

Progress Report

“e-Solutions for Community using Low-cost Wi-Fi”



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Presentation Layout

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2. Flowchart of the Theme
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Background

Meeting of COMSATS' thematic research group on information and communication technologies (ICTs).

Organized By: COMSATS H/Q & CIIT

Held On: April 19-20, 2011,

Participant

- COMSATS Institute of Information Technology (CIIT), Pakistan (Lead Centre)
- *Mr. Oladejo Olutunji* Principal Programmer, National Mathematical Centre (NMC), Nigeria
- *Mr. Shadi Al-Asfeh* Systems Analyst Royal Scientific Society (RSS), Jordan
- *Dr. Abdul Hanan bin Abdullah* Dean Faculty of Computer Science & Information System, Universiti Teknologi Malaysia (UTM), Malaysia



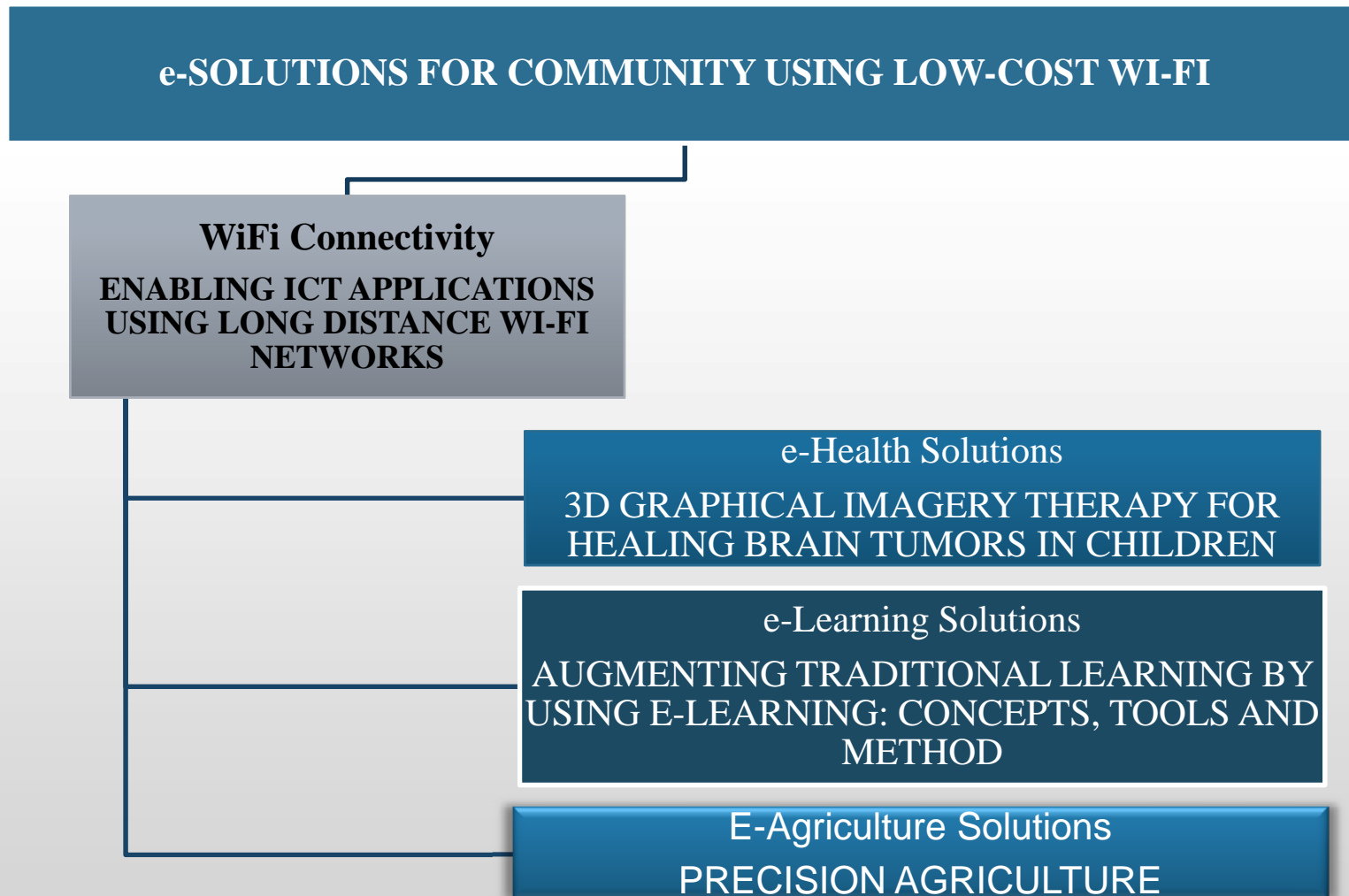
Background

Research Theme

- Participants selected a main research theme to be undertaken by the Group, titled **‘e-Solutions for Community using Low-cost Wi-Fi’**.
- Under the theme group has initially targeted establishment off Wi-Fi connectivity and e-Health solutions.
- Whereas the group also agree to work on e-Learning and e-Agriculture.



Flowchart of the Theme

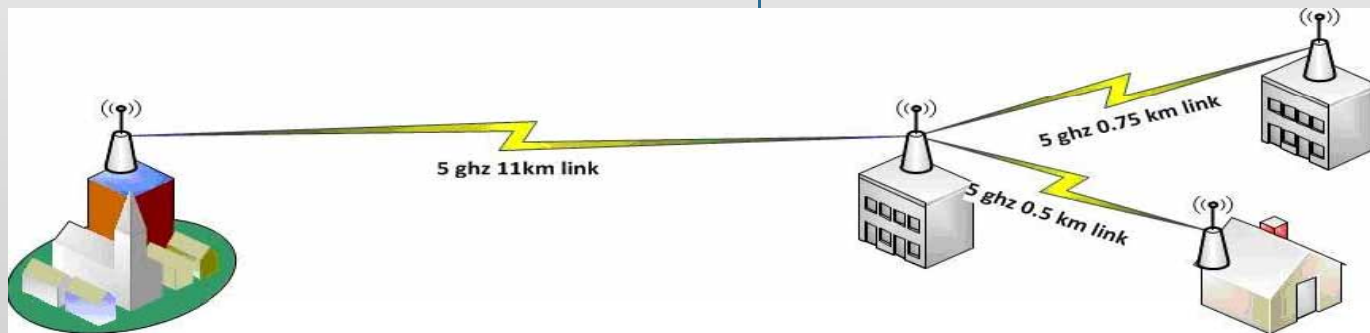


WiFi Conectivity

Enabling ICT Applications Using Long Distance Wi-Fi Networks



- **Idea:** Solutions for challenging rural and underserved environments through building affordable, robust and reliable ICT systems.
- By providing cheap connectivity between developed and remote areas, illiteracy, health problems and poverty can be alleviated.
- Wi-Fi is the most suitable option:
 - Affordable costs
 - Easier reach to far flung rural areas
 - Desirable data rates
 - Less maintenance overheads



WiFi Conectivity

Enabling ICT Applications Using Long Distance Wi-Fi Networks

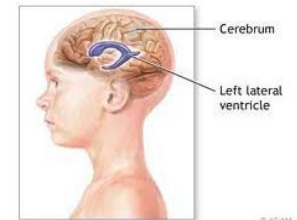
Progress

- The initial step of the project was done by implementation of a prototype and long distance Wifi link is carried out for the provision testing of various e-applications. Primarily Pakistan Telecommunication Limited (PTCL) and Pakistan Telecommunication Authority (PTA) were approached for legal & technical cooperation and for possible joint venture.
- A meeting with the General Manager operations at COMSATS Internet Service (CIS) was held, to discuss the possible collaboration on the above mentioned project.
- CIIT could now participate in CIS project of tele-Health where we can provide the link to remotest place of Northern Area of Pakistan
- NMC Nigeria & UTM Malaysia has shown interest in this project.

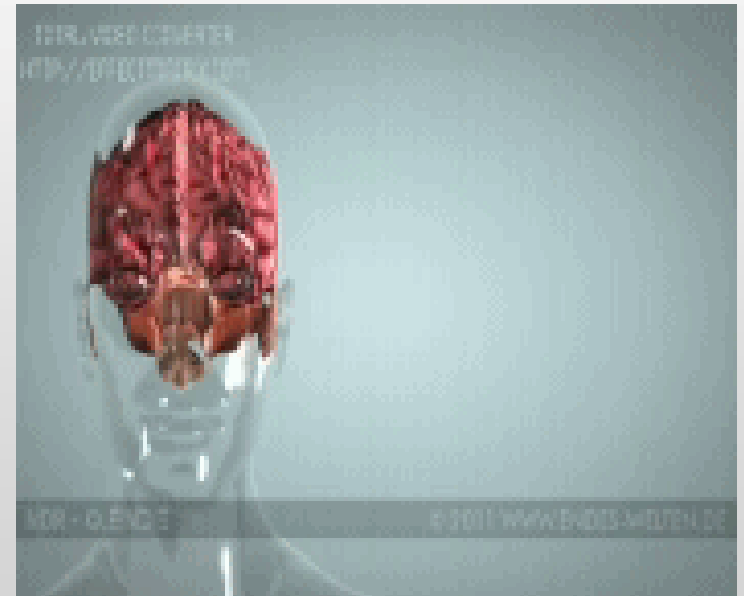


e-Health Solutions

3D Graphical Imagery Therapy For Healing Brain Tumors In Children



- **Idea:** Curing brain tumor in children by Image Therapy/Psychological Therapy through video games.
- Three dimensional animated graphical representation is a tool which can be used to facilitate the guided imagery sessions in children with brain tumors.
- 3D animated imagination in form of PC game for children with brain tumors will provide the explanation of - how the tumors can be attacked by the immune system within their bodies.
- Immune cells are used as the weapons against tumors.



e-Health Solutions

3D Graphical Imagery Therapy For Healing Brain Tumors In Children

Progress

- The project is funded by ICT R&D Funds, Ministry of IT Government of PAKISTAN
- The first milestone of the Project is completed (i.e. the prototype of the game is ready).
- This prototype game will now be tested for its acceptability, improvement etc. in the Shaukat Khanam Cancer Hospital in Pakistan.
- UTM Malaysia has shown interest in this project.



e-Learning Solutions

Augmenting Traditional Learning by Using e-Learning



- **Idea:** Making best possible use of existing specialized faculty in the developing countries through developing e-Learning framework for low-cost specialized knowledge dissemination.
- Develop and assess effectiveness of courses.
- The project components include:
 - IT augmented learning material
 - lecture efficacy monitoring
 - Artificial Intelligence techniques
 - video conferencing
 - online examinations



e-Learning Solutions

Augmenting Traditional Learning by Using e-Learning

Progress

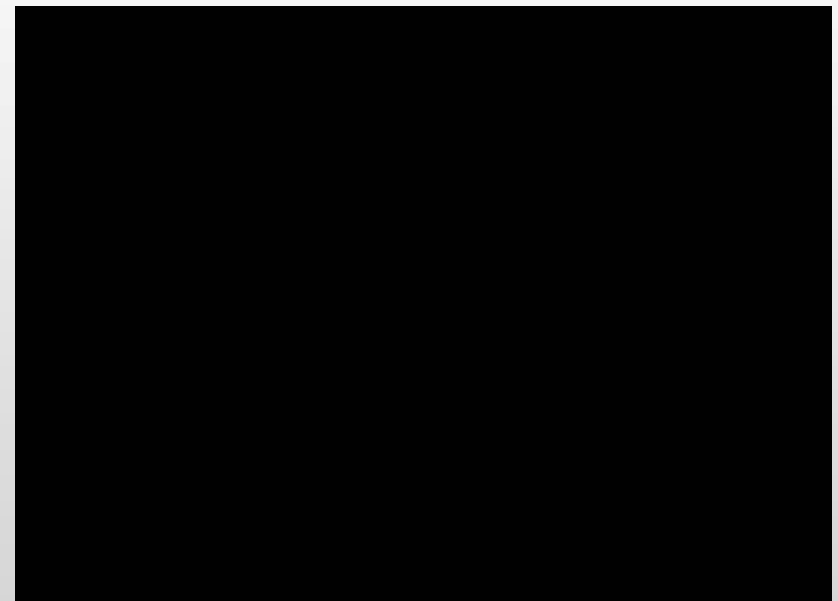
- Presently, the options are opened for all the participating countries to work on development of computer-assisted learning environments for adult basic education keeping in view the theoretical foundation of learning processes.
- NMC Nigeria has shown interest in this project.



e-Agriculture Solutions Precision Agriculture



- **Idea:** Farmers' low access to appropriate technologies and state of the art research and innovation is the key challenge to the developing countries agriculture sectors.
- Precision Agriculture as optimizing crop production.
- Wireless Sensor Networks (WSNs)
 - Better spatial and temporal resolution of data
 - cheaper costs



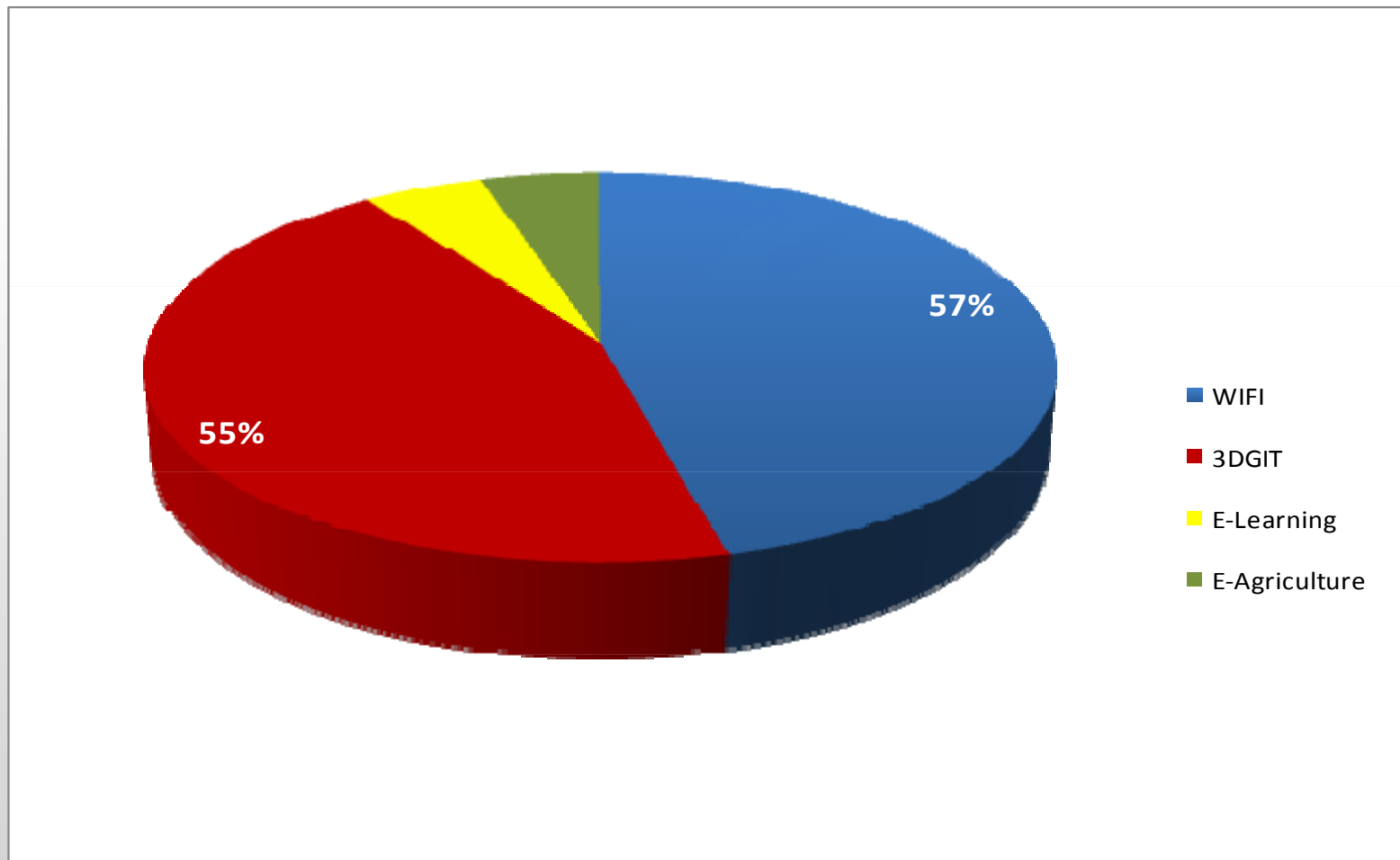
e-Agriculture Solutions Precision Agriculture

Progress

- The progress is slow of this project as the priority was not given to it. The TRG-ICT is in need of active collaboration in this project.
- The **Royal Scientific Society Jordan** has shown deep interest in this project.



Graphical Overview of Projects



Thank You

