SUBURIFY

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What is the problem? First, we studied the biggest problems facing humanity in the twenty-first century, we found that the pollution of water with heavy metals, is an extremely serious problem, that causes environmental, economical and biological problems We found that all present solutions to this problem, are not cost effective, or are very complicated, so the hardest part in our project was finding the solution, but after many interviews and research, we found our innovative solution, SUBURIFY. Our project consists of three aspects: 1- The chemical aspect. In the beginning, we studied many types of rock, and we studied many characteristics, for each type, and after lots of studies, we concluded that bentonite rock, is the most suitable type, for our project, after choosing bentonite, we made many experiments, by combining it with many chemicals, our best result, was when we rinsed it many times with distilled water, the we soaked it ten times with HCL, and we added glutamic acid, the percentage of heavy metal removal, reached 97.7% 2- The mechanical aspect: Due to bentonite need for movement to purify water, and to solve the problems of traditional purification, such as: the need for infrastructure, and the high cost of transporting water to water distillation plants , we decide to make a robot submarine, able to move in water smoothly, as we fixed the bentonite-containing filters on the submarine, to move through water. 3- The programming aspect: We programmed the submarine using an Arduino, to make it able to move smoothly and evade any obstacle without any human intervention. By combining those three aspects, we made a smart purification machine, able to retrieve feedback, for the user, such as: the percentage of heavy metals removal etc.

Awards Won: