

- [54] **SYSTEM AND METHOD FOR PROVIDING A HIGH LEVEL LANGUAGE FOR MAPPING AND ACCESSING OBJECTS IN DATA STORES**
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- [*] Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

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(List continued on next page.)

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Related U.S. Application Data

- [63] Continuation of application No. 08/276,747, Jul. 18, 1994, abandoned.
- [51] **Int. Cl.⁷** **G06F 9/44**
- [52] **U.S. Cl.** **395/702; 395/701; 707/100; 707/103**
- [58] **Field of Search** **395/702, 600, 395/701; 707/100, 103**

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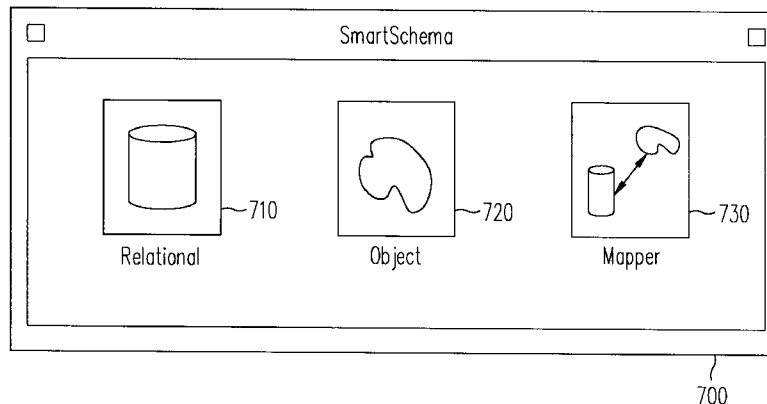
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[57] **ABSTRACT**

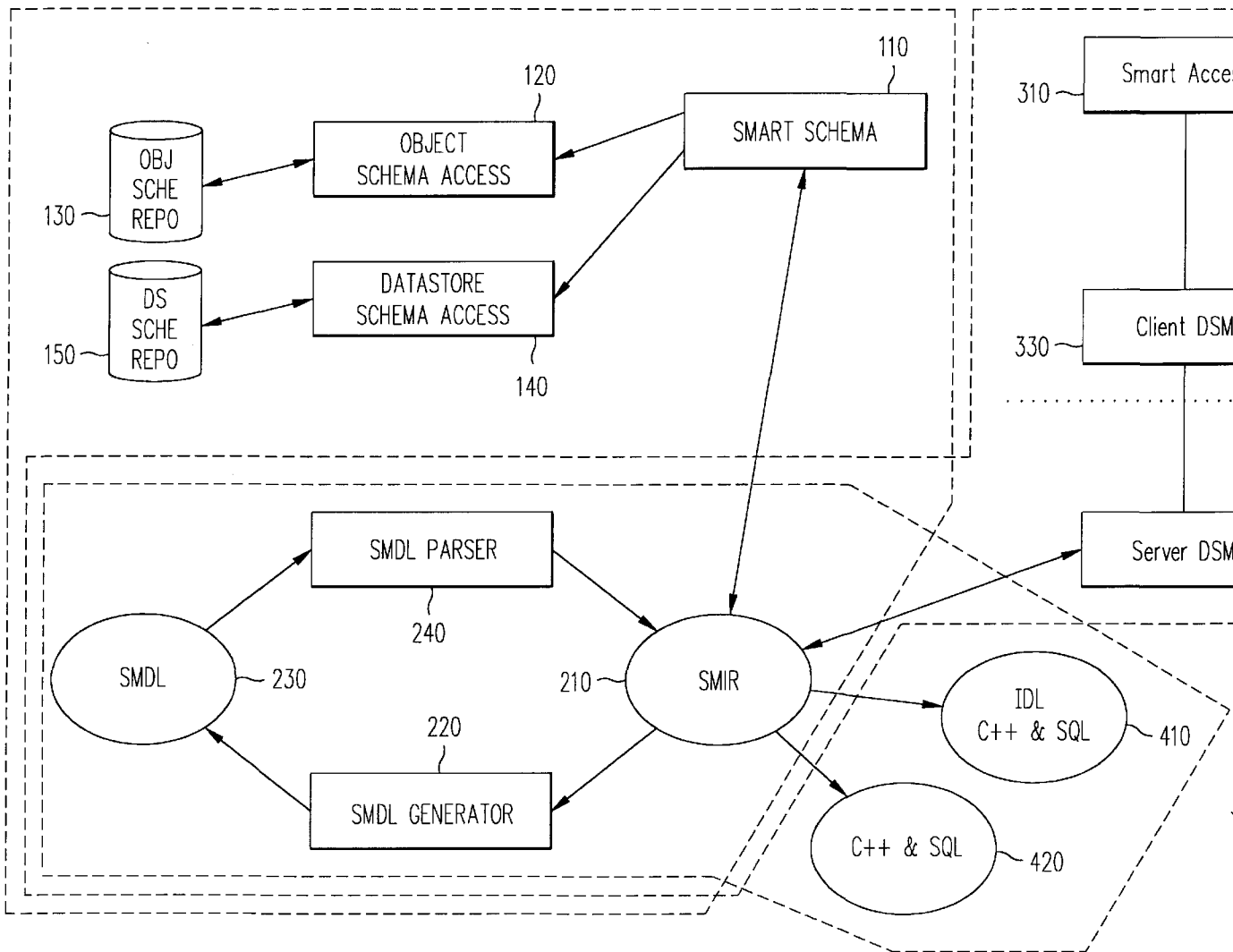
A user may define a mapping between object schema and data store schema by use of a high level language, Schema Mapping Definition Language (SMDL), which is data store independent, object oriented language independent, and extensible. The user may either write SMDL directly or generate SMDL through the use of a graphical user interface Smart Schema whose graphical semantics support the SMDL semantics. A Schema Mapping Internal Representation (SMIR) containing representations of the object schema, the data store schema, and the mapping of the object schema and the data store schema is generated by an SMDL Parser from the SMDL. The SMIR is represented such that it may be accessible by both development interfaces and run-time environments. It supports the accessing of the mapping information given either the object schema or data store schema such that the data store schema may be accessed from the object schema, and the object schema may be accessed from the data store schema. An SMDL Generator may be used to generate the SMDL from the SMIR. The SMIR, SMDL Generator, SMDL Parser, and SMDL may be registered in a Data Store Manager (DSM) having a single, uniform, object oriented application programming interface for accessing one or more data stores, regardless of the type of data store.

15 Claims, 17 Drawing Sheets



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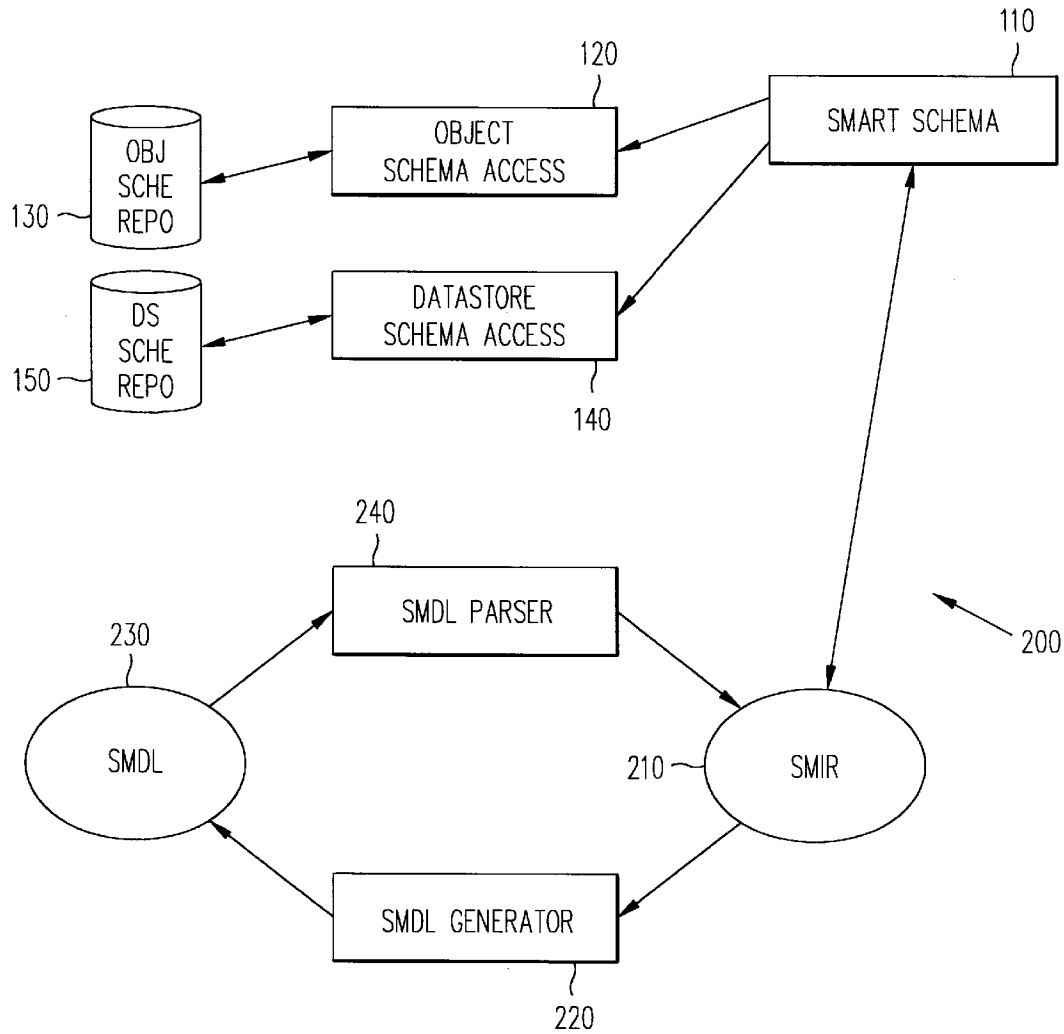


FIG. 2

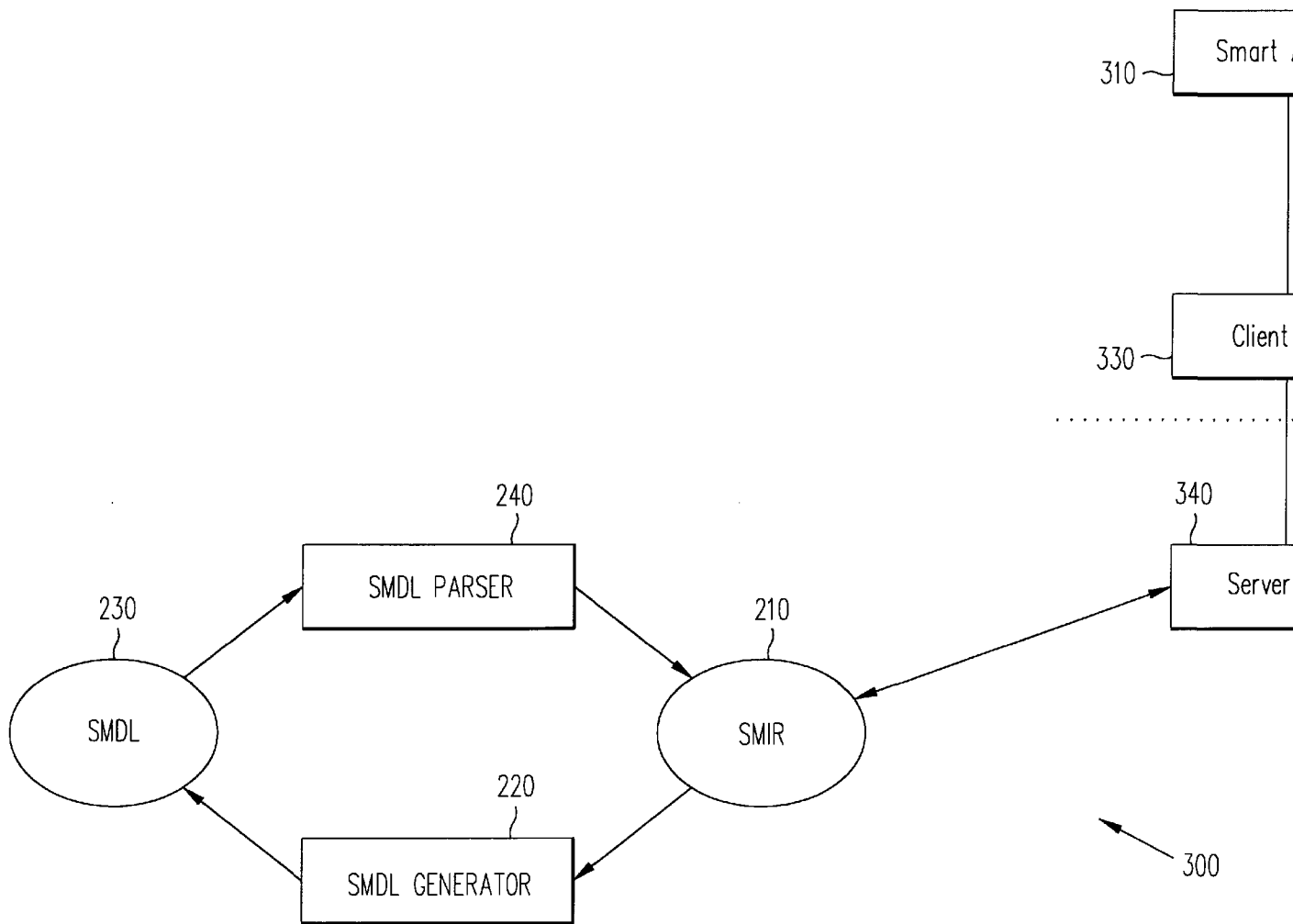


FIG. 3

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