

SVE TEST PLAN

Start Location: The Point (near PNC Park)

Equipment /Arrangements:

Boat, Radar, IMU/GPS, Fuel, Laptop in boat, Camera to record video, safety driver

People on boat: TeamB: AutoPirates, Prof Dolan and Prof Dimi, TAs, Safety Driver

Procedure:

Step ID	Description	Success Criteria
1	Turn on the navigation computer and calibrate INS.	We can ping the master computer and the INS is correctly calibrated.
2	Run OpenCPN and get the radar data.	Check the raw radar image
3	Run the launch file to start the navigation system	Check RViz to see where the boat is and check radar data is properly overlaid.
4	Add fake obstacles on the map	We can move the interactive marker in RViz and the path goes around the fake obstacle.
5	Put the boat into auto mode. Then do one of the following: - Select one of the 3 destinations (PNC, Southside, NREC) in the GUI. Press 'START' on the GUI. - Click a goal on the map in RViz	We can see a planned path in RViz and the boat starts moving.
6	Start recording rosbag files and stop recording when the boat arrives destination	We can replay the bag file after and see the trajectory.
7	The boat detects the static obstacles on the river	- 80% of Obstacles that are 2*2*2 meters will be detected and shown in RViz - obstacles include: buoys and objects near shores (such as docks, poles, or containers)
8	The path planner generates a safe path	- The boat maintains a safe distance from obstacles & stays on the right side of the river. - If the boat needs to cross sides, it will do so immediately, unless the goal is on the left side. In this case, it will cross at the end.
9	The boat navigates successfully to the destination	The boat arrives within 15m of the destination