

Flight Historian Functional Specification

Paul Bogard

Date	Version	Comments
27 Apr 2013	1.0	<ul style="list-style-type: none">Initial version
24 Oct 2013	1.1	<ul style="list-style-type: none">Rewrote the home page to show flight maps, and top 5 lists and counts of routes, airports, aircraft, airlines, and tailsAdded Index Routes and Show Routes pagesAdded top aircraft, airlines, and classes to Show RoutesAdded top origin/destination cities, aircraft, airlines, and classes to Show AirportAdded top airlines and classes to Show AircraftAdded top aircraft and classes to Show AirlineAdded top classes to Show TailAdded top airlines and aircraft to Show ClassUpdated logos and icons for high-resolution displaysSwitched Tails and Classes on the main navigation barMinor bug fixes
27 Oct 2014	1.2	<ul style="list-style-type: none">Added operating airlines, fleet numbers, and codeshares
08 Feb 2015	1.3	<ul style="list-style-type: none">Added details to Index Flights by YearAdded flight distancesMinor improvements to flight entry form
31 Jan 2016	2.0	<ul style="list-style-type: none">Added premium economy to list of travel classesAdded IATA codes to airlines (including operator and codeshare airlines), aircraft families, and travel classesAdded aircraft illustrations to Show Aircraft FamilyAdded aircraft name to Show FlightAdded tables of operators to Show Aircraft Family, Show Airport, Show Airline, Show Tail Number, Show Route, and Show Travel Class viewsConsolidated maps to six map types common across views, and added region selectors to many more mapsAdded Add/Edit functionality for airlines and aircraft families, and created select boxes in Add/Edit Flight for theseAdded boarding pass data to flightsAdded sanity check to verify Departure Date and UTC Departure are close enough on Add/Edit flight

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Overview

The Flight Historian will be a web-based system to keep track of all flights flown by Paul Bogard. The primary use will be for Paul to be able to generate various reports and maps of his flight history; however, visitors should be able to read the majority of the reports and maps as well.

Definitions

Aircraft Category	<p>The large group of aircraft that this particular aircraft falls into, with the following possible options:</p> <ul style="list-style-type: none">• wide-body (twin aisle jet)• narrow-body (single aisle jet with capacity of over 100 passengers)• regional jet (single aisle jet with capacity of 100 or fewer passengers)• turboprop (any passenger aircraft powered by turboprop engines)
Aircraft Family	<p>The general family of aircraft (for example, "Boeing 737")</p>
Aircraft Variant	<p>The subtype of aircraft within a family (for example, "737-800")</p>
Airline	<p>The entity responsible for the flight, as the flight is branded. If a codeshare is involved, the actual brand of the flight is used. If the flight is branded as one airline but operated by another (for example, a regional subsidiary), the brand airline will be used as the Airline, and the operating airline will be used as the Operator.</p>
Airport	<p>A known location which flights may have as an origin or destination.</p>
Distance	<p>The great circle distance between two airports.</p>
Fleet Number	<p>The Operator's identification for a particular aircraft. May contain letters, numbers, or both.</p>

Flight	<p>A nonstop plane route from an origin city to a destination city, including a wheels up.</p> <ul style="list-style-type: none"> • Stops where passengers do not leave the plane (for example, weather diversions) are permitted. If passengers are permitted to deplane and reboard, the stop shall be considered a layover, and the routes prior to and following the layover shall be considered separate flights (even if the flights have the same flight number). • If an airplane returns to its origin airport after achieving wheels up, it shall still be considered a flight with the origin and destination the same. This shall count as two visits to the airport in question.
Layover	A stop at an airport between two flights on a trip, where the traveler does not leave the airport property (but may leave the airside part of the airport). The destination of the earlier flight will be the same as the origin of the later flight.
Operator	The entity which actually operates the flight. May or may not be the same as the Airline.
Route	A connection between two airports on a map. Many flights may use the same route in either direction.
Section	A collection of one or more flights describing a one-way part of a trip.
Tail Number	A unique identifier for a particular aircraft. May contain letters, numbers, or both.
Travel Class	<p>Quality of service for the seat booked on a particular flight, with the following possible values (in decreasing order of quality):</p> <ul style="list-style-type: none"> • First • Business • Premium Economy • Economy <p>Generally, these should be defined for each flight using the airline's own categorization or the categorization from sites like seatguru.com; however, judgment should be used.</p>

Trip	A collection of one or more flights taken for the same purpose.
Verified User	A person using the website who is successfully logged in. (Authentication is provided by the existing pbogard.com, and is thus not described in this spec.)
Visitor	A person using the website who is not logged in.

Scenarios

Scenario 1: Paul

Paul is an engineer who travels frequently. He likes to make maps of routes he's flown and airports he's visited, but with several hundred flights in his history, keeping track of them with a spreadsheet and copying and pasting into mapping software has become unwieldy.

Paul wants a way to easily record his flights on his smartphone while he's at the airport, rather than waiting until he gets home from his trip to enter the data into his spreadsheet. If the tail number he just entered from the flight he's about to board matches one already in the database, he'd like to be informed that he's flown on this aircraft before, and on what routes he flew on this aircraft.

When he's home, Paul will want to spend hours looking at pretty maps of his flights based on arbitrary criteria. Often, he'll just look at a map of every flight he's taken, but sometimes he'll want to create maps filtered by airports, airlines, dates, tail numbers, Aircraft Family, or travel class. He will probably want to post links to interesting maps on his social networks and forums.

Of course, he doesn't want visitors to his maps to see that he's currently traveling, so Paul would prefer his flights to be invisible to visitors until he gets home and specifically marks them visible.

Scenario 2: Alice

Alice follows Paul on Twitter, and sees that he's posted a link about his travels that he seems sufficiently excited about in 140 characters or less. Having nothing better to do, she clicks the link and sees a map with a lot of airports connected by a lot of lines.

This particular view does not particularly interest her, but she sees a menu which allows her to view other maps – one of them will let her see what airlines Paul flies on. "My cousin works for Oceanic Airlines," she thinks. "I wonder if Paul's flown on them." She clicks the link and is presented with a list of airlines Paul's flown and the number of flights on each.

She picks Oceanic from the list, and is presented with a map and a list showing every Oceanic flight Paul has flown on.

Non Goals

The Flight Historian is specifically designed to track only Paul's flights. Multiple users are not supported. While it would be interesting to develop a site where anybody could track their own flight history, the amount of data could grow beyond the site's current capacity, and there are no plans to commercialize the site to cover the costs.

Views

Common to Every View

Menus

Every view shall include a link to the following "Index *[object]*" views at the header of the page:

- [Index Aircraft Families](#)
- [Index Airlines](#)
- [Index Airports](#)
- [Index Flights](#)
- [Index Routes](#)
- [Index Tail Numbers](#)
- [Index Travel Classes](#)
- [Index Trips](#)

Hidden Trips, Flights, and Airports

By default, all new trips and their associated flights shall be considered hidden. This allows the user to enter data as he travels without visitors knowing the user is traveling until after the travel is complete.

All views on all pages for visitors who are not logged in shall ignore any flights and trips which are considered hidden. On airport views, any airport associated only with hidden flights shall not be listed. However, if the same routes or airports are associated with non-hidden flights, the route and airports shall be displayed as normal on maps as they would be if the hidden flight did not exist. The hidden flight filter supersedes any conflicting selection of flights – visitors shall *never* see hidden flights or trips, nor shall they see these flights included in any totals or counts of any criteria.

For verified users, hidden trips and flights shall be displayed in all views. Any time a hidden trip, flight, or airport is listed in a table, it shall be formatted to obviously distinguish it as hidden.

Styles

Tables of flights shall have thin horizontal borders between each row. However, if two flights in adjacent rows of the same table belong to the same trip and same trip section, then there shall be no horizontal border between those two flights' rows.

Body copy shall be formatted in a sans serif font. However, when IATA codes (airport codes, airline codes, aircraft codes) are used in a table, the codes shall be formatted in a monospace font.

Maps

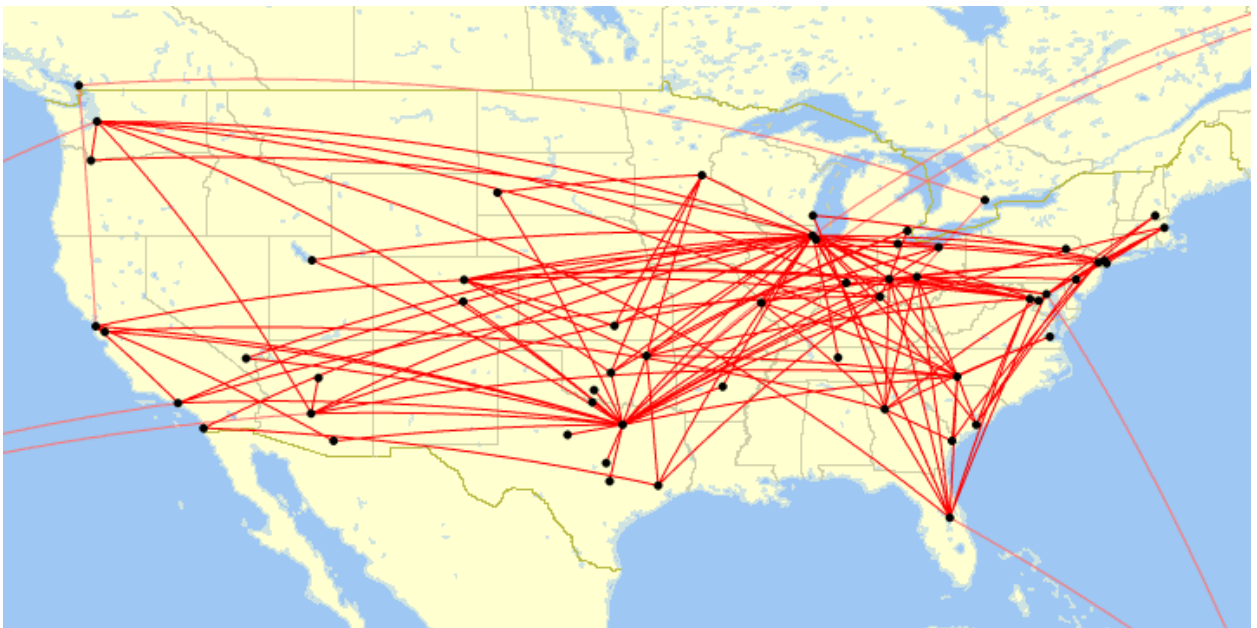
All map flight paths shall be plotted as the shortest great circle path.

Region-Aware Maps

For any map specified as region-aware, the map shall offer the option to toggle between World and Contiguous United States in a menu above the map.

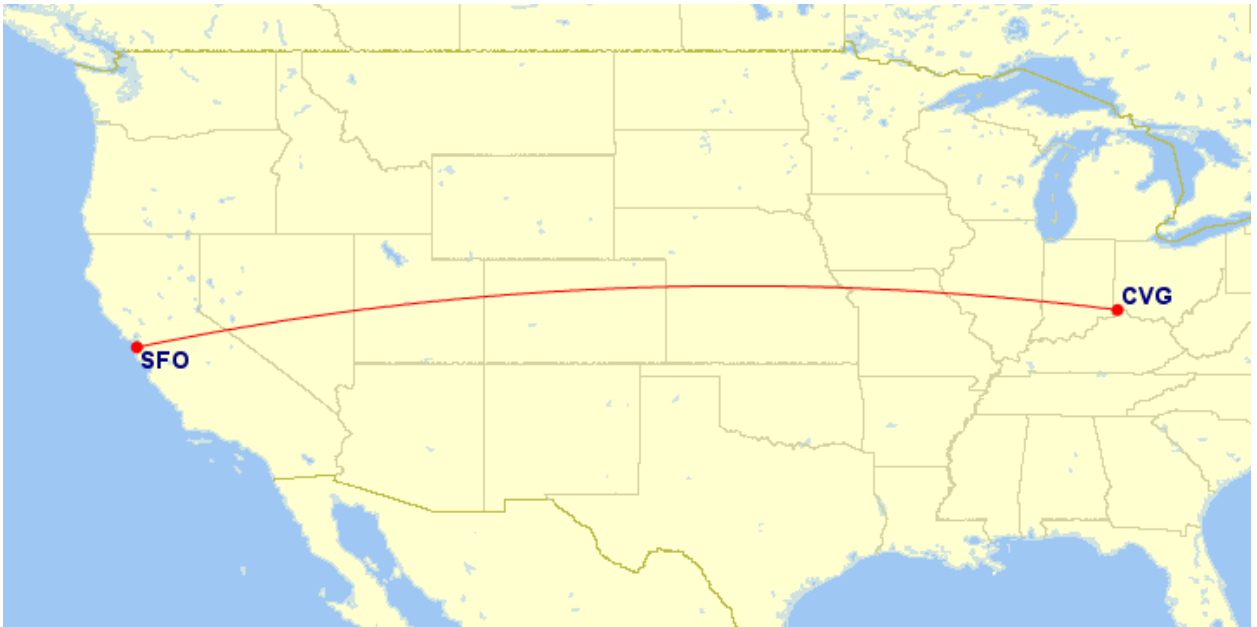
Flights Map

This map shall take a list of flights and plot these flights' paths. If the Contiguous United States region is selected, any routes where either airport is not in the contiguous united states shall be dimmed. This map shall be [region-aware](#) unless otherwise specified.



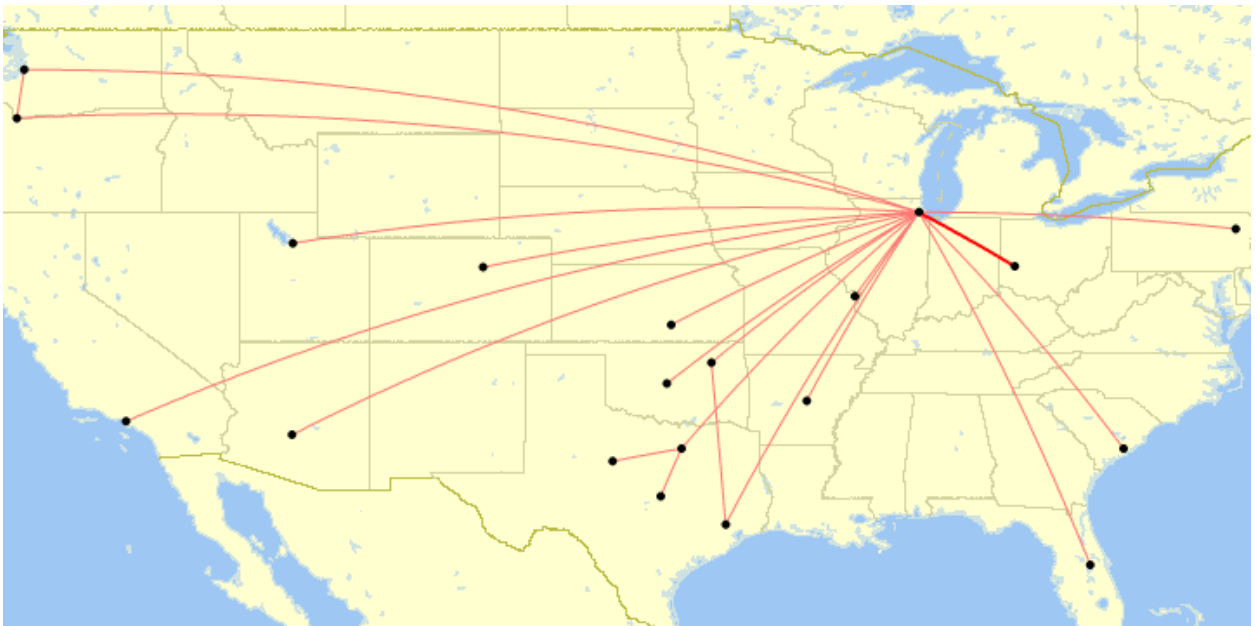
Single Flight Map

This map displays the path of a single flight.



Route Highlight Map

This map shall plot the paths of a collection of flights, and shall highlight a specific path.



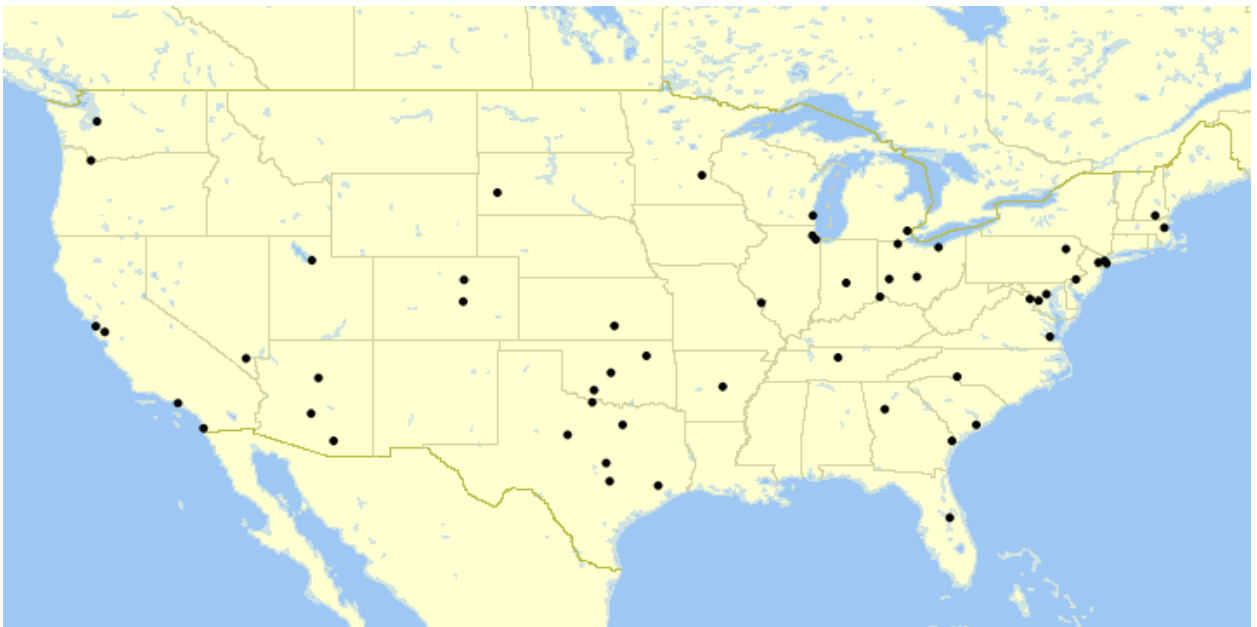
Airport Highlight Map

This map shall plot the paths of a collection of flights, and shall highlight one or more airports.



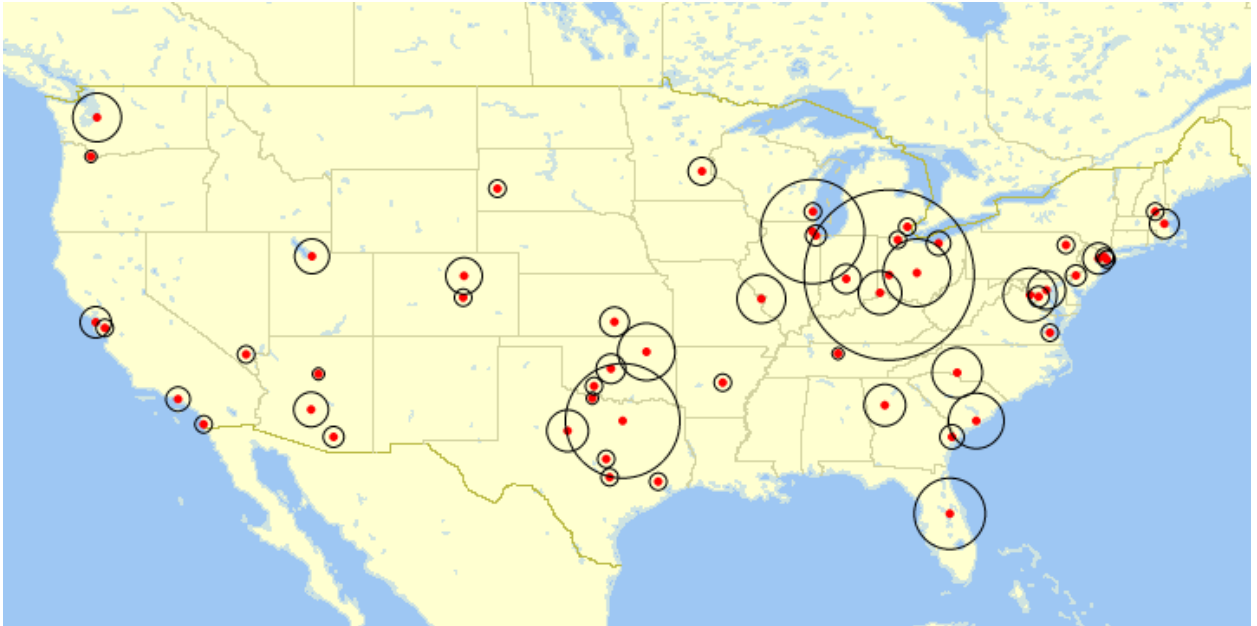
Airports Map

This map shall plot a collection of airports with no paths between them. This map shall be [region-aware](#).



Airport Frequency Map



This map shall plot a collection of airports with no paths between them. Additionally, this map shall place a ring around each airport whose enclosed area is proportional to the number of flights through the airport. This map shall be [region-aware](#).











Tables

Flights Table

This view shall show a [ranked table](#) of all flights, with a column for flights (airline icon, airline, and flight number), a column for route, and a column for departure date. The flight ranking number shall be the chronological ranking of the flight (not necessarily the flight ID), with the oldest flight as flight 1, no matter which direction the table is sorted. Each flight in the table shall be a link to the appropriate [Show Flight](#) view. Each airport in the route column of the table shall be a link to the appropriate [Show Airport](#) view. Flights that are in the same trip section of the same trip shall not have a horizontal border between them.

#		Flight	Route	Date
...	
107		American Airlines 3905	DAY - ORD	1 Feb 2012
108		American Airlines 1155	ORD - LAX	1 Feb 2012

109		American Airlines 267	LAX - HNL	1 Feb 2012
110		American Airlines 298	HNL - LAX	14 Feb 2012
111		American Airlines 2416	LAX - DFW	15 Feb 2012
112		American Airlines 1822	DFW - DAY	15 Feb 2012
113		United 3334	DAY - IAD	20 Feb 2012
114		United 5760	IAD - CHS	20 Feb 2012
115		US Airways 2686	CHS - CLT	23 Feb 2012
116		US Airways 2269	CLT - DAY	23 Feb 2012
...
250 flights				

Trips Table and Trip Sections Table

When specified, views shall show a table of trips or trip sections relevant to the view.

The table shall contain a column for the name of the trip (which will also include section number only on a trip section table). The text of this column will link to the appropriate [Show Trip](#) or [Show Trip Section](#) view.

The table shall also contain a column for the departure date of the earliest flight in the trip or trip section. Unless otherwise specified, the table shall be sorted by departure date from earliest to most recent.

The table shall contain a total row, displaying the total number of trips or trip sections in the table.

Superlatives Table

When specified, views shall show a table of the longest and shortest route flown in the given collection of flights, along with the distance of each of these routes. If multiple flights are tied for longest or shortest, all ties shall be shown. If the shortest route is zero distance, then the shortest non-zero distance route shall also be shown,

including ties if necessary. All routes listed shall link to the appropriate [Show Route](#) view.

Ranked Table

When specified, sortable tables shall have a column with a numeric ranking, identifying the row's rank in the current sort column and direction (either numeric or alphabetic, in either direction).

When the table is sorted by a numeric columns and multiple rows have identical values, a tie has taken place between those values. In a tie situation, the topmost row with that value shall show the rank number, and all subsequent rows within that table with the same value shall show the ":" (three dots vertical) symbol to indicate a tie. The next row in the table that is not part of the current tie shall show a rank number as if the tied rank numbers had not been replaced by a symbol. For example:

Rank	Sorted Value
1	19
2	16
3	14
:	14
:	14
6	12
:	12
8	11
9	9
10	8
:	8
12	7

Graph Columns

Unless otherwise specified, numeric table columns which the table can be sorted by shall have a graph bar in the background of the cell. A portion of that bar, starting from the left, shall be shaded to show the ratio of the current cell's value to the maximum value of that column. (For example, if this cell's value is 40, and the largest value in the column is 100, then the left 40% of the bar shall be shaded.)

Legal

Every view that uses a map generated by gcmmap.com shall have the required gcmmap.com copyright notice in the footer. (See <http://www.gcmmap.com/faq/other#embed>.)

Every view that uses an airline icon shall have the following notice in the footer:

The airline logos used on this page are trademarks of their respective airlines. It is believed that the use of these logos qualifies as nominative fair use under United States trademark law.

Home

Path	/
Title for Links to this View	View the home page of Paul Bogard's Flight Historian

This view shall be the default view.

This view shall show a [Flights Map](#) for all flights. The view shall have a count of flights and a link to the Index Flights page. This view shall show the total distance flown across all flights.

The view shall show top 5 lists of routes, airports, aircraft, airlines, and tails, with the number of flights for each. Each entry in each list shall link to the appropriate Show page for that entry. At the bottom of each list shall be a count of the total number of routes, airports, aircraft, airlines, and tails, and a link to the appropriate Index page for each.

This view shall show a [Superlative Table](#) for all flights.

If any trips are hidden and the user is verified, a link to each hidden trip shall be displayed near the top of the view.

Add/Edit Airport

Path	/airports/new /airports/:id/edit /airports/1/edit
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This view shall allow a verified user to add or edit an airport. The form shall be identical between Add and Edit, but Edit shall prefill the form fields with the airport record's information from the database. The form shall have the following fields:

Field	Type	Required?
IATA code	Input	Yes
City	Input	Yes
Country	Input	Yes
CONUS	Checkbox	No

Visitors attempting to access this view shall be redirected to the Home view.

Add/Edit Aircraft Family

Path	<code>/aircraft/new</code> <code>/aircraft/:id/edit</code> <code>/aircraft/2/edit</code>
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This view shall allow a verified user to add or edit an aircraft family. The displayed form shall be identical between Add and Edit, but Edit shall prefill the form fields with the flight record's information from the database. The form shall have the following fields:

Field	Type	Required?
Manufacturer	Input	Yes
Aircraft family	Input	Yes
IATA aircraft code	Input	Yes
Category	Select (Wide-body, Narrow-body, Regional jet, Turboprop)	Yes

Visitors attempting to access this view shall be redirected to the Home view.

Add/Edit Airline

Path	<code>/airlines/new</code> <code>/airlines/:id/edit</code> <code>/airlines/2/edit</code>
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This view shall allow a verified user to add or edit an airline. The displayed form shall be identical between Add and Edit, but Edit shall prefill the form fields with the flight record's information from the database. The form shall have the following fields:

Field	Type	Required?
Airline name	Input	Yes
IATA airline code (if not unique, append a hyphen and the airline name, with spaces converted to hyphens)	Input	Yes
This airline only operates flights (it does not sell or market flights)	Checkbox	No

Visitors attempting to access this view shall be redirected to the Home view.

Add/Edit Flight

Path	<code>/flights/new</code> <code>/flights/:id/edit</code> <code>/flights/2/edit</code>
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This view shall allow a verified user to add or edit a flight. The Add Flight form shall be launched from the [Show Trip](#) view. Thus, the [Show Trip](#) view shall pass its trip ID to the Add Flight form, which then shall include it upon submittal.

The displayed form shall be identical between Add and Edit, but Edit shall prefill the form fields with the flight record's information from the database. The form shall have the following fields:

Field	Type	Required?
Trip section	Input	Yes
Origin	Select (all IATA airport codes)	Yes
Destination	Select (all IATA airport codes)	Yes
Departure date (local)	Date select	Yes
UTC departure (for sorting flights)	Date/time select	Yes
Airline	Select (airline names for airlines that are not only operators)	Yes

Flight number	Input	Yes
Codeshare airline	Select (airline names for airlines that are not only operators)	No
Codeshare flight number	Input	No
Aircraft family	Select (all aircraft family names)	No
Variant	Input	No
Tail number	Input	No
Aircraft name	Input	No
Operator	Select (all airline names)	No
Fleet number	Input	No
Travel class	Select (First, Business, Premium Economy, Economy)	No
Comment	Input	No
Boarding pass data	Textarea	No

To help the verified user enter the correct UTC departure time, the form shall also show the current UTC date and time as of the page load.

When adding a flight, the Origin airport field shall default to the destination airport of the most recent flight (the flight with the latest UTC Departure).

The form shall only show origin and destination airports that are already in the database; the user must add the airports via the [Add/Edit Airport](#) Add/Edit Airport view prior to adding the flight.

The form shall only show airlines, codeshare airlines, and operators (airlines) that are already in the database; the user must add the airlines via the [Add/Edit Airline](#) view prior to adding the flight. The Operators field will list all airlines and operators, plus an “unknown operator” option. The Airline field and Codeshare Airline field will only list airlines (as defined in the [Definitions](#)), and the Codeshare Airline field will additionally have a “no codeshare” option.

The form shall only show aircraft families that are already in the database; the user must add the aircraft families via the [Add/Edit Aircraft Family](#) view prior to adding the flight.

Upon submission, leading and trailing spaces shall be stripped from string form fields before saving to the database. If midnight of the departure date and the UTC date/time are more than 48 hours apart, a flash message alert shall be posted letting the verified user know that one of these dates is likely incorrect; however, the form shall still submit with the user supplied dates.

Visitors attempting to access this view shall be redirected to the Home view.

Add/Edit Trip

Path	/trips/add /trips/:id/edit /trips/1/edit
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This view shall allow a verified user to add or edit a trip. The displayed form shall be identical between Add and Edit, but Edit shall prefill the form fields with the flight record's information from the database. The form shall have the following fields:

Field	Type	Required?
Trip name	Input	Yes
Hidden	Checkbox	No
Comment	Input	No

For new trips, the Hidden field shall default to selected.

Visitors attempting to access this view shall be redirected to the Home view.

Edit Route

Path	/routes/:airport1/:airport2/edit /routes/DAY/DFW/edit
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This view shall allow a verified user to edit a route's distance. If a record already exists for this route's distance, then the distance shall be prefilled. The form shall have the following field:

Field	Type	Required?
Distance (statute miles)	Input	Yes

Upon submittal, if no record exists for this route distance, it shall be created, otherwise, the existing record shall have its distance updated. Route distances shall be direction insensitive.

Visitors attempting to access this view shall be redirected to the Home view.

Index Aircraft Families

Path	/aircraft
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Title for Links to this View	View a list of the types of planes on which Paul has flown
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This view shows a [ranked table](#) of all Aircraft Families flown, the IATA code of each aircraft family, and a [graph column](#) of the number of flights on each. Each Aircraft Family will be a link to the [Show Aircraft Family](#) view for that particular Aircraft Family.

The table shall be sortable by any column, but by default shall be sorted by count descending, then aircraft family ascending.

Verified users shall have the option to add a new aircraft family with a link to the [Add/Edit Aircraft Family](#) view.

Index Airlines



Path	/airlines
Title for Links to this View	View a list of the airlines on which Paul has flown




This view shall show a [ranked table](#) of all airlines flown, the IATA code of each airline, and a [graph column](#) of the number of flights on each. Each airline shall link to the [Show Airline](#) view for that particular airline.

This view shall also show a [ranked table](#) of all operators flown, the IATA code of each operator, and a [graph column](#) of the number of flights on each. Each operator shall link to the appropriate [Show Operator](#) view.

Both tables shall be sortable by any column, but by default shall be sorted count descending, then airline or operator ascending.

#	Airline	Code	Flights
1	 American Airlines	AA	135
2	 United	UA	28
3	 US Airways	US	18
4	 AirTran	FL	17

5		Delta	DL	9
6		Northwest	NW	2
6 airlines				

#	Operator	Code	Flights
1	 Envoy	MQ	68
2	 American Airlines	AA	50
3	 Trans States Airlines	AX	48
4	 ExpressJet	EV	45
5	 Mesa Airlines	YV	23
6	 AirTran	FL	17
7	 Delta	DL	9
8	 United	UA	5
9	 US Airways	US	2
:	 Northwest	NW	2
10 Operators			

Verified users shall have the option to add a new airline with a link to the [Add/Edit Airline](#) view.

Index Airports

Path	/airports
Title for Links to this View	View a list of airports Paul has visited

This view shall show a [ranked table](#) of all airports that are the origin or destination for at least one flight. The table shall include columns for the country, city, IATA code, and a [graph column](#) of the number of times each airport was visited (layovers count as a single visit to an airport). Each IATA code and airport name shall link to the appropriate [Show Airport](#) view. The table shall include a total row which shows the total number of airports visited (not the total number of flights).

The table shall be sortable by any column, but by default shall be sorted by number of visits descending, then city ascending.

#		Operator	Code	Flights
1		Dayton	DAY	92
2		Dallas/Fort Worth	DFW	64
3		Chicago (O'Hare)	ORD	25
4		Abilene	ABI	12
:		Charleston, SC	CHS	12
6		Columbus	CMH	11
7		Washington/Dulles	IAD	10
8		Charlotte	CLT	9
...	
37 Airports				

This view shall show an [Airports Map](#) for all airports, and an [Airport Frequency Map](#) for all airports.

Verified users shall have the option to add a new airport with a link to the [Add/Edit Airport](#) view.

Index Flights

Path	/flights
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Title for Links to this View	View a list of all of Paul's flights
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This view shall show a [flight table](#) for all flights. The table shall be sortable by departure date in chronological or reverse chronological order. By default, the sort shall be chronological order.

This view shall show a [Flights Map](#) for all flights. This view shall offer links to filter flights by calendar year.

Index Routes

Path	/routes
Title for Links to this View	View a list of the routes Paul has flown

This view shall display a [ranked table](#) of all routes (direction-insensitive), their distances, and a [graph column](#) of the number of flights involving them. Each route shall link to the appropriate [Show Route](#) page.

By default, this table shall be sorted by number of flights descending, but the table shall be sortable by number of flights or distance, ascending or descending.

Index Tail Numbers

Path	/tails
Title for Links to this View	View how many flights Paul has flown on each individual airplane

This view shall display a table of all tail numbers, the flag of their country of registration, their aircraft families and airlines, and a [graph column](#) of the number of flights involving them. Each tail number shall be a link to the appropriate [Show Tail Number](#) view.

The table shall be sortable by any column, but by default shall be sorted by number of flights descending, then tail number ascending.

Index Travel Classes

Path	/classes
Title for Links to this View	View how many flights Paul has flown in each class

This view shall display a table of First, Business, Premium Economy, and Economy travel classes (not including classes with no flights), the IATA class code for each, and a [graph column](#) of the number of flights involving them. Flights with an unknown travel class shall not be listed. Each of the travel class titles shall be a link to the appropriate [Show Travel Class](#) view.

The table shall be sortable by travel class quality or number of flights, but by default shall be sorted by travel class quality descending.

Index Trips

Path	/trips
Title for Links to this View	View a list of trips Paul has taken

This view shall display a [trip table](#) of all trips. The table shall be sortable by departure date either most recent first or oldest first, with most recent first as the default. Verified users shall have the option to add a new trip via a link to the [Add/Edit Trip](#) view.

Show Aircraft Family

Path	/aircraft/:iata_aircraft_code /aircraft/ERJ
Title for Links to this View	View flights on <i>Aircraft.manufacturer Aircraft.family_name</i> aircraft View flights on Embraer ERJ-145 aircraft

This view shall display a [Flights Map](#) of all flights using the specified aircraft family and the total distance of all flights flown on this aircraft family. This view shall display a side profile

illustration (at a scale of 720 pixels = 84 meters) of a representative of the aircraft family, if available.

This view shall show [ranked tables](#) of airlines, operators, and classes on this aircraft family versus the number of flights for each, sorted by number of flights for each. The number of flights column shall be a [graph column](#).

This view shall show a [Superlatives Table](#) for all flights on this aircraft family.

This view shall show a [Flights Table](#) of all flights using this aircraft family.

Verified users shall have the option to edit (via the [Add/Edit Aircraft Family](#) view) or delete the aircraft family. Deleting the aircraft family will require a confirmation. The aircraft family shall only be able to be deleted if no flights use it.

Show Airline

Path	/airlines/:iata_airline_code /airlines/ DL
Title for Links to this View	View flights on <i>Airline.airline_name</i> View flights on Delta

This view shall display a [Flights Table](#) and [Flights Map](#) of all flights flown on a particular airline, and the total distance flown on that airline. The view shall show [ranked tables](#) of operators, aircraft, and classes on this airline versus the number of flights for each, sorted by number of flights for each.

This view shall show a [Superlatives Table](#) for all flights on this airline.

Verified users shall have the option to edit (via the [Add/Edit Airline](#) view) or delete the airline. Deleting the airline will require a confirmation. The airline may only be deleted if no flights use it as an Airline, Codeshare Airline, or Operator.

Show Airport

Path	/airports/:iata_code /airports/ ORD
Title for Links to this View	View airport details for <i>Airport.city</i> View airport details for Chicago (O'Hare)

This view shall display the name, city, and IATA code of a particular airport.

This view shall display an [Airport Highlight Map](#) and a [Flights Table](#) of all flights involving this airport (all flights with the airport as an origin or destination).

This view shall show an [Airport Highlight Map](#) and a [Trip Section Table](#) of the flights of all trip sections involving this airport (all trip sections with a flight involving this airport).

This view shall show an [Airport Highlight Map](#) and a [Trip Table](#) of the flights of all trips involving this airport (all trips with a flight involving this airport).

The view shall show [ranked tables](#) of airlines, operators, aircraft, and classes at this airport versus the number of flights for each, sorted by number of flights for each.

This view shall show a [Superlatives Table](#) for all flights involving this airport.

This view shall show a [ranked table](#) of origin and destination airports paired with this airport. Each row shall show an airport with flights to or from the current airport, the number of flights between these two airports, and the distance between these two airports in miles. The entire table shall be sorted by number of flights descending by default, but shall be sortable by city, code, number of flights, or distance in either direction. Each city and airport shall link to the appropriate [Show Airport](#) view. Each flight count shall link to the appropriate [Show Route](#) view. The Flights and Distance columns shall be [graph columns](#).

#		City	Code	Flights	Distance
1		Dayton	DAY	28	240 mi
2		Charleston, SC	CHS	7	760 mi
3		Dallas/Fort Worth	DFW	6	802 mi
4		Columbus, OH	CMH	3	296 mi
5		Seattle/Tacoma	SEA	3	1721 mi
10 Operators					

Verified users shall have the option to edit (via the [Add/Edit Airport](#) view) or delete the airport. Deleting the airport will require a confirmation. The airport may only be deleted if no flights use it as an origin or destination.

Show Fleet Number

Path	/operators/:operator/:fleet_number /operators/ G7 / 155
Title for Links to this View	View flights on <i>Airline.airline_name</i> aircraft # <i>Flight.fleet_number</i> View flights on GoJet aircraft # 155

The operator and fleet number shall be listed in the page title.

A link shall be provided to the appropriate [Show Operator](#) view.

This view shall display a [Flights Table](#) and [Flights Map](#) of all flights involving an aircraft with this operator and fleet number, and the total distance flown on this collection of flights. The Flights Table shall additionally list the aircraft family and tail number for each flight. The view shall show [ranked tables](#) of airlines, aircraft, and classes on this fleet number versus the number of flights for each, sorted by number of flights for each. This view shall show a [Superlatives Table](#) for all flights on this fleet number.

Show Flight

Path	/flights/:id /flights/ 204
Title for Links to this View	View flight details for <i>Flight.airline Flight.flight_number</i> View flight details for American Airlines 3260

This view shall display information relevant to a particular flight. Airline, flight number, trip name, departure date, origin airport, destination airport, aircraft family, aircraft variant, tail number, travel class, codeshare, operator, operator fleet number, operator aircraft name, and distance shall be listed in tabular format. The trip, airports, airline, aircraft family, tail number, travel class, operator, and fleet number shall all be links to the appropriate Show view. If any entries in the table would be blank, their row shall not be shown. Comments (if any) shall be displayed immediately below the page title.

This view shall display a [Single Flight Map](#) of the flight.

Verified users shall have the option to edit (via the [Add/Edit Flight](#) view) or delete the flight.

If boarding pass data is available for this flight, the view shall show a link to the boarding pass data only to logged-in users.

American Airlines 3260

This is a comment about this flight.






DAY

Dayton



DFW

Dallas/Fort Worth

Departure Date	29 Mar 2009
Trip	Dallas, TX
Route	DAY ⇄ DFW 861 miles
Airline	 American Airlines
Codeshare	 British Airways 6876
Travel Class	Economy
Aircraft	ERJ-145
Variant	ERJ-140
Aircraft Name	<i>PSA Livery</i>
Tail Number	 N476AA

Operated By



American Eagle (#476)

Show Flights by Year

Path	/flights/year/:year /flights/year/ 2014
Title for Links to this View	View a list of all of Paul's flights in <i>:year</i> View a list of all of Paul's flights in 2014

This view shall show a map of all flights in the given year, with tabs to switch between World and CONUS views.

This view shall show a [ranked table](#) of airports visited in the given year, sorted by number of visits to each airport in the given year descending. Airports that were visited for the first time in the given year shall be highlighted.

This view shall show a [ranked table](#) of airlines flown in the given year, sorted by number of flights on each airline in the given year descending. Airlines that were flown for the first time in the given year shall be highlighted.

This view shall show a [ranked table](#) of aircraft families flown in the given year, sorted by number of flights on each aircraft family in the given year descending. Aircraft families that were flown for the first time in the given year shall be highlighted.

This view shall show the total distance flown in the given year.

This view shall show a [Superlatives Table](#) for all flights flown in the given year.

Show Operator

Path	/operators/:operator /operators/ YV
Title for Links to this View	View flights operated by <i>Airline.airline_name</i> View flights operated by Mesa Airlines

This view shall display a [Flights Table](#) and [Flights Map](#) of all flights operated by a particular airline, and the total distance of flights operated by this airline.

Additionally, this view shall display a table of fleet numbers and the aircraft family of the most recent flight using it, sorted by fleet number. The fleet number shall link to the appropriate [Show Fleet Number](#) view.

This view shall show a [Superlatives Table](#) for all flights associated with this operator.

Show Route

Path	<code>/routes/:route</code> <code>/routes/DAY-DFW</code>
Title for Links to this View	View flights between <i>airport[0]</i> and <i>airport[1]</i> View flights between DAY and DFW

This view shall display a [Single Flight Map](#) of a route and a [Flights Table](#) of all flights involving that route in either direction. This view shall also display the distance of the route, and the total distance of all flights flown on this route.

If this view is shown to a logged-in user, this view shall display a link to edit the route distance, which will take the user to the [Add/Edit Route](#) view for this route.

A [Route Highlight Map](#) and [Trip Section Table](#) of all trip sections involving this flight's route (direction-insensitive) shall be displayed with the current route highlighted.

A [Route Highlight Map](#) and [Trip Table](#) of all trips involving this flight's route (direction-insensitive) shall be displayed with the current route highlighted.

The view shall show [ranked tables](#) of airlines, operators, aircraft, and classes on this route versus the number of flights for each, sorted by number of flights for each.

Verified users shall have the option to edit (via the [Add/Edit Flight](#) view) or delete the flight. Deleting the flight shall require a confirmation.

Show Tail Number

Path	<code>/tail_numbers/:tail_number</code> <code>/tail_numbers/N909EV</code>
Title for Links to this View	View flights on tail number <i>Flight.tail_number</i> View flights on tail number N909EV

This view shall display a [Flights Table](#) and [Flights Map](#) of all flights involving an aircraft with this tail number, and the total distance of all flights flown on this tail.

This view shall show a [ranked tables](#) of classes, operators, and aircraft on this tail versus the number of flights for each, sorted by number of flights for each. This view shall show a [Superlatives Table](#) for all flights on this tail.

This view shall provide a link to FlightAware's live flight tracking for this tail number.

Show Travel Class

Path	<code>/travel_classes/:travel_class</code> <code>/travel_classes/First</code>
Title for Links to this View	View <i>Flight.travel_class.downcase</i> class flights View first class flights

This view shall display a [Flights Table](#) and [Flights Map](#) of all flights flown on this travel class, and the total distance flown in this travel class.

The view shall show [ranked tables](#) of airlines, operators, and aircraft on this class versus the number of flights for each, sorted by number of flights for each. This view shall show a [superlatives table](#) for all flights

Show Trip

Path	<code>/trips/:id</code> <code>/trips/88</code>
Title for Links to this View	View trip details for <i>Trip.name</i> View trip details for Hawaii Vacation Outbound

This view shall display a table and [Airport Highlight Map](#) of all flights associated with a particular trip, with the first origin and last destination airport of each trip section highlighted. This view shall display the total distance of all flights in the trip. The flights shall be sorted by their UTC departure date. Each flight in the table shall link to the appropriate [Show Flight](#) view, and each section in the table shall link to the appropriate [Show Trip Section](#) view. If there are at least two flights in a section, the trip section column shall show the IATA codes of the first origin and last destination of that trip section.

Section	Flight	Route	Departure
Section 1 DAY - HNL	 American Airlines 3905	DAY – ORD	1 Feb 2012
	 American Airlines 1155	ORD – LAX	1 Feb 2012
Section 2	 American Airlines 267	LAX – HNL	1 Feb 2012
Section 3 HNL - DAY	 American Airlines 298	HNL – LAX	14 Feb 2012
	 American Airlines 2416	LAX – DFW	15 Feb 2012
	 American Airlines 1822	DFW – DAY	15 Feb 2012
6 Flights			

Verified users shall have the option to add flights to a trip or reorder the flights within a trip via the [Add/Edit Flight](#) view.

Show Trip Section

Path	<code>/trips/:trip/section/:section</code> <code>/trips/88/section/1</code>
Title for Links to this View	View trip details for <i>Trip.name</i> View details for section 1 of Hawaii Vacation Outbound

This view shall display a [Flights Table](#) and [Flights Map](#) of all flights associated with a particular trip section, as well as the total distance of all flights in the section. The flights shall be sorted by their UTC departure date/time.