Nasa Space Apps - OceaNet

**Objectives**

Design viable options to broadcast and propagate internet signal over the ocean, without harming the environment and with a low need of maintenance.

Develop a “grounded” solution that brings internet for ocean people and remote areas, using existing technology and floaters to create a distributable network mesh over the ocean from land signal and infrastructure.

**Introduction**

Satellites have been the go to alternative for ocean people and remote areas due to the coverage. Unfortunately satellite internet connection isn’t cheap or even affordable for some people, making a barrier in modern days.

**Solution**

An antenna bundle, with a monolithic and low consumption server capable of handling radio internet services and authentication. The bundle is sold ready to be embedded on existing nautic floaters on the ocean, avoiding the need of manufacturing new floaters thus lowering the price.

The bundle consists of two Yagi Antennas acting as long range radio receivers/repeaters and an Omnidirectional antenna acting as internet point of access (Hotspot). Each one of the floaters are capable of receiving and re-sending internet signal to others on a 25Km range and 30º angle, making the connection redundant and boosting the overall range while delivering internet for a 10Km radius from each floater.

**Specifications**

Embedded network switch and auth server running from solar/battery power source.

10 ~ 11 meters aluminium or carbon fiber revested pole for holding antennas and signalization.

Two Yagi antennas acting as receiver and repeater on a total 25KM rage with 30º aperture.

Omnidirectional antenna attached on pole topping 10m height from the water level (offering 8KM radius internet).

Using Nasa’s DTN like protocol on software side to ensure data packages will be delivered