**Global Data Quantum, BasQ – Bomb Tester**

1993 saw Avshalom Elitzur and Lev Vaidman propose a thought-provoking Bomb Tester experiment designed to explore core fundamental quantum mechanics concepts: entanglement, superposition, and state collapse [4]. Their dramatic bomb tester thought experiment involved using a Mach-Zehnder interferometer to detect the presence of a bomb without detonating it. This was a revolutionary concept: the ability to gain information about an object without any direct interaction.

This hackathon challenges you to build upon the Elitzur-Vaidman Bomb Tester. Your mission is to extend this non-interactive probing method to a Battleship game grid, aiming to locate all ships without ""hitting"" them. In traditional Battleship, finding a ship means a direct hit or miss. However, the Elitzur-Vaidman Bomb Tester showcases the power of quantum mechanics to probe objects without interaction. In this hackaton you will develop a quantum circuit that leverages core quantum concepts to find every ship on the Battleship grid and secure victory before firing a single shot.