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AIRBORNE INTERNET PROVIDING TETHERED BALLOON SYSTEM

Abstract

In this paper we shall introduce a new system for providing wireless network communication over a specified area using 'lighter than air' balloons. This technology will replace the existing fiber optic network system. This will be done by using a tethered balloon along with the payload (containing a receiver, a transmitter and a radio communication device).This payload will be suspended from the ground at an altitude (depending on the area of coverage required). Users under this area will be able to access this system directly for internet connectivity. This system can be used over large areas like universities, companies and societies to provide internet facility to their users through Wi-Fi or over an area where the user is specified (commercial purposes).

Currently Google is working on similar idea called the 'Google Loon' in which they use high altitude balloons which float at an altitude twice as high as air planes and the weather. They recently tested this system over New-Zealand by providing internet to their pilot testers on ground. Their balloons not being stationary, move with directional winds and have to be replaced one after the other to maintain consistency . This can be a huge problem over the areas where upper atmospheric winds are not in favorable direction. We can resolve this problem by using our stationary tethered balloon system which can communicate with the loon balloons to provide internet facility over a desired area. Moreover when our balloon will communicate with the loon balloon it will increase the coverage area as the loon balloon has to communicate to a point which is above the ground. Our system will not only replace the existing fiber optic system but it will also be self-sustaining i.e. It will generate its own power using solar panels.