International Journal of Research in Advent Technology (E-ISSN: 2321-9637) Special Issue
2nd International Conference Online on Advent Trends in Engineering, Science and Technology
"ICATEST 2016", 03 April 2016

Wi-Dro-Fi

Wi-Fi service using Drone

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Abstract— This project is to optimize the total project cost of Free Wi-Fi service which is provide by the Government of India in 2500 cities & town with total cost of 7000 crore. Wi-Dro-Fi is the drone which consists of inbuilt Wi-Fi device. With the help of WI-Dro-FI, We are able to provide free Wi-Fi in the crowded place in very efficient way and with the help of application user gets access to the Wi-Fi, this application also provide valuabl information about Wi-Fi user.

I. INTRODUCTION

The government will roll out free high-speed Wi-Fi in 2500 cities and towns across the country over three years and the program, involving an investment of upto Rs 7,000 crore, will be implemented by state owned Bharat Sanchar Nigam Ltd (BSNL) .However the free ride will be for only limited time, after which one have to pay for further access, a model similar to what is being offered at airports and other places by private operator. For those have BSNL or MTNL connection, the switch-over to Wi-Fi will be similar to roaming "at very nominal cost" once the free usage is over.

This project is optimized the total project cost of free Wi-Fi service which is provided by the government of India in 2500 cities & town with total cost of 7,000 crore. Wi-Dro-Fi is the drone which consists of inbuilt Wi-Fi device.

Wi-Dro-Fi is an embedded device which is use to provide Wi-Fi service with very low cost as compared to other Wi-Fi devices. It comes with the very cheaper Wi-Fi chip,HED05W01SA chip is a support of national WAPI security Standards, with USB 2.0 interface chip .To access free Wi-Fi service, user need register himself with the help of Wi-Dro-Fi application, after registration user become authorized user and he get one username and password. Once user have their login data they need not to login every time. It is very easy and efficient way to provide ease of use.

II. OBJECTIVE

The main objective is to reduce the total cost of existing plan for implementing free Wi-Fi services. The government can get reliable information from this app about every user who logged here for surveying purpose .Application will have some extra utilities to build social integration likewise local area chat, local news, etc.

III. WORKING

Architecture of Wi-Fi chip (HED05W01SA)

Fig1. Architecture of Wi-Fi chip (HED05W01SA)

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HED05W01SA chip is a support of national WAPI security standard, HED05W01SA chip-chip, integrated A / D and D / A converter. It supports DSSS (Direct Sequence Spread Spectrum) and OFDM (orthogonal frequency division multiplexing) modulation mode, with data descrambling capabilities support a variety of different data transfer rate. Equipped with a transceiver analog front-end transceiver AGC function makes the chip system to get the best performance. The HED05W01SA chip also contains a built-in enhanced signal monitor, can largely eliminate the effect of multipath.

HED05W01SA chip in terms of security, not only to support national standards to WPI encryption and also supports international standards WEP, TKIP, the CCMP encryption, making these hardware components can still get with non-encrypted communication data transmission system based on the chip during the secure communication similar to the data transmission performance.

IV. MOBILE APPLICATION

Here at the beginning the activity launches. It means that overall application begins. It searches for Wi-Fi the mobile application shows the series of Wi-Fies. Here if we start anyone then application will begin its work. If the main file of application exists then authorized user check action will be performed and if application file doesn't exists then the activity ends. Meanwhile if authorized check finds the user is licensed then it will perform Wi-Fi Connectivity. Before it if user performs registration then it will be licensed for performing Wi-Fi connectivity. If user Wi-Fi is on then direct access to the Wi-Fi will be granted. If not then app will throw message to prompt user to enable Wi-Fi and will get proper access.

Log In   **Registration**

Fig2. Application UI

Front home page of application contain log in page. There is two requirement two log in i.e. username and password. If user is not registered himself then he/she need to click on create account button then the second page of application will open i.e. registration form. There is registration form which consists of tabs like name, birth date, mobile number, aadhar card number, etc. After done with this registration user will get username and password and he/she will become authorized user.

A. Local Chat

It will work similar to other social networking sites. The people of that local area will able to connect with each other to share their views.

B. Local News

The events happening locally in the area will be uploaded by the administrator. The people connected to the area will able to see updated notifications frequently.

C. Local Awareness

There will be facility that local people can upload the news, photos regarding any social problem like worse condition of roads, sanitation problem, health issues, etc. Hence people will know about the condition of their locality and will do needful For the society.

V. PHYSICAL WORKING
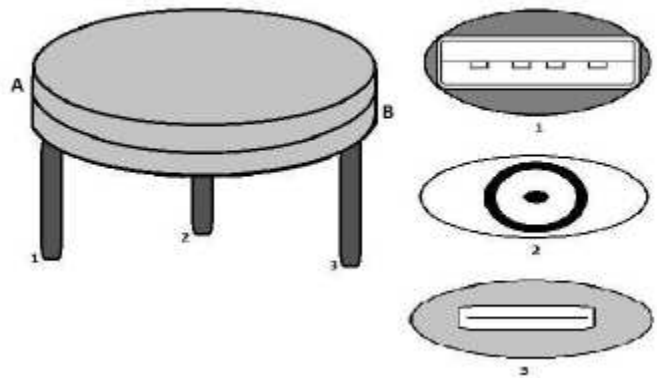
STRUCTUER OF DRONE

Fig3. Drone Structure

It consist of three legs. The hardware is been embedded into the drone for its mechanism purpose. It have three legs. The first leg will have a USB Port TYPE-A. it will ensure that all data either from server or the collected data like data used for surveillance will be monitored by this portion. The second leg will have mechanism to ensure its battery power that will be used by drone as a mode for power consumption. The third leg will have USB port TYPE-C and it will ensure a different mechanism to charge the battery as fitted in leg 2.
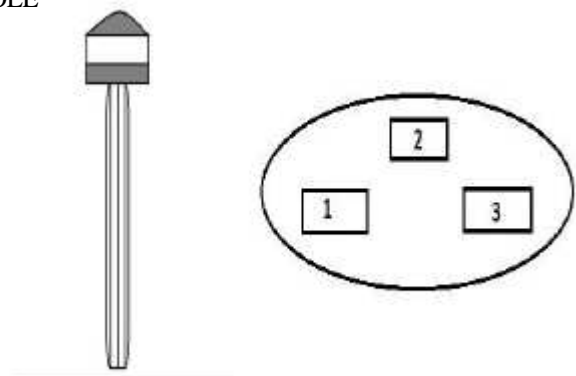
POLE

Fig4. Pole Structure

The pole will consist of three sockets. The socket will ensure that the drone will be easily fitted into the pole with

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proper orientation. The pole also consists of the CCTV surveillance system and the battery contained in leg 2 will be used as a power mechanism for these cameras.
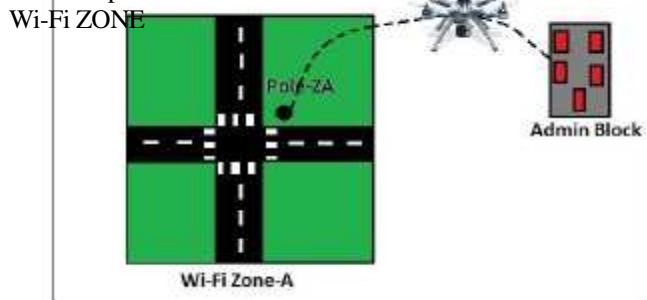Wi-Fi ZONE

Fig5. Wi-Fi Zone

This is a schematic representation of the drone architecture. The diagram consists of the administrative block, a drone and area over which it is to be applied. A server is there in administrative block. Even also there will be number of drones to be used. A drone will send to particular where it is to be implemented. The drone is there in required zone. There will be time limit over which it is to be used. In our system we will schedule a free Wi-Fi service from 7 a.m. To 5 p.m. At the start drone will reach to decided pole and will fix itself in a sockets provided in the pole. The pole will analyze its data and will function according to the programming as we set it earlier. Once the scheduled time is over the drone will automatically return to its administrative block.

VI. ADVANTAGES OVER TRADITIONAL SYSTEM

	Wi-Fi System	Wi-Dro-Fi System
Cost	Total implementation cost is about Rs. 8 lakhs.	Total implementation cost is about Rs. 30 thousands.
Manpower	Large people required.	Most things will be automated. Hence less people required.
Hardware	Less hardware will require.	More hardware required.
Machinery	More machinery required.	Less machinery required.
Power Consumption	More	Less
Information	Provides General information.	Provides valuable information.
Nature	Not real life	People oriented and based on real life applications.
Futurity	No monitoring facility.	Can be used to monitor local area.

Table 1: Advantages over traditional system

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CONCLUSION

The paper will aims to provide the overall implementation information about Wi-Dro-Fi. This system will effectively overcome the drawbacks of the existing Wi-Fi system. The implementation is simple. The hardware drones will be provided to each local area so as to work like a signal transmission device. The power consumption will be much less. Further mobile app will have login page and will gather information. It enhance the local integration through connecting local people and also awaring them about social issues. The government will also going to receive exact information of registered user so as to apply them in future survey. Hence the system is cost effective, reliable and sophisticated one.

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