Solution Statement

Solution

Purpose

A new scheduling software is being developed for Alaska Airlines in order to improve the safety, cost, and efficiency of scheduling pilots and flight attendants. By creating a software where pilots fly more of the same routes, they will become more familiar with flying to and from specific airports which will increase their knowledge of these airports. As a result, this will improve safety metrics at Alaska Airlines which is one of the main goals of the airline. Algorithms will also be developed so that the schedule can be flown by as few pilots as possible which will improve efficiency as well as cut costs. Routes will also be optimized so that less fuel and turn around time is required.

Scope

Product Name

Alaska Airlines Crew Schedule Access

Overview

On the backend, the software will optimize trip efficiency, safety, and cost. On the front end, the software will allow pilots and flight attendants to view their schedule, bid for their schedule, trade trips, post trips, pick up open time, and see details about trips they are on.

Goals

A new scheduling software is being developed that will create bid sheets specific to each pilot while also allowing them to have a say in their schedule. These personalized bid sheets will adapt over time to the tendencies of bids placed by the individual pilot. While not only benefiting the pilot, it will also improve the safety and efficiency of the airline by having specific pilots only fly to certain high risk airports to increase their familiarity with these high risk airports. In turn, this will reduce the number of safety incidents occurring primarily at these specific airports. By creating bid sheets specific to each individual pilot, costs of each schedule can be reduced while increasing the efficiency of the schedule. Additional benefits of the new software include easier to understand bid sheets, a more user focused interface, and an anonymous incident reporting link.

- How the software will help achieve business goals:
    - The software will reduce the number of accidents by allowing pilots to become more familiar and accustomed to flying in and out of specific airports.
    - Number for employee injuries will decline through the use of this software because employees would be more familiar with the airports that are flying in and out.
    - Alaska Airlines would continue to operate safely by measuring the changes in safety data after the role out of the new software to ensure the safety levels are either improving or staying the same.
    - Safety metrics will me improved as a result of the new software allowing data to be taken on the differences of pilots flying in and out of a wide variety or airports compared to pilots only flying in and out of a handful of airports.
    - Reporting of incidents will be easier through the new scheduling portal by allowing employees to have a fast and easy way to anonymously report incidents they witnessed.
- Objectives of the software:
    - Reduce the number of unstable approaches by 50% based on safety data through having pilots fly to the same airports more often so that Alaska Airlines becomes a safer airline within 6 months of launching the new scheduling software.
    - Reduce the number of ground proximity warnings by 25% based on safety data through having pilots fly to the same airports more often so that Alaska Airlines becomes a safer airline within 6 months of launching the new scheduling software.
    - Reduce the number of long landings by 40% based on safety data through having pilots fly to the same airports more often so that Alaska Airlines becomes a safer airline within 6 months of launching the new scheduling software.
    - The number of help desk tickets from the scheduling software should be reduced by 50% after a year of releasing the new software by adding more descriptions of what to do while using the software and by providing tutorials on how to use the software so that employees can manipulate their schedule with more ease.
    - Pilot and flight attendant scheduling efficiency will increase by using 10% fewer employees to fly the same routes within one year of using the new scheduling.
    - Total costs of paying pilots will be reduced by 5% by allocating them in a more efficient way through reducing excessive layover and wait times.

Out of Scope

The solution will not redo specific routes to make them more efficient. It will also not reformat the bid sheets only the general layout of the scheduling portal. New functionality of the platform will also not be added. App for the scheduling portal will not be developed in this release.

Assumptions

- Having pilots fly to the same airports more frequently will be safer
- Safety issues are occurring due to pilots having a lack of experience flying to certain airports
- There are enough pilots to only allow pilots based in certain cities to fly to specific airports
- There is money in the budget to support the new software to be developed
- IT department is capable of developing the new software
- The new software can be integrated into the current system when finished
- Pilots will adapt to the new way the scheduling system works
- Tutorials will be needed for employees to understand how the new software works

Functions

- Pilots can login to scheduling portal with employee number and password
- Flight attendants can login to scheduling portal with employee number and password
- Pilots can trade a trip with another pilot
- Flight attendants can trade a trip with another flight attendant
- Pilots can pick up a trip posted by another pilot
- Flight attendants can pick up a trip posted by another flight attendant
- Pilots can post a trip they don't want
- Flight attendants can post a trip they don't want
- Pilots can pick up a trip that is not assigned to anyone
- Flight attendants can pick up a trip that is not assigned to anyone
- Pilots can view their individual bid sheets
- Pilots can bid based on their bid sheets
- Flight attendants can view their bases bid sheets
- Flight attendants can bid based on their bid sheets
- Employees can submit an anonymous safety concern on incident
- Scheduling agents can post bid sheets
- Scheduling agents can upload employee schedules
- Scheduling agents can approve vacation time
- Pilots can view their schedule
- Flight attendants can view their schedule
- Bid sheets will be generated based on safety and efficiency algorithms

Limitations

Key	Summary	Description	Labels
AA-38	Portal must be simple to use for employees with little IT knowledge	Some pilots and new hired have little knowledge of using technology or scheduling software.	limitation
AA-37	System must be integrated by given date	Programmers need to meet deadlines	limitation
AA-36	Schedules must be able to be downloaded as a pdf	Employees may want a paper copy of their schedule.	limitation
AA-35	Portal may not go down for maintenance for more than 2 hours at a time	Employees need to access their schedule at all time of day.	limitation
AA-34	Portal will automatically log out after 10 min of not being used	Reduces security risks.	limitation
AA-33	Code must be written according to Alaska Airlines programming standards	Programmer must adhere to standards.	limitation
AA-32	Browser must be secure to open the portal	Reduces security risks.	limitation
AA-31	Portal must be able to run on all devices	Employees do not all have work computers so it must be compatible with personal devices.	limitation
AA-30	Employee must change password to login to portal every 6 months	Reduces security risks.	limitation
AA-29	Password must be 10 digits with at least 1 number and 1 symbol	Adds security to access system.	limitation
AA-28	9 digit employee ID must be entered as username	Adds security to system.	limitation

11 issues