Self-reliant, secure, end-to-end data, activity, and revenue analytics

End-to-End Tracking
EVERYMUNDO
We Are Airline Fare Marketing Experts

Brand Visibility  Marketing Agility  User Experience  Shopping Conversion

#StrataData  @bigdatakatha
Fare Visualization and Flight Search Anywhere
Module Types: **Booking Mask**

**Booking Mask (Desktop)**

**Booking Mask with Cards (Mobile)**
Module Types: Cards

EXPLORE OUR DESTINATIONS
Best fares for round trip flights found by others

BKK - HKG
Bangkok to Hong Kong
Depart 01/10/2017
THB 5710 Round trip
BOOK NOW

BKK - LHR
Bangkok to London
Depart 01/10/2017
THB 6720 Round trip
BOOK NOW

BKK - LON
Bangkok to London
Depart 01/10/2017
THB 6800 Round trip
BOOK NOW

Cards Module (Desktop)
Module Types: Histogram

Histogram Module (Desktop)
Module Types: Interactive Map

Interactive Map Module (Desktop)

Popular destinations from Denver

- **Orlando**
  - Round trip | Economy
  - 09 Aug 2018 - 18 Aug 2018
  - $136

- **Atlanta**
  - Round trip | Economy
  - 09 Aug 2018 - 18 Aug 2018
  - $170

- **Dallas**
  - Round trip | Economy
  - 09 Aug 2018 - 18 Aug 2018
  - $188

*Prices have been available for round trips within the last 48 hours and may not be currently available. Fares listed may be Basic Economy, which is our most restrictive fare option and subject to additional restrictions. Additional baggage charges and fees for other optional service may apply. Other terms and conditions may apply.*
Module Types: Mega Module

Mega Module (Desktop)
What happens after a user interacts with a website module?

Do they lose interest?

Do they close the browser and come back a few days later to make another search?

Do they convert?
We can use the GA Event Report for Product Tracking…

(Example airModules Names)

1. em-booking-mask
2. em-farelist-mosaic-carousel
3. em-farelist-mosaic-grid
4. em-booking-popup
5. em-farelist-horizontal-tile
6. em-farelist-horizontal-tile-filterable
...but there are important drawbacks

- Airlines and Third Parties own IBE and Analytics Accounts
- Airlines are big bureaucratic organizations
- Most airlines have (revenue and attribution) tracking issues
End-to-End Tracking

**Self-reliance**
Independent of client’s tracking set-up

**Security**
All requests are encrypted and no personal identifiable information is collected

**End-to-end data**
Collect data from first module impression to final transaction

**Activity**
Collect data for viewable impressions, clicks and bookings

**Revenue Analytics**
Collect actual revenue including currency conversion
Why Implement End-to-End Tracking?

- airModules™ KPIs
- Independent Tracking System
- Additional data source for revenue attribution
- Standardized tracking & reports
- Data-driven product improvement
- Access to performance dashboards

#StrataData
@bigdatakatha
airModules™ KPIs

- Increased Awareness of Airline Route Offerings
- Flight Search Initiation
- Module Click Assisted Conversion Rate
Data Collection in Detail…

Cookie: trackingId

Viewable Impression → Click → Popup → Flights Results → Confirmation

 FareNet

Google Analytics
DATACORE
How does the Tracking work in the Back-End?

1. **Database**
   - request/send config data

2. **Tracking Library**
   - download

3. **CMS**
   - inject, initialize tracking script

4. **Front-End airModules**
   - interact

5. **User**
   - fire event

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**Tools:**
- Google Analytics
- DataCore
Send Data to Google Analytics via Measurement Protocol

Measurement Protocol

A set of rules which your application must follow in order to send raw hit data directly to GA server
How does a Measurement Protocol Request look like?

**General**
- **Request URL**: https://www.google-analytics.com/collect?v=1  
  - Where to send the data
- **Request Method**: POST  
  - How to send the data
- **Status Code**: 200

**Payload Data: What data to send**

```
# Form Data
view source  view URL encoded

v: 1
 tid: UA-108521731-1
cid: -1
t: event
ec: em-booking-mask
eaa: viewable-impression
ek: label:"n/a"|provider:"Spirit"|url:"https://spirit-dev.everymundo.com/en/flights"|deviceCategory:"DESKTOP"|siteEdition:"en"|pageTypeCode:"HP"|airlineIataCode:"NK"|journeyType:"n/a"|route:"n/a"|date:"n/a"|fareClass:"n/a"|adultCount:"n/a"|isFlexibleDates:"false"|discountCode:"n/a"|totalPrice:"n/a"|currency:"n/a"|totalPriceUSD:"n/a"|trackingId:"n/a"
```

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Process of Creating a Measurement Protocol Hit

- **Data Source**: Pull data
- **Payload Data**: Generate
- **Application**: Make HTTP Request to send payload data
- **GA Server**: Process Payload data

Send 2XX response code if payload data is successfully processed
Event Tracking

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>eventCategory</td>
<td>Module name: em-xxx, e.g. em-booking-mask</td>
</tr>
<tr>
<td>eventAction</td>
<td>Type of interaction: fsi, load-more, expand-form, etc.</td>
</tr>
<tr>
<td>eventLabel</td>
<td>Useful for context</td>
</tr>
</tbody>
</table>

Event Label

label:"load-more"| provider:"Emirates"| url:"https://www.emirates.com/airline-data/to-dubai"| deviceCategory:"TABLET"| siteEdition:"en-HK"| pageTypeCode:"CICI"| airlineIataCode:"EK"| journeyType:"RT"| route:"SFO>JFK"| date:"20180505,20180606"| fareClass:"ECONOMY"| adultCount:"10"| isFlexibleDates:"false"| discountCode:"ZVN970FK"| totalPrice:"399.37"| currency:"GBP"| totalPriceUSD:"530.62"| trackingId:"RTJFKFRA2"
END-TO-END TRACKING IN ACTION
Data Standards

- **Data standards** are the rules by which data are described and recorded.

- In order to share, exchange, and understand data, we must standardize the format as well as the meaning.
emDataStandards

Open Source Project on https://github.com/EveryMundo/emDataStandards
emDataStandards

Example: Object for `priceSpecification`

```json
{
    "description": "JOURNEY",
    "priceBeforeTaxesAndFees": 234.21,
    "totalPrice": 250.6,
    "totalPriceUSD": 250.6,
    "taxAmount": 16.39,
    "fuelPrice": 7.89,
    "additionalFeesAmount": 12,
    "currencyCode": "USD",
    "currencySymbol": "$",
    "pricingGroupId": "USD-US",
    "isSoldOut": false
}
```

<table>
<thead>
<tr>
<th>Name</th>
<th>Description / example</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>totalPriceUSD</code></td>
<td>The total price for the reservation or ticket in USD, including applicable taxes, shipping, etc.</td>
</tr>
<tr>
<td>number</td>
<td>250.6</td>
</tr>
<tr>
<td><code>taxAmount</code></td>
<td>The amount paid in taxes</td>
</tr>
<tr>
<td>number</td>
<td>16.39</td>
</tr>
<tr>
<td><code>totalPrice</code></td>
<td>The total price for the reservation or ticket, including applicable taxes, shipping, etc.</td>
</tr>
<tr>
<td>number</td>
<td>250.6</td>
</tr>
</tbody>
</table>
Data Security and GDPR
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Increased Scope of Personal Data

Art. 4 GDPR

‘Personal data’ means any information relating to an identified or identifiable natural person (‘data subject’); an identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person.
Data Security and GDPR

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More specifically, GDPR categorizes cookies, IP addresses, device IDs and location data as “personal data”.

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Key GDPR Demands

- Explicit consent (not by default): what, how long, who with?
- Data protection & privacy by design, by default
- Right to be forgotten
- Right to review automated decisions
- Breach notification within 72 hours
- Review data at any time, portability between service providers
How We Solved Our Product Tracking for GDPR…

- User Consent
- Data Minimization
- Contractual Terms
Data is useless, unless you use it. PUT DATA INTO ACTION.

- 200,000 Views of the Booking Mask
- 8,000 Views of the Fare Module
- 45% CTR of Module Clicks over Viewable Impressions

User Engagement by Site Edition:
- Booker Popup: 67%
- Booking Mask: 52%
- Farelist Horizontal Tile Filterable: 37%
- Farelist Mosaic Grid: 21%
- Farelist Mosaic Carousel: 19%
- Farelist Horizontal Tile: 10%

CTR by Module (Module Clicks / Viewable Impressions):
- Viewable Impressions: 31,178
- CTR: 45%

Top Routes Clicked in the Farelist Modules:
- DTW=LAS: 345
- ORD=LAS: 269
- DTW=MCO: 221
- DTW=FLL: 151
- ACY=FLL: 150
- DFW=LAS: 136
- ACY=MCO: 131
- IAH=AR: 110

Flight Search Initiation: How many users reached the IBE Flights Results Page?
- Final Journey Type Selected:
  - One Way: 25.67%
  - Round Trip: 74.33%

Top Routes Searched:
- DTW=LAS: 399
- ORD=LAS: 392
- DTW=MCO: 284
- DTW=FLL: 183
- ACY=FLL: 166
- DFW=LAS: 164
- IAH=LAS: 157
- ACY=MCO: 154

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If you were wondering about the initial questions and KPIs…

- **Increased Awareness of Airline Route Offerings**: 208,000 Viewable Impressions for Booking Mask and Fare Lists
- **Flight Search Initiation**: 90,000 Clicks to get into the flight booking engine
- **Module Assisted Conversion Rate**: 8.6% Users complete a flight booking

(Time frame: 3 days)
Proprietary Product Tracking has led to…

Saved resources

Saved time

Standardized Reporting

Improved Technology across clients
THANK YOU!
SEE YOU AT THE NEXT #StrataData

Katharina Warzel
katharina@everymundo.com

https://github.com/EveryMundo/emDataStandards

LEARN MORE: EVERYMUNDO.COM