Handheld computers for rural healthcare:
Experiences from research concept to global operations

Decision Systems Group, Brigham & Women's
Harvard Medical School
MIT-Media Lab Asia
Dimagi, Inc
Concept Labs

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overview

design + implementation
    project objective
    hardware design
    user interface
    implementation

developmental entrepreneurship
    results
    transition to entrepreneurship

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project ca:sh -- objective

ballabhgarh

Develop a handheld electronic medical record (EMS) system for health workers in remote areas, to enable

- quick access to medical records
- a collection of data for analysis of trends + records

Addresses two important problems:

- Prenatal Care
- Child health

objective

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Source: Anantraman, V. et al., "Handheld computers for rural healthcare: Experiences from research concept to global operations."
Proceedings of Development by Design, 1-10.

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system design

- **Compaq iPAQ** 3765
- device is **self-contained**; runs both server and client
- open source **linux** for easy migration
- data stored on **compact flash** cards

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user interface

- **designed in 2 weeks with active participation of target users**
- **minimize free text entry**

- **divided into 5 modules**

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Images: Anantraman, V. et al., "Handheld computers for rural healthcare: Experiences from research concept to global operations." *Proceedings of Development by Design*, 1-10.

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implementation

- deployed in 4 ballabhgarh subcenters over 5 months.
  subcenters included early and late adopters of technology

- **phase 1 training:** use hardware

- **phase 2 training**: use software

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results

- expansion to 10 clinics
- complete replacement of paper records
- high acceptance of technology
- **Dimagi** was created in 2002 to help the technology scale up

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Photo: Anantraman, V. et al., "Handheld computers for rural healthcare: Experiences from research concept to global operations." *Proceedings of Development by Design*, 1-10.

transition: research to entrepreneurship

- **redesign to ensure wide applications**: cheaper handhelds; software generalized to include potential integration of GPS, wireless modules, cameras, etc.

- **funding:** difficult to obtain venture capital, targeted social venture, angel investors, grants, government funds

- **market focus:** develop robust business model; allow technology to be used in non-developing countries

- **partnerships:** for advice, focus, + customer base

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discussion

can you think of other projects that have made a successful or unsuccessful transition to entrepreneurship?

does your nextlab project have the potential for expansion? what has your group discussed? what are the strengths and challenges

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