Ubiquitous Computing and Internet-2 Technologies as Support for Hospitals

Tecnologías de Compu Ubicuo e Internet-2 como Apoyo a Hospitales
Project background

• CUDI-supported project
  – January-december, 2004

• Inter-institutional collaboration
  – Ensenada: CICESE, IMSS (HGZ IV, no. 8)
  – Colima: U. Colima, University Hospital

• Previous efforts
  – Excellent relations: CICESE – U. Colima
  – On-going work: CICESE - IMSS
  – Strong commitment: U. Colima - Hospital
Project participants

- Dr. Juan José Contreras Castillo
- Dr. J. Antonio García Macías
- Dr. Ana Isabel Martínez García
- Dr. Jesús Favela Vara
- M.Sc. Marcela Rodríguez Urrea
- Many students, university and hospital staff, interviewers, …
Hospitals + Ubicom tech.

- Pervasive computing environments full of information resources and appliances
- Handhelds as bridges from the personal to the public ubiquitous infrastructure
- Mobility is significant and connectivity intermittent
- How can users remain part of an ubicomp environment, interact with their peers or services, and access relevant information?
Methodology
Workplace Study (1)

- Location of people and devices
- Timing for the delivery of information
- Role-oriented nature of work
- Artifact oriented nature of information gathering
The patient is not responding well to her medication...
Scenario

[Solicitud de Análisis]

Es necesario solicitar un examen de laboratorio

Juan

Juan

Oscar

Rita

Pedro

Juan

Juan

Solicitud de Laboratorio

- Habitación: 222 Fecha: May 18 10:30am
- Paciente: Sonia Alvarado Hernandez
  - HEMATOLOGIA
  - Formula
    - Roja
    - Blanca
    - Rutina
    - Hemoglobina
    - Hematocrito
    - C.M.H.G.
    - Leucocitos
    - Linfocitos
    - Monocitos
    - Eosinofilos
    - Basofilos
    - Segmentados
    - En Banda
    - Anormalías
    - Sedimentacion

Context

Cancelar

down

up

Escaleras
Scenario

[Solicitud de Análisis]
Scenario

Es necesario que este paciente sea preparado para una intervención quirúrgica.
Evaluation

Technology Acceptance Model (TAM)

- 91% interested in using the system
- 84% indicated the system would be useful
- 78% indicated the system is easy to use
Current and future work

• setup (jan-apr)
  – Continue previous research, assignment of roles, logistic aspects

• 1st phase (may)
  – Project rollout, train interviewers

• 2nd phase (jun-jul)
  – Introduction to handheld devices, simple applications
Current and future work

• 3\textsuperscript{rd} phase (aug-sep)
  – Wireless phase, collaborative applications

• 4\textsuperscript{th} phase (oct-nov)
  – Electronic patient record

• 5\textsuperscript{th} phase (dec)
  – Context-aware applications, post-CUDI development

* I-2 videoconferencing in different phases, supporting collaboration and training
Thank you.....

Questions?