

Totalair Billing System

- An integrated Billing System which enables aviation regulatory bodies to charge air operators for the use of airspace.
- The invoice produced reflects the charges for air navigation services offered.
- Three (3) tiered structure
- Front End (User Interface)
- Web Services (Links Interface & Backend)
- Back End (Microsoft SQL Database)

Inputs

- Operation (Commercial, Military, Private)
- Aircraft ID (Air France 6221)
- Date
- Registration
- Flight Rules
- Flight (Inbound, Outbound or Over-flight)
- Aircraft Type (B747-400)
- Wake Turbulence
- SSR Code
- Destination
- Arrival Time
- Departure Station
- Departure Time

Back End (Database Structure)

- The database consists of a number of tables
- Aircraft ID - Stores customer numbers and the aircraft belonging to that particular customer number
- Aircraft Registry - Stores customer information such as Name, Address, Phone, Fax, Email, & "Exempt" (This field is checked if the customer is exempted from air navigation charges e.g. Military)
- Aircraft Types - Stores the different types of aircraft with the Maximum Take Off Weight (MTOW) of each.
- Aircraft Info - Stores information from the radar and flight plans in a formatted manner with the assigned fee based on the MTOW.
- Invoice - Stores information on all invoices that the system generates.

How does it work?

- The system uses data from the Radar and the Flight Plans combined.
- This data is stored in a specific location.
- The data is accessed by Totalair and processed on a specified basis using certain parameters such as Aircraft Maximum Take Off Weight (MTOW) and Rate charged per Kilo.
- The starting invoice number is entered after the radar data is put into a specified format and the invoices generated.
- The invoices can then be viewed, printed or exported to PDF or excel.

Reports

A number of reports can be generated:

- Monthly Statistics - Shows the total Inbound, Outbound and Over-flights during a specified period.
- Missing Account Numbers - Shows aircraft that are seen in the data but there is no customer assigned to those aircraft.
- Summary Reports - which show Customer Account Number, Customer Name, Total Bill, Terminal, Enroute and Invoice Number.
- Missing Aircraft Types - those aircraft that are found in the current billing data but are not in the database.

Data Gathering

- The system uses data from the Radar and the Flight Plans combined.
- Data is generated in a specific format by the radar system, with file names are assigned according to a specified naming convention (Currently “blyymmdd”).
- This data is placed in a certain location using a specified naming convention for the Billing Module to access it, e.g. Radar_Oct_2010
- Options are available for data to be spooled in real time via a serial or USB port

Processing

- Processing is generally done monthly, but can be also done daily or for a specified period within the month.
- The radar files are processed according to the parameters set by the applicable Aviation Authority to calculate charges.
 - Distance travelled on the route.
 - Flat rate for over-flights and an additional rate for landing at an airport.
 - Specific customers can be made exempt from charges.
- Data can be processed multiple times as long as invoices are not yet generated.

Invoice Generation

- A starting invoice number is provided to allow system integration with the accounting package of the applicable authority.
- Invoices are generated for commercial entities as opposed to private entities.
- An invoice will only be generated for Customers with charges > 0.
- Invoices are then printed or exported (Excel, PDF, etc)
- The Reports that are generated are used to determine missing information from the database. This information is researched and then entered into the system.

A special feature allows for a secondary processing and invoice generation to occur within the same period. The data that was missing will be used at this time to generate a supplementary invoice for the period

Examples of Reports Generated

- o Monthly Statistics - The total Inbound, Outbound and Over-flights during a specified period.
- o Missing Account Numbers: Aircraft seen in the data but with no customer assigned to the aircraft.
- o Missing Aircraft Types: Aircraft seen in the data for which no corresponding aircraft type is found
- o Unbilled: Flights for which no charges were generated.
- o The system allows for the management of:
 - o Customers
 - o Aircraft Types
- o The system also allows for the management of aircraft assigned to the various customers and for a transfer to occur.

