University of Puerto Rico

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Department of Electrical and Computer Engineering

Final Report

For

Design of an Autonomous Water Vehicle Applied to Pool Maintenance Applications

by

WaveX Team

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**Abstract**

Swimming pools are a very common leisure feature in houses, community centers, parks and hotels. It is of great importance to maintain a pool’s water in excellent condition so the public may enjoy it without the worry of possibly contracting a disease. The WaveX I by the WaveX team aspires to be a relatively low cost pool surface cleaner in comparison to those currently in the market. This is due to it’s design, which is composed of more accessible components. The WaveX I possesses an embedded system powered by solar energy and has the capability so that the user can turn it on remotely via Bluetooth.  Once turned on, the user can either control the WaveX I with the WaveX I application or activate autonomous mode (hence a CWV and AWT). Pool experts believe there is a demand for such cleaners. While the market is currently filled with high-end robots which pool owners are hesitant to purchase due to their cost, the WaveX I can change the way such vehicles are perceived and inspire other companies to design more cost effective system