[019] Finally, it is necessary to emphasize that none of the solutions known from the state of the art mentioned above is intuitive enough to make boarding a simpler task for passengers, improving the user experience with the airline and relieving crews and boarding agents on the ground.

[020] As can be inferred from the previous descriptions, there is room for a method and system that overcomes the deficiencies of the state of the art, aiming at optimization of resources through improved sorting and leading of passenger boarding.

Objectives of the Invention

[021] One of the objectives of the present invention is, therefore, to provide a method and a system able to overcome the deficiencies of the state of the art whilst being a simple and cost-effective solution, intuitive for the user and the operator, easy to install, which is also flexible and adaptive, avoiding clashes with the pre-existing airport infrastructure, being thus capable of reducing passenger waiting time, facilitating sorting and leading of passengers and their subsequent boarding and, above all, reducing the aircraft turn time.

[022] Yet another objective of the present invention is an equipment that comprises the system according to the invention and is capable of carrying out a method according to the invention.

[023] Lastly, another objective of the present invention is to provide corresponding computer programs.

Summary

[023a] According to a first ~~aspect~~example, the present disclosure refers to a method for passenger information, organization, leading, boarding and settling in

aircrafts, the method characterized in that it comprises:

i. Selecting the aircraft model and boarding scheme based on data from a data processing center;

ii. Dividing the number of passengers, based on the data from the data processing center, in waves having a size corresponding to the number of passengers in the settling process, who may be standing at the same time in an aircraft aisle;

iii. Dividing each wave, based on the previous step, in one or more passenger groups and/or subgroups, the size of each group being limited to the number of seats in its appointed row;

iv. Informing passengers, using information display equipment connected to the data processing center, on the passenger attendance sequence for boarding, projecting the number of their rows and/or their respective seat numbers and start boarding by issuing an instruction to proceed to the boarding gate;

v. Submit passengers to boarding control;

vi. Leading, boarding and settling, based on the previous steps, a first group of a first wave;

vii. Repeating steps iv and v;

viii. Leading, boarding and settling, based on the previous steps, a second group of the first wave that will occupy, in counterflow boarding direction, a next row of seats at a distance from the row of the previous group such that it allows simultaneous permanence, in a line, of all passengers of the previous group in the aircraft aisle;

ix. Repeating step vii;

x. Leading, boarding and settling, based on the previous steps, one or more next groups until all passengers of a first wave are boarded;

xi. Repeating step ix; and

xii. Leading, boarding and settling, based on the previous steps, one or more next waves according to steps i to ix until all passengers set for boarding are boarded.

[023b] According to a second ~~aspect~~example, the present disclosure refers to a passenger information, organization, leading, boarding and settling system on aircrafts, characterized in that it performs the method as defined in the first ~~aspect~~example.

[023c] According to a third ~~aspect~~example, the present disclosure refers to an equipment for passenger information, organization, leading, boarding and settling, characterized in that it is a visual signaling set formed by devices that project and/or emit and/or present images and lights and that emit visual and sound signals, being connected directly to the data processing center, in the form of a virtual guide that performs the method as defined in the first example ~~aspect~~ as part of the system as defined in the second example~~aspect~~.

[023d] According to a fourth ~~aspect~~example, the present disclosure refers to a computer program, characterized in that it is set in a computer-readable medium, which coordinates and is associated with a system according to the second example~~aspect~~ and one or more equipment according to the third example~~aspect~~, intended for performing a method according to the first example~~aspect~~.

[023e] According to a fifth ~~aspect~~example, the present disclosure refers to a computer program, characterized in that it is set in a computer-readable medium and capable of performing a method according to the first example ~~aspect~~ on a virtual guide equipment according to the third example~~aspect~~.

[023f] According to a first aspect, the present disclosure refers to a passenger information, organization, leading, boarding and settling system on aircrafts,

composed of a main unit comprising one or more data processing centers, one or more databases, one or more information presentation equipment (100) and other devices and/or equipment that enable its operation for carrying out a method as defined below

wherein the information presentation equipment (100) is a virtual guide (120) that indicates a boarding sequence according to the method as defined below, being disposed directly on the ground and/or projected on the ground by means of projectors (110) located above passengers (P), and wherein

the virtual guide (120) is a dynamic mat (120) formed by adjacent cloths (121, 122, 123, 124, 125, 126) being disposed directly on the ground and/or projected on the ground by means of projectors (110) located above the passengers (P), wherein the dynamic mat (120) follows the movement of passengers (P) moving on the virtual guide towards a departure gate, and

wherein the method is a

method for passenger information, organization, leading, boarding and settling in aircrafts, comprising:

i. Selecting an aircraft (A) model and boarding scheme based on data from a data processing center;

ii. Dividing a number of passengers (P) in a settling process, based on the data from the data processing center, in waves, each wave corresponding to the total number of passengers (P) who may stand at the same time in an aircraft (A) aisle (C), with enough room for everyone to stand and/or settle at the same time;

iii. Dividing each wave, based on the previous step, in one or more passenger (P) groups and/or subgroups, the size of

each group being limited to a number of seats (S) in its appointed row;

iv. Informing the passengers (P), using the information presentation equipment connected to the data processing center, on a passenger attendance sequence for boarding, projecting the number of their rows and/or their respective seat (S) numbers on the ground and start boarding by issuing an instruction to the passengers (P) to proceed to the boarding gate;

v. Issuing an instruction to the passengers (P) to present themselves to boarding control;

vi. Leading, boarding and settling, based on the previous steps, a first group of a first wave;

vii. Repeating steps iv and v;

viii. Leading, boarding and settling, based on the previous steps, a second group of the first wave that will occupy, in counterflow boarding direction, a next row of seats (S) at a distance from the row of the previous group such that it allows simultaneous permanence, in a line, of all passengers (P) of the previous group in the aircraft (A) aisle (C);

ix. Repeating step vii;

x. Leading, boarding and settling, based on the previous steps, one or more next groups until all passengers (P) of the first wave are boarded;

xi. Repeating step ix; and

Leading, boarding and settling, based on the previous steps, one or more next waves according to steps i to ix until all passengers (P) set for boarding are

boarded, wherein a second wave will follow the same standard as the first wave, the first group intended to occupy the next row furthest from the aircraft entrance, in the counterflow direction, skipping one of the rows and, the next row of an even number if the first wave started with an even-numbered row or of an odd number if the first wave started with an odd-numbered row, wherein the settling process is any intermediate situation of the passenger (P), between entry into the aircraft (A) and final seat occupation (S).

Brief description of figures

[024] For better understanding and visualization of the object of the present invention, it will now be described with reference to the attached figures, representing the technical effect obtained through exemplary embodiments, which are not limiting to the scope of the present invention,

CLAIMS

1. Method for passenger information, organization, leading, boarding and settling in aircrafts, the method characterized in that it comprises:

i. Selecting the aircraft (A) model and boarding scheme based on data from a data processing center;

ii. Dividing the number of passengers (P), based on the data from the data processing center, in waves having a size corresponding to the number of passengers (P) in the settling process, who may be standing at the same time in an aircraft (A) aisle (C);

iii. Dividing each wave, based on the previous step, in one or more passenger (P) groups and/or subgroups, the size of each group being limited to the number of seats (S) in its appointed row;

iv. Informing passengers (P), using information display equipment connected to the data processing center, on the passenger (P) attendance sequence for boarding, projecting the number of their rows and/or their respective seat (S) numbers and start boarding by issuing an instruction to proceed to the boarding gate;

v. Submit passengers (P) to boarding control;

vi. Leading, boarding and settling, based on the previous steps, a first group of a first wave;

vii. Repeating steps iv and v;

viii. Leading, boarding and settling, based on the previous steps, a second group of the first wave that will occupy, in

~~counterflow boarding direction, a next row of seats (S) at a distance from the row of the previous group such that it allows simultaneous permanence, in a line, of all passengers (P) of the previous group in the aircraft (A) aisle (C);~~

~~ix. Repeating step vii;~~

~~x. Leading, boarding and settling, based on the previous steps, one or more next groups until all passengers (P) of a first wave are boarded;~~

~~xi. Repeating step ix; and~~

~~xii. Leading, boarding and settling, based on the previous steps, one or more next waves according to steps i to ix until all passengers (P) set for boarding are boarded.~~

1. Passenger information, organization, leading, boarding and settling system on aircrafts, composed of a main unit comprising one or more data processing centers, one or more databases, one or more information presentation equipment (100) and other devices and/or equipment that enable its operation for carrying out a method as defined below

wherein the information presentation equipment (100) is a virtual guide (120) that indicates a boarding sequence according to the method as defined below, being disposed directly on the ground and/or projected on the ground by means of projectors (110) located above passengers (P), and wherein

the virtual guide (120) is a dynamic mat (120) formed by adjacent cloths (121, 122, 123, 124, 125, 126) being disposed directly on the ground and/or projected on the ground by means of projectors (110) located above the passengers (P), wherein the dynamic mat (120) follows the movement of

passengers (P) moving on the virtual guide towards a departure gate, and wherein the method is a

method for passenger information, organization, leading, boarding and settling in aircrafts, comprising:

i. Selecting an aircraft (A) model and boarding scheme based on data from a data processing center;

ii. Dividing a number of passengers (P) in a settling process, based on the data from the data processing center, in waves, each wave corresponding to the total number of passengers (P) who may stand at the same time in an aircraft (A) aisle (C), with enough room for everyone to stand and/or settle at the same time;

iii. Dividing each wave, based on the previous step, in one or more passenger (P) groups and/or subgroups, the size of each group being limited to a number of seats (S) in its appointed row;

iv. Informing the passengers (P), using the information presentation equipment connected to the data processing center, on a passenger attendance sequence for boarding, projecting the number of their rows and/or their respective seat (S) numbers on the ground and start boarding by issuing an instruction to the passengers (P) to proceed to the boarding gate;

v. Issuing an instruction to the passengers (P) to present themselves to boarding control;

vi. Leading, boarding and settling, based on the previous steps, a first group of a first wave;

vii. Repeating steps iv and v;

viii. Leading, boarding and settling, based on the previous steps, a second group of the first wave that will occupy, in counterflow boarding direction, a next row of seats (S) at a distance from the row of the previous group such that it allows simultaneous permanence, in a line, of all passengers (P) of the previous group in the aircraft (A) aisle (C);

ix. Repeating step vii;

x. Leading, boarding and settling, based on the previous steps, one or more next groups until all passengers (P) of the first wave are boarded;

xi. Repeating step ix; and

Leading, boarding and settling, based on the previous steps, one or more next waves according to steps i to ix until all passengers (P) set for boarding are boarded, wherein a second wave will follow the same standard as the first wave, the first group intended to occupy the next row furthest from the aircraft entrance, in the counterflow direction, skipping one of the rows and, the next row of an even number if the first wave started with an even-numbered row or of an odd number if the first wave started with an odd-numbered row, wherein the settling process is any intermediate situation of the passenger (P), between entry into the aircraft (A) and final seat occupation (S).

2. System according to claim 1, comprising equipment for passenger information, organization, leading, boarding and settling, which is a visual signaling set formed by devices that project and/or emit and/or present images and lights and that emit visual and sound signals, and that are

connected directly to the data processing center, in the form of the virtual guide (120).

~~2. Method, according to claim 1, characterized in that the settling process is any intermediate situation of the passenger (P), between entry into the aircraft (A) and final seat occupation (S).~~

3. System according to claim 1 or 2, wherein the ~~Method~~method~~,~~ ~~according to claim 1,~~ is characterized in that lines of passengers (P) formed are automatically ~~released~~ dissipated following the forward pace of the last passenger (P) of the last group of a wave, that is, as the last passenger (P) of each wave settles.

~~4. Method, according to claim 1, characterized in that confrontation is only possible between passengers (P) from subsequent waves.~~

~~5. Passenger information, organization, leading, boarding and settling system on aircrafts, characterized in that it performs the method as defined in claims 1 to 4.~~

~~6. System according to claim 5, characterized in that a main unit comprising one or more data processing centers, one or more databases, one or more information presentation equipment (100) and additional equipment and devices, or suitable peripherals.~~

~~7. System, according to claim 5, characterized in that the information presentation equipment (100) is a virtual guide (120) that indicates the boarding sequence according to the method of claims 1 to 4, being disposed directly on the ground and/or projected on the ground by means of projectors (110) located above the passengers (P).~~

~~8. System, according to claim 7, characterized in that the number of projectors (110) above or under passengers (P) is such that shadows or regions with poor presentation are not formed.~~

~~9. System, according to claim 5, characterized in that the virtual guide (120) is a dynamic mat (120) formed by adjacent cloths (121, 122, 123, 124, 125, 126) following the movement of passengers (P) in an adaptive way, identifying, counting and sorting the number of people (P) on/in the virtual guide (120), detecting their movement and following the flow and speed of each passenger (P) as well as the group of passengers (P), updating the instructions of the boarding sequence in real time, according to the flow and speed monitored.~~

~~10. Equipment for passenger information, organization, leading, boarding and settling, characterized in that it is a visual signaling set formed by devices that project and/or emit and/or present images and lights and that emit visual and sound signals, being connected directly to the data processing center, in the form of a virtual guide (120) that performs the method as defined in claims 1 to 4 as part of the system as defined in claims 5 to 9.~~

~~11. Computer program, characterized in that it is set in a computer-readable medium, which coordinates and is associated with a system according to claims 5 to 9 and one or more equipment according to claim 10, intended for performing a method according to claims 1 to 4.~~

~~12. Computer program, characterized in that it is set in a computer-readable medium and capable of performing a method according to claims 1 to 4 on a virtual guide (120) equipment according to claim 10.~~