ActA
Access Control & Time Attendance

System for Access Control & Time Attendance, **ActA**, has capacity to support customers of various size and complexity, from small ones to the very large ones. All the ActA hardware and software modules are manufactured and developed by SDD ITG.

1. Hardware components

1.1 Time attendance registration and access control RFID terminal
- MIFARE® technology (ISO14443A, 13.56MHz, read/write tags)
- based on ARM7 32-bit RISC microcontroller
- custom developed and fully adaptable firmware -   RTC (real time clock)
- 512 kB flash RAM for storing up to **25000** registered events and up to 12000 user ID cards
- 2 external antennae that can be as far as 15 m apart from terminal, connected by RG174 coaxial cable, indoor and outdoor versions -   Antenna's operating range (reading distance) up to 10 cm with configurable signaling lights and sound -   LAN 10/100 Mbps & RS232C/RS422 interfaces, optionally GSM/GPRS
- 3 digital inputs for detecting door / barrier / ramp statuses
- 2 digital outputs for locking-unlocking doors / turnstile barriers / ramps with configurable holding times
- operating temperature -20 to +85º C
- Power supply 85-240V, 50-60Hz, low consumption
- autonomous work (no computer presence required)
- also available in Hitag-S, Hitag-1, Hitag-2 (ISO11784) and I-Code (ISO15693) technologies
- Access Rights Tables generated centrally (on server), distributed to all RFID terminals. Upon ID cards detection terminals make local decision on actions to be undertaken, based on its Access Rights Table.

1.2 Desktop RFID terminal

- MIFARE® technology (ISO14443A, 13.56MHz, read/write tags)
- for ID cards personalization, cashless payment - USB interface
- Power supply over USB
- also available in Hitag-S, Hitag-1, Hitag-2 and I-Code technologies

2. Software components

2.1 Terminal control service
- acquires event data from terminals
- updates terminals with fresh access profiles
- takes care of system time synchronization

2.2 Data processing service
- processes event data acquired from terminals
- populate database with processed data

### 2.3 Administrative / client application
- System topology: set of hierarchically connected locations. Each location can have any number of gates covered by one or more RFID readers
- company structure: a hierarchical system of departments with employees belonging to them
- complete employee evidence - Many types of time shifts (fixed, evening shift, night shift, weekend shifts, overtime), time tracking, and calendar of holydays for one employee or a group of employees.
- Access rights for an employee or a group of employees for their presence on certain locations or in different sectors of the company. All terminals in the system are updated with access rights as soon as they are changed.
- many categories of work type such as regular, absence due to private or business reasons, holidays, absence due to medical reasons, business trips, unpaid absence, …
- exit permissions system
- extra time distribution system
- application operator evidence including complex system of roles and privileges (by working unit and action permitted)
- reporting system including standard and customized reports as well as generating customized input for existing salary calculation systems
- remote terminal maintenance
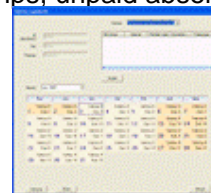
2.4 Gate monitoring and visitors handling application
- real-time monitoring: when an employee is detected on a terminal it immediately shows his/her stored photo
- Complete visitors handling system including visitor introducing, keeping track, reporting

3. System

3.1 Technology
- Windows XP / 2003 / Vista / 2008
- .NET Framework 2.0 or newer
- MS SQL Server or MySQL

3.2 System architecture

Generalized ActA system architecture is shown on the picture bellow:

ACTA - system architecture