SORIG:
A Service-Oriented Framework for Rural Information Grid
An Implementation Viewpoint

Manas Ranjan Patra
Berhampur University
India

Rama Krushna Das
National Informatics Centre
India

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Outline

• Rural Information System – Overview
• Layered framework of SORIG
• Implementation issues
• Future scope and continuing work
Indian Context

- More than one Billion population
- About 700 million rural population
- Developing but a large part is underdeveloped
- Geographically dispersed, diversities in culture, lifestyle, language
- Difficulty in technology adoption due to illiteracy
RURAL INFORMATION SERVICES

• Tele-medicine
• Tele-education
• Disease surveillance
• Village amenities information services
• Advisory services
• Marketing of Self Help Group
• Weather information services
LAYEROED FRAMEWORK OF SORIG

- Infrastructure model
- Technology model
- Service model
- Info. Objects model
Information Objects Model

• Consists of information objects and their relationships.

• Typically includes databases, web page contents and all other forms of information resources that are part of the rural information grid.
Service Model

- Model components:
  - Information Service Providers,
  - Information Service Consumers
  - Information Service Registry

Tied together through a Publish-Find-Bind relationship.
Contd..

• Serves to provide abstraction from lower level details so that services can be accessed only through defined interfaces.

• facilitates user-centric view to different information resources
Technology Model

• consists of different platforms, and technologies that can be adopted to implement various components of the SORIG infrastructure.
• LAMP (Linux, Appache, MySQL, PHP), .NET, XML, ORACLE.
• existing applications in ORACLE and .NET. Are being phased out by LAMP technology.
• The objective is to completely adopt “Open Source Development” philosophy.
Infrastructure Model

- includes network connectivity through wired & wireless networks.
- Built over the existing network infrastructure of two earlier projects, eGrama and Gramsat.
- This reduces the cost of the project and also maximizes the use of existing infrastructure.
SORIG: Conceptual framework

District level servers
Block level servers
Village level Kiosks
Service Provisioning Structure
IMPLEMENTATION VIEW

The e-Grama Project
- Implemented in 9(1+8) district for providing G2C services through village IT KIOSKS
- zero cost involved
- village level awareness and motivation is done by volunteers
- low cost computer education programmes given

GRAMSAT Project
- Data feeding of different Govt. schemes using VSAT network.
- Data storage at a central repository
- Data communication link between Block, District, State and Union
Deployment Architecture
GramSat Infrastructure
Services provided over GRAMSAT

- RuralSoft (G2G, G2C)
- PriaSoft (G2G, G2C)
- Rural Household Survey (G2G, G2C)
- NREGS (G2G, G2C)
- Bhulekh (G2C)
- Rainfall Monitoring System (G2G, G2C)
TELEREFERAL SERVICES

- To take Tele-healthcare to the rural and inaccessible parts of India
- To enable Clinical consultation services such as healthcare, Tele-consultation, Tele-Continuing Medical Education, Tele-follow-ups, Tele-education etc.
Contd..

• Tele-CME programme in the North East states of India

• extended to the doctors of primary health centers in the rural areas of the state of Orissa
Twofold Benefits of Tele-CME

• Doctors in the rural areas can now interact with specialists located in advanced medical centers seeking advices to handle typical diseases.

• Specialists come to know about area specific diseases and epidemics in order to carry out further research and develop expertise to deal with such diseases.
Phone-Doctor: A Project on Rural Health & Telemedicine Services

Objectives:

• Facilitate communication among paramedical workers, doctors and other health care providers at rural level

• reduce supply chain between the pharmaceutical companies and patients and thus reducing the usage of fake and spurious medicines.

• Health care knowledge management.
• Provide guidance on better health care facilities & information on health related issues:

  – Preventing epidemics.
  – Counseling on AIDS
  – Proper immunization schedule against vaccine preventable diseases.
  – Pediatrics and Geriatric care.
  – Emergency health services.
  – Personal hygiene, environmental health.
  – Family Planning.
Architectural Model
Proposed services

• HEALTHCARE ANSWERING SERVICES
• REFERRAL SERVICES
• DOCTOR ON CALL
• COUCELLING FOR DRUG ADDICTS
• MEDICATION REMINDERS FOR CHRONIC PATIENTS
• APPOINTMENT BOOKINGS
• MONITORING FOR DIABETIC AND ASTHMA PATIENTS
• LOCATING BLOOD DONORS
Contd..

- DISEASE MONITORING AND SURVEILLANCE
- FOOD CONTAMINATION ALERTS
- AMBULANCE AND EMERGENCY SERVICES
- CLINICAL TRIALS
- PROVIDING BASIC HEALTH INFORMATION
- SEX EDUCATION AND A.I.D.S AWARENESS
- ....
- ....
Concluding remarks

• Opportunity to serve the rural population
• Encouraging Public-Private-Participation
• Yet to see the results of Phone-Doctor service!

• This is just a humble beginning !!!!!
REFERENCES


IT Kiosk for a Common man
Thank You