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ODL resources and Internet radio

"Technology and Innovation"

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Abstract : Internet radio is fast becoming a tool for conveying messages, entertainment and education due to the advances in data compression, broad band penetration and newer mobile gadgets. But ODL institutions barring a few like UKOU or OUM, have ignored this cost effective easy tool. Subscribing to Portals which offer of free bandwidth and then switching over to commercial rates hindered the progress of this medium. In India the National Institute of open Schooling (NIOS), the Yashwant Rao chavan Maharashtra open university (YCMOU), and the KK Handique State open university (KKSOU) Assam were selected by the author to experiment on an unique PPP model from July 2012. The internet streaming combined with an IVRS enabled mobile streaming, as well as development of mobile APPS helped to reach unreachables in distant areas without any significant expenditure. The streaming which uses the spare audio of TV channel sreaming sites seems to be the most economical way of tele counseling in ODL institutions. In fact NIOS is running a 24 hr service with hardly spending 2000 USD inclusive of staff salary etc. This paper will discuss the modus operandi of this unique PPP model and the Outcomes achieved during the past 12 months.

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Introduction:

Internet radio (also **web radio**, **net radio**, **streaming radio**, **e-radio webcasting**) is an audio service transmitted via the [Internet](#). Music streaming on the Internet is usually referred to as [webcasting](#) since it is not transmitted broadly through wireless means.

Internet radio involves [streaming media](#), presenting listeners with a continuous stream of audio that cannot be paused or replayed, much like traditional broadcast media; in this respect, it is distinct from on-demand file serving. Internet radio is also distinct from [podcasting](#), which involves [downloading](#) rather than streaming. Many Internet radio services are associated with a corresponding traditional (terrestrial) [radio](#) station or [radio network](#). Internet-only radio stations are independent of such associations.

Internet radio services are usually accessible from anywhere in the world—for example, one could listen to an [Australian](#) station from [Europe](#) or America. Internet radio remains popular among [expatriates](#) and listeners with interests that are often not adequately served by local radio stations. Internet radio services offer news, sports, talk, and various genres of music—every format that is available on traditional radio stations.

Technologies for internet radio:

Internet radio is very easy to install and transmit. What we need is a reasonably sound proof room, one laptop or PC , a few microphones, one audio mixer, and a broadband internet connectivity of at least 512 kbps bandwidth

Unlike traditional campus or community or public radio it does not require a power guzzling transmitter and the safety that comes along with them.

The cost of setting up an internet radio vis a vis a conventional campus /community radio is 1:10

For example in India the cost of setting up of a low cost community radio which serves an audience around 15 kms radius is around one million rupees(15000 USD) and we can set up an internet radio at 0.1 million rupees.(1500 USD)

The range is unlimited. I jocularly mention that even austronauts and cosmonauts livig in the space station could listen to internet radio.

Cost of transmission:

Cost is very high if we want to configure an audio streaming server and the cost of its maintenance and bandwidth is also very high . No normal institution can afford to invest on a streaming server and also associated with the bandwidth.

Present scenario- Use of free internet radio:

There are a large number of private websites which offers audio web streaming facility . Shoutcast.com or radio365 are some of the classic examples. It takes just a few minutes to register on their sites and start streaming your audio programmes. Of course there are limitations. Beyond a certain free period you will have to start paying in dollars. Some sites allow upto 25 simultaneous listeners. As a lay man, I could simplify this as follows:

Let us assume that I have an one Mbps broad band connectivity to my laptop or desktop at home. I log on to the free sites and regiser myself and start 'sreedher radio'. If I stream it at 64 kbps which of course is (not of good audio quality) tolerable, at the most 15 persons could simultaneously listen to that . But interactivity is not possible. They will have to use google talk, skype and other methods to have an audio interactivity. Like the olden day long distance trunk calls, there is a time lag between transmission and listening at the other end. It varies from 2 secs to even 30 secs.

The above is useful for one teacher and 15 students in remote locations. It brings a 'live classroom' and if the teacher has a phone , the interactivity could happen through the phone.

But if an ODL institution wants to stream to thousands of people, either they set up a sever on their own and maintain it , or pay through service providers. In fact even going through good service providers costs a lot. You will have to set limit for number of simultaneous listeners and pay accordingly.

Success stories:

Open university of Malaysia has an internet radio functioning for the past 6 years. They have the state of art studio and has the expertise in running the same . They have archived their programmes and are made available in the form of ‘audio-on-demand’ service.

With their expertise, Commonwealth Educational Media centre for Asia (CEMCA) , did set up an internet radio service in Maldives. The present president of Maldives inaugurated the service. On the night before the inaugural function, the project saw heated arguments between myself, the OUM, and the Maldivian authorities. The minister for higher education was upset that their own telecommunication department asked them to pay more than 10000 USD for increase in bandwidth for enabling more than 16 simultaneous listeners. He even said that why use an internet radio, if we can use free skype audio for 16 listeners free of cost.

The second experiment was to encourage more and more teachers and institutions to set up their own internet radio station with the help of some consultants. While the participants set up their own radio station during the workshops, none of them followed it up due to lack of support from their own institutions

Many institution’s IT policies are also reasons for not opting for internet radio. There are institutions which do not want direct uploading on the net and in some countries it goes through a series of fire walls.

The present experiment:

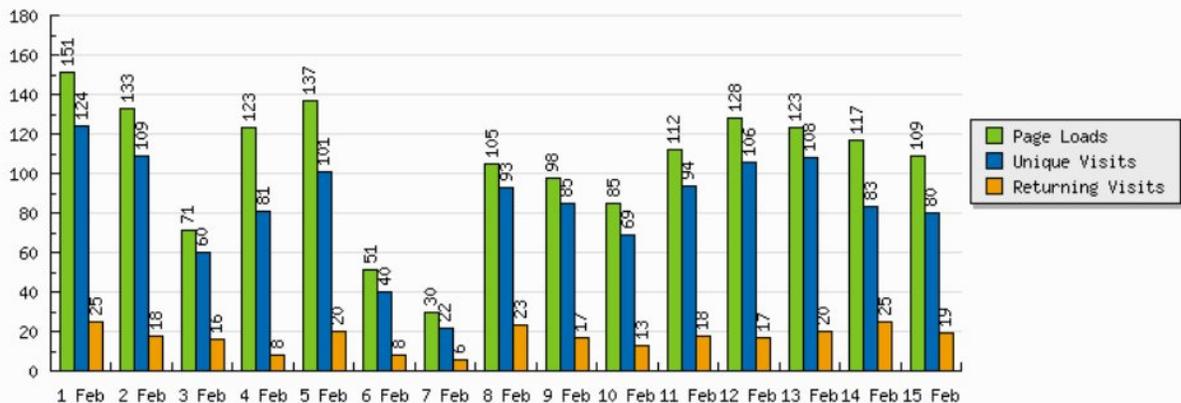
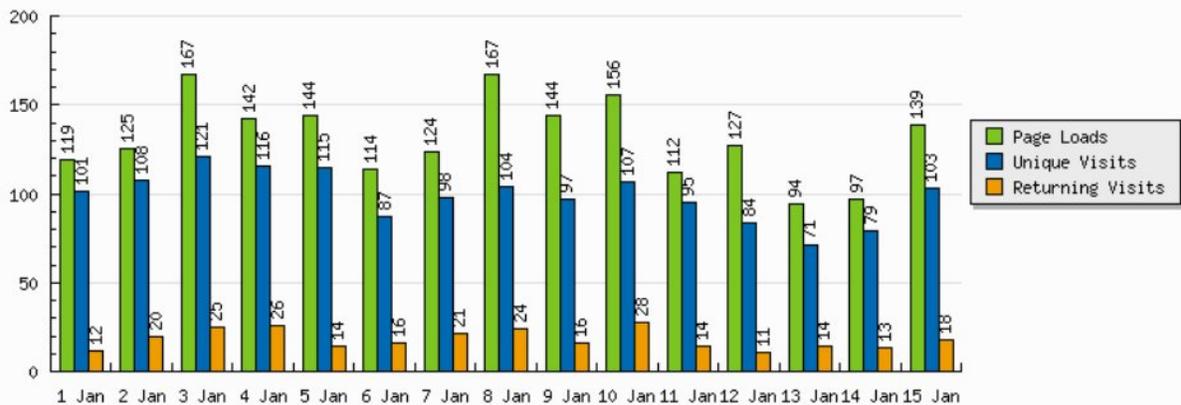
The author along with the Vice Chancellor of Yashwant Rao Chavan Open University, went to meet Mr Alok Verma of a private ICT company called Newzstreet.tv. This company had a huge bandwidth since they were engaged in providing news clips to various TV channels. Every TV channel can have simultaneous telecast in 4 languages. That means in majority of TV chanles 3 audio channels are unutilized. If we think of using these unutilized spare audio channels for streaming of internet radio, we could save a lot of money and huge bandwidth is available

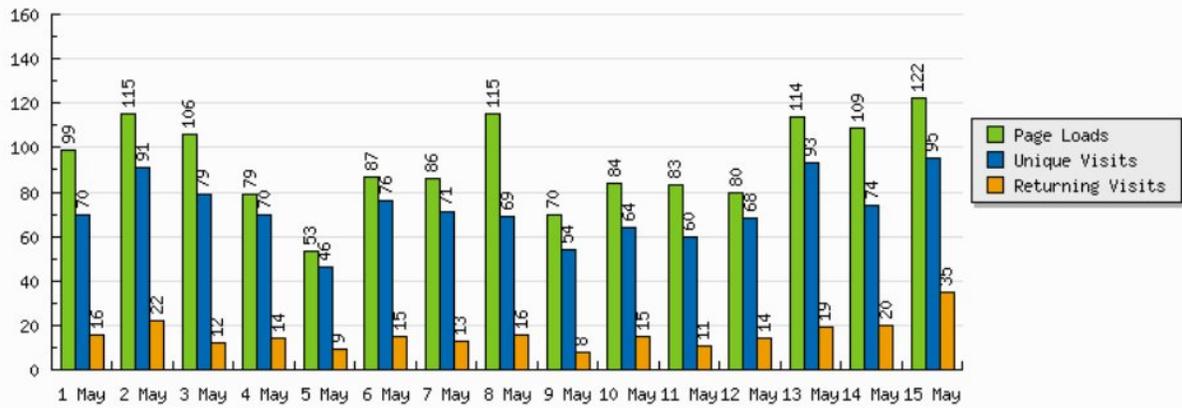
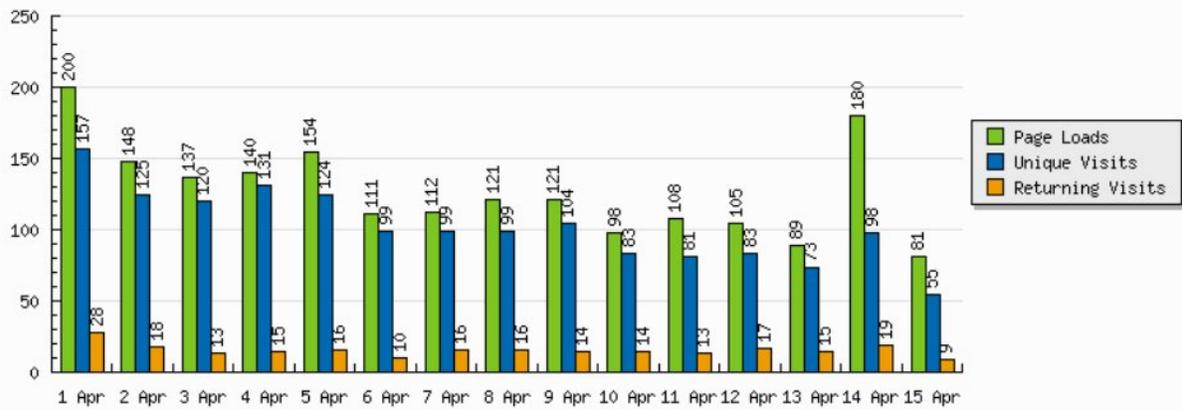
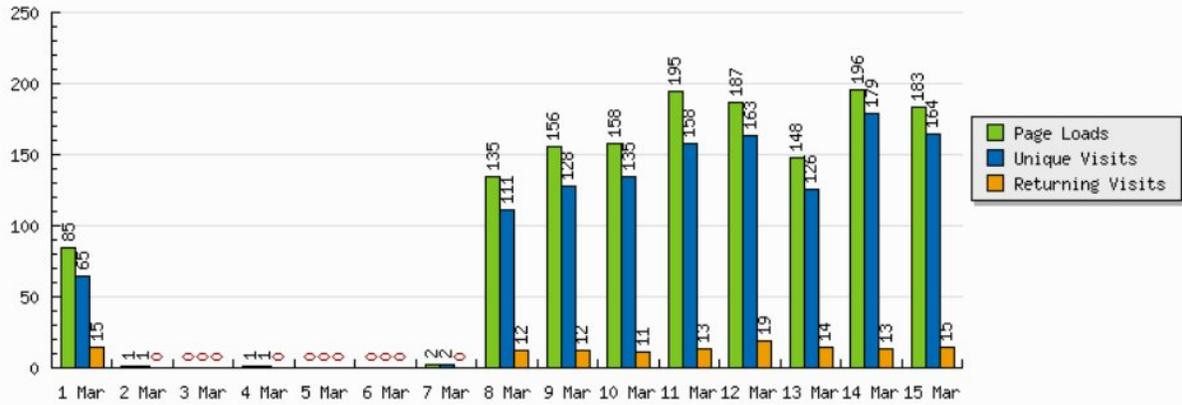
The chairman of National Institute of Open Schooling, **Prof SS Jena** evinced a keen interest in the same and NIO has a state of art audio studio. The experiment started on 15th july 2012 and was launched by India’s IT minister Mr Kapil Sibal. The programme is being webcast on www.nios.I-radiolive.com . The initial weeks were spent on asking their 30 regional centres to monitor and get students during the transmission hours. In fact the PCP or the face to face counseling was attempted through internet radio. The hits went on from 30 per day, to 100 by December 2012 and 550 in June 2013. NIOS in fact is running a 24 x 7 audio service through this net streaming. Three hours of counseling per day is being attempted for the past one year. Software to the tune of more than 600 hrs is accumulated which is far more than the software generated through conventional audio production for the last 25 years. Of course they need to be edited and made crisp. NIOS is perhaps the only ODL institution which is running a 24 x7 internet audio streaming with daily 3 hours of ‘live’ counseling in the world

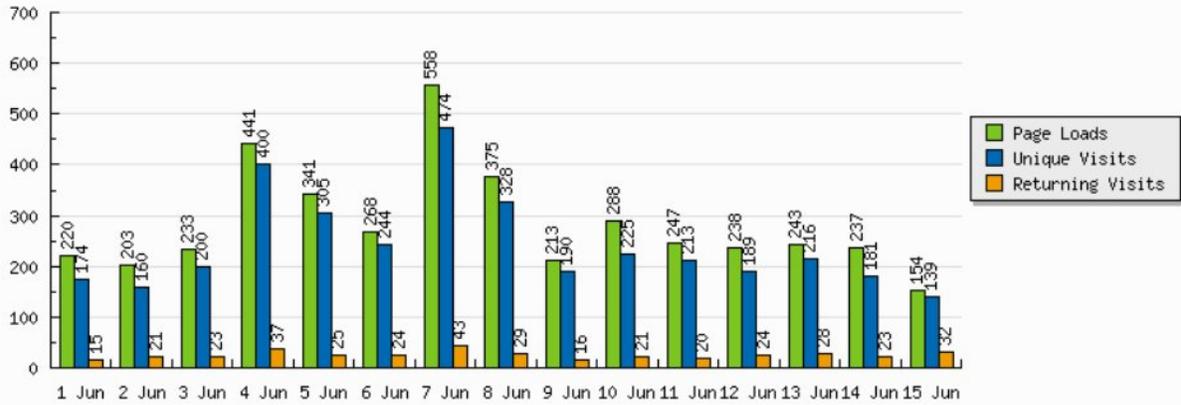
The service is being provided at a simple cost of 200 US dollars per month. This includes, hard disk space, streaming software and 24 x 7 service. Of course cost of maintenance of the studio, and production of contents are not included.

Yashwant Rao Chavan University followed this and introduced Yashvani – an audio streaming service which is also 24 x 7. Here the hits average around 100 but on some occasions when persons like Prof Anuradha Deshmukh takes personal interest, the hits have crossed 300. The total per day is more than 1000 hits. It is not similar to hits on a text based websites which occupies a very small bandwidth . The author has gone through even commercial sites of commercial TV stations and the simultaneous viewers or listeners do average about 20 only.

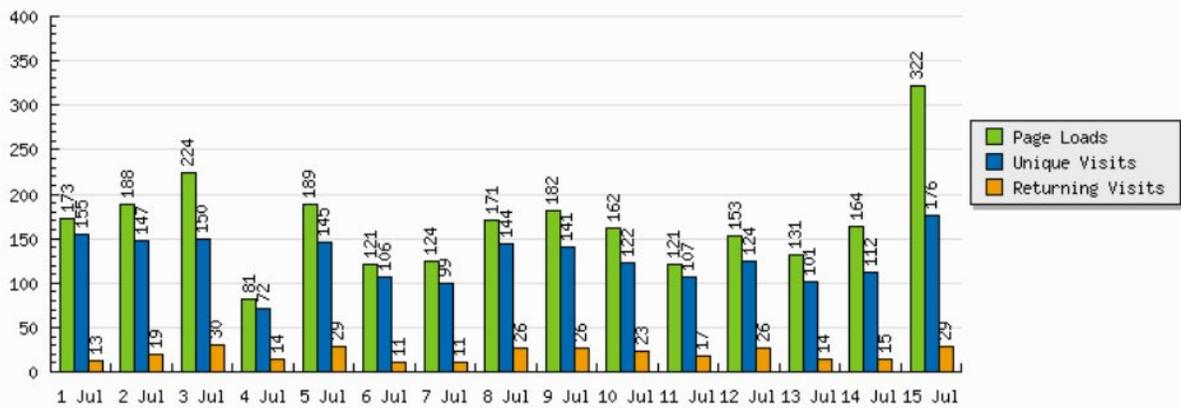
Time sharing: In both the cases, the time was allotted to various schools and departments for further planning.







NIOS listening in June: See the peak at 558 hits



Remote listeners and unreachables:

iRadio - http://www.iradiodia.com		Reporting	Customization		
Traffic Sources	City	Visits	Pages / Visit	Avg. Visit Duration	% New Visits
Content		571	1.34	00:01:08	
Conversions		% of Total: 100.00% (571)	Site Avg: 1.34 (0.00%)	Site Avg: 00:01:08 (0.00%)	Site A
	11. Solapur	11	1.27	00:00:52	
	12. Guwahati	9	1.11	00:00:11	
	13. Kolhapur	9	1.00	00:00:00	
	14. Thane	9	1.11	00:00:02	
	15. Hyderabad	7	1.43	00:00:20	
	16. Noida	7	1.29	00:04:51	
	17. Kalyan	6	1.00	00:00:00	
	18. Ahmedabad	5	1.20	00:00:06	
	19. Madurai	5	3.20	00:03:56	

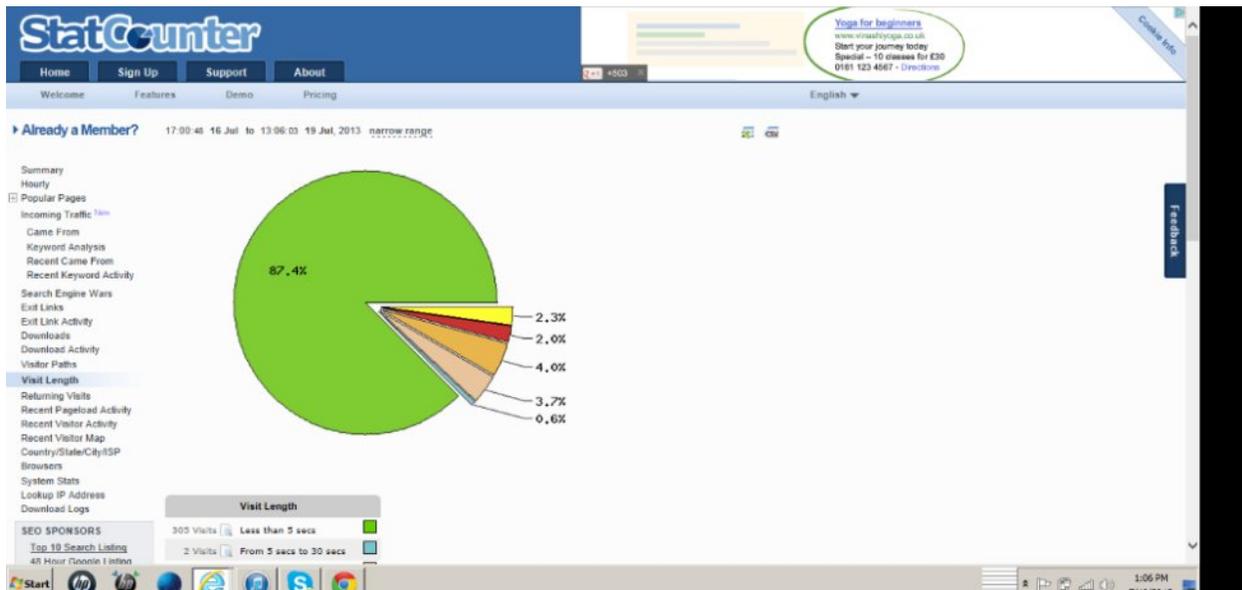
PCF7 – Dec 2-6 Abuja, Nigeria [Type text]

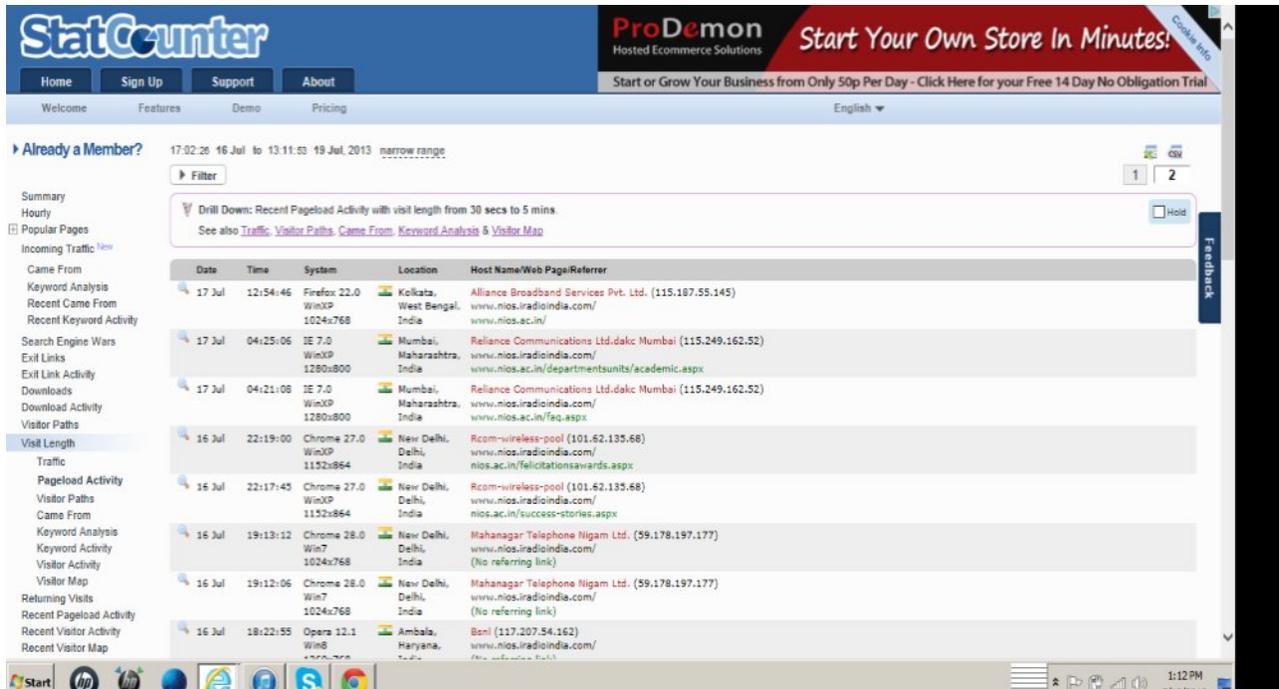
An analysis of the above table clearly shows that there are sizeable number of learners who are hailing from places like Guwahati (North east India) and Solapur and Kohlapur small towns in Maharashtra State which are over 1000 kms from Delhi .

While the author was preparing the paper, a greatest disaster took place in Uttarakhand, the Himlayan hill state. Flash floods landslides took away more than 5000 lives. It will take months before normalcy is restored. But to our surprise on 22nd July, hardly a month of the tragedy, people were logging into www.nios.iradioindia.com. Listeners were listening for nearly an hour from Rishikesh, the ancient temple town on the foot hills . Also on the same day, people were logging on places like Ponda in Goa, Phagwara in Punjab, Trivandrum and kollam in Kerala, Kundan in Jammu and Kashmir, Durgapur in West Bengal etc.

Duration of listenership:

Although the web statistics used by us make us believe that only 10% of those who visit the site are serious listeners, this gives us a satisfaction that this method of transmitting at very low cost has almost the same effect as that of conventional educational Tv programmes, satellite based telecounselling etc. If we have to adopt the free model of internet radio by subscribing to well known web portals, we need to pay more or satisfied with handful of listeners. Or we may have to forcefully hear unwanted unsolicited advertisements before and after each programme and also during regular intervals by holding the programme streaming.





Conclusion:

Hence internet radio offers an economical model of counseling for ODL institutions which need not subscribe to satellite transponders, set up uplink stations, set up costly streaming servers and maintenance of the same. In less than 200 USD per month their e- highway is ready to carry their courses and materials. With more and more smart phones arriving in the market and more and more countries providing broadband as a national necessity, the access to these programmes are becoming easier and easier. Also another work involving the mobile service provider to take the signals on an IVRS mode, is on an experimental mode at YCMOU with a network provider Reliance. It costs Rupee one per day per student (0.015 \$) for a 24 x7 audio service by dialing a toll free number. The internet radio signals are available virtually at no cost along with GPRS or 3 G or 4G or wi-fi enabled connection.

Acknowledgements

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