

**BASICS OF THE DEVELOPMENT OF RFID TECHNOLOGY
AND ITS PROGRAM**

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Abstract: This is it in the article automatic identification technologies are indispensable part as now wide applied of the upcoming RFID technology development basics and his work principle about information light up passed. Also this of technology types and another identification from technologies different aspects tables based on analysis done.

Key Keywords : RFID, SAP, IDOS, automatic identification, tag, identifier, wireless radio frequency, power source.

RFID (Radio Frequency IDentification - radio frequency identification make) radio signals through read or to be written information which keeps devices automatic respectively determination is a method. Soviet in 1945 scientist Lev Sergeevich Termin random radio wave according to vocal information to use permission given the device invention did. Voice of the diffuser to shake reason that's it while reflection sound radio frequency wave modulation to do through of the resonator shape a little changed went. Device only. Although it is a passive transmitter (called "juchok"), its invention of RFID technology initial subject is considered. To this the most near has been technology USA seafaring research laboratory. Invented in 1937 by IFF (Identification Friend or Foe) is recognized as "friend-foe". It gets a system. From him second the world war

during allies by in the sky one of the things himself or of another object whether or not determination for active was used. Such systems military and citizenship. It is also used in aviation. Los Alamos Research in 1973 Scientific Laboratory modern RFID chips, that is, both passive and active in type of RFID devices the first demonstration being passed.

Power source type according to RFID tags the following to species divided into:

- passive;
- active;
- half passive

Passive RFID tags inside power source no. Through an electromagnetic signal from the reader to the antenna included electricity current working silicon KMOP chips performance for enough strength will give and answer signal transmits. In 2006, Hitachi 0.15x0.15 mm (antenna own into cannot) measure and paper compared to the sheet (7.5 μ m). more complicated is called a $\wedge$ -chip (myu-chip). passive the device work released. $\wedge$ - the chip work release stage to the chip written 128-bit unique identification the number transmission can. This is a number in the future change possible not this of trust high level guarantees and this the number is attached to the chip or included object with hard that it is connected means. This is one from the side very comfortable

Active RFID tags own strength sources have and student of the device to energy depends not , as a result they are from a distance reading they can big and addition electronics equipment with equipment can However , such tags the most expensive and battery power limited . Many in cases , active tags more reliable and maximum distance according to the most high study provides . Active tags usually very big reading to the radius has (up to 300 m) and memory passive from tags according to more and of course information acceptance doer by to be sent information to keep able

Half passive RFID tags , half asset was , passive to tags very similar , but to the chip power giver battery with equipped . With that together , this of tags range only student of devices sensitivity depends

In practice memory type looking to the following divided into :

RO (Read Only) - data only work release on time one times is stored . Such tags only identification for suitable will come . They are for new information not written and them fake to say possible it's not .

WORM (Write Once Read Many) is unique from the identifier except , such tags one times to write memory block own into takes

RW (Read and Write) - such tags information read / write for identifier and memory blocks own into takes In them data a lot times again writing can

Now RFID technology and another identification to do technologies with characteristics seeing let's go and them one to one if we compare

Table 1. Identification to do of technologies characteristics and them
to compare

Technology characteristics KFID Stripes - code La i QR- codes

Straight away to see zaiur be tags Even hidden tags reading Straight away invisible reading possible it's not Directly invisible reading possible it's not

A memory size from 10 to 512,000 bytes to 100 bytes to 3,072 bytes

Information again to write wow again to use ability There is No No

To the list get range from 100 m to 4 m to 1 m

One Neclita Pomegranate salami is one of time in itself identification to do Up to 200 tags per Sekudi It is possible it's not Reading to the device depends

Environment to the effect durability : mechanical ; temperature , chemical , humidity High level consistency and endurance Applicable to materiaJ depends Applicable to materiaJ depends

Tag work term is 10 years more Bo ana method and belailangau to the object touching to the material dependent Print method and belailangau to the object tegiLli to the material dependent

Security and from being changed protection Forgery possible Fake Breeding easy Fake Breeding easy

Thes when injured functional It is possible it's not Difficulty gives birth Difficulty gives birth

Moved walker objects identification Yes Difficulty gives birth Difficulty gives birth

Electromagnet don't pitch formation hindrance There is No No

Human or of the animal to the body access opportunity It is possible Difficulty gives birth
Difficulty gives birth

Size Average and small Small Small

Cost Average and high Low Low

RFID tags two from the part consists of will be First , information storage and again operation , radio frequency signal modulation and demodulation and another some functions integral circuit for . The second is the signal acceptance to do and transmission antenna for of RFID known applications (login manage in systems contactless cards , remotely standing up identification to do systems and payment systems) Internet services development with addition respectively popularity occupation did

Current RFID technologies today human being of activity different in the fields , for example , industry , transport and storage logistics , trade on the grounds of thefts prevention get , medicine - patients monitoring take go to the hospital movement control make , libraries - automated library services , cargo transportation payments , remotely management of animals identification , village economy , man of the body implants , object localization to do in real time working in systems wide is used .

Automatic identification of technologies indispensable part RFID technology as IEC (International Electrotechnical Commission) and ISO (International Organization for Standardization) International standardization organization by work developed and acceptance done

RFID tags classification

- Work frequency according to
- Power source according to
- A memory type according to
- Fulfillment with

Power source type according to RFID tags to divided into :

- Passive
- Active
- half passive

RFID antenna

Passive RFID tags installed energy to the source have it's not . The student's electromagnetic signal through on the antenna induction done electricity until on the tag silicon CMOS chip to use and answer signal transmission for enough power provides .

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Current RFID technologies at the time human being of activity different in the fields applies to :

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- industry
- transport and warehouse logistics , trade on the grounds of theft prevention get
- access manage and manage systems ;
- medicine - patients the situation observation , hospital of the building movement observation ;
- libraries - automatic credit stations , fast inventory ;
- passports ;
- transport payments ;
- from a distance management ;
- animals identification to do
- village farm ;
- human being implants ;
- luggage manage systems ;
- in real time object localization to do systems
- car immobilizers

Conclusion . Summary by doing that's it telling our passage maybe this in the article As noted , RFID radio frequency identification , wireless radio frequency to identification based on technology is considered RFID technology from the facility in use his properties , quality , object location about and another different different from the data uses

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