Patent Claims

1. A method for operating a system (1) for controlling access to an access-restricted zone (8) in a building or a compound, wherein the system (1) comprises a transmitting and receiving unit (14) for the radio communication with mobile electronic devices (6) carried along by users (2), a memory unit (26, 28) and an image processing unit (16, 22, 24), and wherein the method comprises the steps of:

receiving a device-specific identifier of a mobile electronic device (6) of a user (2) and an electronic reference template for facial parameters of the user (2) by means of the transmitting and receiving unit (14) when the mobile electronic device (6) is located in a public zone (10), from which the user (2) can request access to the access-restricted zone (8);

storing the received identifier of the mobile electronic device (6) and the electronic reference template in the memory unit (26, 28) in the form of a dataset belonging to a present user (2), wherein a plurality of datasets of present users (2) can be stored in the memory unit (26, 28);

generating a real-time template for facial features of the user (2) when the user (2) requests access to the access-restricted zone (8), wherein the real-time template is generated by the image processing unit (16, 22, 24) based on an image of the user (2); ~~and~~

determining if the real-time template matches a reference template stored in the memory unit (26, 28) to a defined degree, wherein the user (2) is recognized as an access-requesting user (2) in the event of a match; ~~.~~

~~2. The method according to claim 1, furthermore comprising the step of~~ generating a result signal, which initiates a building action in the event of a match; and~~.~~

~~3. The method according to claim 2, furthermore comprising the step of~~ reading a user profile of the recognized user (2), which is stored in the memory unit (26, 28), in order to determine a user-specific building action, ~~.~~

~~4. The method according to claim 3,~~ wherein the user-specific building action comprises ~~consists of unlocking a building door, to which the user (2) has access authorization, or~~ registering a destination call to a destination floor defined for the user (2) or a combination of unlocking a building door and registering a destination call.

25. The method according to claim 1 ~~2 or 4~~, furthermore comprising the step of generating a control signal as a function of the result signal in order to release a barrier (18, 36) such that the user (2) can enter the access-restricted zone (8).

36. The method according to one of the preceding claims, wherein the image of the user (2) is generated by a camera (16) of the image processing unit (16, 22, 24).

47. The method according to one of the preceding claims, wherein the radio link between the transmitting and receiving unit (14) and a mobile electronic device (6) of a user (2) is realized in accordance with a Bluetooth standard or a WLAN/WiFi standard, and wherein the transmitting and receiving unit (14) receives the device-specific identifier and the reference template via the radio link when the mobile electronic device (6) is located in the radio range of the transmitting and receiving unit (14).

58. The method according to one of the preceding claims, wherein the identifier is generated by application-specific software, which is active on the mobile device (6), and wherein the identifier is time-invariant.

69. The method according to one of claims 1 - 58, wherein the identifier comprises a device identification number or a telephone number assigned to a mobile device (6).

710. The method according to one of the preceding claims, wherein the real-time template and the reference template respectively comprise a defined number of specific facial parameters and the defined degree lies between about 60 %, and about 90 %, and wherein the defined degree specifies a percentile match of the facial parameters of the real-time template with the facial parameters of the reference template.

811. The method according to one of the preceding claims, wherein a dataset is stored in the memory unit (26, 28) for each mobile electronic device (6) of a user (2), which transmits a device-specific identifier and an electronic reference template for facial parameters of the user (2), when a plurality of mobile electronic devices (6) are located in the public zone (10).

912. A system (1) for controlling access to an access-restricted zone (8) in a building or a compound, wherein the system (1) comprises:

a transmitting and receiving unit (14) for the radio communication with a mobile

electronic device (6) carried along by a user (2), wherein said transmitting and receiving unit is designed for receiving a device-specific identifier of the mobile electronic device (6) and an electronic reference template for facial parameters of the user (2), and wherein the reception takes place when the mobile electronic device (6) is located in a public zone (10), from which the user (2) can request access to the access-restricted zone (8);

a memory unit (26, 28) that is designed for storing the identifier of the mobile electronic device (6) and the reference template of the user (2), which are received by the transmitting and receiving unit (14), as belonging to a user (2) present in a public zone (10), wherein a plurality of user profiles of users (2) having access authorizations can be stored in the memory unit (26, 28); and

an image processing unit (16, 22, 24) that is designed for

- generating a real-time template for facial features of the user (2) based on an image of the user (2) when the user (2) requests access to the access-restricted zone (8); ~~and~~ for
- determining if the real-time template matches a reference template stored in the memory unit (26, 28) to a defined degree, wherein the user (2) is recognized as an access-requesting user (2) in the event of a match; and for
- generating a result signal, which initiates a building action in the event of a match; and reading a user profile of the recognized user (2), which is stored in the memory unit (26, 28), in order to determine a user-specific building action,

wherein the user-specific building action comprises registering a destination call to a destination floor defined for the user (2) or a combination of unlocking a building door and registering a destination call.

10~~13~~. The system (1) according to claim 9~~12~~, wherein the image processing unit (16, 22, 24) comprises an image processing module (22), by means of which the real-time template can be generated based on a camera image, and an evaluation module (24), which is connected to the image processing module (22) and the memory unit (26, 28), and wherein the evaluation module (24) is designed for generating a result signal, which initiates a building action in the event of a match.

11~~14~~. The system (1) according to claim 10~~13~~, furthermore comprising a processor (20) that is connected to the image processing unit (16, 22, 24) and designed for generating a control signal in dependence on the result signal in order to initiate reading of a user profile of the recognized user (2), which is stored in the memory unit (26, 28), and to thereby determine the user-specific building action.

12~~15~~. The system (1) according to claim 11~~14~~, furthermore comprising a barrier (18, 36) that can be unlocked or blocked depending on the control signal.