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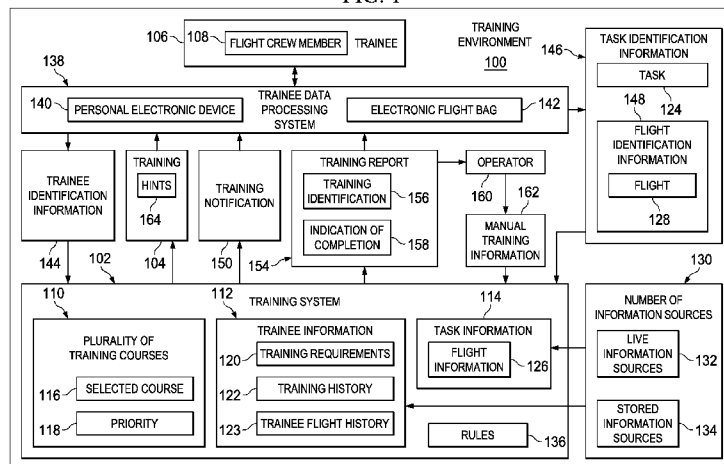
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(54) Title: TAILORED AIRLINE TRAINING

FIG. 1



(57) Abstract: A method and apparatus for identifying training for a flight crew member. The flight crew member is identified. Information for a flight to which the flight crew member is assigned is identified. Training for the flight crew member is identified using the flight information.

TAILORED AIRLINE TRAINING

BACKGROUND

5 The present disclosure relates generally to systems and methods for training. More particularly, the present disclosure relates to tailoring training for a member of a flight crew using information describing characteristics of a flight to which the crew member is assigned.

10 Pilots and other members of a flight crew may be required to take various training courses. The content of these courses, and how often the courses are required to be taken, may be defined by an airline or other employer of the flight crew, by a regulatory entity, or both.

15 Flight crew members may be required to complete specific training courses within a specified time period or before a specified time of the year. For example, an airline may have targeted training for their crews to take for winter operations and for summer operations. Training courses for winter operations may include training for de-icing, use of anti-ice equipment, hold over times, other activities, or various combinations of activities that are more likely to be performed by the flight crew for flights during the winter. Training courses for summer operations may include training for avoiding thunderstorms, performance, summer passenger weights, other
20 activities, or various combinations of activities that are more likely to be performed by the flight crew for flights during the summer.

It may also be desirable for flight crew members to train for specific skills that may be useful for specific upcoming flights to which the flight crew members are assigned, even if such training is not required. For example, if required training for a
25 specific skill was completed a relatively long time ago, it may be desirable for the flight crew to retake or update some or all of the training for that skill if that skill is likely to be used during an upcoming flight to which the crew is assigned.

Currently, the same training courses and schedules for such training may be established by an airline for all personnel with the same position on a flight crew.
30 For example, an airline may require all pilots to take the same training courses over the same time period or during the same time of year. In this case, pilot training may not be tailored efficiently to the particular training needs of individual pilots.

Accordingly, it would be beneficial to have a method and apparatus that takes into account one or more of the issues discussed above as well as possibly other issues.

SUMMARY

An illustrative embodiment of the present disclosure provides a method for identifying training for a flight crew member. The flight crew member is identified. Information for a flight to which the flight crew member is assigned is identified. Training for the flight crew member is identified using the flight information.

Another illustrative embodiment of the present disclosure provides an apparatus comprising an information receiver and a training identifier. The information receiver is configured to receive task information identifying characteristics of a task to be performed by a trainee. The training identifier is configured to identify training for the trainee using the task information.

Another illustrative embodiment of the present disclosure provides a method for identifying training for a trainee. The trainee is identified. Task information identifying characteristics of a task to be performed by the trainee is identified. Training for the trainee is identified using the task information.

The features, functions, and benefits may be achieved independently in various embodiments of the present disclosure or may be combined in yet other embodiments in which further details can be seen with reference to the following description and drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

The novel features believed characteristic of the illustrative embodiments are set forth in the appended claims. The illustrative embodiments, however, as well as a preferred mode of use, further objectives, and features thereof will best be understood by reference to the following detailed description of illustrative embodiments of the present disclosure when read in conjunction with the accompanying drawings, wherein:

Figure 1 is an illustration of a block diagram of a training environment in accordance with an illustrative embodiment;

Figure 2 is an illustration of a block diagram of a training system in accordance with an illustrative embodiment;

Figure 3 is an illustration of a block diagram of flight information in accordance with an illustrative embodiment;

Figure 4 is an illustration of a flowchart of a process for identifying training in accordance with an illustrative embodiment; and

5 **Figure 5** is an illustration of a block diagram of a data processing system in accordance with an illustrative embodiment.

DETAILED DESCRIPTION

10 The different illustrative embodiments recognize and take into account a number of different considerations. "A number," as used herein with reference to items, means one or more items. For example, "a number of different considerations" means one or more different considerations.

15 The different illustrative embodiments recognize and take into account that current airline training systems may use a static set of training content that does not take individual flight crew member context and operational environment into account. As a result, current training systems may not provide training for individual flight crew members in an efficient manner.

20 For example, a pilot may be required to take a training course on de-icing in a certain time period because all of the pilots for the airline are required to take the same training courses within the same time period. However, all of the flights for which the pilot is scheduled during the time period may be in tropical areas where icing cannot occur. In this case, it would be more efficient if the training for de-icing was deferred until the pilot is scheduled for a flight in an area where icing may occur. Furthermore, in this case, it may be desirable for the pilot to take training that may be specific for flights
25 in tropical areas, particularly if the pilot has not participated in such training recently.

The illustrative embodiments provide a system and method for supplying training to flight crew members in a more efficient and effective manner. In accordance with an illustrative embodiment, the training content and the timing at which the training is provided may be tailored for an individual flight crew member based on
30 characteristics of the flight crew member and characteristics of the flights to which the flight crew member is assigned.

Turning now to **Figure 1**, an illustration of a block diagram of a training environment is depicted in accordance with an illustrative embodiment. In this example,

training environment **100** includes training system **102**. In accordance with an illustrative embodiment, training system **102** may be configured to identify training **104** for trainee **106**.

For example, without limitation, trainee **106** may be flight crew member **108**. For example, flight crew member **108** may be a pilot, co-pilot, or other member of a flight crew for a commercial or other aircraft.

It may be desirable for trainee **106** to take plurality of training courses **110**. For example, without limitation, plurality of training courses **110** may include a number of courses covering a variety of subjects. Plurality of training courses **110** may include training that flight crew member **108** may be required to take over a specified time period. For example, without limitation, plurality of training courses **110**, and the time period for taking plurality of training courses **110**, may be defined by an airline or other employer of flight crew member **108**, by a regulatory entity, or by another entity or various combinations of such entities. Plurality of training courses **110** may include any type or form of training. For example, without limitation, plurality of training courses **110** may include classroom training, on-line training, self-study, or any other form of training or various types of training in various combinations.

In accordance with an illustrative embodiment, training system **102** may be configured to identify training **104** for trainee **106** using trainee information **112** and task information **114**. For example, without limitation, training system **102** may be configured to identify selected course **116** from plurality of training courses **110** using trainee information **112** and task information **114**. Selected course **116** may be the most desirable one of plurality training courses **110** for trainee **106** to take based on trainee information **112** and task information **114**. As another example, training system **102** may be configured to identify priority **118** of plurality of training courses **110** for trainee **106** using trainee information **112** and task information **114**. Priority **118** of plurality of training courses **110** may identify the most desirable order in which trainee **106** should take plurality of training courses **110** based on trainee information **112** and task information **114**.

Trainee information **112** may include any information identifying various characteristics of trainee **106** that may be used by training system **102** to identify training **104** for trainee **106**. For example, without limitation, trainee information **112** may include training requirements **120**, training history **122**, trainee flight history **123**, or

other appropriate information or various combinations of such information. Training requirements **120** may include, without limitation, a listing of training that trainee **106** may be required to take. For example, without limitation, training requirements **120** may identify a number of plurality of training courses **110** that trainee **106** may be required to take. Training requirements **120** also may identify a time during which or by which trainee **106** may be required to take the listed training. Training history **122** may identify training that trainee **106** has already taken. Training history **122** also may identify when trainee **106** took the identified training. Trainee flight history **123** may identify flights on which flight crew member **108** trainee **106** has recently served and various characteristics of those flights. Trainee information **112** may be stored in training system **102**, at a location accessible by training system **102**, or both.

Task information **114** may include any information identifying various characteristics of task **124** which trainee **106** has been assigned to perform and that may be used by training system **102** to identify training **104** for trainee **106**. For example, without limitation, task information **114** may include flight information **126** identifying various characteristics of flight **128** to which flight crew member **108** has been assigned. In this case, flight information **126** may include any information identifying various characteristics of flight **128** to which flight crew member **108** has been assigned that may be used by training system **102** to identify training **104** for flight crew member **108**.

Task information **114** may be received by training system **102** from number of information sources **130**. For example, number of information sources **130** may include live information sources **132**, stored information sources **134**, or both. Live information sources **132** may include any source of information that may provide task information **114** that may be updated or otherwise changed more frequently than task information **114** that may be provided from stored information sources **134**. For example, without limitation, live information sources **132** may include sources of information that may provide task information **114** to training system **102** in real-time or in near real-time as task information **114** is generated by live information sources **132**. Stored information sources **134** may include information stored in training system **102**, information stored outside of training system **102** but accessible by training system **102**, or both.

For example, without limitation, task information **114** may be flight information **126** that includes weather information identifying weather that may affect flight **128** to which flight crew member **108** is assigned, aircraft information identifying characteristics of the aircraft to be used for flight **128**, or various other information or combinations of information identifying various characteristics of flight **128**. In this example, the weather information identifying weather that may affect flight **128** may change relatively frequently and is an example of task information **114** that may be provided by live information sources **132**, such as a weather radar or weather forecasting system. In this example, the aircraft information identifying characteristics of the aircraft to be used for flight **128** may change relatively infrequently and may be an example of task information **114** that may be provided from stored information sources **134**, such as a database of aircraft information.

In accordance with an illustrative embodiment, training system **102** may use trainee information **112**, task information **114**, or both, to identify training **104** for trainee **106** in accordance with rules **136**. Rules **136** may be established by an airline, a regulation entity, or another entity or various combinations of entities.

Rules **136** may define how trainee information **112**, task information **114**, or both may be used to select selected course **116** from plurality of training courses **110**, to determine priority **118** for plurality of training courses **110**, or both. For example, without limitation, rules **136** may be defined and applied by training system **102** so that the likelihood that any one of plurality of training courses **110** is selected as selected course **116** is higher if flight information **126** indicates that training provided by the one of plurality of training courses **110** is more likely to be used by flight crew member **108** during flight **128** to which flight crew member **108** is assigned. As another example, without limitation, rules **136** may be defined and applied by training system **102** so that courses in plurality of training courses **110** are given higher priority in priority **118** for plurality of training courses **110** if flight information **126** indicates that training provided by such courses is more likely to be used by flight crew member **108** during flight **128** to which flight crew member **108** may be assigned.

Rules **136** may be represented and implemented by training system **102** in any appropriate manner. For example, without limitation, rules **136** may define various weights that may be assigned to plurality of training courses **110** based on trainee information **112**, task information **114**, or both. These assigned weights then may be

used by training system **102** to select selected course **116** from plurality of training courses **110**, to identify priority **118** for plurality of training courses **110**, or in another manner to identify training **104** for trainee **106**.

Trainee **106** may interact with training system **102** via trainee data processing system **138**. Trainee data processing system **138** may be a desk top computer or any other appropriate type of computer. For example, without limitation, trainee data processing system **138** may be any appropriate personal electronic device **140**. Personal electronic device **140** may be a laptop computer, hand held data processing device, or any other appropriate data processing device. In cases where trainee **106** is flight crew member **108**, such as a pilot or another member of a flight crew, trainee data processing system **138** may be electronic flight bag **142**.

Trainee data processing system **138** may be connected to training system **102** via any appropriate wired or wireless connection. For example, without limitation, trainee data processing system **138** may be connected to transmit information to training system **102** and to receive information from training system **102** via any appropriate data processing system network, such as the Internet or any other appropriate network.

Trainee **106** may access training system **102** by using trainee data processing system **138** to provide trainee identification information **144** to training system **102**. Trainee identification information **144** may include any appropriate information for identifying trainee **106** to training system **102**. Trainee identification information **144** may be used by training system **102** to identify trainee information **112** for trainee **106** that may be used by training system **102** to identify training **104** for trainee **106**. Alternatively, or additionally, some or all of trainee information **112** may be provided by trainee **106** to training system **102** using trainee data processing system **138**. In this case, trainee identification information **144** may include trainee information **112** that may be used by training system **102** to identify training **104** for trainee **106**.

Trainee **106** also may use trainee data processing system **138** to provide task identification information **146** to training system **102**. Task identification information **146** may include any appropriate information for identifying task **124** to be performed by trainee **106** to training system **102**. For example, without limitation, task identification information **146** may include flight identification information **148** for identifying flight **128** to which flight crew member **108** may be assigned. Task identification information **146**

may be used by training system **102** to identify task information **114** that may be used by training system **102** to identify training **104** for trainee **106**. For example, without limitation, task identification information **146** may be used by training system **102** to retrieve, request, access, or otherwise obtain task information **114** from number of information sources **130**. Alternatively, or additionally, some or all of task information **114** may be provided by trainee **106** to training system **102** using trainee data processing system **138**. In this case, task identification information **146** may include task information **114** that may be used by training system **102** to identify training **104** for trainee **106**.

Training system **102** may be configured to generate training notification **150** and to provide training notification **150** to trainee **106**. Training notification **150** may be provided in any appropriate manner and format to indicate to trainee **106** training **104** that has been identified by training system **102** for trainee **106**. For example, without limitation, training notification **150** may be provided to trainee **106** in the form of an electronic message that may be received, accessed, or otherwise viewed by trainee **106** using trainee data processing system **138**.

Trainee **106** may respond to training notification **150** by taking training **104** as identified by training system **102** and as indicated in training notification **150**. Trainee **106** may take training **104** as identified by training system **102** and as indicated in training notification **150** in any appropriate manner. For example, without limitation, training system **102** may be configured to deliver training **104** to trainee **106** via trainee data processing system **138** or in any other appropriate manner.

Training system **102** may be configured to generate training report **154**. For example, without limitation, training report **154** may include training identification **156**. Training identification **156** may include information indicating training **104** that was identified by training system **102** for trainee **106**. Training report **154** also may include indication of completion **158**. Indication of completion **158** may include information that identifies whether trainee **106** has completed training **104** that was identified by training system **102** for trainee **106** as indicated by training identification **156**. For example, without limitation, indication of completion **158** may indicate whether trainee **106** has completed training **104**, the manner in which trainee **106** may have completed training **104**, when trainee **106** may have completed training **104**, or other information or various combinations of information related to the completion of training **104** by trainee **106**.

Information for generating indication of completion **158** may be provided to training system **102** by trainee **106**. For example, without limitation, trainee **106** may use trainee data processing system **138** to provide information for indication of completion **158** to training system **102** as trainee **106** completes training **104**.
5 Alternatively, or additionally, indication of completion **158** may be updated automatically by training system **102** as trainee **106** takes training **104** provided by training system **102** using trainee data processing system **138**.

Training report **154** may be provided to trainee **106** in any appropriate manner and format. For example, without limitation, training report **154** may be
10 provided by training system **102** to trainee **106** in the form of an electronic message or an electronic document or in any other appropriate format that may be received, accessed, or otherwise viewed by trainee **106** using trainee data processing system **138**.

In accordance with an illustrative embodiment, operator **160** may manually
15 affect or control the identification of training **104** for trainee **106** by training system **102** by providing manual training information **162** to training system **102**. Operator **160** may be any human operator of training system **102** other than trainee **106**. For example, without limitation, operator **160** may operate training system **102** for an airline or any other entity. Training system **102** may be configured to receive manual training
20 information **162** from operator **160** in any appropriate manner.

Manual training information **162** may include any information that may affect the identification of training **104** for trainee **106** by training system **102**. For example, without limitation, manual training information **162** may be used by training system **102** in combination with trainee information **112**, task information **114**, or both,
25 to identify training **104** for trainee **106**. As another example, in some cases, manual training information **162** may be used to override the automatic identification of training **104** by training system **102**.

Training report **154** also may be provided to operator **160**. Operator **160** may use the information provided in training report **154** to monitor training **104** identified
30 by training system **102** for trainee **106** and to monitor the completion of training **104** by trainee **106**. Training report **154** may be provided in any appropriate manner and format to operator **160**.

In accordance with an illustrative embodiment, training **104** identified by training system **102** may comprise hints **164**. Hints **164** may include pieces of training or other information that may help trainee **106** to complete task **124**. Hints **164** may comprise less information than a course in plurality of training courses **110** and may be specific to task **124** to be performed by trainee **106**. For example, in the case where trainee **106** is flight crew member **108**, task **124** to be performed may be flight **128** to which flight crew member **108** is assigned. In this case, hints **164** may include information that may be useful for flight crew member **108** during flight **128**. Hints **164** may be identified by training system **102** in the manner of training **104**. For example, hints **164** may be identified by training system **102** using trainee information **112**, task information **114**, or both, in accordance with rules **136**.

The illustration of **Figure 1** is not meant to imply physical or architectural limitations to the manner in which different illustrative embodiments may be implemented. Other components in addition to, in place of, or both in addition to and in place of the ones illustrated may be used. Some components may be unnecessary in some illustrative embodiments. Also, the blocks are presented to illustrate some functional components. One or more of these blocks may be combined or divided into different blocks when implemented in different illustrative embodiments.

For example, without limitation, trainee information **112** may be received by training system **102** from number of information sources **130**. Trainee identification information **144** may be used by training system **102** to retrieve, request, access, or otherwise obtain trainee information **112** from number of information sources **130**. Number of information sources **130** may include one or more of trainee **106**, trainee data processing system **138**, and operator **160** in any combination.

Turning now to **Figure 2**, an illustration of a block diagram of a training system is depicted in accordance with an illustrative embodiment. In this example, training system **200** is an example of one implementation of training system **102** in **Figure 1**. Training system **200** may be implemented in any appropriate data processing system to perform the various functions of training system **200** described herein.

Training system **200** may include information receiver **202**. Information receiver **202** may be configured to receive various types of information from information sources **203**. In this example, without limitation, information sources **203** may include number of information sources **130** in **Figure 1**, including live information sources **132**

and stored information sources **134**. For example, without limitation, information receiver **202** may be configured to receive trainee identification information **204**, trainee information **206**, task identification information **208**, task information **210**, or various combinations of such information from information sources **203**. Trainee identification information **204**, trainee information **206**, task identification information **208**, task information **210**, or various combinations of such information may be provided from information receiver **202** to training identifier **214**.

Training identifier **214** may be configured to use trainee identification information **204**, trainee information **206**, task identification information **208**, task information **210**, or various combinations of such information to identify training **216** for trainee **217** in accordance with rules **218**. For example, training identifier **214** may be configured to identify training **216** for trainee **217** from plurality of training courses **220**. For example, without limitation, training identifier **214** may include training selector **222** that is configured to identify selected course **224** for trainee **217** from plurality of training courses **220** using trainee identification information **204**, trainee information **206**, task identification information **208**, task information **210**, or various combinations of such information in accordance with rules **218**. As another example, without limitation, training identifier **214** may include priority identifier **226** that is configured to identify priority **228** for plurality of training courses **220** using trainee identification information **204**, trainee information **206**, task identification information **208**, task information **210**, or various combinations of such information in accordance with rules **218**.

Training system **200** may include notification system **230**. Notification system **230** may be configured to generate training notification **232**. Training notification **232** may include information identifying training **216** for trainee **217** that is identified by training identifier **214**.

Training system **200** may include training delivery system **236**. Training delivery system **236** may be configured to deliver training **216** to trainee **217**.

Training system **200** may include training report generator **238**. Training report generator **238** may be configured to generate training report **240**. Training report **240** may include information identifying training **216** for trainee that is identified by training identifier **214** along with information indicating whether training **216** has been completed by trainee **217**. Training report **240** also may include information identifying the manner in which trainee **217** may have completed training **216**, when trainee **217**

may have completed training **216**, or both. Training report **240** may be sent to trainee **217**, operator **242**, or both.

Training system **200** may include user interface generator **244**. User interface generator **244** may be configured to generate number of user interfaces **246**.

5 Trainee **217**, operator **242**, or both may use number of user interfaces **246** to interact with training system **200**.

The illustration of **Figure 2** is not meant to imply physical or architectural limitations to the manner in which different illustrative embodiments may be implemented. Other components in addition to, in place of, or both in addition to and in
10 place of the ones illustrated may be used. Some components may be unnecessary in some illustrative embodiments. Also, the blocks are presented to illustrate some functional components. One or more of these blocks may be combined or divided into different blocks when implemented in different illustrative embodiments.

Turning now to **Figure 3**, an illustration of a block diagram of flight
15 information is depicted in accordance with an illustrative embodiment. In this example, flight information **300** is an example of flight information **126** in **Figure 1**.

Flight information **300** may include information describing various characteristics of a flight and may be used to identify training for a flight crew member in accordance with an illustrative embodiment. For example, without limitation, flight
20 information **300** may include flight plan **302**, weather information **304**, aircraft information **306**, airport information **308**, NOTAMs **309**, and crew pairing information **310**. Crew pairing information **310** may include crew information **312** for the members of the flight crew assigned to the flight. For example, without limitation, crew information **312** may include crew training history information **314**.

25 Turning now to **Figure 4**, an illustration of a flowchart of a process for identifying training is depicted in accordance with an illustrative embodiment. The process of **Figure 4** may be implemented, for example, in training system **200** in **Figure 2**.

The process may begin by identifying a trainee (operation **402**). Trainee
30 information for the identified trainee then may be identified (operation **404**). A task may be identified (operation **406**). Task information for the identified task may be identified (operation **408**). Training for a trainee then may be identified using the trainee information and the task information (operation **410**).

Training identification identifying the training identified in operation **410** may be recorded (operation **412**). A training notification may be sent to the trainee (operation **414**). The training may be delivered to the trainee (operation **416**).

An indication that the trainee has completed the training may be recorded (operation **418**). A training report may be generated (operation **420**). The operation report may be delivered (operation **422**), with the process terminating thereafter.

Turning now to **Figure 5**, an illustration of a block diagram of a data processing system is depicted in accordance with an illustrative embodiment. In this example, data processing system **500** is an example of one implementation of a data processing system for implementing training system **102** or trainee data processing system **138** in **Figure 1**, or for implementing training system **200** in **Figure 2**.

In this illustrative example, data processing system **500** includes communications fabric **502**. Communications fabric **502** provides communications between processor unit **504**, memory **506**, persistent storage **508**, communications unit **510**, input/output (I/O) unit **512**, and display **514**. Memory **506**, persistent storage **508**, communications unit **510**, input/output (I/O) unit **512**, and display **514** are examples of resources accessible by processor unit **504** via communications fabric **502**.

Processor unit **504** serves to run instructions for software that may be loaded into memory **506**. Processor unit **504** may be a number of processors, a multi-processor core, or some other type of processor, depending on the particular implementation. Further, processor unit **504** may be implemented using a number of heterogeneous processor systems in which a main processor is present with secondary processors on a single chip. As another illustrative example, processor unit **504** may be a symmetric multi-processor system containing multiple processors of the same type.

Memory **506** and persistent storage **508** are examples of storage devices **516**. A storage device is any piece of hardware that is capable of storing information, such as, for example, without limitation, data, program code in functional form, and other suitable information either on a temporary basis or a permanent basis. Storage devices **516** also may be referred to as computer readable storage devices in these examples. Memory **506**, in these examples, may be, for example, a random access memory or any other suitable volatile or non-volatile storage device. Persistent storage **508** may take various forms, depending on the particular implementation.

For example, persistent storage **508** may contain one or more components or devices. For example, persistent storage **508** may be a hard drive, a flash memory, a rewritable optical disk, a rewritable magnetic tape, or some combination of the above. The media used by persistent storage **508** also may be removable. For example, a removable hard drive may be used for persistent storage **508**.

Communications unit **510**, in these examples, provides for communications with other data processing systems or devices. In these examples, communications unit **510** is a network interface card. Communications unit **510** may provide communications through the use of either or both physical and wireless communications links.

Input/output (I/O) unit **512** allows for input and output of data with other devices that may be connected to data processing system **500**. For example, input/output (I/O) unit **512** may provide a connection for user input through a keyboard, a mouse, and/or some other suitable input device. Further, input/output (I/O) unit **512** may send output to a printer. Display **514** provides a mechanism to display information to a user.

Instructions for the operating system, applications, and/or programs may be located in storage devices **516**, which are in communication with processor unit **504** through communications fabric **502**. In these illustrative examples, the instructions are in a functional form on persistent storage **508**. These instructions may be loaded into memory **506** for execution by processor unit **504**. The processes of the different embodiments may be performed by processor unit **504** using computer-implemented instructions, which may be located in a memory, such as memory **506**.

These instructions are referred to as program instructions, program code, computer usable program code, or computer readable program code that may be read and executed by a processor in processor unit **504**. The program code in the different embodiments may be embodied on different physical or computer readable storage media, such as memory **506** or persistent storage **508**.

Program code **518** is located in a functional form on computer readable media **520** that is selectively removable and may be loaded onto or transferred to data processing system **500** for execution by processor unit **504**. Program code **518** and computer readable media **520** form computer program product **522** in these examples.

In one example, computer readable media **520** may be computer readable storage media **524** or computer readable signal media **526**.

Computer readable storage media **524** may include, for example, an optical or magnetic disk that is inserted or placed into a drive or other device that is part of persistent storage **508** for transfer onto a storage device, such as a hard drive, that is part of persistent storage **508**. Computer readable storage media **524** also may take the form of a persistent storage, such as a hard drive, a thumb drive, or a flash memory, that is connected to data processing system **500**. In some instances, computer readable storage media **524** may not be removable from data processing system **500**.

In these examples, computer readable storage media **524** is a physical or tangible storage device used to store program code **518** rather than a medium that propagates or transmits program code **518**. Computer readable storage media **524** is also referred to as a computer readable tangible storage device or a computer readable physical storage device. In other words, computer readable storage media **524** is a media that can be touched by a person.

Alternatively, program code **518** may be transferred to data processing system **500** using computer readable signal media **526**. Computer readable signal media **526** may be, for example, a propagated data signal containing program code **518**. For example, computer readable signal media **526** may be an electromagnetic signal, an optical signal, and/or any other suitable type of signal. These signals may be transmitted over communications links, such as wireless communications links, optical fiber cable, coaxial cable, a wire, and/or any other suitable type of communications link. In other words, the communications link and/or the connection may be physical or wireless in the illustrative examples.

In some illustrative embodiments, program code **518** may be downloaded over a network to persistent storage **508** from another device or data processing system through computer readable signal media **526** for use within data processing system **500**. For instance, program code stored in a computer readable storage medium in a server data processing system may be downloaded over a network from the server to data processing system **500**. The data processing system providing program code **518** may be a server computer, a client computer, or some other device capable of storing and transmitting program code **518**.

The different components illustrated for data processing system **500** are not meant to provide architectural limitations to the manner in which different embodiments may be implemented. The different illustrative embodiments may be implemented in a data processing system including components in addition to and/or in place of those illustrated for data processing system **500**. Other components shown in **Figure 5** can be varied from the illustrative examples shown. The different embodiments may be implemented using any hardware device or system capable of running program code. As one example, data processing system **500** may include organic components integrated with inorganic components and/or may be comprised entirely of organic components excluding a human being. For example, a storage device may be comprised of an organic semiconductor.

In another illustrative example, processor unit **504** may take the form of a hardware unit that has circuits that are manufactured or configured for a particular use. This type of hardware may perform operations without needing program code to be loaded into a memory from a storage device to be configured to perform the operations.

For example, when processor unit **504** takes the form of a hardware unit, processor unit **504** may be a circuit system, an application specific integrated circuit (ASIC), a programmable logic device, or some other suitable type of hardware configured to perform a number of operations. With a programmable logic device, the device is configured to perform the number of operations. The device may be reconfigured at a later time or may be permanently configured to perform the number of operations. Examples of programmable logic devices include, for example, a programmable logic array, a programmable array logic, a field programmable logic array, a field programmable gate array, and other suitable hardware devices. With this type of implementation, program code **518** may be omitted, because the processes for the different embodiments are implemented in a hardware unit.

In still another illustrative example, processor unit **504** may be implemented using a combination of processors found in computers and hardware units. Processor unit **504** may have a number of hardware units and a number of processors that are configured to run program code **518**. With this depicted example, some of the processes may be implemented in the number of hardware units, while other processes may be implemented in the number of processors.

In another example, a bus system may be used to implement communications fabric **502** and may be comprised of one or more buses, such as a system bus or an input/output bus. Of course, the bus system may be implemented using any suitable type of architecture that provides for a transfer of data between
5 different components or devices attached to the bus system.

Additionally, communications unit **510** may include a number of devices that transmit data, receive data, or both transmit and receive data. Communications unit **510** may be, for example, a modem or a network adapter, two network adapters, or some combination thereof. Further, a memory may be, for example, memory **506**, or a
10 cache, such as that found in an interface and memory controller hub that may be present in communications fabric **502**.

The flowcharts and block diagrams described herein illustrate the architecture, functionality, and operation of possible implementations of systems, methods, and computer program products according to various illustrative
15 embodiments. In this regard, each block in the flowcharts or block diagrams may represent a module, segment, or portion of code, which comprises one or more executable instructions for implementing the specified logical function or functions. It should also be noted that, in some alternative implementations, the functions noted in a block may occur out of the order noted in the figures. For example, the functions of two
20 blocks shown in succession may be executed substantially concurrently, or the functions of the blocks may sometimes be executed in the reverse order, depending upon the functionality involved.

The description of the different illustrative embodiments has been presented for purposes of illustration and description and is not intended to be
25 exhaustive or to limit the embodiments in the form disclosed. Many modifications and variations will be apparent to those of ordinary skill in the art. Further, different illustrative embodiments may provide different benefits as compared to other illustrative embodiments. The embodiment or embodiments selected are chosen and described in order to best explain the principles of the embodiments, the practical application, and to
30 enable others of ordinary skill in the art to understand the disclosure for various embodiments with various modifications as are suited to the particular use contemplated.

CLAIMS:

What is claimed is:

- 5 1. A method for identifying training (104) for a flight crew member (108), comprising:
identifying, by a processor unit (504), the flight crew member (108);
identifying, by the processor unit (504), flight information (126) for a flight (128) to
which the flight crew member (108) is assigned; and
identifying, by the processor unit (504), training (104) for the flight crew member
10 (108) using the flight information (126).
2. The method of claim 1 further comprising receiving, by the processor unit (504),
input from an operator (160) comprising manual training information (162) and wherein
identifying training (104) for the flight crew member (108) comprises identifying training
15 (104) for the flight crew member (108) using the manual training information (162).
3. The method of claim 1, wherein the flight information (126) comprises information
identifying characteristics of the flight (128) selected from a flight plan (302), weather
information (304) for the flight (128), aircraft information (306), airport information (308),
20 and crew pairing information (310) for the flight (128).
4. The method of claim 1, wherein identifying training (104) for the flight crew
member (108) comprises:
identifying, by the processor unit (504), a plurality of training courses (110) that
25 are desirable for the flight crew member (108) to take; and
identifying, by the processor unit (504), a selected course (116) from the plurality
of training courses (110) using the flight information (126).
5. The method of claim 1, wherein identifying training (104) for the flight crew
30 member (108) comprises:
identifying, by the processor unit (504), a plurality of training courses (110) that
are desirable for the flight crew member (108) to take; and

identifying a priority (118) for the plurality of training courses (110) for the flight crew member (108) using the flight information (126).

6. The method of claim 1, further comprising sending a training notification (150) identifying the training (104) to the flight crew member (108).

7. The method of claim 1, further comprising delivering the training (104) to the flight crew member (108) via a data processing system (500).

8. The method of claim 7, wherein the training (104) comprises hints (164) for the flight (128).

9. The method of claim 1, further comprising recording a training identification (156) identifying the training (104) and recording an indication of completion (158) of the training (104) in response to the flight crew member (108) completing the training (104).

10. An apparatus, comprising:
an information receiver (202) configured to receive task information (114) identifying characteristics of a task (124) to be performed by a trainee (106); and
a training identifier (214) configured to identify training (104) for the trainee (106) using the task information (114).

11. The apparatus of claim 10, wherein the training identifier (214) comprises a training selector (222) configured to identify a selected course (116) from a plurality of training courses (110) using the task information (114).

12. The apparatus of claim 10, wherein the training identifier (214) comprises a priority identifier (226) configured to identify a priority (118) for a plurality of training courses (110) using the task information (114).

13. The apparatus of claim 10, further comprising a notification system (230) configured to send a training notification (150) identifying the training (104) to the trainee (106).

14. The apparatus of claim 10, further comprising a training delivery system (236) configured to deliver the training (104) to the trainee (106) via a data processing system (500).

15. The apparatus of claim 10, further comprising a training report generator (238) configured to generate a training report (240) including a training identification (156) identifying the training (104) and an indication of completion (158) of the training (104) indicating whether the trainee (106) completed the training (104).

16. The apparatus of claim 10, wherein:
the trainee (106) is a flight crew member (108);
the task (124) is a flight (128) to which the flight crew member (108) is assigned;
and

the task information (114) comprises information identifying characteristics of the flight (128) selected from a flight plan (302), weather information (304) for the flight (128), aircraft information (306), airport information (308), and crew pairing information (310) for the flight (128).

17. A method for identifying training (104) for a trainee (106), comprising:
identifying, by a processor unit (504), the trainee (106);
identifying, by the processor unit (504), task information (114) identifying characteristics of a task (124) to be performed by the trainee (106); and
identifying, by the processor unit (504), training (104) for the trainee (106) using the task information (114).

18. The method of claim 17, wherein identifying training (104) for the trainee (106) comprises:

identifying, by the processor unit (504), a plurality of training courses (110) that are desirable for the trainee (106) to take; and

identifying, by the processor unit (504), a selected course (116) from the plurality of training courses (110) using the task information (114).

19. The method of claim 17, wherein identifying training (104) for the trainee (106) comprises:

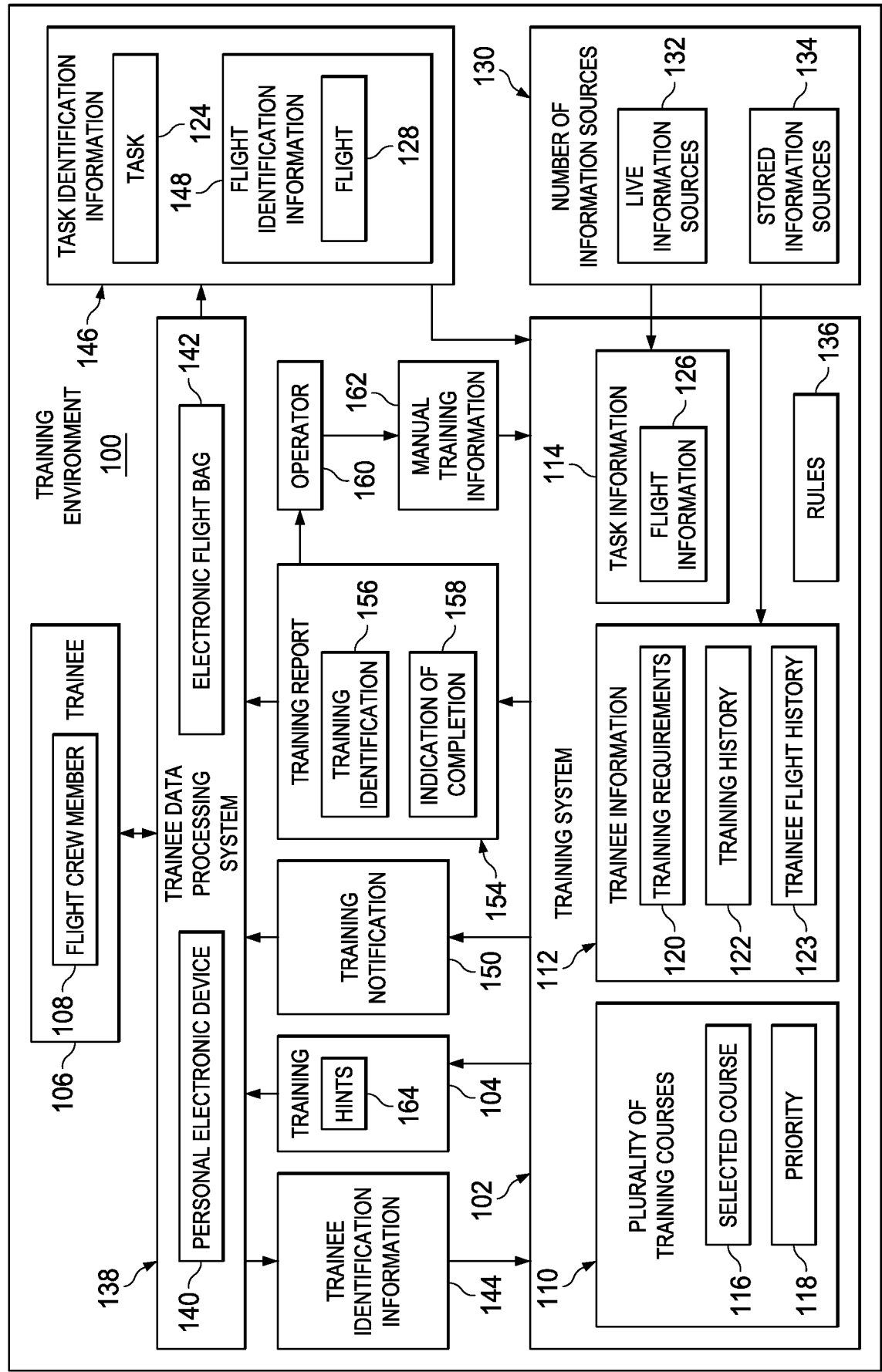
identifying, by the processor unit (504), a plurality of training courses (110) that are desirable for the trainee (106) to take; and

5 identifying a priority (118) for the plurality of training courses (110) for the trainee (106) using the task information (114).

20. The method of claim 17, further comprising sending a training notification (150) identifying the training (104) to the trainee (106).

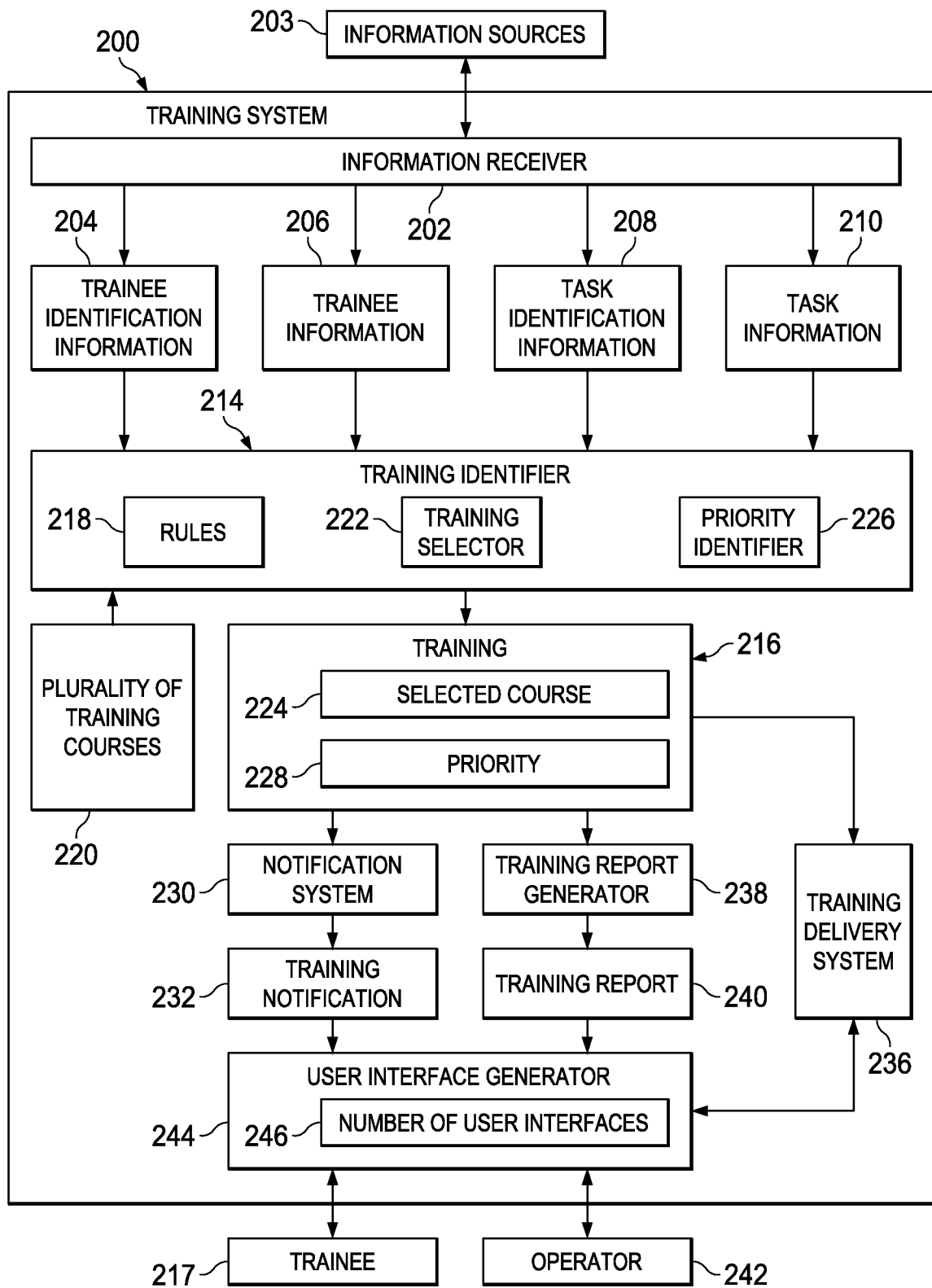
10

FIG. 1



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FIG. 2



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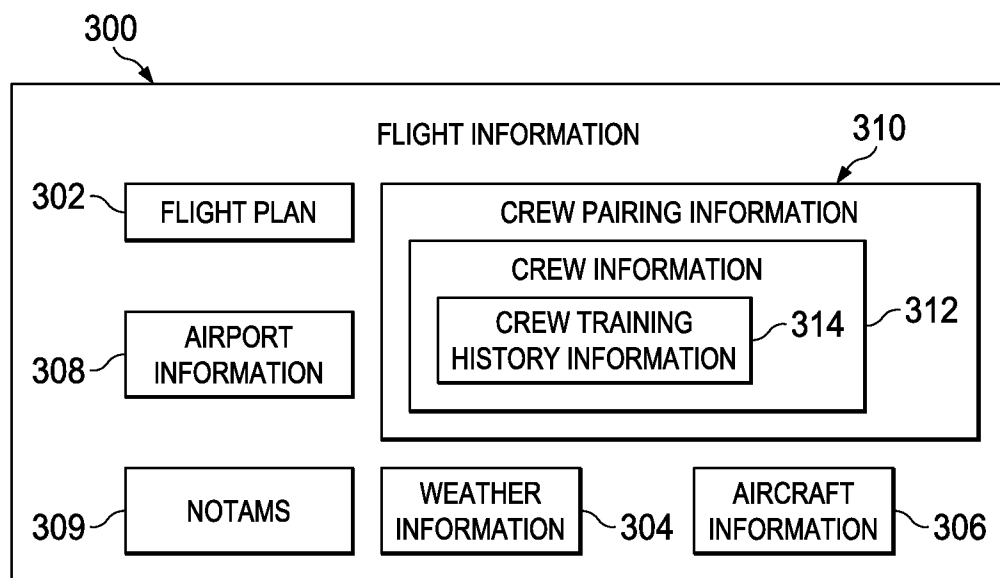


FIG. 3

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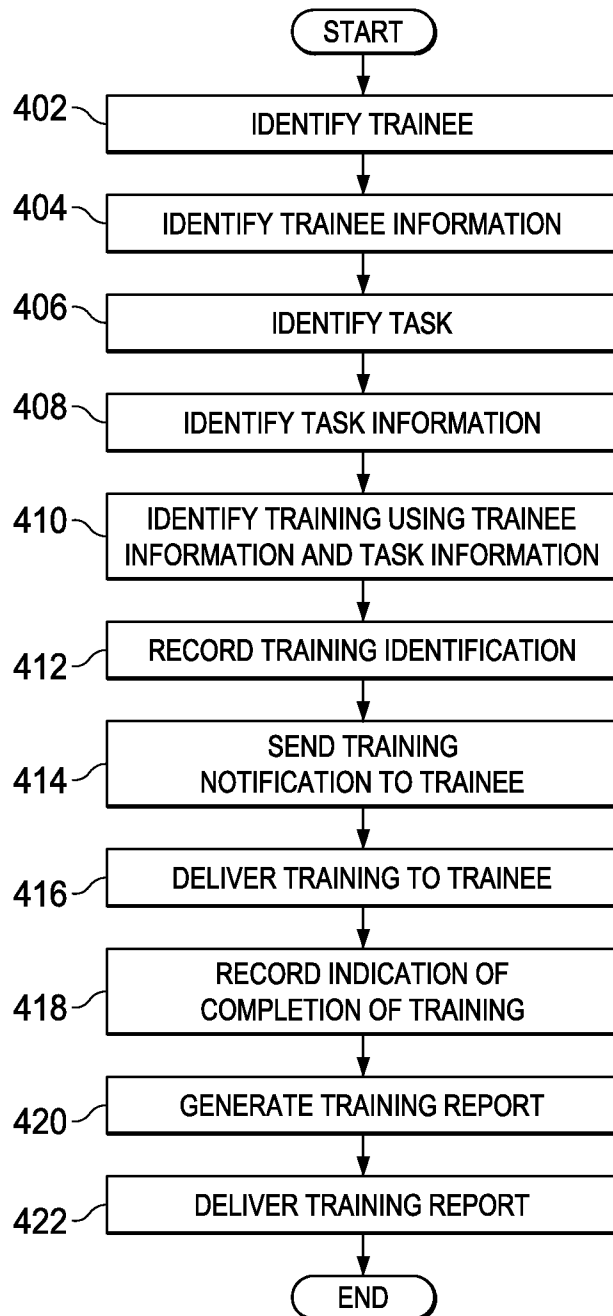
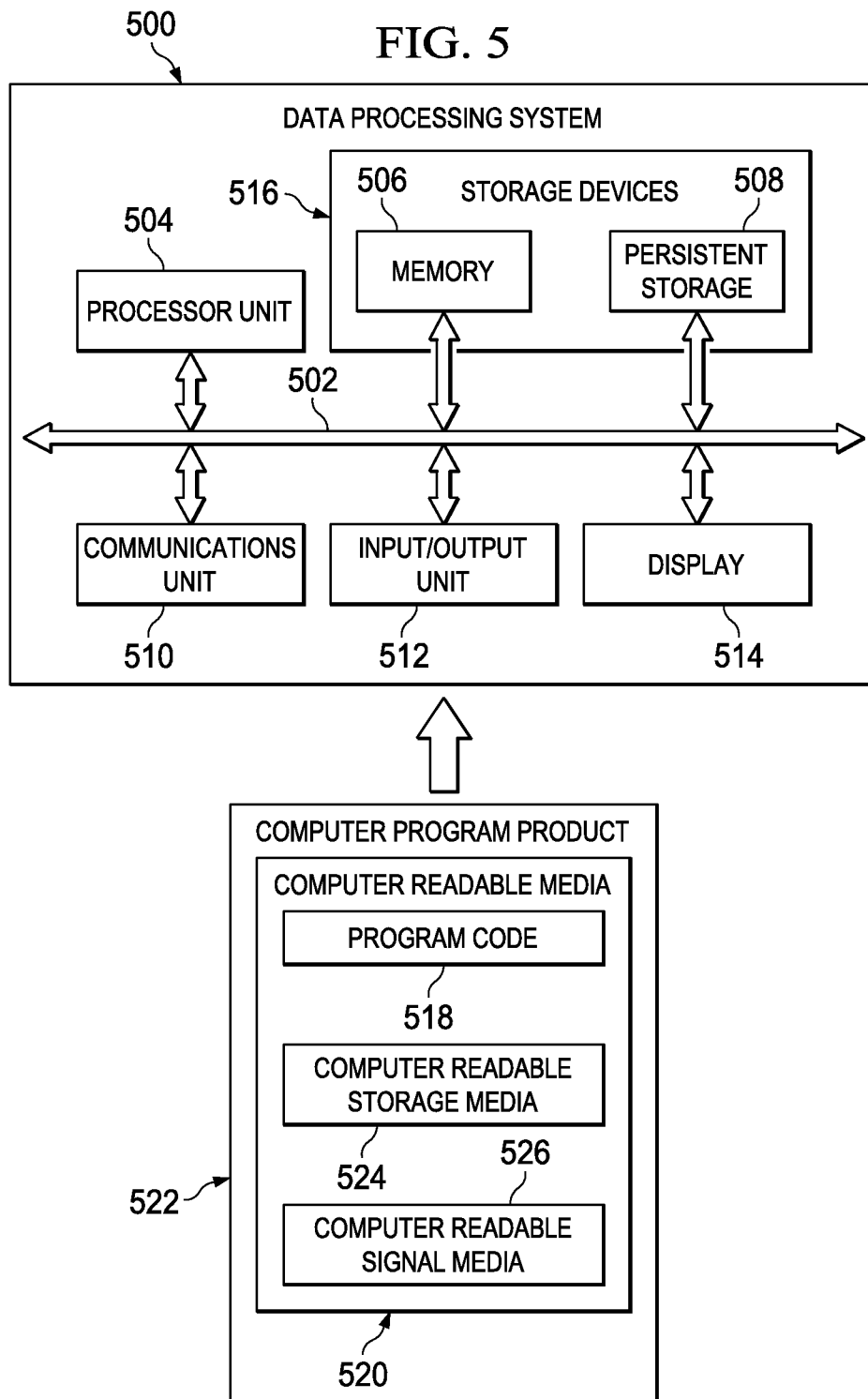


FIG. 4

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FIG. 5



INTERNATIONAL SEARCH REPORT

International application No

PCT/US2013/050552

A. CLASSIFICATION OF SUBJECT MATTER
 INV. G09B5/06
 ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 G09B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
	The claimed subject-matter, with due regard to the description and drawings in accordance with Rule 33.3 PCT, relates to processes comprised in the list of subject-matter and activities for which no search is required under Rule 39 PCT. The information technology employed as an enabler for carrying out said processes is conventional. Its use for carrying out non-technical processes forms part of common general knowledge and it was widely available to everyone at the date of filing of the present application. No documentary evidence is therefore considered necessary. (See Official Journal EPO 11/2007, pages 592ff and 594ff) -----	



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents :

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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

11 September 2013

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