

Aeronautics

System and Method for Providing a Real Time Audible Message to a Pilot

[Weather and environmental data reporting as verbal or text message](#)

NASA has patented a new technology that employs a unique audio twitter approach to a real time format that makes weather and environmental data observations available as they are observed. An aircraft pilot would prefer to receive information on weather patterns, obstructions, and other conditions that may interfere with a Flight Plan, formal or informal, as the pilots flight proceeds, with a latency of no more than a few minutes. Receipt of a Pilots Report (PIREP) often occurs off-line, before a pilots own flight has begun, and with an associated latency of one to six hours. Learning of and reacting to a changing environment within minutes after the change is first observed and reported is not possible with PIREPs as presently provided. This invention removes the latency associated with a PIREP and allows expansion of, and selective filtering of information that is directly useful to the recipient pilot.

BENEFITS

- ➔ Real time weather and environmental data reporting
- ➔ Eliminates latency time associated with a PIREP
- ➔ Allows for expansion of and selective filtering of information that is directly useful to the recipient pilot
- ➔ Message can be coded or encrypted
- ➔ Can be presented as text message or verbal message
- ➔ Ability to adjust to a changing environment within minutes

technology solution

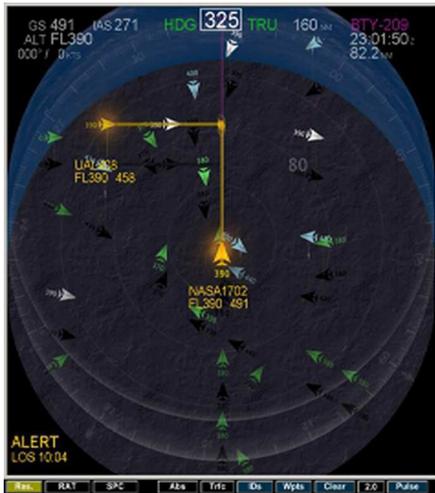


NASA Technology Transfer Program

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THE TECHNOLOGY

The invention provides receipt of text messages that are communicated by, or received by, aircraft that are within a selected distance from the inquiring pilots aircraft. This information is filtered by a Pilots Aircraft receiver using a list of Target Words and Phrases (TWP) for which the subject is of concern to the pilot. Messages containing one or more of the selected TWPs are presented in a selected order as text or, alternatively as a verbal message for review by the pilot. Upon receipt of the TWPs, the pilot determines if any action should be taken in order to avoid or minimize delay associated with the information. Communication between the inquiring pilot and any other pilot within the prescribed range, geographic sector, and/or time interval is implemented using a publish and subscribe approach to exchange relevant data. A pilot determines which information to share and with whom and from whom the pilot is interested in receiving information (subscribe). This approach will avoid the radio chatter that often accompanies a party line system. Each such message may be assigned a priority with messages having higher priority being given preference in a message queue. The messages can be filtered and received as coded or encrypted, depending upon a situation or security concerns.



3D-Cockpit Display of Traffic Information

Communication between the inquiring pilot and any other pilot is implemented using a publish and subscribe approach to exchange relevant data

APPLICATIONS

The technology has several potential applications:

- ➔ Airline Industry
- ➔ Air transport services
- ➔ Civil and Military aviation
- ➔ Air Safety

PUBLICATIONS

Patent Pending

National Aeronautics and Space Administration

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NASA's Technology Transfer Program pursues the widest possible applications of agency technology to benefit US citizens. Through partnerships and licensing agreements with industry, the program ensures that NASA's investments in pioneering research find secondary uses that benefit the economy, create jobs, and improve quality of life.

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