



US006035300A

United States Patent [19]

[11] Patent Number: **6,035,300**

Cason et al.

[45] Date of Patent: **Mar. 7, 2000**

[54] **METHOD AND APPARATUS FOR GENERATING A USER INTERFACE FROM THE ENTITY/ATTRIBUTE/RELATIONSHIP MODEL OF A DATABASE**

5,659,723	8/1997	Dimitrios et al.	395/614
5,713,014	1/1998	Durlinger et al.	395/604
5,717,925	2/1998	Harper et al.	395/613
5,809,266	9/1998	Touma et al.	395/340
5,832,498	11/1998	Exertier	707/103

[75] Inventors: **Stanley Phillip Cason**, Johnson City, N.Y.; **Mark Anthony Musa**, Williston, Vt.

FOREIGN PATENT DOCUMENTS

04127370	4/1992	Japan .
WO9324896	12/1993	WIPO .

[73] Assignee: **International Business Machines Corporation**, Armonk, N.Y.

OTHER PUBLICATIONS

IBM Technical Disclosure Bulletin, vol. 27, No. 4A, Sep. 1984, "Automated Engineering Schedule Algorithm", pp. 2028-2030.

IBM Technical Disclosure Bulletin, vol. 33, No. 9, Feb. 1991, "Interactive Schema Diagram to Visually Represent Tables of Related Data and Meaningful Joins Between Tables" pp. 243-246.

Research Disclosure: 31720, Sep. 1990, No. 317, Method to Maintain Discarded Information in a Graphical Interface.

Logic Works Erwin Methods Guide, Copyright Logic Works, 1989-95, pp. 13-29, 53 & 55.

Mighty Morphin' Programming Packages Flatten the Backlog Curve, Sep. 12, 1995, J. Brooks, S. Cason.

Business Area Analysis Using ADW, Copyright by Data Base Management, Inc. DBMI, Data Management Inc.

Primary Examiner—Paul V. Kulik

Attorney, Agent, or Firm—Ratner & Prestia; Arthur J. Samodovitz

[21] Appl. No.: **08/572,988**

[22] Filed: **Dec. 15, 1995**

[51] **Int. Cl.**⁷ **G06F 17/00**

[52] **U.S. Cl.** **707/102; 707/104; 345/333**

[58] **Field of Search** **707/1, 2, 103, 707/104, 102, 100; 345/333-335**

[56] References Cited

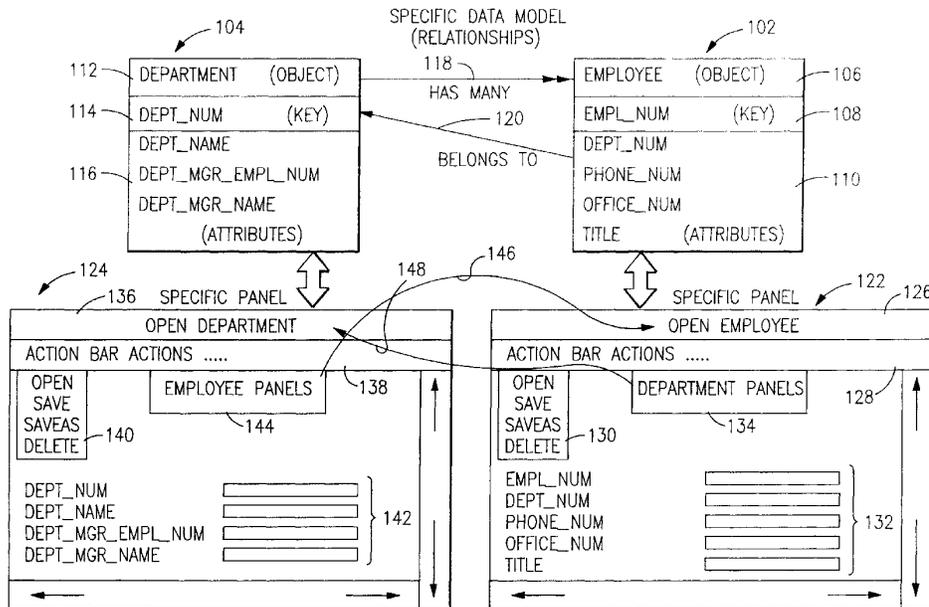
U.S. PATENT DOCUMENTS

4,805,099	2/1989	Huber	364/300
4,887,207	12/1989	Natarajan	364/401
5,193,183	3/1993	Bachman	395/600
5,233,513	8/1993	Doyle	354/401
5,235,673	8/1993	Austvold et al.	395/76
5,249,300	9/1993	Bachman et al.	395/800
5,261,044	11/1993	Dev et al.	395/159
5,291,587	3/1994	Kodosky et al.	395/500
5,303,146	4/1994	Ammirato et al.	364/401
5,315,709	5/1994	Alston, Jr. et al.	395/600
5,335,323	8/1994	Kolnick	395/164
5,448,686	9/1995	Borrel et al.	395/120
5,550,971	8/1996	Brunner et al.	395/161
5,555,365	9/1996	Selby et al.	395/159
5,594,899	1/1997	Knudsen et al.	395/600
5,627,979	5/1997	Chang et al.	395/335

[57] ABSTRACT

A computer system modeling tool generates a working user interface from the entities, attributes and relationships of a data model while assuring referential data integrity and enforcing cardinality.

8 Claims, 27 Drawing Sheets



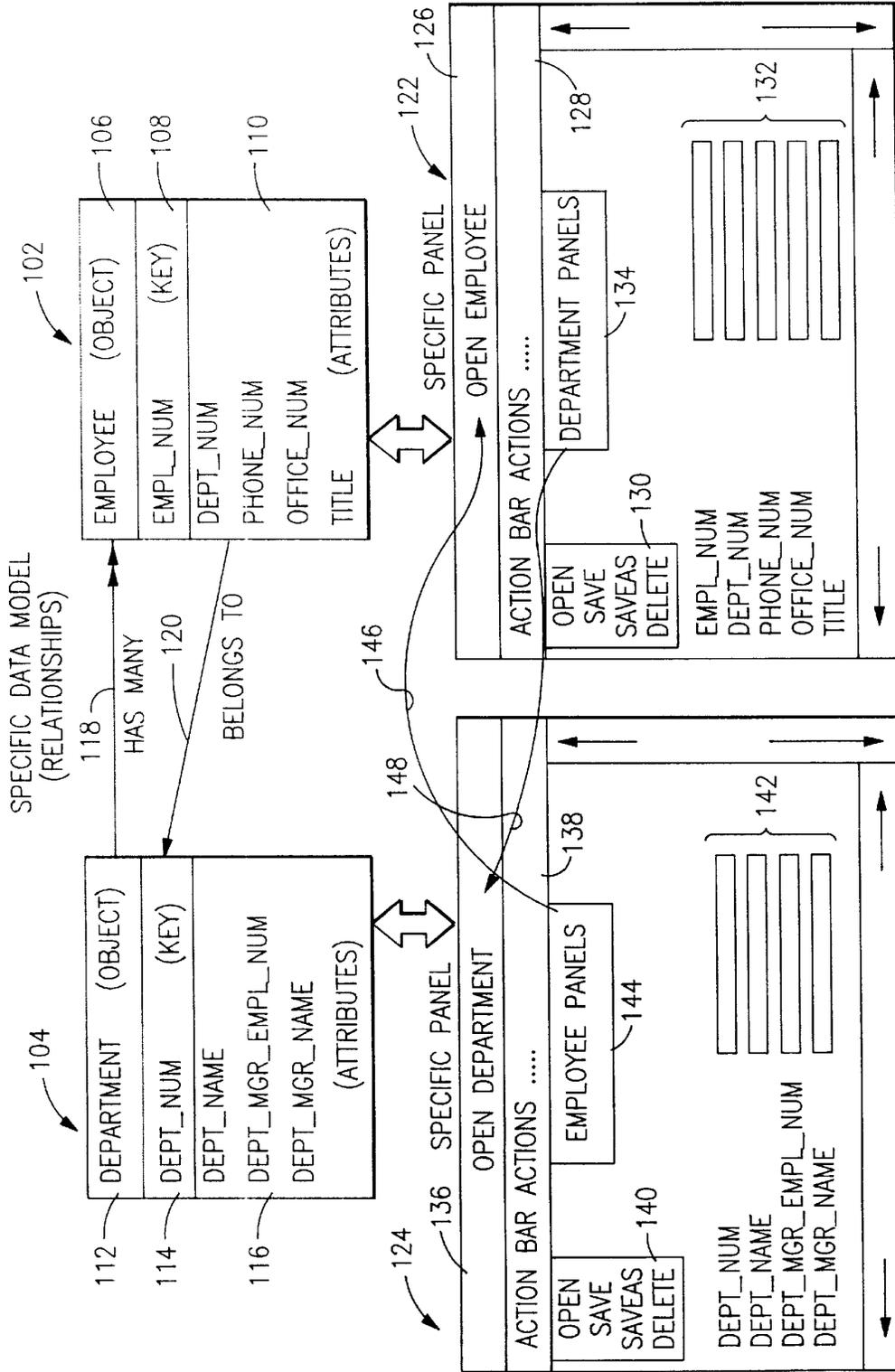


FIG.1

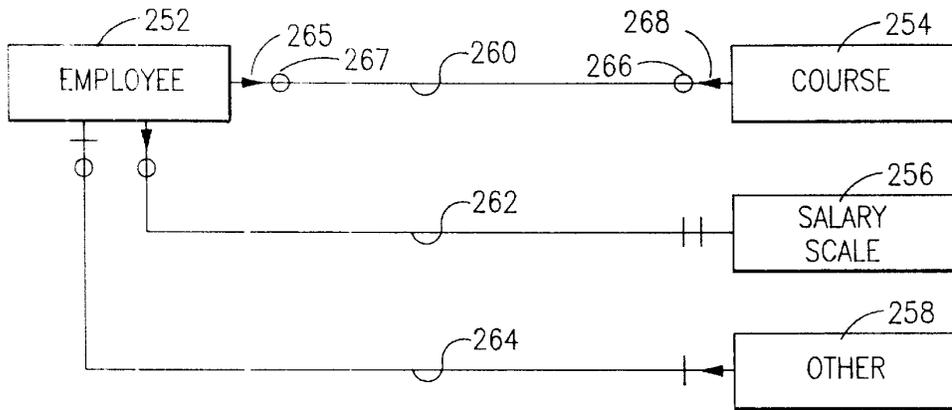


FIG. 2

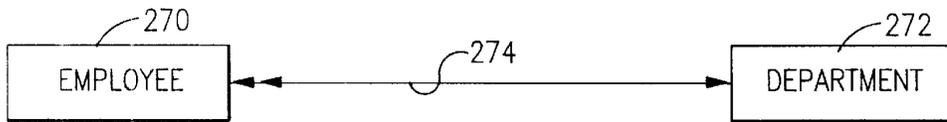


FIG. 3

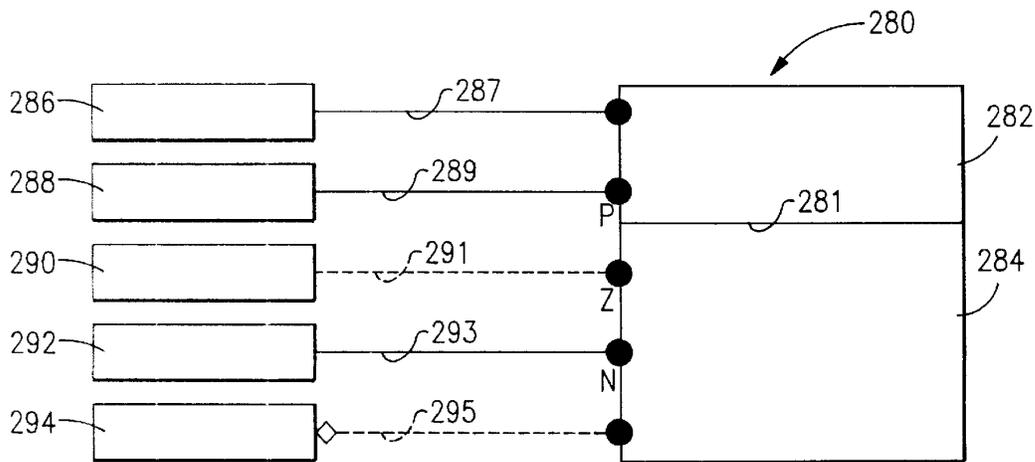


FIG. 4

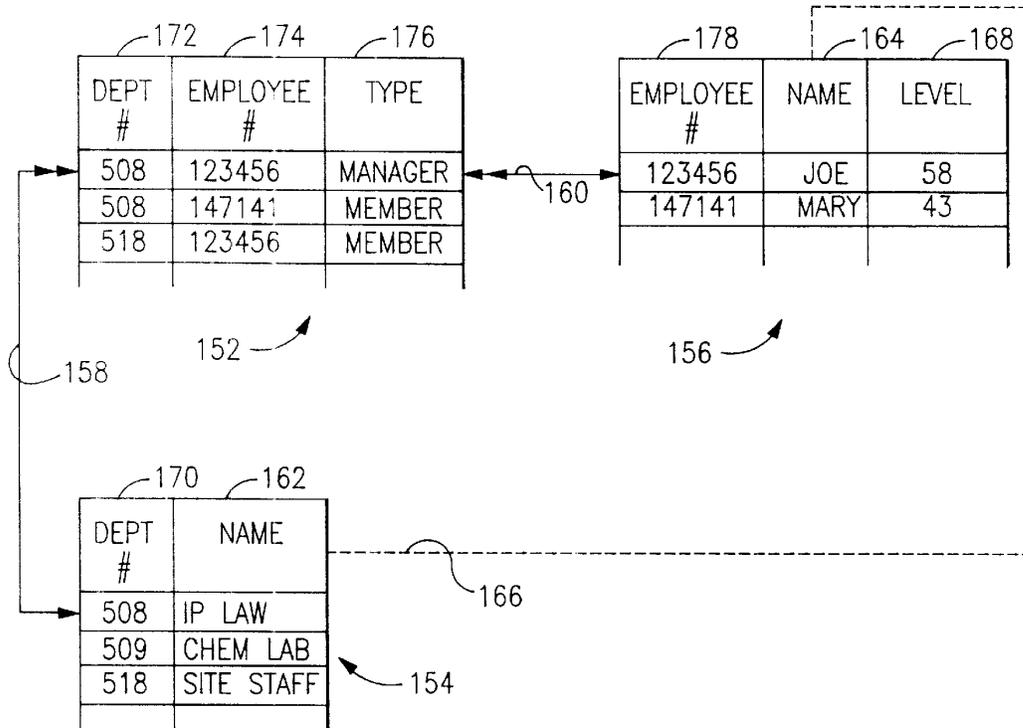


FIG.5

180

DEPT #	DEPT NAME	EMPLOYEE #	EMPLOYEE NAME	EMPLOYEE TYPE	EMPL LEVEL
508	IP LAW	123456	JOE	MANAGER	58
508	IP LAW	147141	MARY	MEMBER	43
518	SITE STAFF	123456	JOE	MEMBER	58

FIG.6

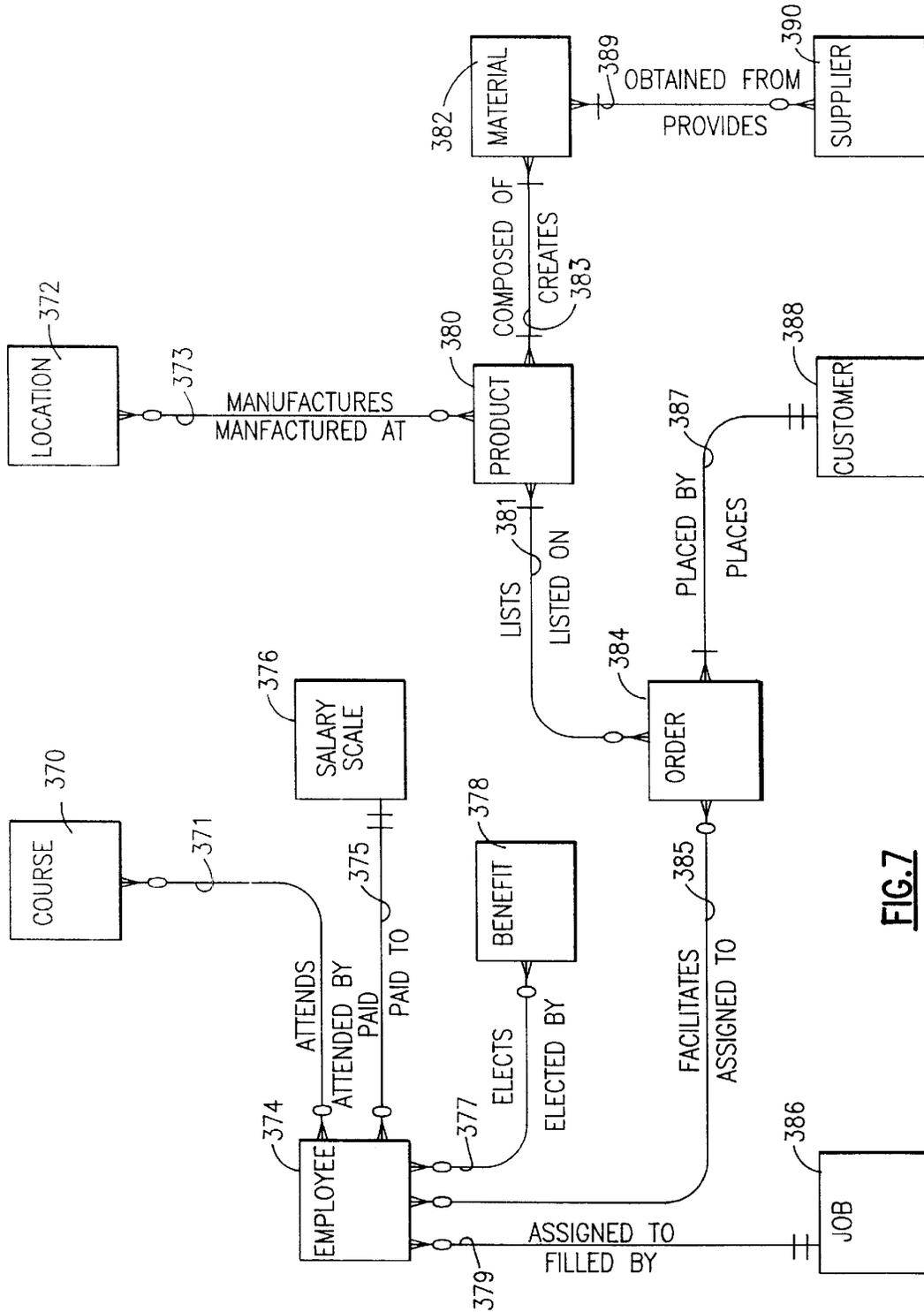


FIG. 7

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.