



May 2006

R-EVOLUTION

Newsletter for the Developer Community

For Private Circulation only



Editorial

Dear Developers,

Innovation, creativity and enthusiasm marked the second Reliance Mobile Developer Awards presentation ceremony at New Delhi on May 10, 2006. Winners received their respective awards from a genius innovator and the father of Indian telecom, Dr Sam Pitroda. My heartiest congratulations to the winners.

It was wonderful to have a technocrat and a visionary like Dr Pitroda as the Chief Guest for an event that not only recognised innovation and talent among developers but seeded and stoked the entrepreneurial ambition in many young minds. His assertion that the abundant talent available in the country has to be honed and encouraged puts a great deal of responsibility on our Developer Programme to plan and execute more activities to nurture and discover hidden talent. Read the 'Lead Story' in this issue for the highlights of the event.

It is heartening to see an increasing number of contributions from our developers to the 'Guest Article' section. In this issue we have Saurabh Jain of SKJ Technologies, New Delhi talking about the interesting topic of 'm-Learning'. With mobile phone penetration crossing the 90 million mark in India, the utility of the medium to spread literacy in far corners of the country can be explored by developers to design some unique application like the 'Teach-me Hindi' that won the second prize in this year's contest.

As always, we look forward to your valuable feedback and useful suggestions.

Saurabh Chakrabarti

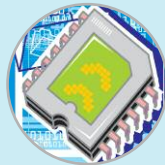
Reliance Developer Programme team



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Vijay Jain from Astute Systems, Indore, receiving the First Prize in the Corporate category for Hanuman Chalisa Application from Sam Pitroda



Amit Pol and Swapnil Nikhade, P IT, Pune, receiving the Second Prize in the Student Category for a 'Snake Catcher' game from Sam Pitroda

RELIANCE SECOND MOBILE APPLICATION DEVELOPER AWARDS



Dr Sam Pitroda , Chairperson, National Knowledge Commission, addressing the audience at the Second Reliance Mobile Developer Awards 2006 at Le Meridien, New Delhi on May 10, 2006

All roads led to Le Meridien at New Delhi's busy Janpath on May 10, 2006 as mobile application developers, media persons, students, and Infocommers met at the Windsor Hall to witness Reliance Infocomm's Second Mobile Application Developer Awards 2005-06 presentation function. It was organised by Reliance Developer Programme (RDP) to acknowledge and encourage young talent in the field of mobile application development in

India. The Chief Guest for the occasion Dr Sam Pitroda was in his usual effervescent mood making conversation with other dignitaries that included Dr Kiran Karnik, President, NASSCOM and others.

Mahesh Prasad, President, Application Solutions and Content Group, Reliance Communications made the welcome speech which included a brief on the major initiatives and achievements made by RDP.

The Contest - A recap

Applications for entries to RDP's Second Mobile Application Developers Contest were open between November 1, 2005 and February 28, 2006. The Contest received 52 applications, out of which over 60 per cent came exclusively from the student community through our University Relationship Programme (URP).

Out of the eight short listed entries, the distinguished jury chose three from the general category and five from the student category as winners

in this year's Contest. The most noteworthy and significant feature of this year's awards is that the winners and participants will get an opportunity to monetise their applications through a revenue sharing arrangement with Reliance Infocomm.

Complimenting winners

Complimenting the efforts of Reliance Communications in providing an ideal platform for developers to showcase their skills and talents, Dr Pitroda



Dr Sam Pitroda, Mahesh Prasad and Kiran Karnik (fourth from left) with the winners of the Second Reliance Mobile Application Developer Awards 2006 at Le Meridien, New Delhi on May 10,2006

remarked, “Reliance’s Developer Programme is a massive talent hunt of its kind, the fruits of which the country will reap in the years to come. Our country has a lot of talent, but having it alone isn’t enough. Unless encouraged and honed, they would go to waste. Reliance’s Developer Programme is doing just that.”

Dr Pitroda stated that there is a huge base of mobile telecom users in India, and with the way this mobile telecom base is increasing, more developers are expected to come up with useful innovations. Today’s innovations require a multi-disciplinary approach and a lot more collaboration than what was needed before.

“One has to think like a football player, musician, software developer, and have a good sense of design to create a successful product”, he said.

Need for innovation

Felicitating the winners Dr Pitroda advised that innovations have to begin at a very early stage. “There is so much to invent around us. I believe very soon we will have to focus on data based applications. Data will be the key driver of Average Revenue Per User (ARPU) in future, as opposed to normal voice which will soon be essentially free. And I see that as a great opportunity for all developers. These innovations can create new business and economic opportunities for the youth.”

Winning applications

The prize winning applications were *Hanuman Chalisa*, *Prashnavali*, Mobile Blogger, Language Tutorial, Animated Greetings, and a couple of games. Mahesh Prasad said, “We were pleasantly surprised by the stunning response from the student community this year.”

In the *Hanuman Chalisa* application, which bagged the first prize in the ‘corporate’ category, music is

played on the phone while *dohas* (words of wisdom) are displayed in Hindi or English. The graphical application provides *dohas* in detail or brief, according to user’s choice.

The *Prashnavali* application, which won the first prize in the student category, is based on *Ram Charit Manas* of Sant Tulsidas. To use this application the user needs to think of a question and then point the blinking dot on the location of choice. The answer to the question is presented in the form of a *doha* with an English translation.

Commenting on the quality of applications that were submitted, Vijay Mukhi said, “All entries in corporate and student categories demonstrated

excellent skill and talent. It was like judging the first among equals. It was very difficult.”

To encourage greater participation from the developer community, the contest’s terms and conditions ensured that the Intellectual Property Rights (IPR) of the applications remained with the participants.

The function drew to a close with Dr. Pitroda, Dr Karnik and Vijay Mukhi talking to the developers and answering their queries.

The Winning Mobile Application Developers

Category	Application	Winners	Place	Prize Money (Rs)
Corporate				
First Prize	<i>Hanuman Chalisa</i>	Astute Systems	Indore	200,000
Second Prize	Teach me Hindi	Tinfo Mobile	Thiruvananthapuram	100,000
Third Prize	Mobile Blogger	Limited Edition Mobile	New Delhi	50,000
Student				
First Prize	<i>Prashnavali</i>	Aditya Sharma Siddharth Shah Vasundhara Kantroo	DAIICT (Gandhinagar, Gujarat)	50,000 *
Second Prize	Snake Catcher Game	Sheetal Chauhan Swapnil Nikhade Kalpana Khandare Amit Pol	I Square IT, Pune	30,000 *
	Karoke	Sirish Vemuganti	Hyderabad	30,000
Third Prize	PixO	D Sribabu	Shah & Anchor Engineering College, Mumbai	20,000
	Pongball Game	Abishek Srivastava	Rohaikhand, University, Bareilly, UP	20,000

* Shared

XML PARSING WITH J2ME – PART II



TECH TIP

In Part I of this article featured in the previous issue, we talked about the XML parsing process and processing models. In Part II we bring you more information on parsing and the issues related to them.

One can use XML parsers in J2ME applications to interface with an existing XML service. For example, you can have a customised view of news on a mobile phone from an aggregator site that summarises headlines and story descriptions for a news site in XML format.

Parsing XML in MIDP environment

The XML parsers are prone to be bulky with heavy run time memory requirements. In order to adapt to the MIDP environment, XML parsers must be small to meet the resource constraints of MIDP-based devices. They should also be easily portable, with minimum effort required to port them to MIDP.

Two XML parsers used frequently for resource-constrained devices are KXML and NanoXML, the former being written exclusively for the J2ME platform (CLDC and MIDP).

Issues in deploying XML parsers

There are several performance issues that one should keep in mind while deploying XML parsing on an MIDP application. They are:

- **Increase in size:** An XML parser is code-intensive and increases the overall size of an application. This

is a particularly important consideration for resource-constrained MIDP devices. There are several optimisation techniques one can use to fight code expansion. Resource files that are not in use should be removed. And one should also use obfuscators that will remove unused classes, unused methods, and variables from the JAD file.

- **Heavy string parsing:** The XML parsers use intensive string parsing to perform their jobs; this will add to the overhead in MIDP applications with low runtime memory.

The XML documents that J2ME applications parse should be small and contain as much useful information as possible.

- **Slow response time:** As the MIDP application parses a relatively large amount of XML data, the response time will increase. The XML files to be parsed should be small, and the parsing should be done in a thread of execution that is separate from the main application.

Application to parse RSS

Here is an application which will parse RSS (Rich Site Summary) XML documents and display information summed up in those documents on the mobile screen.

```
<?xml version="1.0"?>
<!DOCTYPE rss PUBLIC
"-//Netscape Communications//DTD RSS 0.91//EN"
```

```
"http://my.netscape.com/publish/formats/rss-0.91.dtd"
```

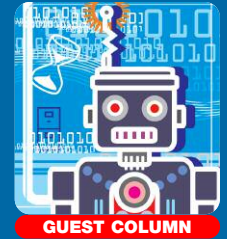
```
>
<rss version="0.91">
<channel>
<title>NDTV 24x7 News Service</title>
<link>http://NDTV.com</link>
<description>
NDTV 24x7 is a 2 hour new channel which provides news relating to various fields
</description>
</channel>
</rss>
```

On execution, the application displays the title and description from the RSS data on the phone screen. The user interface aspects of the application are handled by the javax.microedition.lcdui package.

The XML parser used in this application is KXML 1.2. In order to make KXML classes available to the application, one needs to download the KXML.ZIP package from the KXML site and copy the contents of the package to the appropriate folder in the development system. If you use Sun's J2ME tool kit, copy the contents to TOOLKIT_HOME\apps\ParseXML\lib. Readers should check out the KXML parser, which is shown in this sample application. The KXML.ZIP package can be downloaded from the site <http://kxml.objectweb.org/software/downloads/>

(To be continued in the next issue)

M-LEARNING IN DEVELOPING COUNTRIES – PART I



In this two part series I'll talk about the role of M-Learning in developing economies. This part will cover the causes for poverty and illiteracy and how new technologies will help to combat these two major menaces.

Historically all great cultures have epitomised learning as a vehicle to prosperity. Be it ancient civilisations like the Indus Valley and Sumerian, or the modern developed countries, education has always been instrumental in the growth of a nation's economy. The key reason that a country remains poor is often due to lack of education among the masses. Developing countries generally have a problem of illiteracy. India, Pakistan, and Bangladesh are examples of this phenomenon.

The problem of illiteracy in these countries is at many levels. Not only is there lack of access to basic education but also to opportunities for higher studies.

Although there is no single way of solving the problems related to education and learning in developing countries, new technologies can enable them to face the challenges head on. The challenges have to be tackled on many fronts. Content delivery, increase in administrative efficiency, and development of a sustainable

business model for providing education are key to solve the problems. We also need to focus on non-formal education to promote all round economic development.

Content delivery

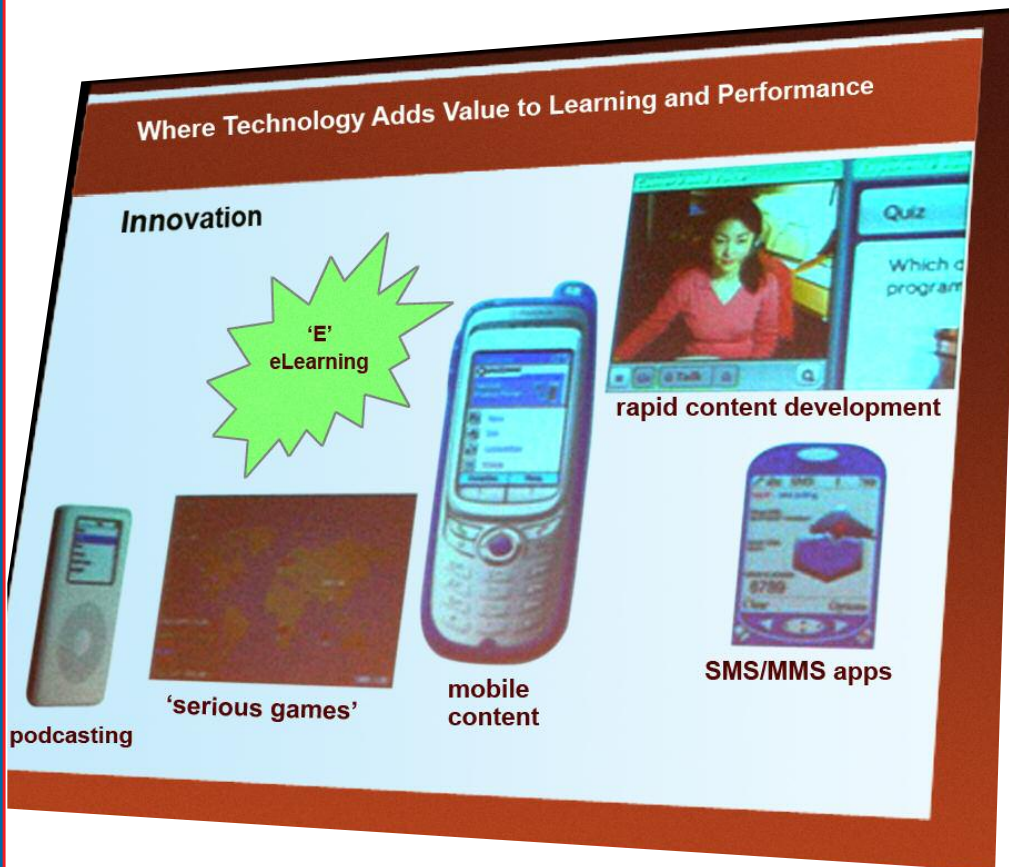
The biggest impediment to education in developing countries is the lack of educational facilities in small towns and villages. Children have to walk long distances (often around 10 Km) to reach their schools. At higher levels the problem is even more acute. My mother was a victim of this hardship. She had to study MA, since her university did not offer MBA programmes.

As mobile phone services are offered in all developing countries, learning with the help of mobile phones can greatly help in delivering education to all corners in these countries. The biggest strength of mobile telephony is the ease with which the network can be rolled out when compared with the landlines. It took mobile networks just a decade to overtake the landline networks in India.

Mobile learning

Mobile learning in developing countries can take many forms. The most practical model for distance education is the use of mobile data modems and handsets to connect remote PCs with the internet. Another benefit is that people get an opportunity to

As mobile phone services are offered in all developing countries, learning with the help of mobile phones can greatly help in delivering education to all corners in these countries



stay at their native places and add to the family income. This factor is very important while considering the actual cost of education in a developing country.

All parents wish their children have well paying jobs. A guarantee to that is getting an admission in a premier college or university. The competition for seats in 'A' grade educational institutions is so fierce that sometimes there are more than a thousand applicants for a single seat.

Mobile learning in the form of practice questions, tips and mobile guides can immensely help in imparting quality training to students in far flung places. Even in big cities which have

media interviews that the real revolution in India would come only when farmers who are working on the fields had an opportunity to interact with the experts appearing on television and put forth their views.

Current mobile technology allows farmers to do just that. Mobile learning in agriculture can take different forms. A significant one could be to teach agricultural techniques and marketing know-how for better realisation of farm produce.

Many more options

Professionals in small towns and villages generally have a hard time in updating their knowledge.

numerous colleges and institutes, mobile learning can help students to utilise their precious time spent during traveling. It can also provide an extra edge for any entrance exam.

Teaching importance of agriculture

India's late Prime Minister, Indira Gandhi, wanted to educate farmers so that they may increase farm productivity and benefit from the higher yield. She used television as an effective medium to reach out to farmers and educate them.

She often said in

Mobile learning can help professionals to keep themselves abreast with the latest happenings in their fields.

Mobile learning can also help the government spread knowledge about culture and geographies in different parts of the country for a more mobile workforce.

It acts as a unifying factor in bringing together and sharing knowledge and modern trends in technology for the benefit of the country.

Multi-lingual dictionaries on mobile phones in large developing countries like India can be helpful in this direction. Product manuals, government department guides, and tax laws on mobile phones can help people be better informed.

Before signing off, let me tell you about the second part of the article where I'll talk about how M-Learning can help improve administrative efficiency, its advantages, various business models, and emerging technologies.

About the author



Saurabh Jain has authored a book on J2ME titled 'Mobile Phone Programming'. He is an active member of prestigious bodies like Microsoft Software Architect Program, American Association for Artificial Intelligence (AAAI) and others. He has also written several articles on technology.



QUIZ

BRAINGYM

- Which one of the following characteristics is maintained by Instance variables?
 - One copy of the variable for each class instance
 - A separate value for the state information for each class instance
 - A constant state of the variable for each class instance
 - None of the above

- The following piece of code includes a class variable and an instance method. State whether it is a) true or b) false.

```
public class Counter
{
int count;
void incrementCount ()
{
count++;
}
int getCount ()
{
return count;
}
}
```

- To create a class level constant which one of the following two keywords are used together?
 - Public and constant
 - Final and constant
 - Final and static
- One identifies the Call static methods with
 - The class identifier.
 - A new instance of the class.
 - None of the above.

Answers: 1. b 2. b 3. c 4. a

Monthly poser

Who was the Chief Guest in this year's Reliance Mobile Developer Awards prize distribution ceremony?

Answer to last month's poser: Power PC

The winner of last month's poser (through a lucky draw) is **Amitabh Tripathi, Coimbatore, Tamil Nadu**. Winner will receive prize by courier.

Answers to the Monthly Poser should be sent to dadp.newsletter@relianceada.com mentioning Monthly Poser—May 2006 as the subject with the sender's location stated. The winner will be decided on the basis of a lucky draw and walk away with a prize.

You can contribute ideas and information to R-evolution at the following e-mail address: dadp.newsletter@relianceinfo.com. Please note that contributions may be edited for clarity, style or length.

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FEEDBACK

Letters to the Editor

Can you let us know when you plan to host the next Mobile Applications Developer contest? We are eager to participate as we already have some very good ideas for entries.

Sumit Sridhar & Lalit Jalan, Jalandhar

Editor: Dear Sumit & Lalit, thanks for your interest in developing mobile applications for Reliance. We look forward to your participation in the next contest. Please keep visiting www.dadp.com for announcements on our next contest.

I want to develop a mobile transaction application for Reliance? Could you tell me whom to contact ?

Amit Shukla, Mumbai

Editor: Dear Amit, thank you very much for your interest in developing a mobile transaction application. Please e-mail your product note to us through dadp.query@relianceada.com. We will evaluate it and then revert to you on how we can take it forward.