

Healthcare and a data analytics solution

Ideal-Analytics is a suite of software tools to glean information and therefore knowledge, from raw data.

Self-service, real-time, on-demand ad-hoc analysis and high performance exploration functionality with plug-ability, scalability & security, available in both SaaS and on-premise model

Any people facing service sector in the health-care and hospitality industry generates huge data in every transaction it commits. A patient or a physician treating various patients, are the two main human agents who generate data while they interact. Physicians treat patients for whom they need the previous treatment history of the patient as well as the disease history. The disease history in turn needs a set of associated or frequently affine diseases- the physician needs to keep his caution while treatment. An information system has to assist the physician in these areas, Data for one set of <Physician, Patient> duple have many sets and all of these need be captured.

Treatment again generates more than one set of data as it deals with a set of information whose each element has to have a Physician, Patient and the specific treatment, viz. <Physician, Patient, Disease, Treatment>. Thus the more we tread dip into the health care system, the more sets of data we get to handle with.

Problematic in Health care information handling:

Information is derived from data by attributing meaning to them. Imparting meaning entails

- categorization,
- making the right hierarchy,
- establishing the right relationship between different sets aided by the categories,
- storing data for the sake of fast, easy and proper retrieval,
- Proper presentation through groupings, aggregation, averaging and trend fathoming.

Any relevant information building has to churn the data at a very fast pace and yet very flexibly group, regroup, present and re-present data.

Usual solutions:

The very first cut solution provided by the Solution-Providing-IT industry is to think in terms of Models. Modelling is an art and science that provides meaning with specific precision but comes with the baggage of a set of assumptions. In the process the complexity of operation increases telling upon the ease and flexibility. Providing structures to the data makes the data bound with the structure and re-structuring is an unlearning process that the user cannot do avert. This is the Business Intelligence solution set. BI solutions exigent many intermediate data store toward the final repository from which the presentations could be triggered. All these intermediate steps add to the complexity. Health Care industry as it is holds and moves around with multiple data sets that are relationally connected. Adding complexities to those is a big price toward finding meaningfulness.

Business Analytics is the study of models. Figuring out knowledge artefacts that would be relevant for a business analyst unwittingly has to depend on the technical expertise of model building.

Alternative and smart path:

Data Analytics is the alternative track offered to data-intensive-people-facing service sectors that keep on generating newer data sets in every transaction. Data analytics avoid the track of modelling by hitting the transaction data in every query without disturbing the transaction processing, and yet they can shift that information to the presentation level. The transient nature of data gathering makes the system slick enough to change, update, re-structure the query at will and in every viewing get the current data. The currency that



forming simple and complex queries without any prior knowledge of query writing skills. The query building can be template driven and/or suggestive aids to form/edit/correct the queries and fire them with proper optimization, and that optimization is automatic and encapsulated from the users. Mammoth multi-level matrix transformations, inversion and other mathematical jugglery have been optimized in the best possible way within the industry solution spectrum. The wizardry of the technology of data-analytics combined with that of the specific intervention by the IDEAL ANALYTICS has made the product a very successful rookie pacing up with the best of the speed and skill. Finding the best algorithm of partitioning and inversion of mammoth multilevel matrices was the key challenge we envisioned and found the most elegant solution. This gave us the confidence of re-organizing the queries in every instance and yet gives the solution the best possible response time. Business wise this move helped us tackle the problematic of datasets without pre-modelling them.

Datasets from various sources typically come from existing systems and the usual approach of first collating them into one single format and pool loses the authenticity of the data in terms of currency and dirty reads. IDEAL ANALYTICS [IA] uses unique methods to cull in the necessary data and create its own working data set from any numbers and any types of database [dbms or flat file or spreadsheets] Without changing the nature of the native dataset, the product IA creates its working dataset on-the-fly transient and yet reusable with point of fire queries to maintain the currency and authenticity.

Cross-dataset operations, leveraging one fact from one dataset with dimensions from unrelated datasets on-the-fly is one very important aspect IA specifically as a data-analytics tools provides over and above the cumbersome less-flexible models of Business analytics packages built on OLAP technology.

Ideal analytics brings to the client three levels of triumphs

1. Benefits of general data-analytics tools over OLAP based business analytics tools.
2. Benefits of specialized matrix manipulation technology used in IA over other data analytics tools
3. Benefits of very specific cross dataset-type of operations and user-level almost zero level prior-experience that is inbuilt and yet isolated from end user, that is built in IA.

Security versus authenticity and currency:

In Business Analytics packages the stringency of secured data rendition with various levels of privilege compromises with the point-of-capture authenticity. The exposure of the working data set compromises the various levels of privileges in security considerations. Securing the final rendition of data is not enough and can be easily tampered by professional users when they are working off different nodes in distribution network. The working dataset need to have the security with respect to individual user individually and group-wise.

Personal rendition as distinct from corporate rendition of data from same or different data-sets and even individual choices of data presentation from the same corporate data set built-in with the varying levels of authorization enhances the security assurance and still not compromising on the veracity and currency of the data.

This feature is of prime import in any collaborative industry and much more in health-care industries where even a professional analyst may not or should not be exposed all intricate details of individual clients, as limited by regulatory authorities and laws of the land.



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Analytics On-Demand

www.ideal-analytics.com

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