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**United States Patent** [19][11] **Patent Number:** **5,187,787****Skeen et al.**[45] **Date of Patent:** **Feb. 16, 1993**

[54] **APPARATUS AND METHOD FOR PROVIDING DECOUPLING OF DATA EXCHANGE DETAILS FOR PROVIDING HIGH PERFORMANCE COMMUNICATION BETWEEN SOFTWARE PROCESSES**

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[51] **Int. Cl.<sup>5</sup>** ..... **G06F 15/16**

[52] **U.S. Cl.** ..... **395/600; 364/DIG. 1; 364/281.3; 364/240.8; 364/246.3**

[58] **Field of Search** ..... **364/DIG. 1, DIG. 2; 395/600**

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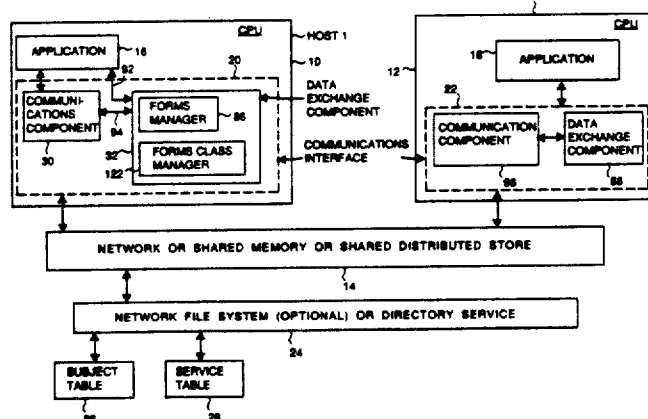
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[57] **ABSTRACT**

A communication interface for decoupling one software application from another software application such communications between applications are facilitated and applications may be developed in modularized fashion. The communication interface is comprised of two libraries of programs. One library manages self-describing forms which contain actual data to be exchanged as well as type information regarding data format and class definition that contain semantic information. Another library manages communications and includes a subject mapper to receive subscription requests regarding a particular subject and map them to particular communication disciplines and to particular services supplying this information. A number of communication disciplines also cooperate with the subject mapper or directly with client applications to manage communications with various other applications using the communication protocols used by those other applications.

**68 Claims, 9 Drawing Sheets**



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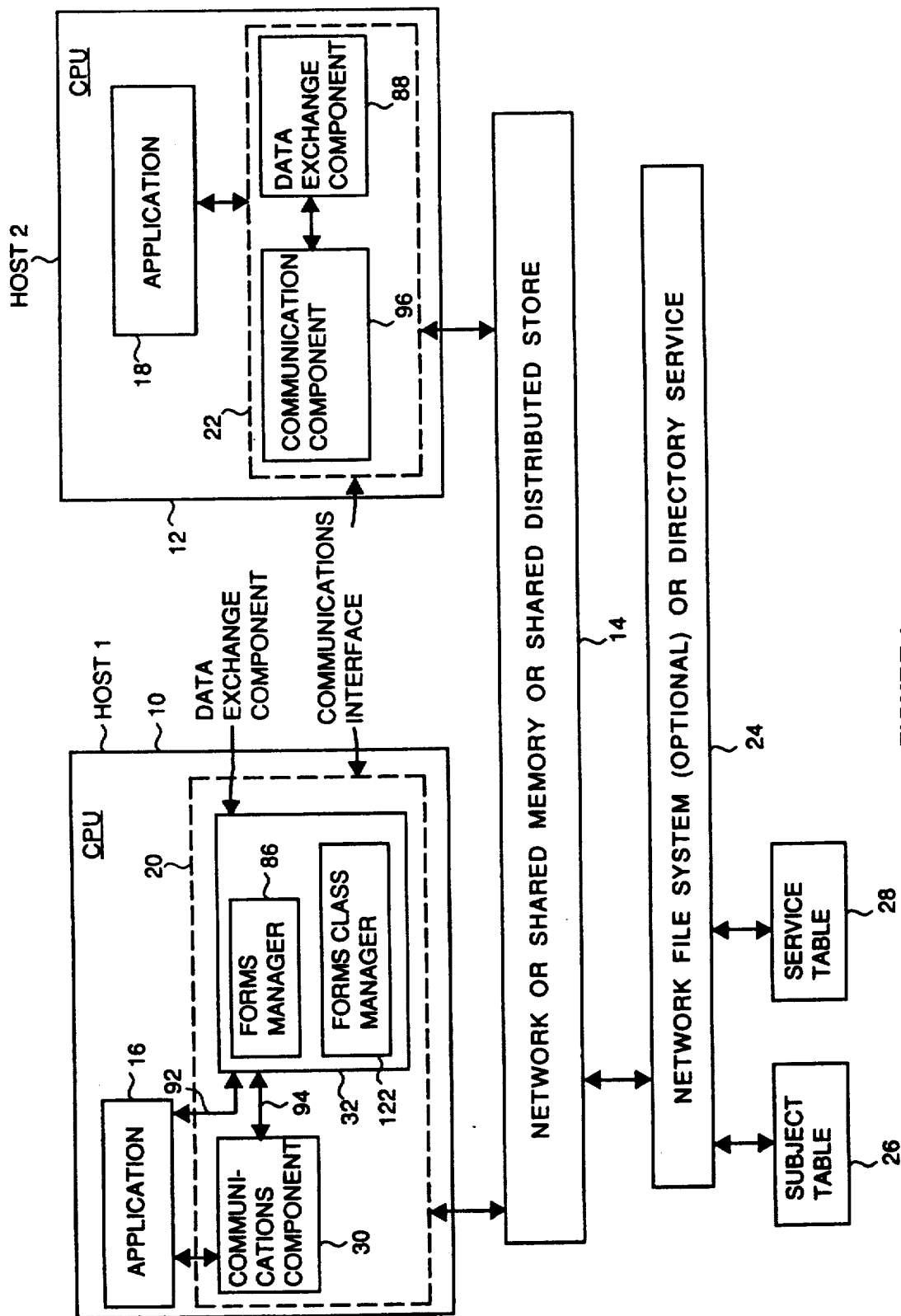


FIGURE 1

EXAMPLE FORM CLASS DEFINITIONS

PLAYER \_ NAME: CLASS 1000  
RATING: FLOATING \_ POINT CLASS II  
AGE: INTEGER CLASS 12  
LAST \_ NAME: STRING \_ 20 \_ ASCII CLASS 10  
FIRST \_ NAME: STRING \_ 20 \_ ASCII CLASS 10

**FIGURE 2**

PLAYER \_ ADDRESS: CLASS 1001  
STREET: STRING \_ 20 \_ ASCII CLASS 10  
CITY: STRING \_ 20 \_ ASCII CLASS 10  
STATE: STRING \_ 20 \_ ASCII CLASS 10

**FIGURE 3**

TOURNAMENT \_ ENTRY: CLASS 1002  
TOURNAMENT \_ NAME: STRING \_ 20 \_ ASCII CLASS 10  
PLAYER: PLAYER \_ NAME CLASS 1000  
ADDRESS: PLAYER \_ ADDRESS CLASS 1001

**FIGURE 4**

STRING \_ 20 \_ ASCII: CLASS 10  
STRING \_ 20 ASCII  
INTEGER: CLASS 12  
INTEGER \_ 3  
FLOATING - POINT : CLASS 11  
FLOATING \_ POINT \_ 1/1

**FIGURE 5**

INSTANCE OF FORM OF CLASS TOURNAMENT \_ ENTRY  
CLASS 1002 AS STORED IN MEMORY

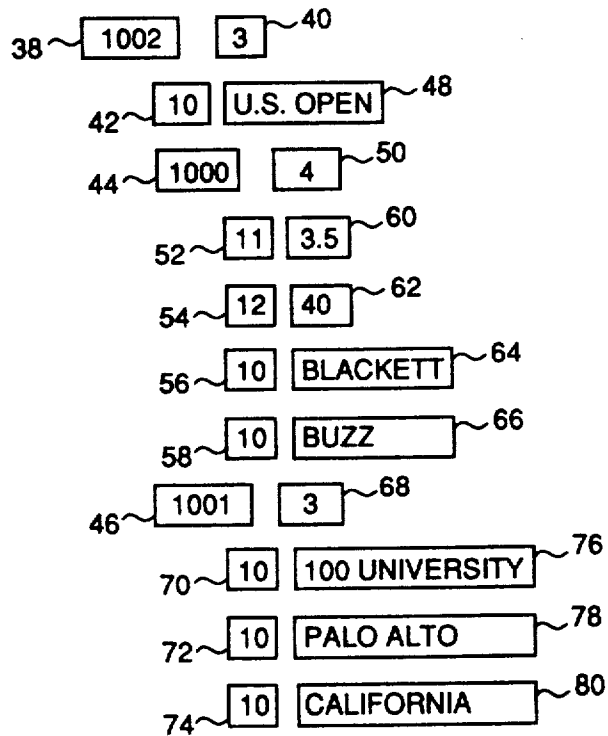


FIGURE 6

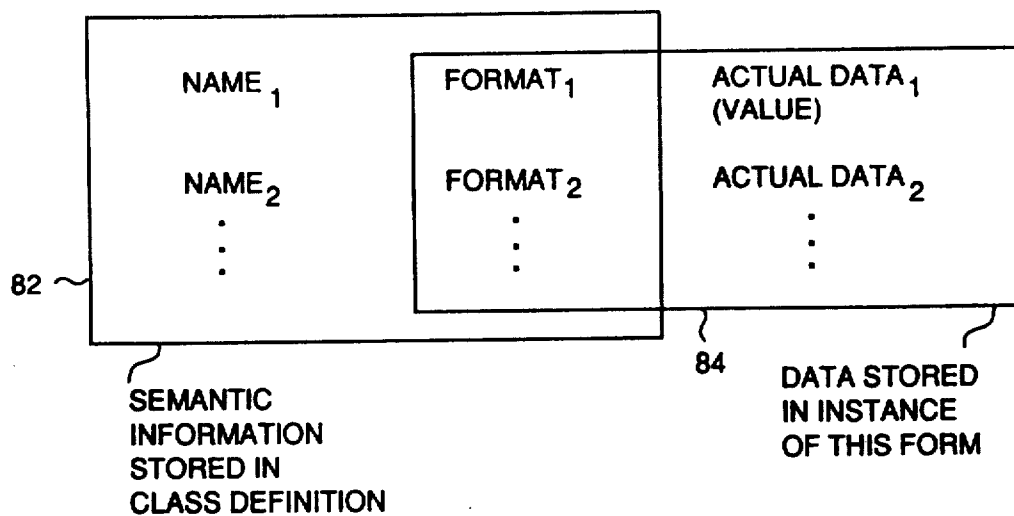


FIGURE 7

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