**Access control system based on using QR-code technology**

 Development of the access control system based on the use of technology QR-code needs to attract specific hardware and software . Below is a list of the products needed to create such a system:

• mobile application with an additional level of authentication based on input login and password that gives you access to personal qr-code;

• Server database users, which includes a database with information user authentication and database encryption qr-codes the list of keys;

• Integrated security system at unlocking the door to the room, such as STOP-Net® 4.0;

• QR-code reader .

• Software tool which generate QR- codes;

• Algorithm changes the character of personal QR-code at random and encrypt in by RSA;

• software tool that blocks the function of a personal computer, such as access to software, user access to the Internet.

Before moving to the nature of this access control system should develop a list of user authorization rules:

1. QR-code authorization is temporary and only valid for 30 seconds after which it is removed in the system and generate a new one.

2. User Authorization in Information System known only by security department of organization.

3. User Authorization mobile application known security department of organization and the user.

4. Data user authentication system in a random set of characters that varies in case of loss of personal portable device by the user or by default arbitrarily - every day.

To learn the principles of operation of the authentication system developed step by step using personal QR-Code. Figure 1. show this type of authorization of certain facilities. The first step in all cases the authorization is entering user account in the authorization database security company employee. Then the data contained in the database authentication algorithm changes are symbols of personal QR-code at random and sent to a database of personal QR-codes. The second stage is authorization - an attempt entrance. When you try to log on to a user space authorization mobile application data authorization which are in the code application receives a temporary QR-code and presents it to the scanner QR-codes.

Figure 1. Using QR-code technology to enter the premises: