

User Need Segment

Research Tasks

1. Develop a comprehensive weather information user needs statement for the various part operators for the different phases of flight in the near-, mid-, and long-term NextGen operating environments.
2. Map different user groups.
3. Develop methodology for obtaining user input.
4. Develop draft user information needs statement.
5. Present draft user information needs statement to users and gather comments and feedback (e.g., Federal Open Meeting, NGATS Institute).
6. Collate user feedback and identify revisions to draft user information needs statement, if necessary.
7. Revise draft user information statement.

Task 3 – Develop Methodology: User Needs Survey

- Created by Joe Vacek
- Distributed via various means
 - Paper and Survey Monkey
 - Airshows, personal contact, magazines, on-line publications
- 1437 Pilots completed the user needs survey since 2009.

Task 4 and 5 User Needs Statement

- Joe Vacek created a User Needs Statement
- Mike Edwards and Leonard Kirk presented it at Sun'N Fun 2010
 - Great response from Pilots

Tasks 6 and 7 User Needs Statement

- Leslie Martin and Tina Anderson attended EAA Airventure in 2010
- Leslie Martin and Nick Kwilinski (UND undergrad) attended Sun'N Fun in 2011
- Had pilots complete the User Needs Survey and got feedback on the WTIC project

Task 2 – Map User Groups

- Looked at the data in 3 areas
 - Pilot certificates
 - Private
 - Commercial
 - ATP
 - Pilot age
 - Generation Y – 17 to 28
 - Generation X – 29 to 45
 - Baby Boomer – 46 to 65
 - Silent Generation – 65 and over
 - Pilot region
 - FAA Regions

Analysis

- Used Chi-Square Analysis
- Used to separate those results (termed significant) from other results that could have occurred by random chance
 - Actual number vs. expected

Preflight

- What weather information services do they use when preflight planning (check all that apply)
 - I call Flight Service
 - Internet
 - Mobile Device
 - Other

Interesting Findings

- Pilot Certificates
 - A high number of respondents chose the *internet*
 - A majority of the respondent chose that they use a combination of *Flight Service*, the *internet*, and *mobile devices*
- Age
 - Not statistically significant (the data distribution did not differ significantly from expected)
 - High percentage of respondents chose the combination of *Flight Service*, the *internet*, and *mobile devices* from all age categories
- Region
 - Pilots who flew in multiple regions did respond that they use the *internet* to access preflight weather.
- Overall – People are still using Flight Service, but they are not using it as their only weather source

Inflight Weather

- How do you usually obtain weather information while flying?
 - I don't
 - XM or other subscription
 - Flight Service
 - Weather Radar/Storm Scope
 - Approved Handheld/GPS device
 - FIS-B
 - Mobile Device (cell phone, etc)
 - Other

Interesting Findings

- Pilot Certificates
 - *Flight Service* is still widely used for inflight weather, however ATP's are not using it as much as expected
 - The highest response was in the combination of services
- Age
 - Again the combination of services was high
 - Baby Boomers are using *XM or similar services* more than expected and *Flight Service* less than expected
 - Generation Y uses *Flight Service* more than expected
- Region
 - The Great Lakes region has a high number of respondents indicating they use *Flight Service* more than expected
 - Those flying in a combination of regions are not using *Flight Service* as much as expected

Receiving Inflight Weather

- How would you like to receive inflight weather information?
 - By human voice
 - Visually in an additional cockpit display
 - Visually integrated into the primary flight display
 - Visually integrated into a multifunction display
 - Other

Interesting Findings

- Pilot Certificates
 - A high number of respondents indicated that they would like the weather in flight *visually integrated on an MFD* not via *human voice*
- Age
 - Again the high response was in the *visually integrated on an MFD* category for all generations
 - Baby Boomers would also like to have it displayed *visually on an additional display*
- Region
 - Great Lakes, Southern and a combination of regions have high numbers in the *visually integrated on an MFD* category
 - The pilots in a combination of regions would like to have their weather given to them inflight via multiple ways whereas the Great Lakes pilots want a combination of ways less than expected

Delivery of Inflight Weather

- I would like that information to be delivered:
 - Automatically; I want the device to predict what I need and when I need it
 - Partially manually; I want to select what information I need but let the device predict when I need it.
 - Partially manually; I want the device to predict what I need, but I want to determine when I need it
 - Completely manually; I want to select what I need and when I need it

Interesting Findings...

- Pilot Certificates
 - Private – the results were spread throughout the various means of delivery
 - Commercial and ATP – Highest choice was *completely manually*
- Age
 - Baby Boomers were very high in wanting the weather delivery to be *completely manually*
- Region
 - Results from the various regions are spread throughout the various means of delivery
 - Pilots who fly in a combination of regions did have a large amount select that they would like the delivery to be *completely manually*

Cell Phone

- Have you ever used a mobile device or cell phone in flight to access weather information?
 - Yes
 - No

Interesting Findings

- Pilot Certificates – 317 Said Yes and Some did not respond
 - Private 137/501
 - Commercial 129/486
 - ATP 51/214
- Age
 - Baby Boomers had the highest response (135)
- Region
 - Largest response was from pilots who fly into a combination of regions (115)