



madhya pradesh

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introduction

India has more than 850 million mobile subscriptions. This is up from 300 million in 2002 and it is expected to reach 1.35 billion subscribers by 2016. The mobile penetration rate is 51 % and there is room for further growth. The reach of mobile phones has been almost universal and inclusive covering the BoP segment as well. The wave of liberalisation and privatization of the telecom sector since 1990s has transformed the mobile communication scenario. Competition among mobile operators has resulted in the rapid extension of mobile networks, falling prices of services and mobile devices, more of innovative services and overall access and connectivity expansion. The social and development impact has seen immense transformation in the past few years.

There is rising demand for communication network, access and services, especially in rural India. It is estimated that by 2015, more than 90% of the total population will come under the "coverage gap". This will enhance services and access networks including demand for 2G, 3G services and beyond. Common themes of focus among stakeholders include network extension into rural areas, network upgrading, innovative applications, content, and services, alongside convergence. The intra and interdepartmental focus under the National Mobile Governance Framework is expected to spur service delivery. The onus has shifted to public agencies like Universal Service Obligation Fund (USOF) to step up mobile networks and coverage.

Rising mobile reach has a new meaning in social empowerment, in social and behavioural changes through digital inclusion. It has raised the social position of underserved groups and population like women. Mobile-based initiatives by the government, bilateral agencies, private sector players, and the civil society have provided local solutions in local context and problem areas. With this, the social space of mobile in social and behavioural change has gained ground. A review of 24 practices for this paper indicates that the mobile phones have emerged as effective mechanism to derive project impacts in - information dissemination, training of frontline workers and interpersonal communication, and project monitoring / tracking. The case studies are from across India with emphasised focus on cases from Madhya Pradesh. These pilot projects pose the challenges in improvisation and scaling up. Other challenges include social and behavioural adjustment with age old cultural practices, supply overtaking the demand curve for services.

There is required policy support in grant and subsidies, and investment in priority areas like rural based projects. Collaborative support is sought in low cost devices and content, research and action. There is need and relevance to consider mobile tool as an essential utility device as well as considering mobile based services as utility driven. The need for a centralized corpus fund to support mobile projects by the NGOs / CSOs must be explored.

This paper on case studies present the key areas of emphasis in the growing mobile for development space in India especially how mobiles are contributing to social and behavioural changes. The paper focuses on projects as well as mobile applications which work towards change. The limitations as well as the scope to expand the social space with rising mobile density has also been focussed and talked about here. The paper is expected to emerge as a knowledge guide for stakeholders as to why and how mobile phones find increasing presence and relevance to support development efforts.

the bridge of communication for
community health care



project description

The project was envisaged in order to have a simple interactive communication and monitoring strategy to carry important instructions and mandatory protocols to more than 90,000 health officials and frontline workers as well as nearly 1 crore beneficiaries of Public Health programs, involving the community. Under the scheme, all ASHA workers, ANMs and health officers and employees have been connected. Mobile phone is used as the medium to interact with the community and a large number of health officials and frontline workers spread over 51 districts and 52,000 villages through features like a Facebook group of "Team Health" having over 8000 primary and 800000 secondary members; linking all the districts and blocks via Skype and a CUG community for monitoring health service delivery. In addition, websites were also formed for information dissemination to the community and the health workers. One very important aspect is SNCU software having live CCTV cameras for coverage of SNCU units. The project operates on 12 system software. Also, with the mobile interconnectivity, directives and guidelines are sent directly to health workers through SMS from time to time. Through these SIM cards, one user can talk to another user for unlimited time.

action on the ground

The state has now achieved 86% institutional deliveries, greatly safeguarding the lives of mothers. The use of mobile phones for awareness generation has led to better understanding of health schemes. It has also improved adherence to protocols and improved service deliveries, which has led to increase in footfalls in public health facilities. The numbers are swelling from about 2 lakhs per day to more than 5 lakhs per day. The 12 system software facilitates daily and weekly monitoring of health service delivery to almost 6 lakh people every day and almost 30000 pregnant women and infants daily. The programme has facilitated cent percent seamless distribution of drugs to almost 4 lakh people per day, provision of free diagnostics to 50000 people per day and free transport facilities to 30000-35000 pregnant women and others. ASHA and ANM workers have been mobilized to offer primary health care as per the protocols. It has helped save precious lives of mothers and infants.

The villagers are more aware and confident about getting basic medical facilities in their own region. Safe deliveries and improved child health indicators have refurbished the villager's faith in the welfare state.

concluding remarks

One of the strengths of the programme is that it has allowed for the melting down of communication barriers and has nurtured the emergence of team spirit among the health workers. Effective monitoring mechanisms while saving time and money has resulted in effective service delivery to the community. Thus, that it has attracted the attention and support of the community within and outside the health department as well.

The major challenges that lie ahead are the coverage of the newer programmes introduced as well as coverage of all the health workers, and growing community as well. The platform and available infrastructure needs to be utilized for holistic, preventive and comprehensive health care.

organization Department of Health & Family Welfare, Govt. of MP

location Madhya Pradesh

project url www.health.mp.gov.in/e-health.htm

contact Mr. Pravir Krishn, 07552441074.

Email ID: pravirkrishn@hotmail.com

vital information regarding reproductive and child health through mobile phones



project description

The project Maternal Health Services on Mobile (SMS Toolkit) - MHSM aims at providing critical Reproductive and Child Health related information services to the pregnant and lactating women, to their families and health workers. It is done through mobile phones using localized SMSs in Hindi. Two messages per week have been created for 40 weeks of pregnancy (norms as per the government programmes). Apart from more general, reinforcement messages on nutrition, specific messages pertaining to the week of pregnancy like ante natal check-up; vaccines, iron folic supplements and movement of baby are sent to the registered women.

The SMS toolkit allows direct sending and receiving of SMS from an ordinary PC or laptop at a very low cost. Unlike standard SMS projects which rely on an automated registration process, here it is being done manually, preceded by a strong community mobilization and linking with existing health workers like Accredited Social Health Activist (ASHA), Auxiliary Nurse Midwives (ANM) and Dais. This process of manual registration has allowed the project to: involve the community at large, including important stakeholders like husbands and other family members of the pregnant women and gain their acceptance for

the project; build links with existing health infrastructure and workers; and promote the project and create a buzz.

action on the ground

The project was implemented at 4 primary project sites and in 5 other neighboring villages later which are some of the most backward villages in Uttar Pradesh. Over 1000 pregnant and lactating women and their families and health care workers have benefitted so far. A total of 3171 pregnant women were registered for the SMS service during the project period. About 2300 child birth registrations were done and were also registered for post natal SMS services.

concluding remarks

The project 'MHSM Toolkit' has enabled circulation of critical health information resources regarding reproductive and child health directly to the pregnant and lactating women through mobile phones, using localized SMS in Hindi. Information service in local language has added value to the project and enabled direct impact on the focused group. The project is community centric in design and involves participation of focused groups.

The project has scope for collaboration with the government. Scaling up can be done with the help of government funding. Regarding improvisation, this project should be supported by an automated IVRS system. There should be a means of direct registration for SMS service by the family or pregnant woman rather than waiting for the ASHA worker as an intermediary. Project ex post research is necessary to find attributes from the impact of SMS services upon focused groups.

organization Datamation Foundation in collaboration
with ZMQ Technologies

location Uttar Pradesh, India

project url www.datamationfoundation.org

contact Datamation Foundation,

Phone: 91-11-22512161. Fax: 91-11-22158820

fun way to learn for pre-primary education



project description

Balshiksha is a multimedia based pre-primary education resource kit for teachers and parents, available in Hindi and English. It is a tool for educating young children of age 1.6 to 5.6 years in pre-primary classes. The kit is divided into four levels namely play-group, pre-nursery, lower-KG, and upper-KG. It can be operated on a CD-ROM, internet on computers or on mobile phones. The kit includes 200 modules comprising of alphabet and number tracing; shapes, colour and natural objects identification; general knowledge like body parts and sensory organs; all of which are based on a particular concept and are dramatized in an audio-visual format with animations and graphics in a story-telling manner. The kit also has “test and evaluation” modules for evaluation purpose, which makes it even more involving and engaging.

action on the ground

Presently, the Balshiksha project has been installed in 15 schools of Delhi, Maharashtra, Haryana and Madhya Pradesh, including 3 Madarsas, covering more than 2000 direct and indirect beneficiaries. The e - academic content has been researched and made to suit the Indian context. The initiative has received positive response in terms of better learning by the children of pre-primary classes.

concluding remarks

There is step-by-step guidance in every module which makes the learning process very easy for children. Inclusion of stories, rhymes, images and songs with audio-visual effect and graphics make it an appropriate learning tool for children of pre-primary classes. The teacher's kit includes the guidance as per the needs of teachers for instructing and guiding the students. The content has been designed after adequate research and formulated to suit the Indian context.

Keeping in view that the initiative is working very well and is catering to the growing and latent need for quality education; more products should be designed for primary and other classes.

organization / developer Media Lab Asia
location Delhi, Maharashtra, Haryana and Madhya Pradesh
project url www.balshiksha.in
contact E-mail: rishikesh.p@medialabasia.in,
Phone: 011-26443266. 011-26288189

giving voice to the voiceless



project description

In the tribal areas of Madhya Pradesh and Chattisgarh, Maoist diktat, isolation and alienation from the mainstream media, and neglect from the state lead to complete seclusion of the tribal communities dwelling here. CGnet swara was launched by Shubhranshu Choudhary in the year 2008 to empower these marginalized people by giving them voice by means of mobile phones. The "CG" in the name "CGnet Swara" comes from name of the region where the project was started - Central Gondwana region. The platform is an attempt to democratize journalism in these secluded areas. One missed call ensures that the automated service will reach the caller and the message will be recorded on the server. These message-reports range from health, education and public distribution system, to problems like corruption, delayed receipt of transfer payments, etc. The moderators later verify, edit and document the reports and put them up on the webpage along with the audio report

action on the ground

The platform has been a successful interactive voice platform in terms of numbers achieved, with a track record of over 70,000 phone calls and releasing over 1500 messages, in just first 21 months after its launch. The impact has been in terms of social inclusion, by giving voice to concerns and complaints of the marginalized tribal communities. The webpage gets regularly updated and the posts can be shared on mediums like Facebook

concluding remarks

The platform transcends the barriers of literacy, language and reach, as the report can be recorded in any language, like the most-spoken Gondi in the region. The caller only needs to give a missed call and the server calls back, so it is very easy to use. The platform can be improvised and made more extensive in its coverage by engaging more local activists and organizations. In addition, collaboration with government and non-government agencies will lead to rapid resolution and reconciliation of the tribal issues.

organization Cgnet Swara
location Central Gondwana Region, India
project url cgnetswara.org
contact Arjun Venkatraman, 9811142825

the radiophone project

harnessing the power of radio and phone for greater good



project description

The Radiophone Project is an attempt to reach out to marginalized children of the migrant populaces in Gurgaon, Haryana, so that these disenfranchised children can have access to quality educational content. This project seeks to deliver age-appropriate educational content on various topics to these children and their families, by combining tools like community radio and mobile phones. The project has essentially three components, namely development and broadcast of educational content relevant to the community issues and needs; integration of this content with 3G enabled platforms to increase access to this material; and one component for school, using radio broadcast with school teaching aids. The beneficiary families were provided with 3G-enabled mobile phones and 3G connectivity. 91 Galli Galli Sim Sim (GGSS) episodes containing educational audio content were broadcasted using the platforms, related to issues like literacy, mathematics, health, nutrition and hygiene, and social and emotional well-being. The episodes may be accessed via radio and 3G- equipped mobile phones, by calling a number that calls them back and plays the episode.

action on the ground

The project has been successful initiative within its localized reach as per the response from the community. It was started with Gurgaon with 31 episodes of GGSS and later 10 community radio stations in five more states in north and central India were also involved. The feedback from the community has been encouraging. As per reports from Sesame Workshop, over 3000 calls were received by GRINS (community radio), and about 70000 calls were received on radio over telephone. From community response, it was found that episodes on mathematics and literacy were most popular. Some qualitative data also concludes that communities have gained from the project by experiencing positive behavioral changes, like quitting tobacco, parents spending more time with their children, and many more.

concluding remarks

The project makes it very easy to access quality educational content to these marginalized families. The content is available for both children and their parents on good parenting, nutrition and health and related topics, which makes the entire family connect to the program. Further, the content is modified and customized as per local culture, which enhances its acceptability. Future direction may be towards expanding the horizon of reach, as there are many more marginalized communities in India. In addition, the educational content base may also be increased with more topics and issues. Newer platforms like IVRS may also be explored to increase the reach out. Ways to generate revenue should also be explored to improvise and remain relevant.

organization Sesame Workshop India (SWI) in collaboration with
Qualcomm Inc. (Wireless Reach Initiative),
Schwab Charitable Fund and HSBC

location Gurgaon, Haryana, India

project url www.sesameworkshopindia.org

mobile phone integration for 24x7 livelihood training

mobile-learning solution for employability skills



project description

This socially inclusive venture was a mobile learning solution which aims to enhance the employability of the youth in rural areas and slums. The idea behind the origin of this project was based on the premise that English is necessary to upgrade the skill set and augment the employability of the marginalized youth, who have no platform to learn and practice English. The project also aimed at providing employability skills to the youth in the age group of 17-25 years and placing them in the organized sector. For inculcating the habit of 24x7 learning using the mobile handsets, the youth were provided with English language content applications as courseware. This enabled them to practice English and learn on their own with the help of self-quizzing mechanisms. Other useful features were audio-visual tutorials, pronunciation help, and Hindi- English dictionary to enhance vocabulary as well.

concluding remarks

It provided a never-before medium to learn and practice English language, for the youth dwelling in slums and rural areas. The marginalized youth aspire to learn English and they join classes for the same. The problem noted here is that language skills cannot be mastered without adequate practice, which they cannot do at their homes for the family members don't know the language well. So, this medium provided them a hands-on way to learn, practice and master English. It also provided them livelihood enhancement options, as the programme aimed to place the youth in organized sector.

For the project lacked sustainability, as it was not a self-financed one, the pilot could not last beyond 2012-13. From the point of view of improvisation, the programme could be made comprehensive by including ways to enhance other skills for employability assistance, as its focus was only on English language skills. In addition, self-sustaining elements need to be included to revive the project.

organization / developer NIIT Foundation
location Delhi, Madhya Pradesh, and Uttar Pradesh
project url www.niitfoundation.org
contact niitaffirmativeaction@niit.com

the ivrs based daily monitoring system (dms)

mobiles for monitoring and tracking to ensure children s mid-day meal



project description

The project “Daily Monitoring System” is a unique intervention with the help of which, real-time data can be collected from more than 1.5 lakh schools spread throughout the state of Uttar Pradesh. It can be done on daily basis for monitoring the Mid-day meal scheme run by the state government. The project was started as a solution to the red-tape in the traditional manual system which was hampering the monitoring of mid-day meal to the children in schools. As a result of this system, the data now gets automatically available on the website that is accessible at all levels and thus helps in monitoring the progress efficiently with transparency at each step.

action on the ground

The project resulted in a better and improved control and monitoring mechanism over the implementation of the Mid-Day Meal Scheme. As a result of the project, there was substantial reduction in the number of schools not serving meals to about 6.4% in August 2012 in comparison with a figure of 35% in 2010. The information is accessible at all levels, which resulted in enhanced transparency, leading to accountability. It also led to greater efficiency in the entire system. It has made the State gain from the clear and authentic data available which can be used for policy inputs as well.

concluding remarks

The system makes the qualities of transparency and accountability inherent. It results in overall social accountability, leading to better functioning of the scheme, thereby making the community gain from it. The strong e-governance component in the system makes it a very efficient and error-free mechanism as well. Certain challenges that lie ahead or are being encountered are ensuring a participatory response from the stakeholders, like schools and teachers.

This system can be replicated by other states as well with appropriate modifications. The data should be sanitized and authentic, and security of the data also needs to be protected, which may be a challenge in the road ahead.

organization Mid- Day Meal Authority, Uttar Pradesh
location Uttar Pradesh, India
project url www.upmdm.org
contact Mr. Sudhanshu Tripathi, 09453004004.
E-mail: stripathi_99@yahoo.com

mobile application for anganwadis (maa)

mobile innovation for maa and baby



project description

In India, there are currently about 1.8 million Anganwadi workers for delivering various services like referral services to pregnant women and mothers, providing supplementary nutrition to address malnutrition and pre-school education. With so many Anganwadi workers on the field, in geographically remote areas, it becomes difficult to monitor and track their functioning. In addition, the Anganwadi workers need to be empowered as they play significant role in reducing IMR and MMR, and protecting child and mother health. The Mobile Application for Anganwadis (MAA) was designed to empower the Anganwadi workers in recording data, like supplementary nutrition beneficiary attendance, pre-school attendance of children, immunization details, data to monitor IMR and MMR, etc.

action on the ground

The project was started in the year 2012 with 25 Anganwadi centres located in Shadnagar Mandal and was scaled up to 83000 Anganwadis in the next three months. Currently, lakhs of messages (SMS) are generated through the system and real-time data is captured and assimilated for achieving the goals of reduction in IMR and MMR, and improvement in the status of malnourished children. This application and the entire system have helped in eliminating food gaps and ensuring availability of food at Anganwadi centres to certain extent. It has also improved the attendance of Anganwadi workers, owing to the transfer of data on their attendance. A reduction in IMR and MMR status and reduction in the number of malnourished children in Andhra Pradesh are also among the positive changes that the project has brought about.

concluding remarks

MAA is a sustainable solution because of very low capital expenditure and low overheads. Only a basic mobile phone at a minimal fixed monthly rental of mobile phone of about Rs. 30 per month is required for it to function. This may also be seen as a challenge, as there is no provision of mobile phones to Anganwadi workers and their own mobile phones are used. On a positive note, the performance of each Anganwadi worker can be tracked and monitored on a day to day basis. In addition, the problems faced by the Anganwadi workers can be communicated easily and timely redressal can be done.

For higher scalability and availability, existing cloud at the government data centre may be used and collaboration with the state authorities may be done for easy coordination as well. The same model can be replicated in all the Anganwadis in India, with appropriate customization as per local needs.

organization National Informatics Centre (NIC)

location Andhra Pradesh, India

project url hrd.ap.nic.in/maa

mother and child tracking system



project description

Reduction in the health indicators like Infant Mortality Rate (IMR) and Maternal Mortality Rate (MMR) is among the leading challenges in public health domain in India. As an attempt towards achieving this goal, the Health and Family Welfare Department of the Government of Gujarat has introduced a name-based tracking information management system called “E-Mamta” in collaboration with National Rural Health Mission (NRHM) and National Informatics Centre (NIC). The system aims at registering individual pregnant women, individual children in the age group between 0 to 6 years and adolescents along with their full details to ensure complete service delivery of ante natal care, child birth, post natal care, immunization, nutrition and adolescent services and to track the left outs of these services. The system also has SMS alert system in place for sending alerts to the beneficiaries for health checks prior to delivery.

action on the ground

The health details of about 85 lakh families in the entire state comprising about 4.30 crore individuals covering more than 80 percent of the population have been entered so far in the software's database. System generated unique Health IDs have also been provided to all. The system has been instrumental in tracking and monitoring child and maternal health in the state. Apart from controlling and improving the health indicators in the state, other benefits are improved supply chain management of vaccines and drugs, focused deployment of personnel, improvement in the registration of births, better data capturing and analysis for preparation of block and district health action plans.

concluding remarks

The system has mechanism for better control on estimates of infant and maternal mortality rates. The auto-generated list of beneficiaries for every service makes the system very systematic and increases utility. There may be convergence of all data entry and report into one site. In addition integration with other services like primary education, ration card, adolescent health, and school health can also be done for availing more benefits. The challenges which lie ahead are the ones related with the technology in use. Protection of data, regular and continuous improvements and innovation is the way ahead.

organization Department of Health & Family Welfare, Govt. of Gujarat
location Gujarat
project url e-mamta.gujarat.gov.in
contact Mr. K. K. Panchal, 9099075208, 9099075216;
Email:emamtahelpdesk@gmail.com

m-governance for forest and wildlife management

mobiles as tools for good governance



project description

For using mobile phones as a medium for governance for forest and wildlife in Madhya Pradesh, this project was conceptualized and developed by Madhya Pradesh Forest Department (MPFD). It aimed to put in place a system that would aid in systematic monitoring of the wildlife, also creating and maintaining a repository for the forest and wildlife-related data and other related operations, through a computer-based communication network. This application works on a GPS-enabled, touch screen and Windows-based mobile handset. MPFD is currently executing its technology initiatives in an integrated manner where all the key functions are being carried out through web-based workflows. Many applications are created using a multitude of technologies and are successfully implemented in the field. One example may be the Fire Alert and Messaging System (FAMS), which uses remote sensing data. This system generates and transmits messages to the concerned units of the forest department, so that the problem can be checked in time.

concluding remarks

Integration and assimilation of a plethora of technologies like remote sensing and GPS, makes the system appropriate for creating and maintaining the repository, as well as helps in management of threats like fires, etc. The digitized maps of all the forest areas are stored on the centralized GIS server. There is a mechanism called Unified Threat Management System (UTM), which is devised for protection of the entire system against threats like hacking and junk mails. The MIS also improvises the transparency and accountability aspect. All the processes are automated for ease of use by the officials, who are the end users.

For scalability and wider coverage, the system can be developed and installed in other states as well, with the help of state resource centers and other state authorities.

organization / developer Madhya Pradesh Forest Department

location Madhya Pradesh, India

project url mpforest.org

empowering teachers with innovative mobile technology



project description

In the year 2011-12, Bridge-IT initiative was started as a result of partnership between Nokia, Pearson Foundation and EZ Vidya Pvt. Ltd. and also in collaboration with the government of Tamil Nadu and Andhra Pradesh and CBSE schools in these states. The initiative was an attempt to address the challenges of the modern education system. The main challenges that the students faced were difficulty in transitioning from local language to English medium, lack of good quality teaching aids and resources, and disconnect between technology and daily teaching practices. Using open-source Nokia Education Delivery (NED) technology and content from Pearson Foundation, these challenges were aimed to be addressed.

action on the ground

In only one school year, there were significant changes and improvements in the teaching methods and in rate of learning by individual students as well. As per the reports, the quality of teaching was improved by 31%, by changing the style of lectures to “student- centered”. In these NED enabled schools; students scored 10% more marks as compared to the control schools. The teachers used an average of 158 digital media activities. It significantly improved the listening and speaking skills of the students.

concluding remarks

The project has many strong features like well- researched and designed lessons in English as per local context, to aid to quick learning by the students. It has also raised the motivation levels of the students. The key challenges that might be lying ahead to be dealt with are scaling up and inclusion of increasing number of students. The collaboration with state governments like in the case of Tamil Nadu and Andhra Pradesh may be done for a larger resource base and greater impact.

organization Nokia, Pearson Foundation, and EZ Vidya Pvt. Ltd.

location Tamil Nadu and Andhra Pradesh, India

project url bridge-it.in

rural health management information system using mobile / tablets

power of mobile technology to revive health care systems



project description

The project was initiated as an attempt to adequately skill the front line health workers for data collection from the field, enhancing the accuracy of data, minimizing redundant entry and providing reliable storage for health data from the field through the health care reporting structure. It helps in avoiding the cumbersome paper work as per the present practice. The system envisages empowerment of the field workers and a resultant improvement in their health care delivery services. A centralized server is put in place for storing the collected data in a central database and analysis is done using statistical methods. It is understood that this data will serve as an input for effective health planning and decision making at strategic levels.

action on the ground

The system is a web-based one which has helped in providing timely data flow from the health worker to the Directorate of Health Services. It has also streamlined the system for timely and accurate reports to the health administration for efficient decision making. It has helped in reducing the infant mortality rates (IMR) by improving the immunization rates, by early identification of high-risk cases and thereby taking appropriate precautions.

concluding remarks

The system is very useful for timely and accurate reporting and therefore guiding the decisions at strategic levels. The report generation in standard and customized formats helps in the ability of the system to statistically analyzing the data. The challenges may be in maintaining the security and confidentiality of the data.

The system can be modified and used for other purposes as well, like various national programs like Malaria Control Program, TB Control Program, etc. and the enormous data can be put to use for greater good.

organization Media Lab Asia, EZ Vidya Pvt. Ltd. C-DAC
location Kerala, India
project url rhmis.kerala.gov.in
contact Shri Ramani B., +91 471 272 3333

one- button access to health information

The screenshot displays the website for the National Endemic Diseases Centre (NEEDS). At the top left, there is a banner with the text "sustainable development organization" over an image of people raising their hands. To the right, the URL "www.bigtech.in" is visible. Below the banner, there is a section titled "Working on Work" with a sub-link "details". A central blue box contains text about NEEDS: "NEEDS is a professionally managed committed 100% active in community and NGO capacity building and issue based interventions and networking. NEEDS is registered under non-profit Trust Act and with FCRA under Ministry of Home Affairs, Govt. of India. The primary focus of NEEDS is on the problems of the poor in their struggle to obtain a life of justice and dignity. Gender equity, Natural Resource management and livelihood security are our primary areas of concern." Below this is a red starburst button that says "Download Annual Report 2009-10". At the bottom, there are three red boxes for "Health", "Livelihood", and "ICT", each with a brief description and a small image. The "Health" box mentions "Reduce under-five mortality rate, maternal mortality ratio and reverse the spread of HIV/AIDS while intervening on young people's reproductive". The "Livelihood" box mentions "Rural Technology Park plays a critical role in technology mediation, demonstration and creating prototype models that are cost effective and operational in terms of...". The "ICT" box mentions "Reading Information Society fill the last mile...".

project description

Commcare was conceptualized and brought to action by NEEDS as a solution to the avoidable maternal deaths taking place in Jharkhand. It was found in pilot study that 11 out of 40 women among the reviewed families died during pregnancy, child birth or during post-partum period. These deaths were primarily a result of lack of birth preparedness, lack of awareness about preventive measures and about judging the signs of danger and dealing accordingly. The project involved application of multimedia capabilities of mobile phones to deliver important health care information and educational content to the community, irrespective of their level of literacy and education. The community health workers were provided with simple mobile phone handsets, which have free and open-source software running in them. This software contains registration forms, checklists, danger sign monitoring, and educational prompts for improved health surveillance and workflow interventions.

action on the ground

The project was aimed to expand in Deogarh, Pakur and Sahibganj of Santhalpargana region in Jharkhand with at least 1500 health workers covering a rural population of around 1, 50,000. The project is on its way to achieve the goal.

concluding remarks

The project has many strong aspects to support the health care delivery system. The use of multimedia features is user- friendly and it is targeted for the semi-literate and illiterate masses and health workers to achieve better analysis of health related issues. The communication through SMS is inexpensive while being very effective in recording all data collected.

Challenges may be in analyzing the data collected, which if done statistically, can lead to fruitful results in terms of policy recommendations and monitoring of health programmes.

organization NEEDS
location Jharkhand, India
project url needsngo.in/reproductivehealth.html
contact Phone:--+91-9204795008.
E-mail: needspostmaster@gmail.com

reducing maternal and newborn deaths (remind)

m-health for maternal and newborns



project description

Despite laying enormous importance on achieving the Millennium Development Goal 5 (MDG 5) and attempting to reduce the maternal and neonatal mortality rate, India still lags behind substantially from achieving the goal set by 2015 to reduce it to '28' and '80' per 1000 live births. The reasons include lack of healthcare infrastructure, lack of adequate trained manpower, low awareness, insufficient postpartum care, etc. The Reducing Maternal and Newborn Deaths (ReMiND) project was started in 2012 as an initiative to support the maternal and infant survival in Kaushambi district of Uttar Pradesh through the use of mobiles as a medium for community health workers.

ReMiND envisaged better health for women and children by use of m-health by equipping ASHA workers with adequate knowledge and skills in achieving this goal, by means of: strengthened support structures and supervision mechanisms for ASHA, improved ASHA skills in identifying danger signs during pregnancy and postpartum home visits. ASHAs were given basic cell phones running Dimagi's CommCare software. The software includes pregnancy, postpartum, infant referral modules. Since many ASHAs may be illiterate, these modules use audio-visual prompts to help ASHAs systematically counsel and

identify women and infants for any danger signs during pre- and post-partum visits. Every module also contains counseling forms which guide ASHA for counseling pregnant women and mothers about key practices for Maternal, Newborn and Child Health (MNCH). This system also registers and tracks newborn babies and mothers. Once a birth is reported, interactive voice response reminders prompt ASHA to conduct a postpartum visit until that visit is recorded.

action on the ground

The project targeted 259 ASHAs, 56 auxiliary nurse midwives, 84 ASHA supervisors and 24 block, district, and state health authorities. It aims to reach about 33,000 pregnant women and more than 20,000 young children by 2015. As of now, about 9000 pregnant women and 5000 children have been registered and tracked through this mobile application. As per a baseline survey, there has been a 68% increase in ASHAs who encourage clients to use the next recommended health service since they started using the ReMiND application.

It was found that only 60% of women in general population gave birth in proper health facilities, but the percentage among the pregnant women supported by ASHAs using the app was higher, at about 78%. This clearly demonstrated the positive effect of the application use in ensuring institutional deliveries.

In addition, qualitative information shared by ASHAs indicates that the mobile phone-based tool helps them manage their workloads better and improves the quality of their counselling.

analysis - strengths & challenges

The mobile phone based tool helps ASHAs in meeting the postpartum care needs of women, while also managing their own work easily, thereby improving the quality of their counseling. It also reduces chances of human error, by sending alerts through the mobile phones. Pregnant women report that the application's interactive multi-media format is more engaging than traditional flip charts. The strength of the project lies in its ease of use, timeliness by means of recorded data, and degree of involvement with the end users.

For scaling up, more innovative and user-friendly applications need to be developed. Continuous improvements and modifications like in this case, by adding multimedia images and audio-visual features, are required. The government health authorities can also be involved here, which will help in better monitoring of resources, like state IT infrastructure, human resource training and skill enhancement whilst also aiding in understanding and utilizing the policy implications for scaling up of the project.

organization Catholic Relief Service, Dimagi, and Vatsalaya

location Uttar Pradesh, India

project url hrd.ap.nic.in/maa

mobile technological innovation for women and child healthcare



project description

This integrated mobile phone-based application was launched as a remedy to the problem of inaccessibility to health care services in the remote regions like Mewat in Haryana and certain regions in Rajasthan. Because of lack of access to healthcare for pregnant women in remote areas, about 44 infants out of 1000 newborns die before they turn even one year old. Many women die while giving birth or in post-partum period due to lack of care. These deaths are completely avoidable, by making health care services accessible to everyone. The initiative involved training social workers under the MIRA channel project, and devising mobile application and technology to provide health care. The application, MIRA channel may be downloaded from application site or through mobile operators. Local mobile recharge kiosks help women download it. The content is delivered as per the user's requirement. Once registered, a woman can track her menstrual cycles and prepare for child birth by having a weekly progress chart. Different components like educational tools, messaging kits and mobile games are available for maternal and child health. Family planning, neonatal care, immunization schedules and other health related issues are also addressed in the app. Later on, self-help groups were also added to provide financial literacy and vocational and skill training to women.

action on the ground

Within the first year of its launch, the application was utilized by about 27000 women. About 60000 women in self-help groups have also benefitted from the program. About 17000 pregnancies and 12000 child immunization were registered. The data from the primary health centres also showed an increase in uptake of folic acid by women, and in institutional deliveries.

concluding remarks

The channel is a very effective medium to provide health care support to the illiterate women. In the same context, audio support and minimum text is strength of the application. The training part is also an essential feature.

However, the initiative needs to be scaled up to reach out to more communities, so that more women can be benefitted. Innovative marketing strategies need to be used for increasing the coverage by pull-factor rather than pushing the technology, as demand-driven approach works best with the communities.

organization / developer ZMQ Development
location Mewat region in Haryana, Rajasthan, India
project url www.zmqsoft.com

a “mobile friend” in need is a friend indeed



project description

For dealing with very high numbers of maternal and newborn deaths in rural India, Arman came up with this innovative technological intervention, which is a free-of-cost mobile-based health advisory voice messaging and animated film service for pregnant women and mothers. After registration with the service, the service provides culturally appropriate health care information on preventive care as well as simple interventions to prevent peri-natal mortality. The service sends voice messages to the women specific to the gestational period of the women, or the age of the newborn either weekly or twice a week. The service is designed in the local dialect, making it more acceptable and comprehensible. These voice messages and animations are delivered to the women from 1st month of pregnancy to 5th year after childbirth.

action on the ground

The project is ongoing and its impact will be measured by conducting randomized control trials in 250 villages in 3 rural districts of Maharashtra, over a period of three years, beginning from January 2013.

concluding remarks

The service is a comprehensive care package for the pregnant women and mothers with children. Along with free service availability of such crucial nature, features like timely and targeted delivery make it unique. The messages are formulated in local dialect and as per the cultural norms of the region. The ease of use is also a very important feature by which a woman can provide a time slot of one hour in the day when she can be free to receive the message. In case she misses it, she can give a missed call to receive it again.

For improvisation and in order to make sure the project is helping women, a supplemental awareness building programme may also be implemented. Building awareness and face-to-face communication is crucial for making people adopt such preventive and health care practices.

organization / developer Armman India
location Maharashtra, India
project url www.armman.org/mmitra

ayurvedic mobile health service

ayurvedic health at your doorstep



description

This mobile value added service (MVAS) was launched by Videocon Telecom in the year 2013 to help the customers get health service at one click on their mobile handsets. With the world moving towards alternative and holistic healing therapy systems, the initiative aims to enable the customer to get consultation and treatment via their phones. The service enables the subscriber to talk to any of the 150 certified Ayurveda specialists at the Ayurveda Telemedicine Centre for consultation and treatment advice. Post-consultation, medicine delivery service is also available across 1300 cities on cash-on-delivery basis. The service is available round-the-clock by dialing 535133 at the rate of 6 INR per minute.

concluding remarks

The value-added service is one-of-its-kind and there is negligible competition in the sector. It enables the customers to talk to certified Ayurveda doctors at the touch of a thumb. Medicines can also be received at home easily on cash-on-delivery basis.

Videocon's low subscriber base can be one hurdle in achieving success in terms of large numbers of callers gaining from the service. Also, the service is chargeable, so all the subscribers might not avail it. The service only provides Ayurvedic health advice, consultation, and medicines. The customers need to be educated and made aware about the effectiveness of the Ayurvedic regimes for various ailments.

Similar venture may be introduced by roping in doctors practicing mainstream medicine like physicians, and other specialists, along with physiotherapists, occupational therapists, among others.

organization / developer	Videocon Telecom in collaboration with JIVA Ayurveda Group and Think Health Services
location	Pan India
project url	videocontelecom.com

finding a doctor easiest with one tap
on your mobile



description

The project “Aarogyam” aims at providing the patients the facility to easily contact doctors while saving time and effort. The doctors are also at advantage as they can create the prescription, appointment templates using web and smartphones. It has many essential features, like “lead and connect” services, which helps the patients find the health care providers and their details based on the location, specialty and availability of the same. It is a complete package of technology platforms providing multiple services. Another feature, called Healthmate invites the significant personalities of health care sector to help build a knowledge repository by writing articles and giving health tips to the patients and consumers.

concluding remarks

The technology platform “Aarogyam” provides the customers and doctors with a very efficient mechanism to interact with each other. It thus brings about complete operational efficiency in the system, saving time and effort of both, and thereby improving the quality of care. There is round-the-clock accessibility to the cloud platform of Aarogyam. An inter-connected system will result in a mutually beneficial partnership among health care providers.

For further improvisation, cloud services may also be used for health care delivery via telemedicine. Collaboration with health care service providers and diagnostic centres can be beneficial for patients and customers on one hand and to the service providers on the other hand.

organization / developer Lenus Labs Private Limited

location Pan India

project url aarogyam.me

baby vaccine guide application

complete baby care on your mobile



description

This mobile application was intended to create, follow, and track the vaccination schedule for newborn babies. The user has to enter the date of birth and name of the baby, and the app creates a complete schedule chart with the tentatively scheduled vaccination dates. The app is instrumental in tracking the immunization calendar. It may be done individually for one/ more babies on one phone. The record of immunization is maintained by changing the background colour of the vaccine shown in the app. On the tentative scheduled date of vaccination, a notification alert will be sent by the app.

concluding remarks

The app is very easy to use as the immunization schedule chart is prepared without any external intervention. The schedule formulation has been done by referring to the authentic sources; like “Immunization Handbook for Medical Officers” published by the Department of Health and Family Welfare and WHO recommendations.

As per the feedback from many users, the pop-ups and advertisements slow down the app and disturb its functioning. This can be improved. For a holistic monitoring, future up gradation of the app may also be done, e.g. putting the data of profiles of the babies on a common server, so that data can be retrieved in the case of loss/theft/ change of device or loss of app. For improvisation, the app may also include features to record other information like baby’s height, weight, and other measures to track a normal and healthy growth of the baby.

organization / developer NewTech Fusion Pvt. Ltd.
location Pan India
project url play.google.com/store/apps/details?id=com.ntf.vaccinatin

mother and child tracking

**description**

This m-health platform was created keeping in mind the processes and functioning of the National Rural Health Mission (NRHM). It consists of a mobile application for ASHA and ANM workers and a back-end analysis and information management tool for the administrators. It is also devised to collect data on pregnancy, delivery and child birth from the sources with the help of mobiles phones, thus aiming to aid the ground level health care workers like ASHAs, ANMs, and other health functionaries increase the efficiency of mother and child health care. It has the following features: tracking of pregnant mothers and children for monitoring and tracking of health service delivery at individual level, assisting the health worker by categorizing various health services an individual has to get and missed ones, thus making it an effective tool for individual level monitoring of health care services.

concluding remarks

All the health services practiced are mapped in this app with appropriate alert system, aiding the health functionaries in individual level monitoring. Other strengths are recording of real-time data like GPS coordinates, automation of all processes of antenatal and postnatal care like immunization and training modules for ASHA and ANM.

It is designed for quick deployment of the desired level of rights and privileges to an individual in a particular geographical area of operation. One very useful feature is the ability of the application and the back-end reporting systems to be customized as per the needs of respective government agencies.

Further scope can be analyzed by using the data for identification of cases for sterilization, which in turn can utilize the app as an effective tool for population control as well, depending on the data churning and utilization of the potential of the application.

organization / developer MobilePedia
location New Delhi, India.
project url apps.mobilepedia.in/mobile_health_technology.php

ensuring safety by the people for the people and from the people



description

This mobile application is an effective initiative to involve the common man in fighting crime in his/her city. It is designed to encourage voluntary crime reporting by capturing images/ videos and directly sending it to the police force, thereby providing security as anyone can report to police and make an urgent call when stuck in or encountering a crime situation. In the wake of increased crime rates against women, this application may particularly be helpful for supporting women safety. There is a special feature, “Help me” for the same, by which an instant help SMS may be sent to the trusted ones added in the contact list. This SMS gets transmitted along with information about the person’s current geo-location to the near ones and police control room as well. Some additional features are news and traffic updates via the app. Bundling with features like towed vehicle search, police notifications, GEO-fencing, safe zone demarcation and identification is also done. Feature like e-lakshman rekha helps a person in delineating safe and unsafe zones in a city, and sending alert messages to the contacts whenever the “lakshman rekha” is crossed.

concluding remarks

With the growing numbers of people using smartphones, this application is useful for citizens being instrumental in ensuring a crime-free environment in their cities. The “help me” SMS feature of the application is very useful for supporting women safety as it sends help message along with real time tracking option. Bundling with useful features like towed vehicle search, GEO-fencing, police notifications, and Police directory make it a comprehensive safety kit.

In order to check irrelevant or unethical use of this application, there is provision to call for a disciplinary action against the user in case that is done. Scaling-up to multi-city has been done currently. But all cities must be included for more extensive coverage.

organization / developer INFOCRATS Web Solution

location Madhya Pradesh, India

project url www.citizencop.org

**democratizing communication with
mobile innovation****project description**

Mobile harvest is a networking platform that allows members to create, access and promote stories, while being literacy neutral, thereby having the potential to have a wider reach. It is a very simple, easy-to-use application and in a two-way networking platform. With three taps on a button, the user can record success stories, and with three taps on another button, anyone can listen to these success stories and learn from them. The Mobile Harvest team, Sachin Gaur, Prashanth Pattabiraman and Jayvardhan Jaju, conducted a pilot in Andhra Pradesh, which was encouraging for scaling-up. The larger purpose of the initiative is to disseminate useful information about successful practices being employed by farmers/ other innovators, to create a feedback channel. This will lead to formulation of an information repository that can easily be accessed via mobile phones, like Wikipedia on the web.

concluding remarks

Being literacy neutral is a very valuable feature of the application, for it embraces the reality that most of the farmers/ innovators may be illiterate, and it must not stop them from sharing knowledge with one another. It is a very cost efficient as well. Solutions to certain common problems may also be shared through this platform. Mobile harvest also enables organizations to understand the communities in a better manner and interact with them, which may help them to get a voice and influence decisions, depending upon the use of the platform.

The application works on android systems only, and the organization is planning to launch it on Blackberry and Nokia mobiles soon. Thus, to ensure wider base of users, it should be made compatible with multiple handsets/ operating systems.

organization / developer Mobile harvest
location Andhra Pradesh, India
project url www.mobileharvest.in

breaking the barriers of language
for connecting people

Highly Reduced Keypress and Efforts.

Word	No. of letters	No. of keypress
मेरा	4	3
कार्यक्रम	9	25
बुलंदशहर	8	15
हाविक	7	24

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13-15 July 2011 | 16th Micro-Media Conference, Pune, India

• Panini Keypad Urdu for Java and Android released
 Released 05-Feb-2013

• Panini Keypad Oriya for Java and Android

How to Type

Awards

description

Panini Keypad was developed and introduced by Luna Ergonomics in year 2008-09 as a disruptive technological intervention. It is a virtual keypad that has broken the language barrier for the use of a ubiquitous technology in today's world, the mobile phone. It enables the user to type in any regional language of India on the mobile like Hindi, Marathi, Gujarati, Bengali, Oriya, Punjabi, etc. This application runs of Java handsets as a J2ME software application. Main features are single key press type, touch screen compatibility and fast input system. It is very easy to learn for users of all age groups. The feature "Clever texting" lends statistically the correct letter/ character prompting on the screen, which is a unique quality of this virtual multi-lingual keypad.

concluding remarks

The virtual keypad, calling itself a “bicycle for typing” has the potential of better propagation of regional languages via mobile phones as well as even deeper penetration of mobile phones in rural areas, as the ability of typing in any regional language with clever texting feature enables the user to break the language barriers.

All the scripts are currently covered but even more languages of India, including minor languages should be covered by the product for more extensive reach, penetration and user support. For further improvisation and more extensive coverage, the product should be developed having compatibility with other operating systems as well.

organization / developer Luna Ergonomics Private Limited

location Uttar Pradesh, Pan India

project url paninikeypad.com/index1.php

www.msbcindia.org

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