M-Agriculture: Is it possible to use available inexpensive mobile technologies to empower rural farmers?

by

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Mobile phones are ubiquitous (82.9% of the SA population had cell phones in 2007 with 90% cell phone network coverage) and their usage is spreading in rural communities (Mandioma, 2007).

The primary focus of this research is to find ways in which mobile technologies can be utilized by rural farmers to promote their agricultural business.
As different rural areas have different prices for their commodities depending on the markets, people need to buy the food where the price is cheap and need to find clients on time to maximize income.
Aim

- This project intends to build a system that will enable rural farmers, with limited resources as well as limited access to traditional technologies like telephones, Pcs etc., to easily and at low cost, source information or advertise their commodities.
- This will assist farmers to increase their profit margins and will ensure their viability.
This gives rise to the following research questions:

- How can an inexpensive mobile technology be used to provide market related information to rural farmers?
- How can farmers be empowered to advertise their produce and make contact with potential clients?
- How can the uptake of this technology be promoted?
Framework

1. Buyer/Farmer
   - Check Price
     1. Apples
     2. Beans
     3. Maize

2. *Apple Request#*

3. Server
   - Request/Reply
   - List of Apple producers and their Details & Apple's price

1st Operation
2nd Operation
3rd Operation
Related work

- Mobile phone technology is the most popular communication technology in Bangladesh and it is affordable compared to the other technologies (Bhavnani 2008).

- The World Bank (2008) indicated that the mobile phone is a tool that has the potential to help people in poor countries to escape the cycle of poverty.

- USSD technology is being used to monitor patients health information at the Mpumalanga Hospital. USSD messages are sent to patients and the patients respond with an easy to use mobile phone application (Wouters, et al. 2009).

- Modern ICTs are used in Kenya to link farmers to markets by means of mobile SMS communication for information about products or opportunities (Mukhebi, et al. 2007).
Research Approach

(Crotty, 1998)
Prototype

The following hardware and software will probably be used when designing the prototype

**Hardware**
- PC
- Cell Phone
- SMS Gateway
- ...

**Software**
- PHP
- MySQL
- Apache
- Javascript
- ...

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<th>Task</th>
<th>2010</th>
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<td>Thesis Proposal</td>
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<td>Introduction (Chapter 1)</td>
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<td>Theoretical framework/ literature review (Chapter 2)</td>
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<td>Collect User Requirements</td>
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