

LOT #190

Data Analytics Tool Patents

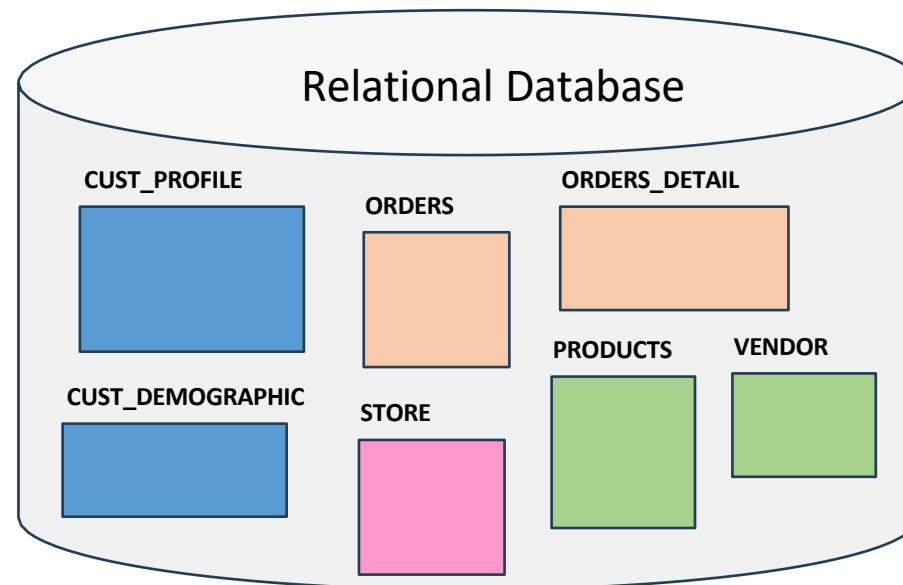
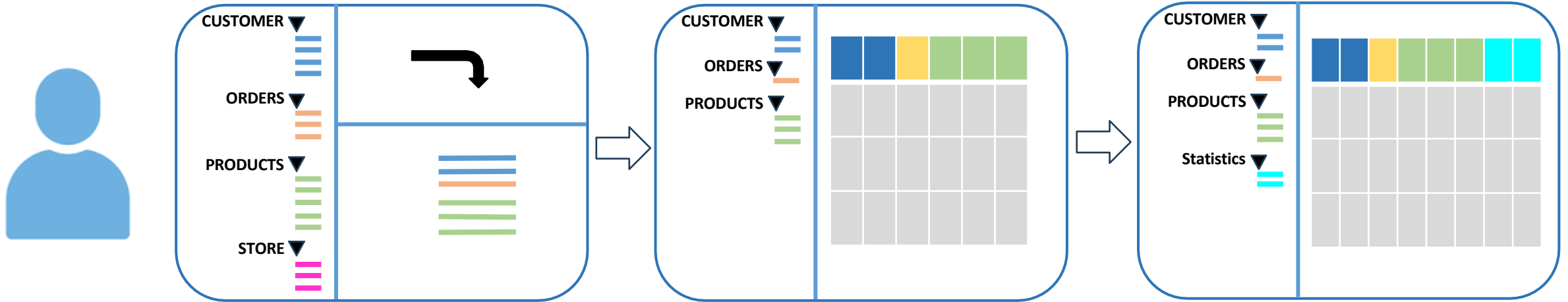


OCEAN TOMO

BID-ASK MARKET[®]

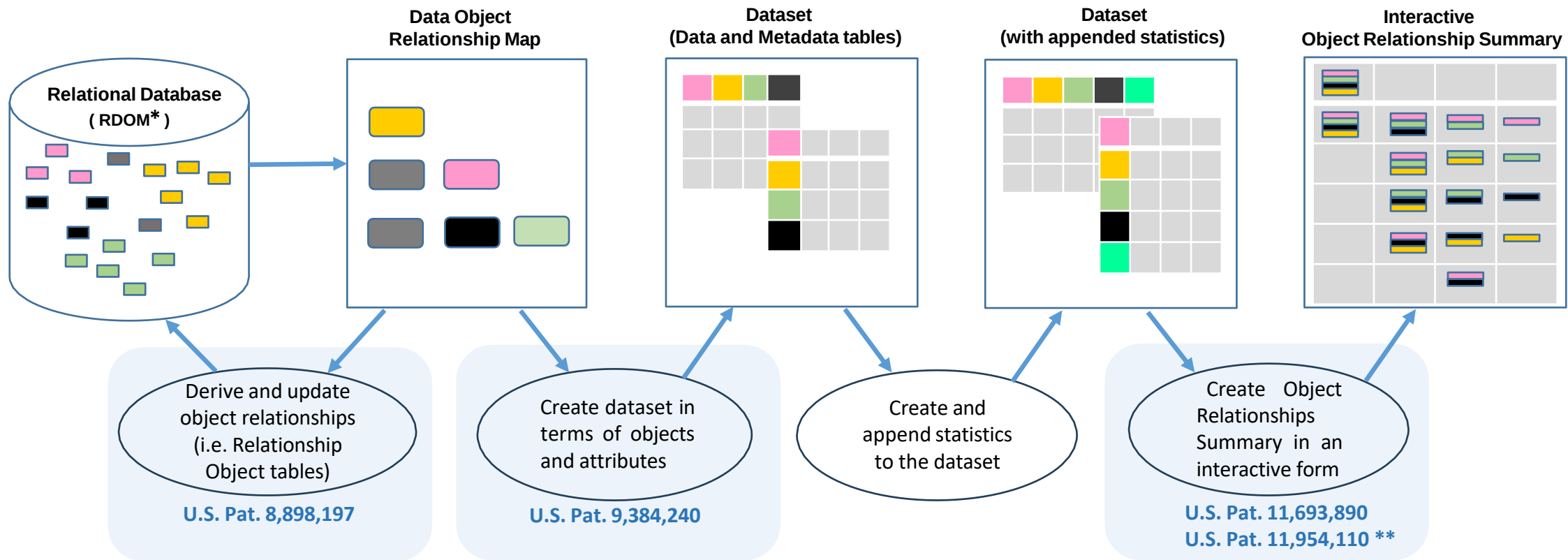
MimamsuProPlus

MimamsuProPlus is a tool to create dataset from relational database as well as run and append statistics to the dataset.



MimamsuProPlus

A Data Analytics tool to create dataset(with metadata) in terms of objects and attributes from relational database ([US Patent: 9,384,240](#)), perform statistical analysis, append the statistics to dataset and create interactive object relationships summary ([US Patent: 11,693,890](#) and [11,954,110](#)). In addition to the basic features, MimamsuProPlus also includes Pathrunner feature to derive and update object relationships ([US Patent: 8,898,197](#)).

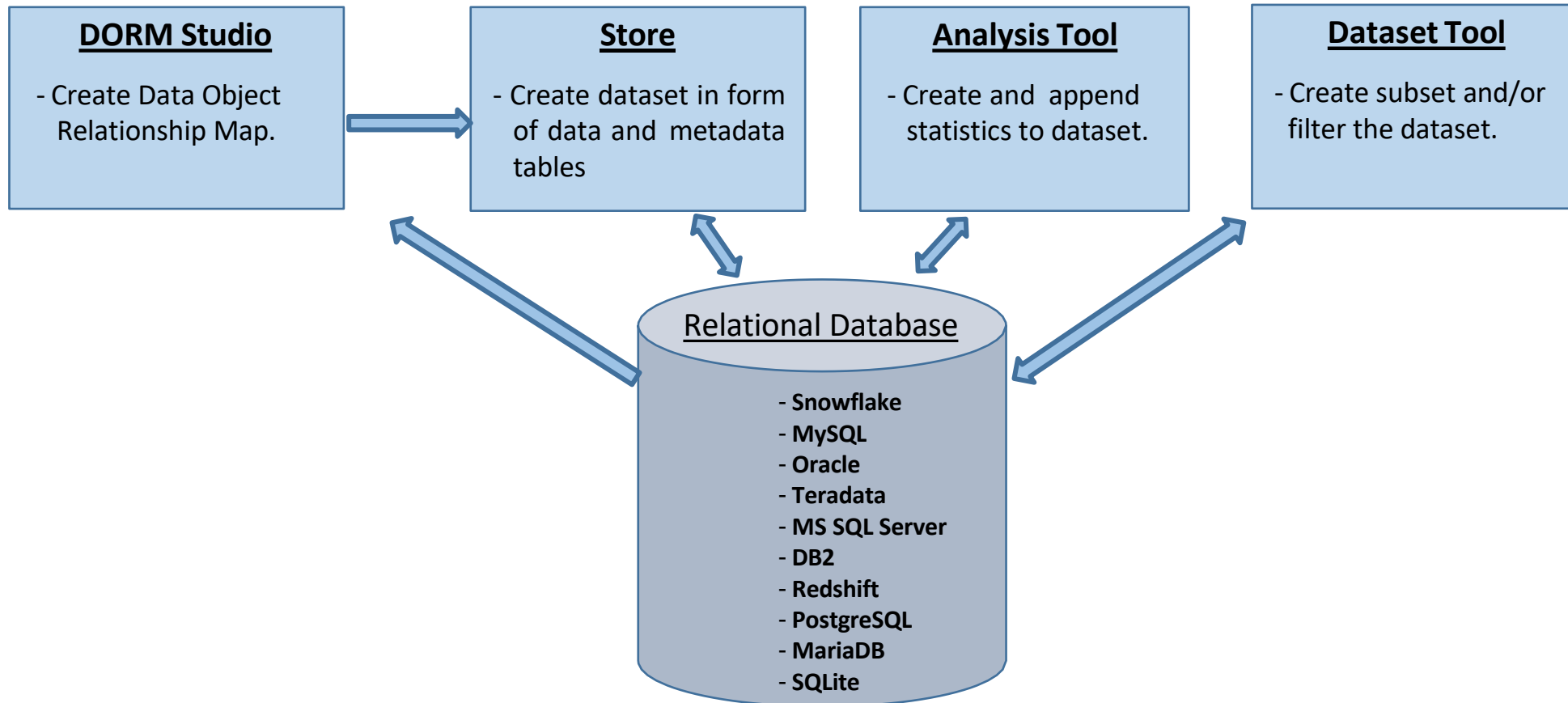


** This patent is not implemented as part of MimamsuProPlus

MimamsuProPlus

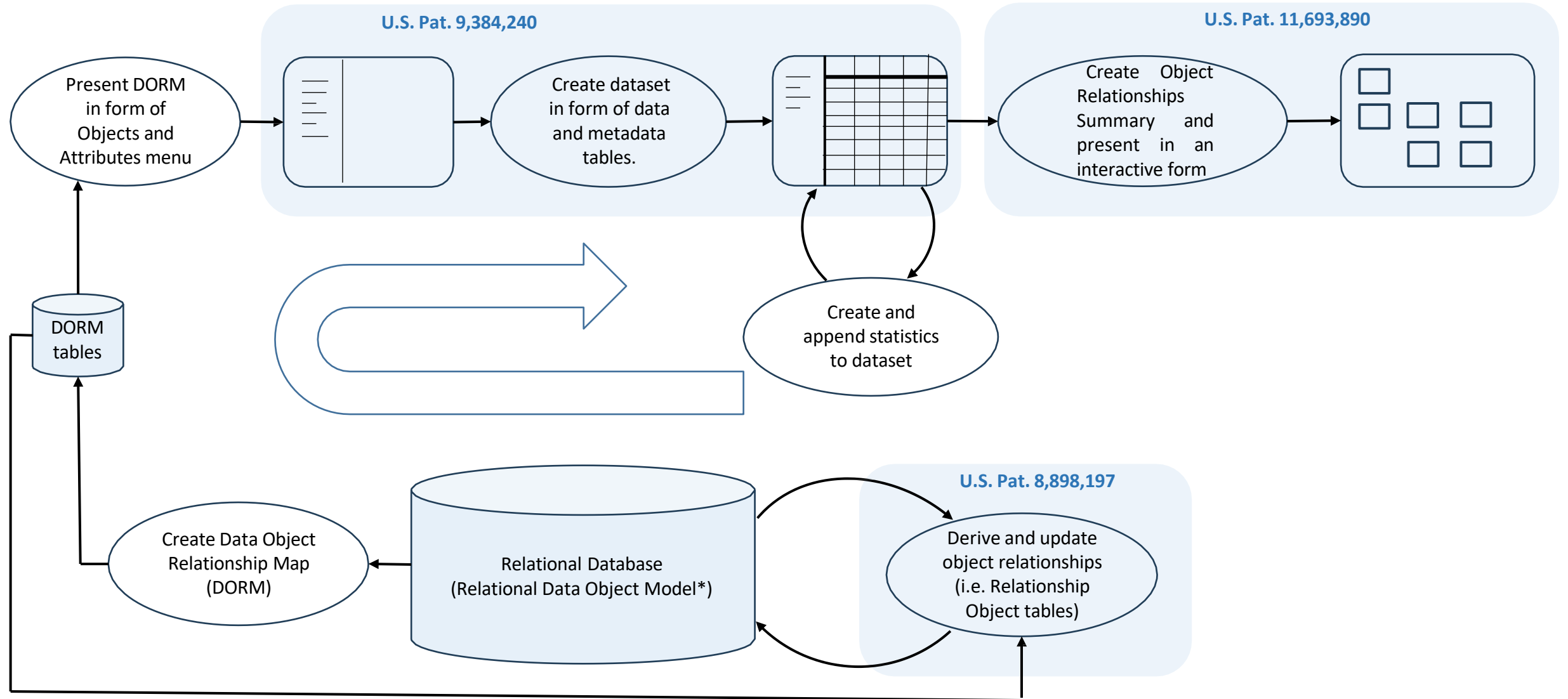
(Components)

MimamsuProPlus is made of four components (DORM Studio, Store, Analysis Tool and Dataset Tool). DORM Studio is a facility to create Data Object Relationship Map (DORM) of relational database in terms of objects and attributes. Store is a facility to create dataset/s (with metadata). Analysis Tool is a facility to perform statistical analysis, and append the statistics to the dataset. Dataset Tool is to create subset and/or filter the dataset.



MimamsuProPlus

(Application Flow)



Create Relationship Object Instances: Derive object relations (i.e. Relationship Object instances) by bi-directionally, iteratively and exhaustively traversing (by means of SQL) all alternate relationship paths between all pairs of related objects.

Example: Original state of the database containing tables for objects Obj_A, Obj_B, Obj_C, Obj_D and relationship objects relating the four objects (Fig.1). In this state the table for relationship object Robj_AC has two ID columns representing relationship between two objects Obj_A and Obj_C; the table has one row representing relation between instances of Obj_A and Obj_C (A_ID = 102 <-> C_ID = 101).

Alternate paths between Obj_A and Obj_C are 1) Robj_AB <-> Robj_BC, 2) Robj_AD <-> Robj_DC , 3) Robj_AB <-> Robj_BC <-> Robj_CD and 4) Robj_AD <-> Robj_BD <-> Robj_BC.

After bi-directionally, iteratively and exhaustively traversing all alternate paths between all pairs of related objects, state of the database is as shown in Fig.2. In this state table for Robj_AC contains additional rows representing derived relations (A_ID = 101 <-> C_ID = 101, A_ID = 101 <-> C_ID = 102, A_ID = 101 <-> C_ID = 103, A_ID = 101 <-> C_ID = 104). Similarly tables for Robj_AD and Robj_CD has additional rows (encircled in red) representing derived relations between respective pairs of objects.

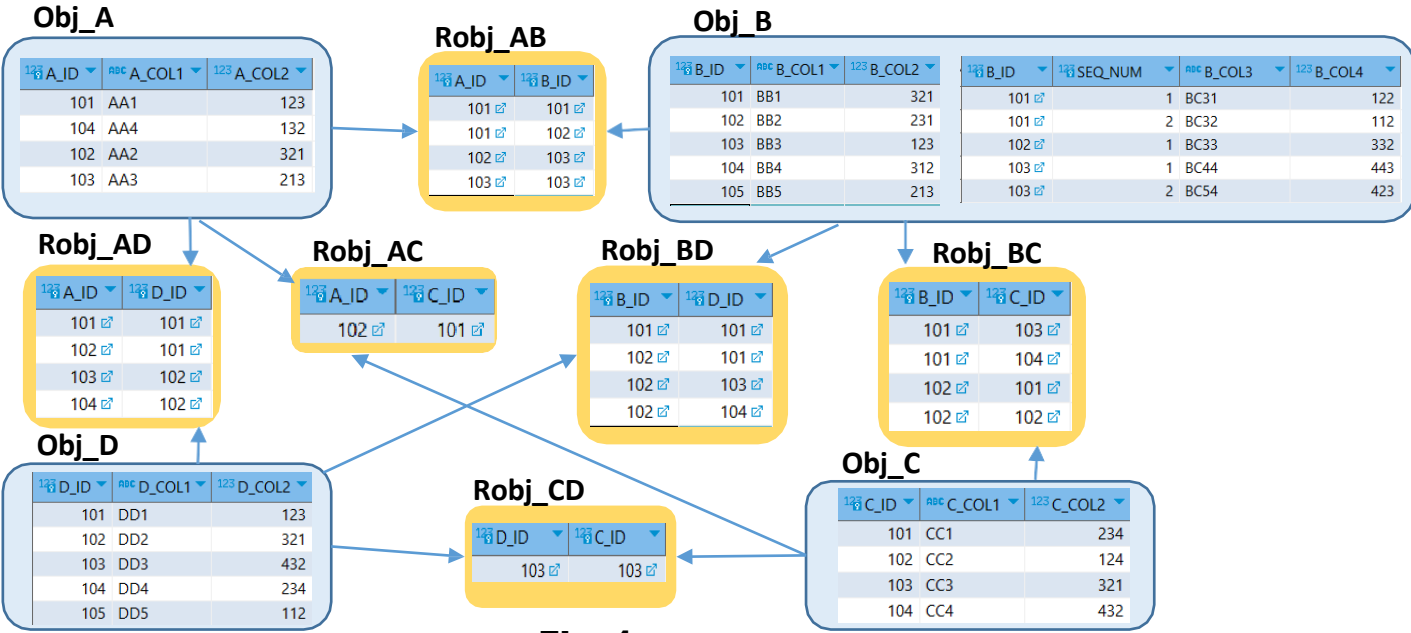


Fig. 1

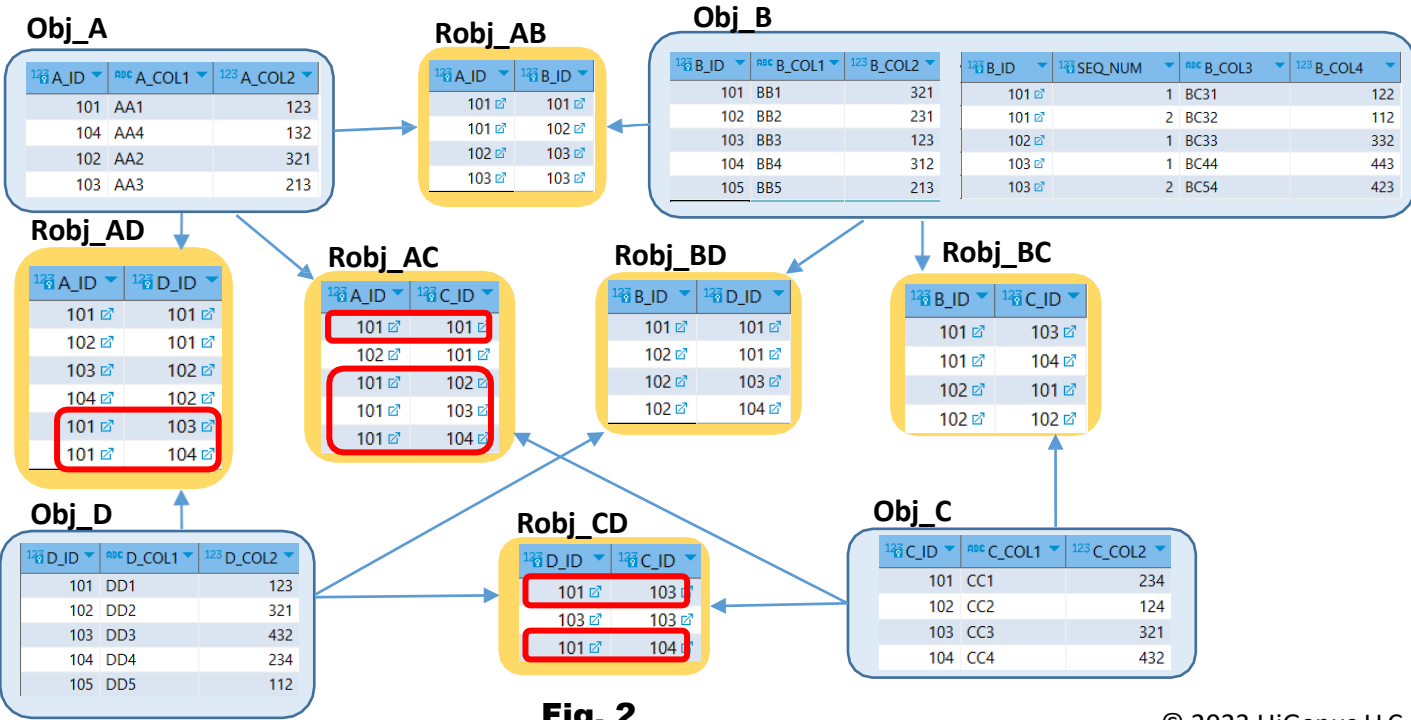


Fig. 2

Create Dataset from Relational Database: Present relational database content in terms of objects/attributes(Fig. 5); and based on user selection of object attributes create dataset table (Fig. 6).

Example: The database contains tables for objects Obj_A, Obj_B, Obj_C, Obj_D and relationship objects Robj_AB, Robj_BC, Robj_CD, Robj_AD, Robj_AC and Robj_BD relating the four objects (Fig.3). Using DORM (Data Object Relationship Map) Studio facility two metadata tables are created (Fig.4); the metadata tables contains information about the four objects, six relationship objects and attributes of the objects.

Using the DORM metadata tables user is presented with the database content in terms of Objects and Attributes in the form of a menu (Fig. 5).

User selection of attributes is A_COL1, B_COL1, B_COL2 and D_COL1 of Obj_A, Obj_B and Obj_D. A dataset table (Fig.6) containing selected attributes and ID attributes of the objects is created by means of generating and executing SQL code for corresponding SQL UNION of SQL JOINS of all combinations (from largest to smallest), of selected objects including non-related instances of selected objects. In Fig.6, rows 1 to 4 represents related instances of Obj_A, Obj_B and Obj_D; rows 5 and 6 represents related instances of Obj_A and Obj_B; rows 7 to 9 represents related instances of Obj_A and Obj_D; rows 10 and 11 represents instances of Obj_B which are not related to any instance of Obj_A or Obj_D; and row 12 represents instance of Obj_D which is not related to any instance of Obj_A or Obj_B.

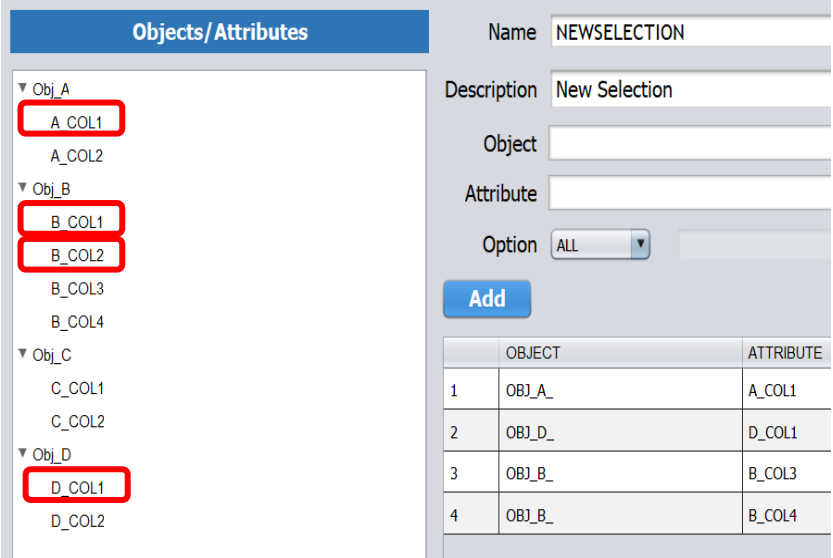


Fig. 5

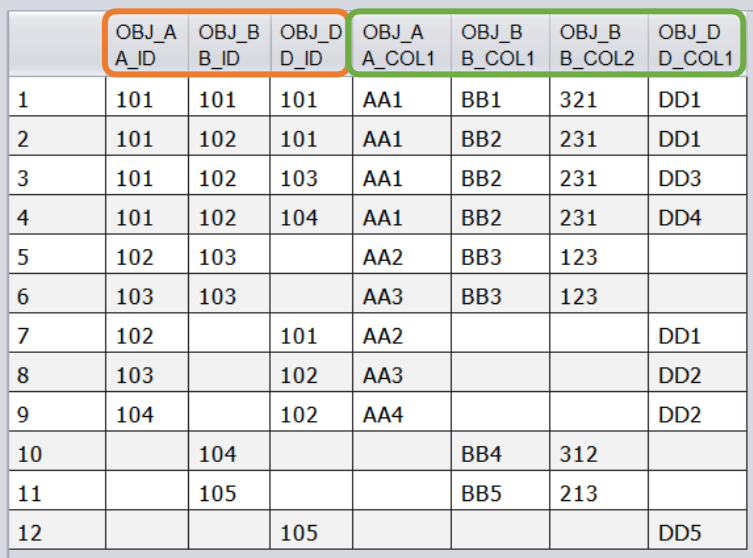


Fig. 6

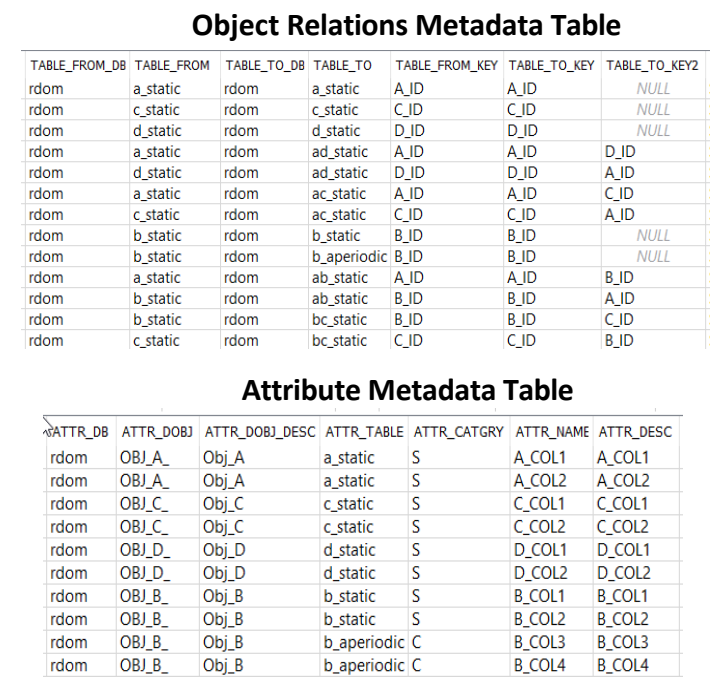


Fig. 4

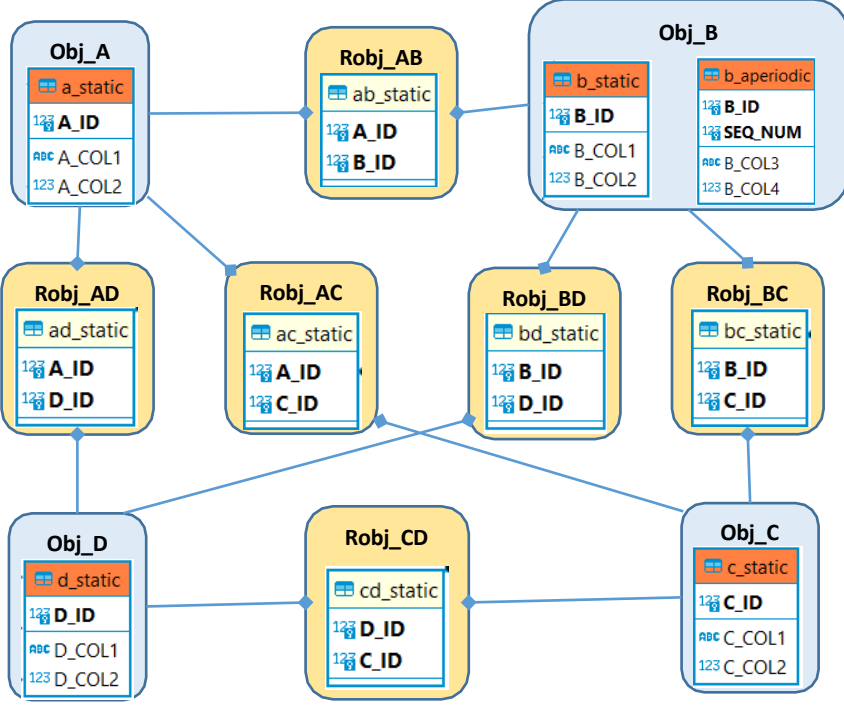


Fig. 3

Create Object Relations Summary: Create and present counts of object instances and related object instances in an interactive form.

Example: The dataset table (Fig.7) contains columns for three object IDs (i.e. A_ID, B_ID and D_ID) and attributes of the objects.

Object relations summary (Fig.8) shows, in the area (box) at the top, total number of objects’ instances in the dataset. Boxes starting from second row and first column, shows counts for exclusively related instances of all combinations of objects in descending order of the size of object combination starting from first column on the left. In this example, the box in the first column (and second row) shows 3 instances of OBJ_D, 1 instance of OBJ_A and 2 instances of OBJ_B are related to each other; similarly second column boxes shows counts for exclusively related instances among each combination of two objects; and the third column shows non-related instance counts for each object.

Selecting (clicking) the box (at 2nd column and 2nd row) shows dataset rows and columns of the exclusively related instances (Fig.9) in the form of a table.

Patent: 11,954,110

This patent differs from 11,693,890 in the presentation form. This patent covers method for presenting interactive object relations summary in the form of intersecting circles where each circle represents an object and intersecting areas represent combinations of related objects.

This patent is not implemented as part of MimamsuProPlus application software.

Object Group Size = 3	Object Group Size = 2	Object Group Size = 1
<u>Objects Count(total)</u>		
<u>Object Count</u>		
OBJ_D_ 5		
OBJ_A_ 4		
OBJ_B_ 5		
<u>Related Objects Count</u>		
<u>Object Count</u>	<u>Object Count</u>	<u>Object Count</u>
OBJ_D_ 3	OBJ_A_ 2	OBJ_A_ 0
OBJ_A_ 1	OBJ_B_ 1	
OBJ_B_ 2		
	<u>Object Count</u>	<u>Object Count</u>
	OBJ_D_ 2	OBJ_B_ 2
	OBJ_A_ 3	
	<u>Object Count</u>	<u>Object Count</u>
	OBJ_D_ 0	OBJ_D_ 1
	OBJ_B_ 0	

Fig. 8

	OBJ_A A_ID	OBJ_B B_ID	OBJ_A A_COL1	OBJ_B B_COL1	OBJ_B B_COL2
1	102	103	AA2	BB3	123
2	103	103	AA3	BB3	123

Fig. 9

	OBJ_A A_ID	OBJ_B B_ID	OBJ_D D_ID	OBJ_A A_COL1	OBJ_B B_COL1	OBJ_B B_COL2	OBJ_D D_COL1
1	101	101	101	AA1	BB1	321	DD1
2	101	102	101	AA1	BB2	231	DD1
3	101	102	103	AA1	BB2	231	DD3
4	101	102	104	AA1	BB2	231	DD4
5	102	103		AA2	BB3	123	
6	103	103		AA3	BB3	123	
7	102		101	AA2			DD1
8	103		102	AA3			DD2
9	104		102	AA4			DD2
10		104			BB4	312	
11		105			BB5	213	
12			105				DD5

Fig. 7

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- Bid 竞价
- Ask 要价
- In Market (Lot Will Sell) 待拍品
- Price Spread 价差
- Sold 成交
- Transaction Pending

DOCUMENT PROCESSING SYSTEM
用户界面

LOTS: 64 专利拍品数量 **SOURCE CODE** 源代码

9 ASSETS 专利数量

DIGITAL DISPLAY SYSTEM
数字内容访问

LOT: 65 专利拍品数量

4 ASSETS 专利数量

OCEAN TOMO BID-ASK[™] MARKET
OCEAN TOMO全球专利在线竞价交易市场

TOUR THE MARKET
市场一览

INDUSTRIAL INTERNET SECURITY & INSPECTION
一种工业互联网安全和检查的装置

LOT: 66 专利拍品数量 **SALE LEASE** 出售/租赁

21 ASSETS 专利数量

OZONI
种名为O

LOT: 67

18 ASSE

BER 编号	DATA ROOM 数据服务室	PTO 知识产权局	NICKNAME 拍品名称	REPRESENTATIVE PATENT 专利	PRIORITY DATE 优先权日期	EVENT DATE [*] 活动日	BID USD/RMB [*] 竞价	BID EXP. DATE 竞价截止日	ASK USD/RMB [*] 要价	ASK EXP. DATE 要价截止日	PRICE SPREAD 价差	ASSETS 资产	TYPE 类型
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