propellers, which could make the UAV suitable for pickup and delivery of smaller and/or lightweight payloads, possibly in the vicinity of individuals.

[0006] By way of example, the UAV may include a top door on a top side of the UAV's fuselage and a bottom door on a bottom side of the UAV's fuselage, and an opening of each door respectively may provide access to a chamber within the fuselage, which could be arranged to temporarily house a payload. In this example, an opening of the top door may enable loading of a payload into the UAV's chamber, and an opening of the bottom door may enable release of the payload from the UAV's chamber. Generally, such top loading and bottom release of payloads could be advantageous for various reasons.

[0007] For instance, assuming that the UAV is arranged to substantially land on the bottom side, the top loading may allow the UAV to land, rather than fly (e.g., hover), during pickup of the payload, thereby reducing the amount of energy being used by the UAV during pickup, among other advantages. Additionally or alternatively, when the UAV is at a delivery location, the UAV may release the payload via the bottom door without necessarily having to wait for an individual to be present in order to unload the payload via the top door, thereby reducing the amount of time the UAV spends on delivery of the payload. Other examples are also possible.

[0008] In one aspect, a UAV is disclosed. The UAV includes a control system configured to control flight of the UAV. The UAV also includes a fuselage having a first side, a second side, and a chamber arranged to house a payload. The UAV further includes a first door arranged on the first side of the fuselage, where an opening of the first door enables loading of the payload into the chamber. The UAV yet further includes a second door arranged on the second side of the fuselage, where an opening of the second door enables release of the payload from the chamber. The first side can be a bottom side that is substantially oriented towards the ground during flight of the UAV, and wherein the second side is a top side that is substantially opposite the bottom side.

[0009] In another aspect, a method is disclosed. The method involves determining, by a control system, that a UAV is at a pickup location for pickup of a payload, where the UAV includes a fuselage having a first side, a second side, and a chamber arranged to house the payload, where a first door is arranged on the first side of the fuselage, where an opening of the first door enables loading of the payload into the chamber, where a second door is arranged on the second side of the fuselage, and where an opening of the second door enables release of the payload from the chamber. The method also involves, in response to determining that the UAV is at the pickup location for pickup of the payload, causing, by the control system, the

opening of the first door to enable loading of the payload into the chamber. The method additionally involves determining, by the control system, that the UAV is at a delivery location for delivery of the payload. The method further involves, in response to determining that the UAV is at a delivery location for delivery of the payload, causing, by the control system, the opening of the second door to enable release of the payload from the chamber. The first side can be a bottom side that is substantially oriented towards the ground during flight of the UAV, and wherein the second side is a top side that is substantially opposite the bottom side.

[0010] In yet another aspect, another method is disclosed. The method involves receiving, by a control system, a request for a transport task to be performed by at least one UAV from a group of UAVs, where the group of UAVs includes at least a first UAV of a first type and a second UAV of a second type, where the first type of UAV includes a fuselage having a first side, a second side, and a chamber arranged to house a payload, where a first door is arranged on the first side of the fuselage, where an opening of the first door enables loading of the payload into the chamber, where a second door is arranged on the second side of the fuselage, and where an opening of the second door enables release of the payload from the chamber. The method also involves, based on the first UAV being of the first type, determining, by the control system, that the first UAV meets a criteria for the transport task. The method additionally involves, in response to determining that the first UAV meets the criteria for the transport task, causing, by the control system, the first UAV to perform the transport task corresponding to the received request. The first side can be a bottom side that is substantially oriented towards the ground during flight of the UAV, and wherein the second side is a top side that is substantially opposite the bottom side.

[0011] In yet another aspect, yet another method is disclosed. The method involves determining, by a control system, that a UAV is at a pickup location for pickup of a payload, where the UAV comprises a fuselage having a first side, a second side and a chamber arranged to house the payload. The first side can be a bottom side that is substantially oriented towards the ground during flight of the UAV, and wherein the second side is a top side that is substantially opposite the bottom side. A first door is arranged on the first side of the fuselage and a second door is arranged on the second side of the fuselage The method also involves, in response to determining that the UAV is at the pickup location for pickup of the payload, causing, by the control system, an opening of the first door to enable loading of the payload into the chamber. The method additionally involves determining, by the control system, that the UAV is at a delivery location for delivery of the payload. The method further involves, in response to determining that the UAV is at a delivery location for delivery of the payload,

causing, by the control system, an opening of the second door to enable release of the payload from the chamber.

[0012] In yet another aspect, a system is disclosed. The system may include means for determining that a UAV is at a pickup location for pickup of a payload, where the UAV includes a fuselage having a first side, a second side, and a chamber arranged to house the payload, where a first door is arranged on the first side of the fuselage, where an opening of the first door enables loading of the payload into the chamber, where a second door is arranged on the second side of the fuselage, and where an opening of the second door enables

CLAIMS

What is claimed is:

1. An unmanned aerial vehicle (UAV) comprising:

a control system configured to control flight of the UAV;

a fuselage having a first side, a second side, and a chamber arranged to house a payload;

a first door arranged on the first side of the fuselage, wherein an opening of the first door enables loading of the payload into the chamber; and

a second door arranged on the second side of the fuselage, wherein an opening of the second door enables release of the payload from the chamber,

wherein the first side is a bottom side that is substantially oriented towards the ground during flight of the UAV, and wherein the second side is a top side that is substantially opposite the bottom side..

2. The UAV of claim 1, wherein the second side is a bottom side that is substantially oriented towards the ground during flight of the UAV, and wherein the first side is a top side that is substantially opposite the bottom side.

3. The UAV of claim 1, wherein the control system is further configured to:

determine that the UAV is at a pickup location for pickup of the payload; and

in response to determining that the UAV is at a pickup location for pickup of the payload, cause the opening of the first door to enable loading of the payload into the chamber.

4. The UAV of claim 1, wherein the control system is further configured to:

determine that the UAV is at a delivery location for delivery of the payload; and

in response to determining that the UAV is at a delivery location for delivery of the payload, cause the opening of the second door to enable release of the payload from the chamber.

5. The UAV of claim 1, further comprising:

a propulsion unit including one or more unexposed propellers.

6. The UAV of claim 1, wherein the UAV is a lightweight UAV having a weight that is below a threshold weight.

7. The UAV of claim 1, further comprising an authentication system, wherein the control system is further configured to:

while the UAV is at a pickup location for pickup of the payload, receive, from the authentication system, authentication data indicating that a user is an authorized user; and

in response to receiving authentication data indicating that a user is an authorized user, cause the opening of the first door to enable loading of the payload into the chamber.

8. The UAV of claim 1, further comprising an authentication system, wherein the control system is further configured to:

while the UAV is at a delivery location for delivery of the payload, receive, from the authentication system, authentication data indicating that a user is an authorized user; and

in response to receiving authentication data indicating that a user is an authorized user, cause the opening of the second door to enable release of the payload from the chamber.

9. A method comprising:

determining, by a control system, that an unmanned aerial vehicle (UAV) is at a pickup location for pickup of a payload, wherein the UAV comprises a fuselage having a first side, a second side, and a chamber arranged to house the payload, wherein a first door is arranged on the first side of the fuselage, wherein an opening of the first door enables loading of the payload into the chamber, wherein a second door is arranged on the second side of the fuselage, and wherein an opening of the second door enables release of the payload from the chamber;

in response to determining that the UAV is at the pickup location for pickup of the payload, causing, by the control system, the opening of the first door to enable loading of the payload into the chamber;

determining, by the control system, that the UAV is at a delivery location for delivery of the payload; and

in response to determining that the UAV is at a delivery location for delivery of the payload, causing, by the control system, the opening of the second door to enable release of the payload from the chamber,

wherein the first side is a bottom side that is substantially oriented towards the ground during flight of the UAV, and wherein the second side is a top side that is substantially opposite the bottom side..

10. The method of claim 9, wherein the second side is a bottom side that is substantially oriented towards the ground during flight of the UAV, and wherein the first side is a top side that is substantially opposite the bottom side.

11. The method of claim 9, wherein the UAV further comprises an authentication system, the method further comprising:

while the UAV is at the pickup location for pickup of the payload, receiving, by the control system from the authentication system, authentication data indicating that a user is an authorized user,

wherein causing the opening of the first door to enable loading of the payload into the chamber is further in response to receiving authentication data indicating that a user is an authorized user.

12. The method of claim 9, wherein the UAV further comprises an authentication system, the method further comprising:

while the UAV is at the delivery location for delivery of the payload, receiving, by the control system from the authentication system, authentication data indicating that a user is an authorized user,

wherein causing the opening of the second door to enable release of the payload from the chamber is further in response to receiving authentication data indicating that a user is an authorized user.

13. A method comprising:

receiving, by a control system, a request for a transport task to be performed by at least one unmanned aerial vehicle (UAV) from a group of UAVs, wherein the group of UAVs includes at least a first UAV of a first type and a second UAV of a second type, wherein the first type of UAV comprises a fuselage having a first side, a second side, and a chamber arranged to house a payload, wherein a first door is arranged on the first side of the fuselage,

wherein an opening of the first door enables loading of the payload into the chamber, wherein a second door is arranged on the second side of the fuselage, and wherein an opening of the second door enables release of the payload from the chamber;

based on the first UAV being of the first type, determining, by the control system, that the first UAV meets a criteria for the transport task; and

in response to determining that the first UAV meets the criteria for the transport task, causing, by the control system, the first UAV to perform the transport task corresponding to the received request,

wherein the first side is a bottom side that is substantially oriented towards the ground during flight of the UAV, and wherein the second side is a top side that is substantially opposite the bottom side..

14. The method of claim 13, wherein the transport task is associated with a requested item, wherein the first type of UAV is arranged to transport one or more items having a collective weight up to a first weight, wherein the second type of UAV is arranged to transport one or more items having a collective weight up to a second weight, wherein the second weight is greater than the first weight, and wherein determining, based on the first UAV being of the first type, that the first UAV meets the criteria for the transport task comprises:

based on the first UAV being of the first type, determining that the first UAV is arranged to transport the requested item that is of a weight lesser than the first weight.

15. The method of claim 13, wherein the transport task is associated with a requested item, wherein the first type of UAV is arranged to transport one or more items having a collective size up to a first size, wherein the second type of UAV is arranged to transport one or more items having a collective size up to a second seize, wherein the second size is greater than the first size, and wherein determining, based on the first UAV being of the first type, that the first UAV meets the criteria for the transport task comprises:

based on the first UAV being of the first type, determining that the first UAV is arranged to transport the requested item that is of a size lesser than the first size.

16. The method of claim 13, wherein the second type of UAV is arranged to perform tethered delivery of payloads without use of doors to enable loading and release of payloads.

17. A method comprising:

determining, by a control system, that an unmanned aerial vehicle (UAV) is at a pickup location for pickup of a payload, wherein the UAV comprises a fuselage having a first side, a second side and a chamber arranged to house the payload,

wherein the first side is a bottom side that is substantially oriented towards the ground during flight of the UAV, and wherein the second side is a top side that is substantially opposite the bottom side, and

wherein a first door is arranged on the first side of the fuselage and a second door is arranged on the second side of the fuselage;

in response to determining that the UAV is at the pickup location for pickup of the payload, causing, by the control system, an opening of the first door to enable loading of the payload into the chamber;

determining, by the control system, that the UAV is at a delivery location for delivery of the payload; and

in response to determining that the UAV is at a delivery location for delivery of the payload, causing, by the control system, an opening of the second door to enable release of the payload from the chamber.

18. The method of claim 17, further comprising:

while the UAV is at the pickup location for pickup of the payload, causing, by the control system, the UAV to carry out a flip maneuver, wherein the flip maneuver comprising the UAV landing substantially on the top side,

wherein causing the opening of the first door to enable loading of the payload into the chamber comprises causing the opening of the first door to enable loading of the payload into the chamber after completion of the flip maneuver.