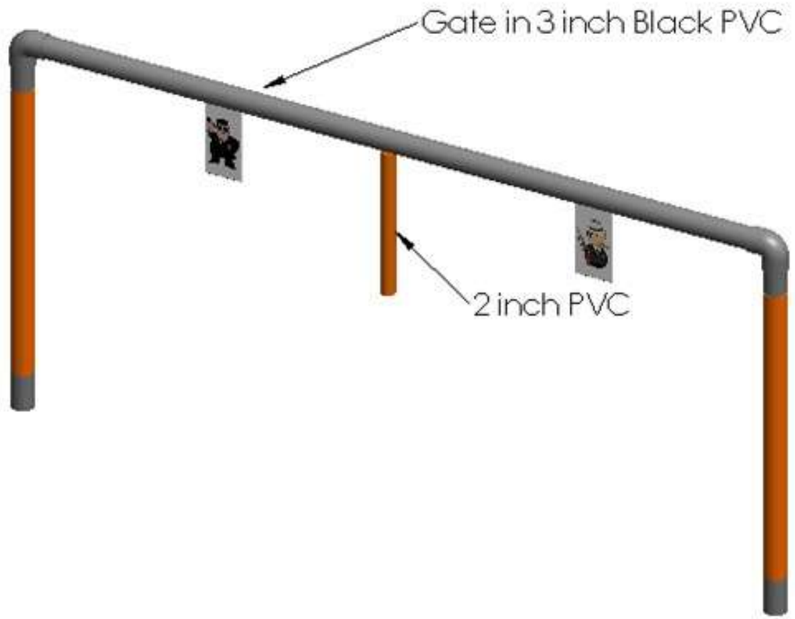
With Moxy | Coin Flip



- Random orientation
  - 90° or 180° from dock

Choose Your Side | Gate





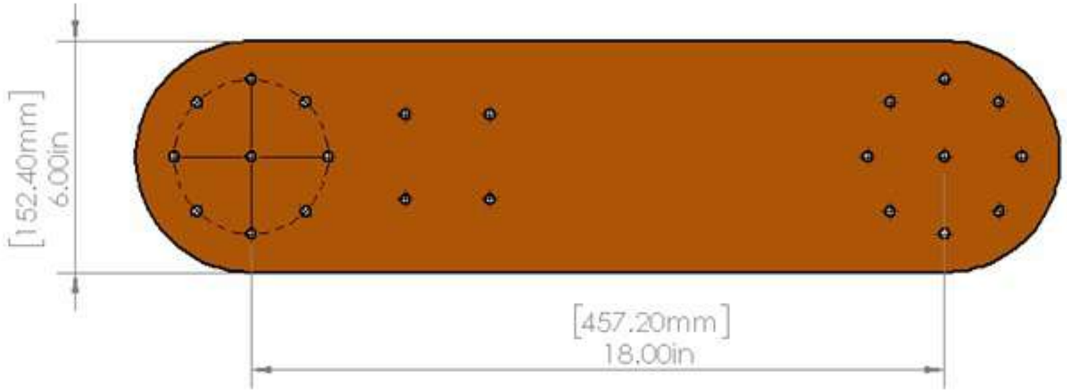
G-man Side

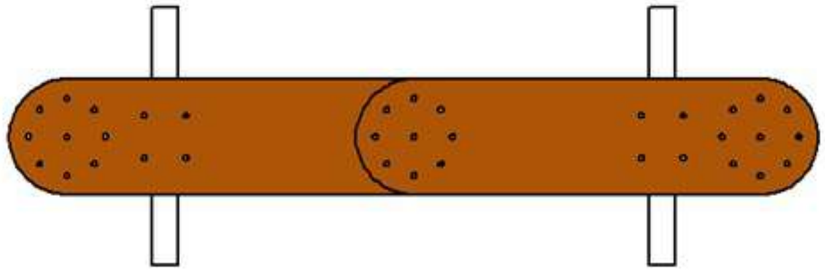
Bootlegger Side

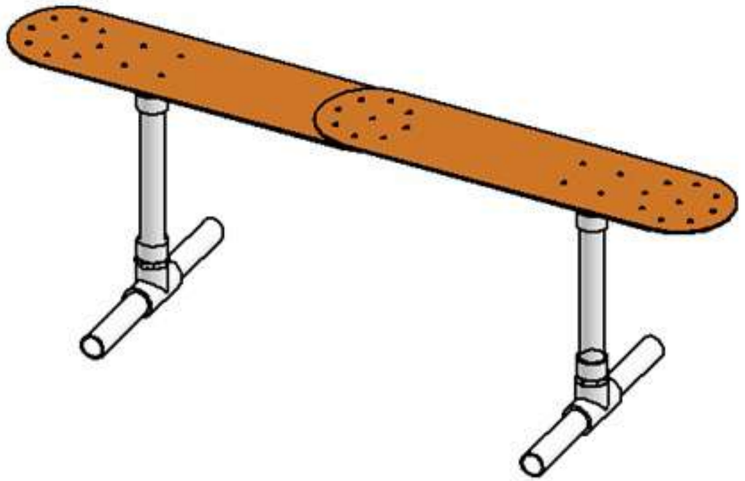
- Choose your side
  - Bootlegger
  - G-man
- Extra points for staying with your side for the rest of the tasks

- With Style
  - 10 ft/9 m before/after gate
  - Extra points
    - Every 90° change in orientation
      - Yaw: +100
      - Roll/Pitch: +200
    - Up to 800 points

Path





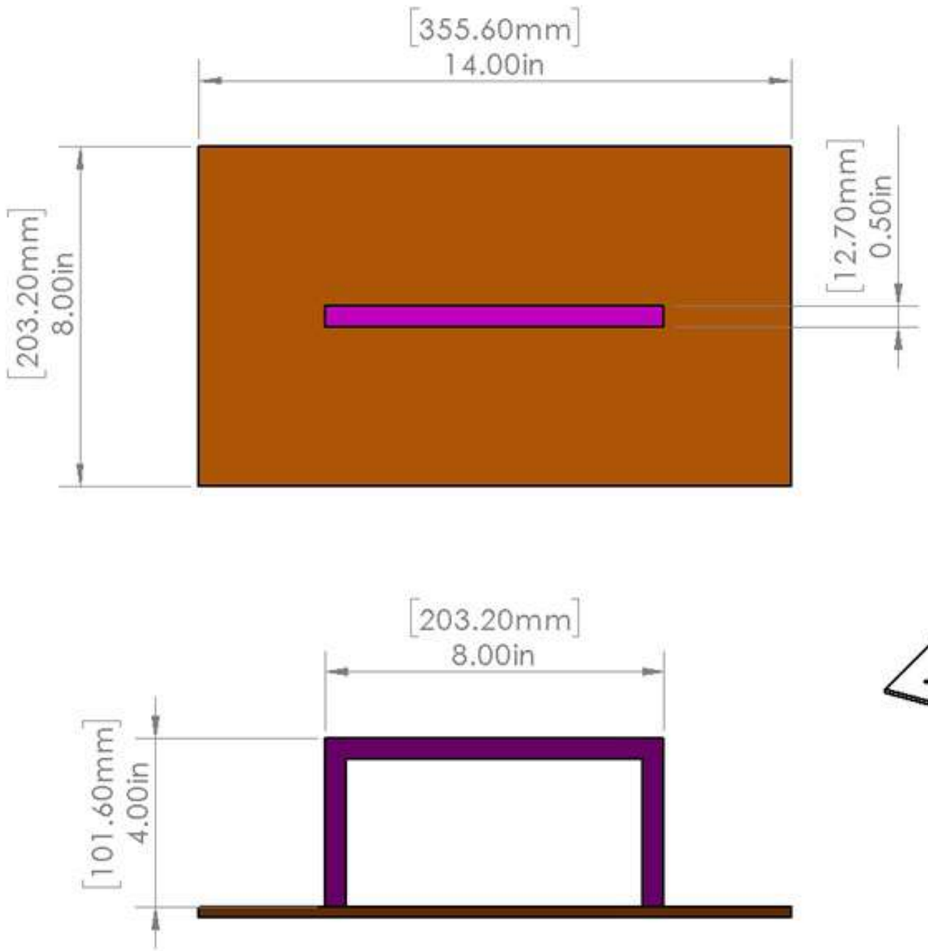


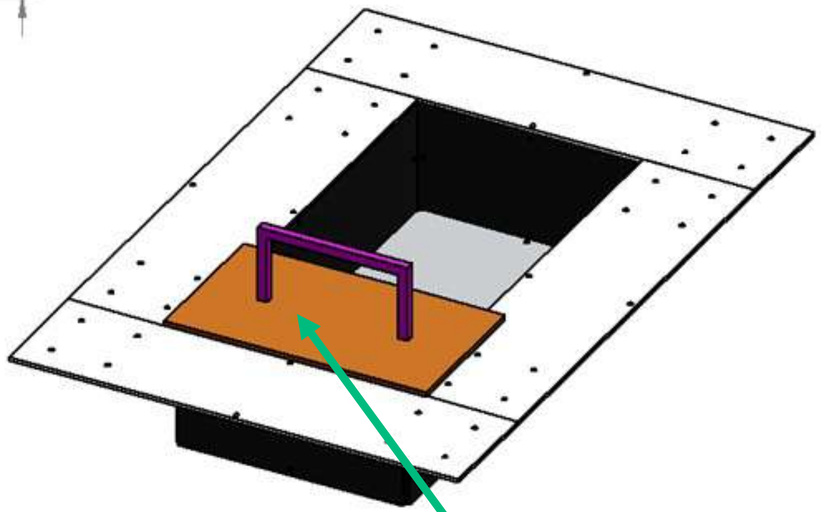
Make the Grade | Buoys

- Buoys are two sided
  - Touch the appropriate buoy for your chosen side for extra points

Collecting | Bins

- 1/3 of each bin is covered
  - Lift off cover
- “Bottle” item near bins
  - Drop “bottle” in appropriate bin for extra points

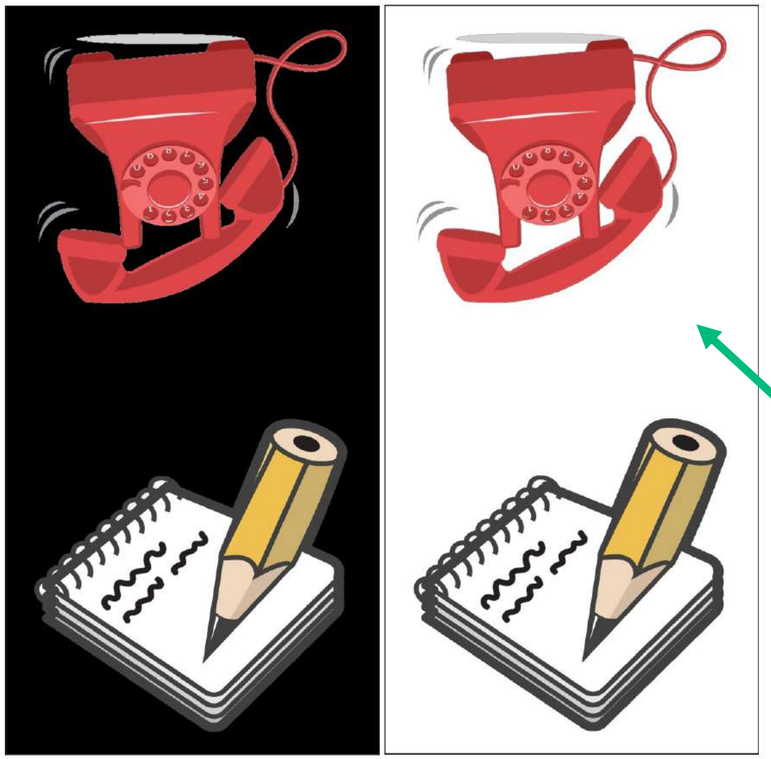




Vote on the color of the cover and handle

Collecting | Bins

Bootlegger Side
Bottle / Barrel

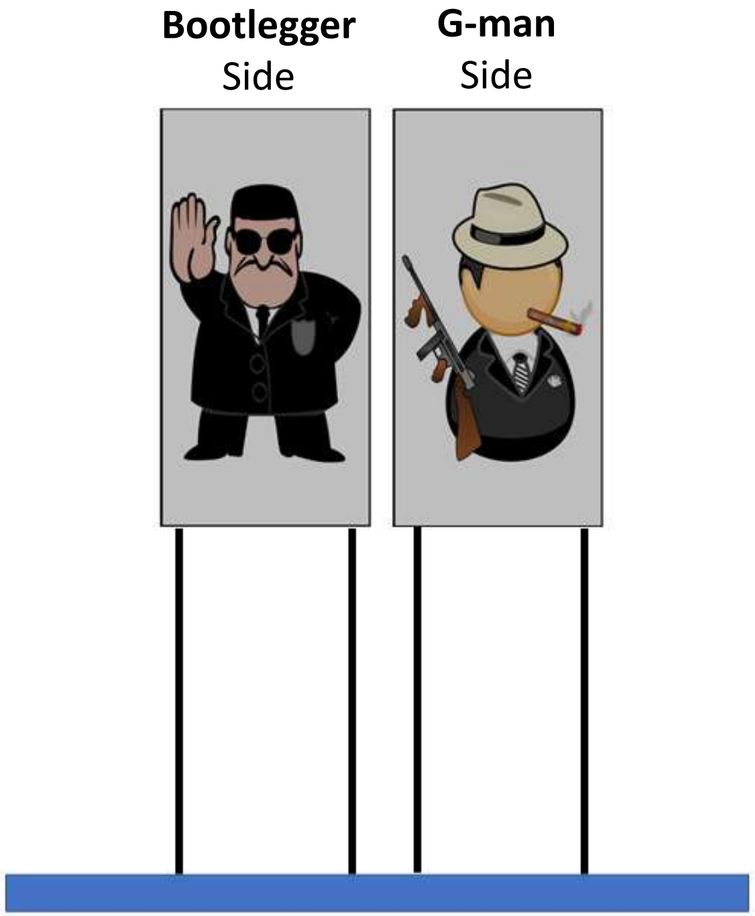


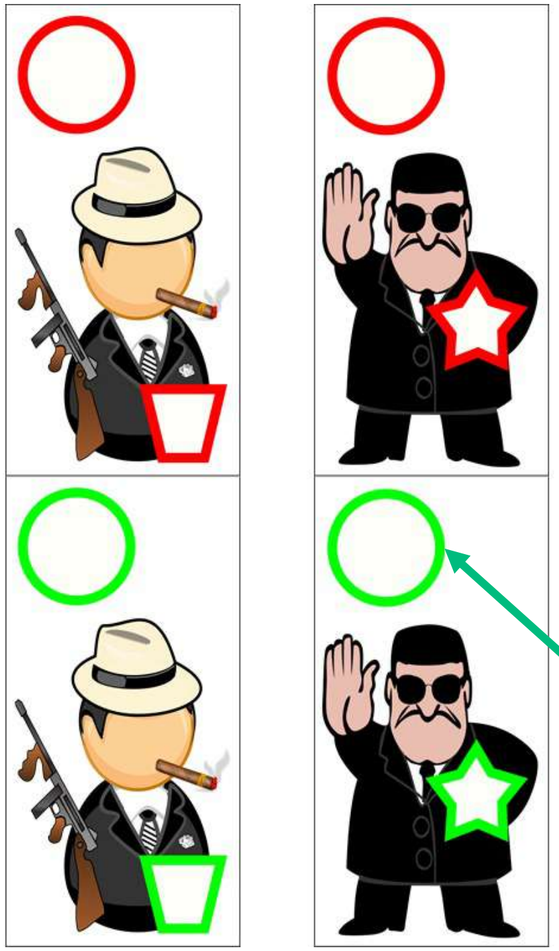
G-man Side
Phone / Paper

- Drop markers in appropriate bins
- “Bottle” item near bins
  Drop “bottle” in appropriate bin for extra points

Vote on the color of the background

Survive the Shootout | Torpedoes

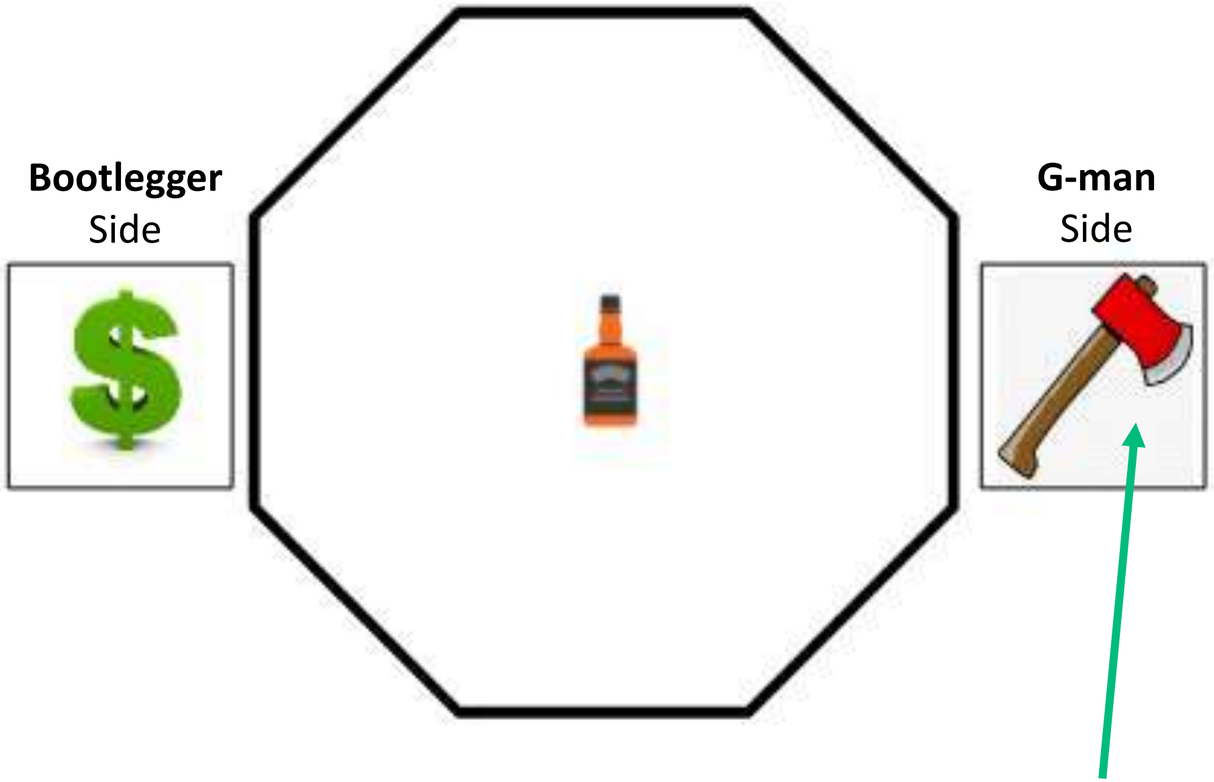




- Each panel has two different size openings
- Bootlegger
  - Torpedo G-man for extra points
- G-man
  - Torpedo Bootlegger for extra points

Vote on the color of the border

Cash or Smash | Octagon



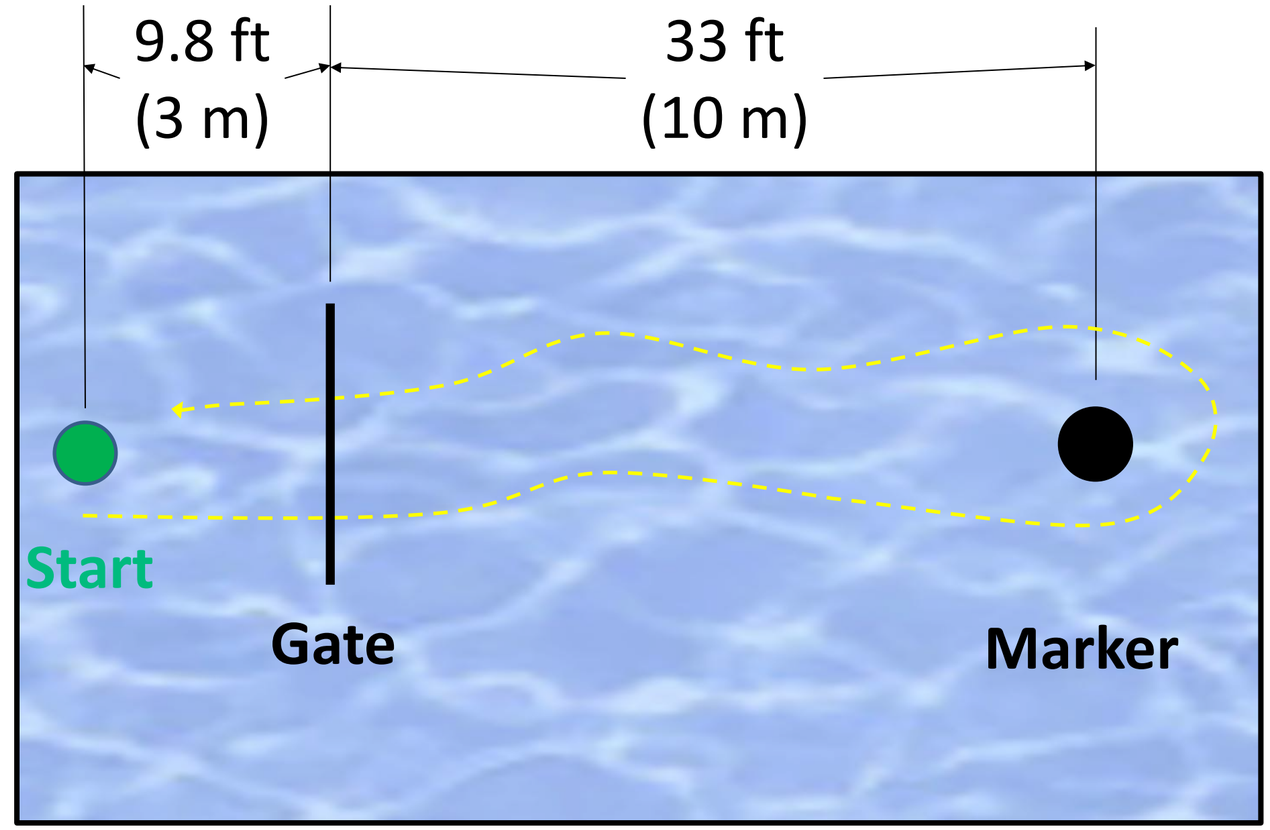
- 4 “bottles” in the center of the octagon. Bring bottles to appropriate area for extra points
  - G-man brings bottles to Axe
  - Bootlegger brings bottles to $
- One Pinger located at the center of the octagon

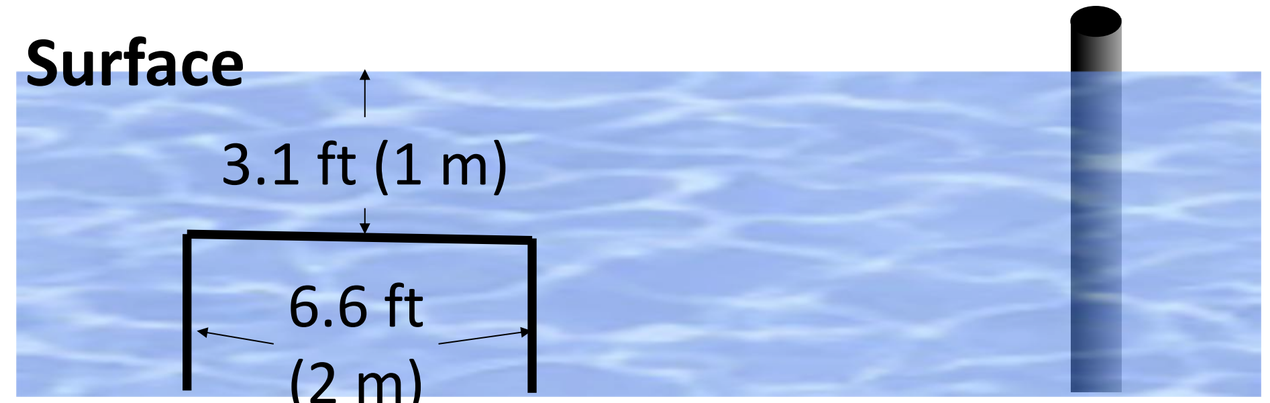
Finding the tasks

- Path
  - One from Gate to Make the Grade (Buoy)
- Pinger
  - One located at the center of the octagon
- **Vote** on the location of the second pinger
  - Collecting (Bins)
  - Survive the Shootout (Torpedoes)
- Second path will point toward the other task

Pre-qualification

- Optional
- Must be submitted before being on-site at competition
- Directions on how to do this will follow





(drawing **not** to scale)

Task Votes

- Bins: **Vote** on the color of the cover and handle
- Bins: **Vote** on the color of the background
- Torpedoes: **Vote** on the color of the border
- Bins & Torpedoes: **Vote** on the location of the second pinger
- Octagon: **Vote** on the color of the background

Voting Open Now!

robonationforum.vbulletin.net

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Task Ideas

Got Questions?

Email
university-competitions@robonation.org

Discussion Forum
robonationforum.vbulletin.net

Data Sharing

robosub.org/data-sharing

What is Data Sharing?

- Centralized Repository
- Community Driven
- Competition focused
  - Vision
  - Acoustics
  - Mechanical Designs
  - Electrical Designs

DATA FOR ALL TEAMS

LARGE DOMAIN OF DATASETS

BETTER PLATFORM FOR NEW TEAMS

Virtual RobotX

Open-Source Simulation Environment

robotx.org/vrx-2022

A Gazebo-based simulation environment for USVs.

Designed to accelerate development of autonomy.

Tasks and environment inspired by RobotX physical competition.

VRX Competition Timeline

October 14, 2021

Registration Opens

- Sign up for a fee waiver!

December 1, 2021

Phase 1: Hello World!

- Teams submit a video demonstrating ability to run the simulation environment.

March 15, 2022

Phase 2: Dress Rehearsal

- A test run of the competition.
- Teams submit preliminary solutions and get to see how they currently rank against all other competitors.

April 12, 2022

Phase 3: Finals

- The main event.
- Teams submit their finished solutions and receive scores and final rankings.

robotx.org/vrx-2022

robotx VIRTUAL

How to get started with VRX

- Github page and Wiki: https://github.com/osrf/vrx
- VRX Website: https://robotx.org/vrx-2022/
- VRX Forum: https://robonationforum.vbulletin.net/forum/robotx/-2022-virtual-robotx-competition

robotx.org/vrx-2022

NEXT UP…

- Next Community Hour | Deep Learning with MathWorks
  - November 5, 2021 @ 7 – 8 pm EST

  robonation.org/community-hour/nov-5

- Next RoboSub Team Time
  - January 2022