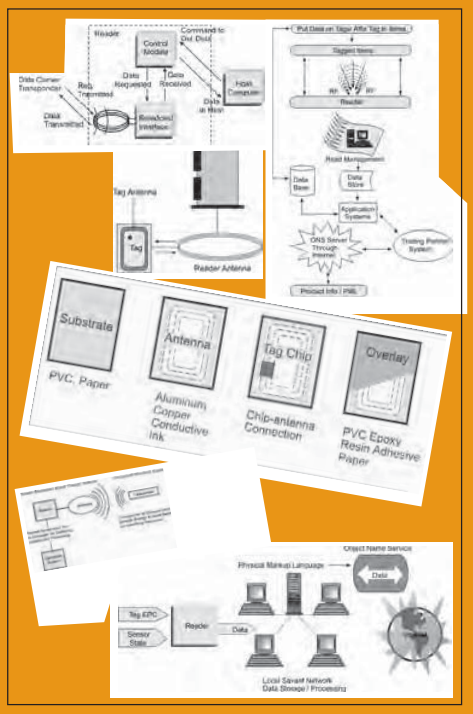
RFID TAGGING - FEATURES AND APPLICATIONS

Radio Frequency Identification



YOU WILL LEARN HOW TO:

- Apply RFID technology to your next project
- Understand the strengths and weaknesses of the technology
- Detail the physics and electronics behind RFID
- Specify RFID system components and types of tags
- List types of RFID communication system and frequency ranges
- Design and install a simple RFID system
- Understand transmission and collision avoidance techniques employed in RFID
- Describe a typical transmitting sequence
- Distinguish between the various types and workings of transponders and antenna
- Explain RFID standards and current regulations
- Appreciate the middleware requirements and their integration with varied business applications
- Detail the cost involved to set up a RFID system
- Undertake a RFID implementation study from case study examples
- Gain hands-on experience in setting up, testing and running a RFID system using notebook computers and RFID demo-kits

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The Workshop

RFID is one of the fastest growing technologies in the automatic data collection industry. The widespread use of RFID in such varied applications as electronic article surveillance, animal tagging and high volume logistics supply has resulted in low prices of the tags. It is conceivable with the affordability of tags that they can be permanently used to identify foodstuffs and clothing items. There are still a number of questions raised about issues such as cost and in particular privacy.This 2-day workshop will cover all the essential aspects of RFID systems to not only provide you with a broad understanding of its technology but also the various types of applications and uses where it can be applied to.

The workshop will provide an overview of RFID technology, explain the physics and electronics driving this technology whilst also focusing on communication protocols, industry standards and security issues. It also covers software requirements, middleware and integration with various business applications and practices. Implementation strategies and challenges, cost analysis, market opportunities and the road-ahead will be discussed throughout the 2 days.

The workshop provides hands-on training in setting up, testing and running a RFID system using notebook computers and RFID demo-kits. These sessions will explore identifying components, studying the characteristics of RFID transponders, antenna, their limitations and troubleshooting.

Case studies are shown throughout the 2 days to give you a practical understanding of its application to industry.

Pre-requisites

Basic knowledge of electrical and electronics concepts useful. Knowledge of data communications and applications are desirable, but not essential.

The Program

INTRODUCTION
- RFID - an overview
- Genesis of an idea - history of RFID
- RFID in 1990s
- RFID promises: stepping into 21st century
- RFID limitations
- Patents
- What's happening today?

NUTS & BOLTS: PART 1
- Revisit physics and electronic fundamentals
- Antenna Maps
- RFID - system components
- RFID - types of communication: radio frequency and range
- System handshake - a typical transmitting sequence
- Data modulation
- Data encoding
- Transmission & collision
- Evolving RFID standards
- Definitions & acronyms
- Case study

NUTS & BOLTS: PART 2
- Transponder apparatus and system
- Remotely powered transponder
- Remotely powered transponder having a dipole antenna array
- Passive encoding microwave transponder
- Identification system using coded passive transponders
- Passive transponder apparatus for use in an interrogator - responder system
- Electronic detection and identification system
- Essentials of troubleshooting exercise

TYPICAL BUSINESS CASE STUDY/ SUCCESS STORIES: PART 1
- Case studies

RFID APPLICATIONS
- Current market opportunities & application areas
- Specific examples of RFID applications
  - Transportation/distribution
  - Retailing
  - Industrial security and access control
  - Animal identification
  - Automated library systems
  - Check point systems
  - Toll road control
  - Healthcare
  - Digital card mail
  - Toy industry
  - Banking

MARKET OPPORTUNITIES & PRODUCTS
- Market analysis & survey: case study and costs
- Major players/products

INSTALLATION/TROUBLESHOOTING SAMPLE RFID SYSTEM
- Installation of a RFID system: Practical sessions in setting up, testing and running a RFID system using notebook computers and RFID demo-kits
- Troubleshooting of a RFID system

TYPICAL BUSINESS CASE STUDY : PART 2

ROAD AHEAD
- Research projects
- Innovative products for the home
- Future vision
- Ethics & privacy issues

SUMMARY, OPEN FORUM AND CLOSING

Who Should Attend

Engineers and Technicians working with or required to implement a RFID system, including:
- System Engineers
- Instrumentation and Control Engineers/ Technicians
- Process Control Engineers
- Network Planners
- Electrical Engineers
- Packaging Engineers
- System Integrators
- Application Engineers
- Solution Providers
- Electronic Engineers
- Test Engineers
- Software Engineers
- System Integrators
- Designers
- Electronic Technicians
- Consulting Engineers
- Design Engineers
- Plant Managers
- Systems Engineers
- Electricians

This workshop will also be of interest to:
- All those who wish to be able to multi-skill into RFID systems
- Maintenance technicians, electricians, foremen and engineers
- All engineering, operations or management personnel who are directly or indirectly involved with electronics controls
- Those involved with the installing, programming, maintaining and purchasing of electronic control equipment
- Those who want to improve their understanding and capabilities in electronic technology
- All those involved with sales and installation of electronic products into industry

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