Practical Activities

List of Possible Practical Activities
- AutoID
  - Inventory Manager
  - Assistance
    - Blind People
    - Vegetarians/Athletes
- EPC-IS
- Inter-Faculty Games
- Infrastructure for Technology Centers
- WebTop – Groupware
- EPG: Electronic Programme Guide

How does it work? (abstract)

Reader emits Radio Frequency signals

The RFID-tag answers with "other" signals (as long as the tag receives signals)

The driver interprets the incoming signals from the reader and produces the corresponding id. This process is repeated as long as the item stays within reader's range. As a consequence the same id is signaled many times.

The application needs to filter the identical ids and process the event according to the business logic.
Inventory Manager

- Receipt definition (XML)
  - Look up
  - Adopt/define
  - How to flatten it into tables?
- Analyze ePC categories
  - Electronics, Food, ...
  - What to show depending on it
    - Electronics: bought when? at? guarantee till?
    - Food: ingredients?, expiration date?
- Activities
  - On incoming receipt, flatten it into rDB
  - On id from reader, lookup on rDB and show:
    - Corresponding data according to categories
  - Offer the possibility to write the original id on RFID tag (e.g. return the object)

Assistance

- Blind People
  - Readout product description
  - Involved Technologies:
    - XML, VoiceXML?
- Vegetarians/Athletes
  - Check if all ingredients:
    - are vegetables
    - do not contain prohibited substances
  - Involved Technologies:
    - XML, XML Databases?, Swing? Laslo? AJAX?
- Queries on my inventory: Cooking Assistance
  - Based on my inventory suggest what to cook

EPC Information Service (IS)

- Maintains Item descriptions up-to-date
  - Semi-structured data
  - Static data
    - Physical description, ...
  - Dynamic data
    - Traceable data
    - Location (+date), owner

AutoID - Some Recommendations

- Java 1.3?
- HSQLDB
  - tiny DBMS, JDBC
  - http://hsqldb.sourceforge.net/
- XML DBMS
  - eXist, xindice
- Interface definition
  - Reader and Listener
  - Exception handling
- Data Structure
  - RFIDEvent / TagData
  - XML

Inter-Faculty Games

- You already know the domain
- Provide a solution
  - It's now only about web pages...
  - Messaging (status of games)
  - How to disseminate status info to interested consumers
    - Different kind of clients?

Infra. 4 Technology Centers

- Principal Actors
  - Companies
  - Students
  - Graduates
  - Projects
  - Offices
- Your imagination ...
  - Current state of contracts
  - How many people is working
  - Flow of money
**Groupware: Server-side**
- Groupware functionality as services
  - Calendar
  - Contacts
  - Projects
- Exposed as services
- Wrap already developed Groupware servers
  - (server-side) Zimbra
  - E-Groupware

**Groupware: Client-side**
- Rich User interactions
  - We have seen many examples yesterday
  - You are allowed to “reuse” code from others
    - OpenLaszlo, AJAX
- What about a WebTop (instead of Desktop?)
  - Text editor, notes, cal, email, ...
  - Running on client but with server-side support

**EPG**
- Electronic Programme Guide
  - Offer a rich interface to select a program (on TV)
    - remember the idea of flight tickets!
    - Richer interaction allowing to select by
      - genre
      - set of channels (favorites, group:news, ...)
      - time frame
      - repetition?
      - actors, director
      - Year
- Use
  - Internet
  - embedded in SAT receivers

**Admin Review**
- Goal
  - Experience with technology
  - Hands-on
    - XML, Messaging, Distri. Objects, J2EE, Web Services, RIA, ...
- Deadline:
  - March/April 2005
  - Each group:
    - Running Prototype
    - Documentation
      - Report on design decisions and how it was implemented
      - Preferable in english

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**Where to find Information?**
- Apart from Google...
  - Auto-ID Labs
  - EPCglobal
  - Managing RFID Data, VLDB 2004
  - ACM Queue, Special Issue on RFID, Oct 2004
- Yahoo! Group
  - groups.yahoo.com/group/tecmod