

## **Wireless Mesh Networking: A Testbed for Security Issues and Community Actions in a barrio “carenciado” Argentina.**

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Internet access at home seems natural to have in many countries. This is not the case in poor regions of Argentina. Even though children at school, most probably through a computing lab, could use a computer and Internet, once that child returns home, there are little chances of continuing the Internet experience and benefiting from its possibilities or use content from a server at school. Access to a computer, the possibility of neighbourhood connectivity, and use of Internet can most surely also open the way for job opportunities. Wireless Mesh Networking offers a step further in simplifying and making less expensive network connectivity. The present project aims to address two different aspects of wireless mesh networking which naturally merge into each other:

- A Fundamental research project focused on: “Wireless Mesh Networking security and privacy”
- An applied research project: “A test-bed for Mesh Networking within a ‘barrio carenciado’ in La Plata, Argentina. Study of educational benefits for primary school children and search opportunities of parents facing unemployment”

In this paper we describe the project in detail and its implementation.

The test bed links around 20 homes (with children in primary school age and unemployed parents) and has its gateway to the Internet in a local community meeting place (“El Obrador”). One of the selected nodes is a primary “Special” School (for children with learning disabilities). The whole family uses Internet for different purposes but, the study concentrates on educational issues of primary school children and providing possible means for reverting parent’s situation. A special project is planned for the school if further resources could be obtained.

We have recently started a research action addressing the development of games for mobiles with educational content (in particular mathematical and physics concepts and focused on children aged 10 to 12) specially targeted to developing world. Games will be "on the device" and "web-based". Again our test bed will serve a trial platform.

The project (one year duration) is being carried out by a multidisciplinary research group from the Universidad Nacional de La Plata in conjunction with the ONG Barrios del Plata (a chapter of Muhammad Yunus’s Grameen Bank) We have included one family independent of the ONG.

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