# Survey

## Smart Sonar Surveillance System (4S)

## Interview Questions

- What is the Main Purpose of this System?
- What Specific Features it has?
- What is the performance in terms of range, accuracy you need?
- What will be the limitations?
- What improvements can be done based on existing systems?

**System Administrator:**

- Purpose: “I need to make sure the system is properly deployed and calibrated.”
- Features: “Diagnostics, logs, and calibration tools.”
- Performance: “System should run continuously with minimal downtime.”
- Constraints: “Maintenance must be simple, and setup should not require advanced tools.”
- Future: “Remote monitoring for multiple sites would be very useful.”

**Security Operator**

- Purpose: “I need a simple interface to detect intruders quickly.”
- Features: “Radar-style visualization + alarm sound when object is close.”
- Performance: “Fast refresh (every 1–2 seconds) so I don’t miss movement.”
- Constraints: “Interface must be easy for non-technical guards.”
- Future: “Maybe add camera integration for confirmation.

**Project Team (Developer)**

- Purpose: “We must build a reliable, low-cost prototype.”
- Features: “Access to sensor data, debugging tools.”
- Performance: “System should be robust, not crash during demo.”
- Constraints: “Budget is limited, so only affordable components.”
- Future: “Upgrade from SONAR prototype to real radar (signal processing).”

**Defence and Security Organizations (End Users)**

- Purpose: “We want affordable surveillance for bases, borders, and coastal sites.”
- Features: “Adaptability to different domains (land, sea, civilian).”
- Performance: “Reliable detection up to at least 2 meters for prototype.”
- Constraints: “System must be portable, rapidly deployable, and scalable.”

- Future: “AI-based detection and networking for centralized command centers.”