

WINMEC

Technical Report - UCLA WINMEC

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"Wi-Fi and RFID possibilities for Business Applications in the Hotel and Hospitality Industry"

Hotels RFID

Features of RFID

- Portability
- Fast information Transferring
- Networking information
- Locally stored information

Components

- Reader
- Tags

Possibilities:

1. Tags on/for customers

- **Check in** - Store their room information - You can mail them a RFID tag so that they can simply walk up to their hotel room without going to the check in desk.
 - Readers at major entrances
- **Location** - Track the location of other members of your family/group
 - Readers at major locations
- **Security** - Offer tags to stick on expensive items in your hotel to track where it is or if it is moving. Security would be a combination of two tags. One is for the person and the other is on the actual item. If the owner leaves with the item, both tags will be read, and no alarm will sound. If the item leaves without a person's tag or with an incorrect match then an alarm will sound.
 - Readers at major locations
- **Laundry** - If dry cleaning or regular laundry needs to be done, the clothes can be marked with RFID tags, so the customer data can stick with the clothing. Newer tags even make claims to survive some washing cycles.

- **Personalization - Restaurants and stores** - If the customer has tags, the waiters can know the name of the person who is ordering, what they previous ordered, and any other information. The purchasing can go right to the hotel also.
 - Readers for as many waiters as necessary
 - **Luggage tracking service from the hotel** - this already being done in London, where customers can put RFID on their suitcases and track its progress. They offer automatic routing and tracking with the internet to make sure that your bags get to your hotel.
 - Readers at the Hotel
 - Some sort of setup at the airport.
 - **Customer count** - could provide data on when people come in or out of the building, frequency of entering/remaining in their rooms.
 - **Privileges** - of only certain customers have the tags, then there could be special rooms/areas that are only accessible with a RFID access tag.
 - **Purchasing** - instead of remembering an account number of some sort, you can carry your RFID card, and scan it into the restaurant or other stores in the hotel, and the costs are all added into the overall hotel bill.
2. **Readers on/for Customers**
- **Advertisements** - Customers could read tags either in poster or in a small area that tells them about local vendors or attractions.
 - **Information for rooms**- The reader could read the information about the rooms such as meeting rooms or restaurants or the gym, e.g. hours of operation, inventory, prices, dishes, specials, etc.
3. **Tags on Employees**
- **Clock in - Clock out** - putting a tag on their uniform or name tag will allow tracking of coming to / going from work.
 - **Location / Attendance** - Know where your staff is in the building, know who is actually present or who is not.
4. **Tags on Materials/Stock**
- **Room Inventory** - Tag bedding, towels, or other things inside room, to know the supplies of the room and to detour theft. Also keeps track of restocking. Helps with how much stock is used, speeds up process by eliminating paper.
 - **Floor Stock inventory** - Tag large cartons or materials. Then you can know a general stock of each floor, at anytime.
 - **Hotel Inventory** - On a larger scope, a supplier may even check the hotel's stock and immediately send a new shipment from time to time, checking the stocks over the internet or network.

- **Mini - Bar** - tag alcohol to keep track of what is taken out of the fridge, etc.
5. **Tags on Rooms**
- **Cleaning** - it will tell you the last time it was cleaned
 - **Roster** - Tells you who is staying in the room, or even the history of the attendees of the room.
 - **Check - in** -can simply see if the room is ready to be checked in, or if the person has checked in/out, with a simple scan and a press of the button.
 - **Doors** - with the right tag, the door could automatically open up. This works for rooms, or even special elevators.

Hotels and Built in Wi-Fi

1. Portal

- a. **Overview:** The portal is a website or interface that the customer can use either in the room or on the premises. It may either be accessible through a laptop, mobile device, or simply through a terminal. The portal refers to this first page that will act as a doorway for patrons to access all the options, services, and privileges. The terminals/laptops will all be connected using a Wi-Fi network. The equipment requirements will be a local server, security measures, and terminals for customers who don't have a computer.
- i. **Example:** A laptop user is issued a password/account/ or a Wi-Fi card and goes on the network. The first thing that pops up is the hotel page. It will have some easy links suggested in (c) and any other information. The user then can access all these services, and take care of his business from his room, or during dinner, or anywhere in the hotel complex.
 - ii. **Example:** It rains and a family doesn't know what to do, so they go to a terminal or borrow a device, and begin searching for attractions. They did not bring a computer or have internet, so their research tools are limited.
- b. **Ease of use / Hassle Reduction** - one of the hardest things to do on a trip, business or not is research things to do. Most will have a rough sketch, but there are always some things that cannot always be planned so well.
- i. **Hotel Specific Recommendations** - Hardest thing to research is area specific restaurants and other attractions, searching on the internet for just your local area is very difficult.
 - 1. **Suggested List** - Hotel will have a suggested list of local restaurants, ratings, and other attractions
 - 2. **Residents List** - Other patrons will recommend places they explore in the area and will post reviews that will be stored to be accessed later.
 - ii. **Area Specific Directions** - helpful maps

- iii. **Local Services** - These are things that the hotel does not cover, yet people need them done, or want to do them. Barbershops, electronic shops, tailors, shoe stores, massage parlors, copy centers, etc.
- c. **Content:** This portal will be the key to inform the patron of news, deals, and other opportunities that are nearby.
 - i. **Food** - restaurants, famous to local. Possibly even to - go
 - ii. **Attractions** - Parks, golf, theaters, other recreational sites either information, or maybe even buying tickets to the attractions, so you won't have to wake up and wait in line.
 - iii. **Shuttles** - find a shuttle, or even request some sort of taxi/shuttle service to a particular location.
 - iv. **Events** - monthly/seasonal attractions
 - v. **Check in and Check out online**
 - vi. **Account management**
 - vii. **Shopping**
 - viii. **Simple food service** (more for the items that don't require a lot of comments)
 - ix. **Wake up Calls**
 - x. **Cleaning** - schedule a pick up for your clothes to be dry cleaned
 - xi. **Schedule** - Allows you to set your schedule
 - xii. **Luggage** - arrange to have your luggage picked up and brought either to the lobby or to the airport
 - xiii. **Easy Directions** - A simple directions program or some sort could be designed to provide easy directions and modes of transportation suggested
 - xiv. **Questions** - a simple messaging system could go to the front desk for simple questions. A message board could hold news postings, or offers for the patrons. Comments could also be posted for the management.
 - xv. **Easier - pay per view**
- 2. **Business Center**
 - a. A business center could be installed in the hotel, or even in certain rooms. A printer, or a fax machine, copier, etc. The Wi-Fi network would allow patrons to send their documents through the network to either the self-serve business center, or a local printer/ fax machine. This is a big plus for business travelers. Coupled with RFID you could also keep track of your pages printed/faxed
- 3. **Phone**
 - a. According to a Consumer Reports study, one of the top complaints, next to poor lighting and bad decor, is that phone charges are too high. Some sort of Wi-Fi phone with moderate rates would be a welcome alternative.
- 4. **Video Conferencing** - for business patrons.
- 5. **Walkie Talkies - Portable WiFi phones** - these will use the Wifi Network, and can be provided for families or other people who share the same

room, and they need to find each other within the hotel premise. This will be targeted more for families or groups of travelers.