SYSTEM FOR GRANTING ACCESS OF AN AIRCRAFT INTO A TERRITORY AND METHOD THEREOF

Technical Field

[0001] A system for granting access of an aircraft into a territory is provided. Further, a method of the same is provided.

Background

[0002] Air travel has matured in the last decades and aviation traffic has been growing at a staggering rate of 15% per year. These flights include commercial, budget, private, cargo, diplomatic, medical and military flights. In Asia Pacific along, at any given moment, there can be over 3,500 aircrafts flying over the region.

[0003] When an aircraft flies from a point of departure to a point of destination, the operator of the aircraft may need to cross one or more regions of airspace, known as flight information regions (FIR), belonging to different territories, e.g. countries. For each FIR, a flight information service and alerting service (ALRS) is provided. In order for the aircraft to use the FIRs, the operator should obtain permission from each of the relevant authorities, e.g. Civil Aviation Authorities (CAA) of the FIRs. Each of the relevant authorities would need to issue a permit to allow the aircraft to use their FIR. A permit can be obtained to overfly or to land in a territory, e.g. country. Therefore, every aircraft is required to obtain individual permits from every territory it plans to fly over or land in.

[0004] The process of acquiring a permit from each of these countries is complex and bureaucratic. Due to the amount of checks and information required for the permit, the authorities of the FIR may often take time to process. In the event that information or documents are lacking, the back and forth exchange of information between the authorities and the operator would further delay the issuance of the permit. For an aircraft to cross a few FIRs, the time taken and complexity to obtain the permits would be more tedious. For the authorities, the time and resources required to process the permits for the large number of flights would be unimaginable.

[0005] Therefore, it is would be beneficial if there is a system that is able to resolve the abovementioned issues or at least alleviate the burden on both the operators and authorities.

Summary

[0006] According to various embodiments, a system for granting access of an aircraft into an airspace is provided. System has a request verification module configured to receive a request to access the airspace from an operator of the aircraft and verify the request, such that the request includes flight data, such that verifying the request includes verifying the flight data. System further includes a request review module in communication with the request verification module, the request review module configured to transmit the request to an approving authority of the airspace and receive a response to the request from the approving authority; and a notification module in communication with the request review module, the notification module configured to transmit the response to at least one of the operator and the approving authority.

[0007] According to various embodiments, the request may include a flight request type.

[0008] According to various embodiments, the flight request type may include a landing permit request or an overfly permit request.

[0009] According to various embodiments, the request may further include operator data of the operator.

[0010] According to various embodiments, the request verification module may be further configured to verify a payment status associated to the request.

[0011] According to various embodiments, the response may include an approval or a rejection of the request.

[0012] According to various embodiments, the response received by the request review module may include a deficiency signal.

[0013] According to various embodiments, the notification module may be configured to generate a deficiency notification upon receiving the deficiency signal, such that the response transmitted to the operator may include the deficiency notification.

[0014] According to various embodiments, the deficiency notification transmitted to the operator may include an input interface configured to allow the operator to input a corrective response to correct the deficiency.

[0015] According to various embodiments, the request review module may be configured to receive the corrective response and transmit the corrective response directly to the approving authority.

[0016] According to various embodiments, the request may further include flight personnel data of flight personnel boarding the aircraft.

[0017] According to various embodiments, the request review module may be configured to transmit the flight personnel data to a security agency for verification and to receive a flight approval response for the flight personnel.

[0018] According to various embodiments, a computer-implemented method for granting access of an aircraft into an airspace is provided. The method includes receiving a request to access the airspace from an operator of the aircraft, the request having flight data of, verifying the request, such that verifying the request includes verifying the flight data, transmitting the request to an approving authority of the airspace, receiving a response to the request from the approving authority, and transmitting the response to at least one of the operator and the approving authority.

[0019] According to various embodiments, the request may include a flight request type.

[0020] According to various embodiments, the flight request type may include a landing request or an overfly request.

[0021] According to various embodiments, the request further may include operator data of the operator.

[0022] According to various embodiments, the method may further include verifying a payment status associated to the request.

[0023] According to various embodiments, the response may include an approval or a rejection of the request.

[0024] According to various embodiments, the response received from the approving authority may include a deficiency signal.

[0025] According to various embodiments, the method may further include generating a deficiency notification upon receiving the deficiency signal, such that the response transmitted to the operator may include the deficiency notification.

[0026] According to various embodiments, the deficiency notification transmitted to the operator may include an input interface configured to allow the operator to input a corrective response to correct the deficiency.

[0027] According to various embodiments, the method may further include transmitting the corrective response received directly to the approving authority.

[0028] According to various embodiments, the request may further include flight personnel data of flight personnel boarding the aircraft.

[0029] According to various embodiments, the method may further include transmitting the flight personnel data to a security agency for verification and receiving a flight approval response for the flight personnel.

[0030] According to various embodiments, a system for granting access of an aircraft into an airspace is provided. The system includes a server configured to receive a request to access the airspace from an operator of the aircraft, verify the request, such that the request includes

flight data, transmit the request to an approving authority of the airspace, receive a response to the request from the approving authority; and transmit the response to at least one of the operator and the approving authority.

[0031] The system and method as provided simplifies the process of acquiring the permit to allow the aircraft to enter the FIR. Consequently, the time required to process the request for the permit is reduced. For multiple requests for multiple FIRs, the simplicity of the system and method greatly enhances the efficiency in the issuance of the permits thereby cutting down the time to issue the permits for multiple FIRs.

Brief Description of Drawings

[0032] Fig. 1 shows an example of a system for granting access of an aircraft into an airspace.

[0033] Fig. 2 shows an example of a computer-implemented method using the system in Fig. 1 for granting access of the aircraft into the airspace.

[0034] Fig. 3 shows an example of flight request type selection page of a request form.

[0035] Fig. 4A shows an example of an overfly permit request page of the request form.

[0036] Fig. 4B shows an example of a landing permit request page of the request form.

[0037] Fig. 4C shows an example of the landing permit request page of the request form.

[0038] Fig. 5A shows an example of a flight crew/passenger page of the request form.

[0039] Fig. 5B shows a tabled example of the flight personnel data after verification.

[0040] Fig. 6 shows an example of flight summary of the request.

[0041] Fig. 7A shows an example of a flight summary menu page of the administrative interface.

[0042] Fig. 7B shows an example of the flight summary page of a landing request for the approval authority.

[0043] Fig. 7C shows an enlarged version of the of the document review portion for the approval authority.

[0044] Fig. 7D shows an example of a deficiency notification sent to operator via electronic email.

[0045] Fig. 7E shows an example of a data input box of the input interface for the operator.

[0046] Fig. 7F shows an example of a final flight summary page with approved permit delivered.

[0047] Fig. 8 shows an example of the permit notified by the system through electronic email to the operator.

[0048] Fig. 9 shows an example of a flowchart of a method suitable for the system.

[0049] Fig. 10 shows an example of a block diagram of a computing device configured for the system.

Detailed Description

[0050] Fig. 1 shows an example of a system 100 for granting access of an aircraft into an airspace. System 100 includes a request verification module 110 configured to receive a request 112 to access the airspace from an operator of the aircraft and verify the request 112.

Request 112 includes flight data. Verifying the request 112 includes verifying the flight data. System 100 further includes a request review module 120 in communication with the request verification module 110. Request review module 120 is configured to transmit the request 112 to an approving authority of the airspace and receive a response 132 to the request 112 from the approving authority. System 100 further includes a notification module 130 in communication with the request review module 120, the notification module 130 configured to transmit the response 132 to the operator.

[0051] System 100 is configured to manage and issue flight permits for both overflying and landing aircraft. System 100 provides the operator a one-stop platform to submit a request 112 to access the airspace via the system 100 and the approving authority of the airspace an easy and convenient way of reviewing and approving the request 112. By reviewing and ensuring the request 112 is in order before transmitting it to the approving authority, the system 100 enables a first round of verification to ensure that the request 112 is complete. Further, the system 100 provides the approving authority an easy and seamless way of reviewing and approving the request 112. In this way, the time taken to process the request 112 and issue a permit is hugely reduced thereby increasing the efficiency of the approving authority. In addition, the accuracy of the process is improved tremendously. Overall, the system 100 improves operational efficiency and financial performance of the aviation industry.

[0052] System 100 may be configured to receive the request 112 from the operator via the operator terminal 20. Operator terminal 20 may be a computer device, mobile device, etc. System 100 may include an operator user interface configured to allow the operator to interact and access the system 100. Operator user interface may be displayed onto the operator terminal 20. Operator terminal 20 may be located at the operator, e.g. in the operator office. Operator user interface may include a webpage or a mobile app. Operator user interface may be a request form for the operator's completion. Upon completion of the request form, the request 112 may be transmitted to the request verification module 110.

[0053] Fig. 2 shows an example of a computer-implemented method 200 using the system 100 in Fig. 1 for granting access of the aircraft into the airspace. In step 210, the method 200

includes receiving the request 112 to access the airspace from the operator of the aircraft, the request 112 includes flight data. In step 220, the method further includes verifying the request 112, such that verifying the request 112 includes verifying the flight data. In step 230, the request 112 is transmitted to an approving authority of the airspace. In step 240, a response 132 to the request 112 is received from the approving authority. In step 250, the response 132 is transmitted to the operator.

[0054] In the event that the operator data is not stored in the system database 114, the operator may create an account by registering for an account in the system 100. System 100 may include an operator module configured to manage the operator data. Operator module may be configured to transmit a registration form to the operator. Operator module may be configured to create an operator record and store it in the system database 114. Operator data may include at least one of: email address, password, company name, account type, nearest airport to your location, company website, name, primary contact, secondary contact, address, etc. Operator record may be used for verification of the operator data in the request 112.

[0055] Operator may be required to log into the system 100. Once the operator is logged into the system 100, the operator may proceed to apply for a request 112. Request 112 may include a flight request type. Flight data may include the flight request type. To commence the application of the permit, the operator may be prompted by the system 100 to select a flight request type. Flight request type may include a landing request or an overfly request. Fig. 3 shows an example of flight request type selection page 300 of a request form. A landing request may be a request to land the aircraft in the territory, e.g. a country. An overfly request may be a request to fly the aircraft through the FIR without landing the aircraft in the territory. Operator may select the request overfly permit 312 or the request landing permit 314. System 100 may be configured to receive the flight request type. Request verification module 110 may be configured to receive the flight request type.

[0056] As the requirement for each request type is different, the system 100 may generate a different form for each flight request type. Fig. 4A shows an example of an overfly permit request page 410 of the request form. Request 112 may include data that are common to both

flight request types. For example, the request 112 may include operator data, e.g. name of operator, trip reference number, call sign. Request 112 may also include flight data, e.g. aircraft registration number, route, flight level, crew count, passenger count, purpose of flight, type of aircraft, maximum all up weight, departure date, departure time, aerodrome of departure, arrival date, arrival time, aerodrome of arrival, FIR in, FIR out etc. System 100 may require the operator to indicate if the aircraft is carrying any dangerous goods on board in the request 112. Fig. 4B shows an example of a landing permit request page 420 of the request form. In addition to the common data, the landing request may include at least one of: router/sector, flight plan, Operation Service Provider (OSP) agent, etc. Referring to Fig. 4C which shows an example of the landing permit request page 430 of the request form. Landing permit request page 430 may require the operator to submit a list of documents for the landing request. For example, the request verification module 110 may be configured to require at least one of: air operator certificate/flying permit, certificate of registration, certificate of airworthiness, certificate of noise, radio operator certificate, insurance, TACS-II, EGPWS, medical documents, etc. Operator may attach the relevant documents to the landing permit request page 430. Landing permit request page 430 may be used as a checklist for the operator. If the operator does not have any one of the documents, the operator may indicate accordingly in the landing permit request page 430. Flight data may be stored in the system database 114. System database 114 may include an operator database for the operator data. System database 114 may include a flight database for the flight data.

[0057] System 100 may be configured to indicate compulsory fields in the request form so that necessary information and document may be entered into or attached to the request form by the operator. In this way, the information required for the request 112 to be completed for submission would be checked and the request process would not be delayed due to incomplete submission of information.

[0058] System 100 may be configured to generate a request identifier upon the receipt of the operator data and/or the flight data. Upon submission of at least one of the operator data and the flight data, the system 100 may issue the request identifier, e.g. a ticket generator number. If the operator data is not found in the system database 114, the operator module may transmit a message to the operator terminal 20 to inform the operator accordingly. The

message may include an option, e.g. an input box, a link, to allow the operator to register with the system 100.

[0059] Request form may include a payment option configured to provide the operator an option, e.g. a button, a link, to pay a request fee. Operator may pay the request fee by selecting the payment option. Upon selecting the payment option, the operator may be shown a payment page provided by the system 100 or a third-party payment service. Request 112 may include a payment status. Request verification module 110 may be configured to verify a payment status associated to the request 112. System 100 may display a payment page at the operator terminal 20. Payment page may be displayed upon completion of the operator data and flight personnel data. System 100 may be in communication with established payment systems, e.g. credit card, debit card, payment e-wallet. Operator may pay the required request fee for the application of the permit. Upon successful payment, the system 100 may toggle the payment status to “paid”. System 100 may transmit a payment receipt, e.g. via email, short message service, for the successful payment to the operator. System 100 may only allow the request to be submitted upon successful payment.

[0060] Fig. 5A shows an example of a flight crew/passenger page 500 of the request form. Request 112 may include flight personnel data. Request verification module 110 may be configured to receive the flight personnel data. Flight personnel data is data of personnel boarding or on board the aircraft. Flight personnel data may include flight crew data of flight crew boarding or on board the aircraft. Flight personnel data may or may not include flight passenger data of flight passenger boarding or onboard the aircraft depending on whether passengers are on board the aircraft. For example, a cargo aircraft would more likely to have flight crew and no flight passenger. Examples of flight crew data are: position, first name, last name, crew ID number, date of birth, gender, nationality, passport number, passport issuer country, passport expiry date, etc. Request 112 may include passenger data, for example, title, first name, last name, VIP/lead passenger, date of birth, gender, nationality, passport number, passport issuer country, passport issue date, passport expiry date, etc. Flight crew data and/or the passenger data may be stored in the system database 114. System database 114 may include a flight crew database for storing the flight crew data. System database 114

may include a passenger database for storing the passenger data. Flight data may include flight crew data and/or passenger data.

[0061] System 100 may be configured to transmit the flight personnel data to a security agency to screen the flight personnel boarding the aircraft. Fig. 5B shows a tabled example 510 of the flight personnel data. As shown in Fig. 5B, the flight personnel data may include flight crew data. If there are passengers are on board, the flight personnel data may include the flight passenger data. Request review module 120 may be configured to transmit the flight personnel data. Security agency may be an international agency that is capable of accessing databases of flight restricted person, i.e. a person that is not suitable to fly or enter the territory of destination. Security agency may review the flight personnel data to identify one of more such persons. System 100 may be configured to receive a security response from the security agency. System 100 may include a security computing device, e.g. mobile device, desktop, configured to transmit an alert from the security agency to the system 100 when one or more such persons has been identified. Request review module 120 may be configured to receive the alert from the security device and transmit the alert to the approving authority. The approval of the permit issuance may be dependent on the security response. Request 112 may be approved if the security response is positive and may be rejected if the security response is negative.

[0062] Once the requirement for the request 112 has been completed, the system 100 may generate a completion message to indicate the completion of the request form. While the request verification module 110 may be configured to verify that the required information and documents have been provided by the operator, the system 100 may not be configured to verify the accuracy of the information and documents. The accuracy of the information and documents may be verified by the approving authority and/or programs to verify the accuracy of the information and documents. Upon the completion of the request form, the system 100 may be configured to display a flight summary 600 of the request 112 as shown in Fig. 6, which shows an example of the flight summary 600 of the request form. Flight summary 600 may include the operator data and/or the flight data of the request 112. Flight summary 600 may include a graphical representation of the flight route, aerodrome of departure, aerodrome of arrival, etc. Flight summary 600 may include a request status which indicates the application status of the permit, e.g. pending, successful, rejected.

[0063] Request review module 120 may be accessible by the approving authority to review the request 112. Request review module 120 may transmit the request 112 to the approving authority for review. Request 112 may be viewed at the approving authority terminal 40. Approving authority may be the Civil Aviation Authority (CAA) of a territory/country/airspace or an agency appointed by the CAA to review the request 112 and issue the permit. Upon review of the request 112, the response 132 of the approving authority may be transmitted to the request review module 120. Response 132 may include an approval or a rejection of the request 112. As shown later, the response 132 may include a deficiency signal. Request review module 120 may transmit the response 132 to the operator. Request review module 120 may be configured to transmit a rejection to the operator if the requirements of the request 112 is not met. Request review module 120 may be configured to transmit an approval to the operator if the requirements of the request 112 is met.

[0064] Request review module 120 may include an administrative interface configured to allow the approving authority to review the request 112. Administrative interface may include a webpage, a mobile app, etc. Fig. 7A shows an example of a flight summary menu page 710 of the administrative interface. Request summary page 710 may be configured to display the plurality of requests 112 at the approving authority terminal 40. Each of the plurality of requests 112 displayed may be linked to a flight summary 600 of a request 112 such that the approving authority may select, e.g. click on, one of the plurality of requests 112 to display a flight summary 600 related to the request 112 selected. Fig. 7B shows an example of the request review page 720. Request review page 720 may include at least one of the operator data, the flight data and the flight personnel data. Request review page 720 may include a document review portion 722 which provides the list of documents submitted by the operator to be reviewed by the approving authority. As mentioned earlier, the approving authority may review the list of documents to determine if the documents are authentic and in order. Flight summary menu page 710 may be provided to the operator as well such that the operator may be able to access the flight summary menu page 710 to have an overview of the request made. Flight summary menu page 710 for the operator may differ from that of the approving authority.

[0065] Fig. 7C shows an enlarged version of the of the document review portion 722. Request review page 720 may include an approval indicator 724 for each of the data and/or document in the request 112. Approval indicator 724 may be configured to indicate if the data and/or document in the request 112 is approved or rejected. Approving authority may toggle or switch the approval indicator 724 between an approved configuration and a rejected configuration. Approval indicator 724 may be a digital switch, a button etc. When the corresponding data and/or document is approved and accepted, the approving authority switches the approval indicator 724 to the approved configuration. When the corresponding data and/or document is rejected, the approving authority switches the approval indicator 724 to the rejected configuration. When the document is rejected due to a deficiency in the request 112, the request review module 120 may receive a response 132 from the approving authority. Response 132 may include a deficiency signal from the approving authority due to the deficiency in the request 112. Meanwhile, the approving authority may put the request 112 on hold until the deficiency is corrected. Request review module 120 may be configured to receive the deficiency signal. Upon receiving the response 132 which comprises the deficiency signal, the notification module 130 may be configured to generate a deficiency notification. Document review portion 722 may include a comment input portion 726 configured to receive a comment from the approving authority. Comment may include the reason for the deficiency. Comment input portion 726 may be configured to display the comment next to the approval indicator 724.

[0066] Fig. 7D shows an example of a deficiency notification 740. Deficiency notification 740 may be an email, a short message service, etc. Notification module 130 may be configured to generate the deficiency notification 740. When at least one of the data and/or document is rejected, upon receiving the deficiency signal, the notification module 130 may generate the deficiency notification 740. Request review module 120 may be configured to transmit the deficiency notification 740 received directly to the operator. When the request review module 120 receives the deficiency signal from the approving authority, the request review module 120 may generate and transmit the deficiency notification 740 automatically to the operator without any user intervention. In this way, the deficiency notification 740 may be transmitted immediately to the operator to inform the operator of the deficiency in the request 112. Response 132 transmitted to the operator may include the deficiency notification where transmitting the response 132 transmits the deficiency notification as well. Deficiency

notification 740 may include the comment 742 made by the approving authority regarding the deficiency. Alternatively, the request review module 120 may be configured to generate and forward the deficiency notification to the operator.

[0067] Referring to Fig. 7D, the deficiency notification 740 transmitted to the operator may include an input interface 744 configured to allow the operator to input a corrective response 116 to correct the deficiency. For example, the input interface 744 may include a link to another interface, a data input box for the operator to input the corrective response 116, etc. Fig. 7E shows an example of a data input box 746 of the input interface 744. In this example, the input interface 744 may be a link that directs the operator to the data input box 746. Data input box 746 may be configured to allow the operator to attach a document such that the corrective response 116 may be the corrected document. In another example, the data input box 746 may be configured to allow the operator to enter information such that the corrective response 116 may be the corrected information, e.g. name, address. Upon entering the corrective response 116, the corrective response 116 may be transmitted to the request review module 120. Request review module 120 may be configured to transmit the corrective response 116 received directly to the approving authority such that no human intervention is required from the receipt of the corrective response 116 to the transmission. Upon receiving the corrective response 116, the approving authority may review the corrective response 116, e.g. information or document, and operate the approval indicator 724 to approve or reject the corrective response 116. By transmitting the deficiency notification with the deficiencies listed to the operator and providing an automatic transmission of the corrected data and/or document allows deficiencies to be corrected in the shortest possible time. Once the deficiencies are corrected, the request 112 may be approved and the permit may be issued. In this way, there is minimal delay in the approval process and the permit may be issued efficiently and quickly.

[0068] Once the request form has been verified to be completed, the request 112 may be forwarded to another personnel of the approving authority. System 100 may be configured to allow a plurality of officers-in-charge to review the request 112. Review of the request 112 by the plurality of officers-in-charge may be made in a successive order. For example, a junior officer-in-charge may first review the request 112 to ensure that the data and/or document are in order before forwarding the request 112 to a more senior officer-in-charge.

Referring to Fig. 7C, the document review portion 722 of the flight summary page 720 shows a forwarding button 728 configured to forward the request 112 to the next officer-in-charge of the approving authority. In the same example, when the junior officer-in-charge activates the forwarding button 728, the system 100 assumes that the request 112 is in order and is ready to be forwarded to the next officer-in-charge. The next officer-in-charge may be shown the same flight summary page that is opened under the next officer-in-charge account and he or she may review the request 112. Similarly, the next officer-in-charge may have the same document review portion 722 and may be able to approve or reject each of the list of documents. The next officer-in-charge may activate the forwarding button 728 to forward the request 112 to the next officer-in-charge. The process can go on until the request 112 reaches the highest rank officer-in-charge who may be able to approve the request 112 and thereby issue the permit.

[0069] Fig. 7F shows an example of a final flight summary page 750. Final flight summary page 750 may include the operator data, the flight data, a route map, and a table of approvals of the documents by all the officer-in-charge of the request 112. As shown in Fig. 7F, the request 112 has been reviewed by the first officer-in-charge, e.g. ASL, the second officer-in-charge, e.g. AD, the third officer-in-charge, e.g. DD, and the final officer-in-charge, e.g. DFSR, before the permit is issued by the final officer-in-charge.

[0070] Fig. 8 shows an example of the permit 800 issued by the system 100. Permit 800 may be issued via email, short message service, etc. Upon approval of the request 112, the notification module 130 may generate the response 132 to be transmitted to the operator. Notification module 130 may generate the permit. In the event that the request 112 is rejected, the notification module 130 may generate a rejection notification. Response 132 may include the permit 800 and may be transmitted by the notification module 130 to the operator.

[0071] Fig. 9 shows an example of a flowchart of a method 900 suitable for the system 100. As described previously, the operator may first register or log into the system 100 in 902. If the operator is new, the operator may register for an account in the system 100 in 904. For the registered operator, upon logging into the account, the operator may be prompted to select a

flight request type in 950. If the operator selects the landing request, the operator may be directed to the landing permit request page 420 to input the relevant landing data in 952, e.g. operator data. If the operator selects the overfly request, the operator may be directed to the overfly permit request page 410 to input the relevant overfly data in 954. As mentioned, the request verification module 110 may verify that the request form is completed. Upon completion of the chosen request page, the request identifier may be issued in 956. System 100 may verify the payment status in 958. Request verification module 110 may verify the payment status. Request may be rejected if the payment status is negative, i.e. payment not made. Request verification module 110 may verify if the request is completed or not. If the request form is completed, the request 112 may be transmitted to the request review module 120 to be reviewed by the approving authority. If the request form is not completed, the request 112 may be rejected in 960.

[0072] Approving authority may review the request 112 in 910. Request review module 120 may be configured to transmit the flight personnel data to the security agency in 912. After the review by the security agency, the security response may be transmitted to the request review module 120 for the approving authority's review. If the security response is positive, the request 112 may be approved in 914. If the security response is negative, the request 112 may be rejected in 916. If the request 112 is complete and the request 112 is approved, the notification module 130 may generate and transmit the permit to the operator in 962.

[0073] System 100 may be configured to communicate with a plurality of approving authorities. Therefore, the system 100 may be configured to customize the administrative interface for each of the plurality of approving authorities. The requirement for one approving authority may differ from another, for example, one approving authority may require a specific set of data and documents that is different from another approving authority. Therefore, it is efficient and advantages to customize the administrative interface to suit each of the plurality of approving authorities. For an operator to request for access into multiple FIRs, the system 100 allows the request for each approving authority to be customised to each of their requirements.

[0074] Fig. 10 shows an example of a block diagram of a computing device 1000, e.g. a server, configured for the system 100. Computing device 1000 may include one or more

processors 1100 and a system memory 1200. Processor 1100 may include a multi-core processor. Computing device 1000 may include a memory bus 1300 for communication between the processor 1100 and the system memory 1200.

[0075] Processor 1100 may include but not limited to a microprocessor (μP), a microcontroller (μC), a digital signal processor (DSP), or any combination thereof. Processor 1100 may include one more levels of caching, such as a level one cache and a level two cache, two or more processor cores, and registers. Processor core ay include an arithmetic logic unit (ALU), a floating point unit (FPU), a digital signal processor core (DSP Core), or any combination thereof. Processor 1100 may include a memory controller 1120. Processor 1100 may include a location prediction module configured to facilitate prediction of a location of a given memory address based upon a memory address distribution table of memory addresses stored by the on-chip caches of one or more of the processor cores.

[0076] System memory 1200 may include but not limited to volatile memory (such as RAM), non-volatile memory (such as ROM, flash memory, etc.) or any combination thereof. System memory 1200 may include an operating system 1210, one or more applications 1220, and program data 1230. Application 1220 may be arranged to operate with program data 1220 on the operating system 1230. Application 1220 may include algorithm for the method 200, e.g. verifying the request 112 received from the operator. Program data 1230 may include the operator data, flight data, etc. Computer device 1000 may include a bus/interface controller 1400 configured to facilitate communication between the processor 1100/system memory 1200 and a data storage device 1600 via the storage interface bus 1500.

[0077] As shown in Fig. 10, the data storage devices 1600 may be at least one of removable storage devices 1620 and non-removable storage devices 1640. Removable storage devices 1620 and non-removable storage devices 1640 may include magnetic disk devices such as flexible disk drives and hard-disk drives (HDD), optical disk drives such as compact disk (CD) drives or digital versatile disk (DVD) drives, solid state drives (SSD), and tape drives, etc.

[0078] System memory 1200, removable storage devices 1620, non-removable storage devices 1640 are examples of computer storage media. Computer storage media may also include RAM, ROM, EEPROM, flash memory, CD-ROM, optical storage, e.g. DVD, magnetic cassettes, magnetic tape, magnetic disk storage, etc.

[0079] Computing device 1000 may include various interface devices, e.g. output device 1720, peripheral interfaces 1740, communication devices 1760. Computing device 1000 may include an interface bus 1800 configured to facilitate communication between the processor 1100, system memory 1200, storage devices 1600 and the interface devices.

[0080] Output devices 1720 may include a graphics processing unit (GPU) 1722 configured to communicate to a display and an audio process unit (APU) 1724 configured to communicate with a speaker via one or more A/V ports 1720.

[0081] Peripheral devices 1740 may include a serial interface controller (SIC) 1742 or a parallel interface controller 1744 configured to communicate with external devices such as input devices (e.g., keyboard, mouse, pen, voice input device, touch input device, etc.) or other peripheral devices (e.g., printer, scanner, etc.) via one or more I/O ports 1746.

[0082] Communication device 1760 may include a network controller 1762, configured to facilitate communications with one or more other computing devices 1002 over a network communication link via one or more communication ports 1764. For example, the computing device 1000 may communicate with the operator terminal 20, the approving authority terminal 40.

[0083] Network communication link may be one example of a communication media. Communication media may typically be embodied by computer readable instructions, data structures, program modules, or other data in a modulated data signal, such as a carrier wave or other transport mechanism, and may include any information delivery media. A “modulated data signal” may be a signal that has one or more of its characteristics set or changed in such a manner as to encode information in the signal. For example, communication media may include wired media such as a wired network or direct-wired

connection, and wireless media such as acoustic, radio frequency (RF), microwave, infrared (IR) and other wireless media. The term computer readable media as used herein may include both storage media and communication media.

[0084] Computing device 1000 may be a portable (or mobile) electronic device, e.g. a cell phone, a personal data assistant (PDA), a personal media player device, a wireless web-watch device, a personal headset device, an application specific device, or a hybrid device that include any of the above functions. Computing device 1000 may also be a personal computer including both laptop computer and non-laptop computer configurations, e.g. desktop.

[0085] It should be appreciated that all the information in system database may be maintained in one or more databases or on each of a plurality of databases using distributed database technology. Further, it should be appreciated that the system 100 may be hosted on one server or a plurality of servers connected via the network.

[0086] The present invention relates to a system generally as herein described, with reference to and/or illustrated in the accompanying drawings. Further, the present invention relates to a method generally as herein described, with reference to and/or illustrated in the accompanying drawings.

Claim

1. A system for granting access of an aircraft into an airspace, the system comprising:

a request verification module configured to receive a request to access the airspace from an operator of the aircraft and verify the request, wherein the request comprises flight data, wherein verifying the request comprises verifying the flight data;

a request review module in communication with the request verification module, the request review module configured to transmit the request to an approving authority of the airspace and receive a response to the request from the approving authority; and

a notification module in communication with the request review module, the notification module configured to transmit the response to at least one of the operator and the approving authority.

2. The system of claim 1, wherein the request comprises a flight request type.

3. The system of claim 2, wherein the flight request type comprises a landing request or an overfly request.

4. The system of any one of claims 1 to 3, wherein the request further comprises operator data of the operator.

5. The system of any one of claims 1 to 4, wherein the request verification module is further configured to verify a payment status associated to the request.

6. The system of any one of claims 1 to 5, wherein the response comprises an approval or a rejection of the request.

7. The system of claim 6, wherein the response received by the request review module comprises a deficiency signal.

8. The system of claim 7, wherein the notification module is configured to generate a deficiency notification upon receiving the deficiency signal, wherein the response transmitted to the operator comprises the deficiency notification.

9. The system of claim 8, wherein the deficiency notification transmitted to the operator comprises an input interface configured to allow the operator to input a corrective response to correct the deficiency.

10. The system of claim 9, wherein the request review module is configured to receive the corrective response and transmit the corrective response directly to the approving authority.

11. The system of any one of claims 1 to 10, wherein the request further comprises flight personnel data.

12. The system of claim 11, wherein the request review module is configured to transmit at least one of the flight crew data and flight passenger data to a security agency for verification and to receive a flight approval response for at least one of the flight crew and the flight passenger.

13. A computer-implemented method for granting access of an aircraft into an airspace, the method comprising:

receiving a request to access the airspace from an operator of the aircraft, the request comprising flight data;

verifying the request, wherein verifying the request comprises verifying the flight data;

transmitting the request to an approving authority of the airspace;

receiving a response to the request from the approving authority; and

transmitting the response to at least one of the operator and the approving authority.

14. The method of claim 13, wherein the request comprises a flight request type.

15. The method of claim 14, wherein the flight request type comprises a landing request or an overfly request.

16. The method of any one of claims 13 to 15, wherein the request further comprises operator data of the operator.

17. The method of any one of claims 13 to 16, wherein the method further comprising verifying a payment status associated to the request.

18. The method of any one of claims 13 to 17, wherein the response comprises an approval or a rejection of the request.

19. The method of any one of claims 13 to 18, wherein the response received from the approving authority comprises a deficiency signal.

20. The method of claim 19, further comprising generating a deficiency notification upon receiving the deficiency signal, wherein the response transmitted to the operator comprises the deficiency notification.

21. The method of claim 20, wherein the deficiency notification transmitted to the operator comprises an input interface configured to allow the operator to input a corrective response to correct the deficiency.

22. The method of claim 21, further comprising receiving the corrective response and transmitting the corrective response received directly to the approving authority.

23. The method of any one of claims 13 to 22, wherein the request further comprises at least one of flight crew data and flight passenger data.

24. The method of claim 23, further comprising transmitting at least one of the flight crew data and flight passenger data to a security agency for verification and receiving a flight approval response for at least one of the flight crew and the flight passenger.

25. A system for granting access of an aircraft into an airspace, the system comprising a server configured to:

receive a request to access the airspace from an operator of the aircraft;

verify the request, wherein the request comprises flight data;

transmit the request to an approving authority of the airspace;

receive a response to the request from the approving authority; and

transmit the response to at least one of the operator and the approving authority.

SYSTEM FOR GRANTING ACCESS OF AN AIRCRAFT INTO A TERRITORY AND METHOD THEREOF

Abstract

A system for granting access of an aircraft into an airspace is provided. System has a request verification module configured to receive a request to access the airspace from an operator of the aircraft and verify the request, such that the request includes flight data, such that verifying the request includes verifying the flight data. System further includes a request review module in communication with the request verification module, the request review module configured to transmit the request to an approving authority of the airspace and receive a response to the request from the approving authority; and a notification module in communication with the request review module, the notification module configured to transmit the response to at least one of the operator and the approving authority. Further, a computer-implemented method for granting access of an aircraft into an airspace is provided

Fig. 1