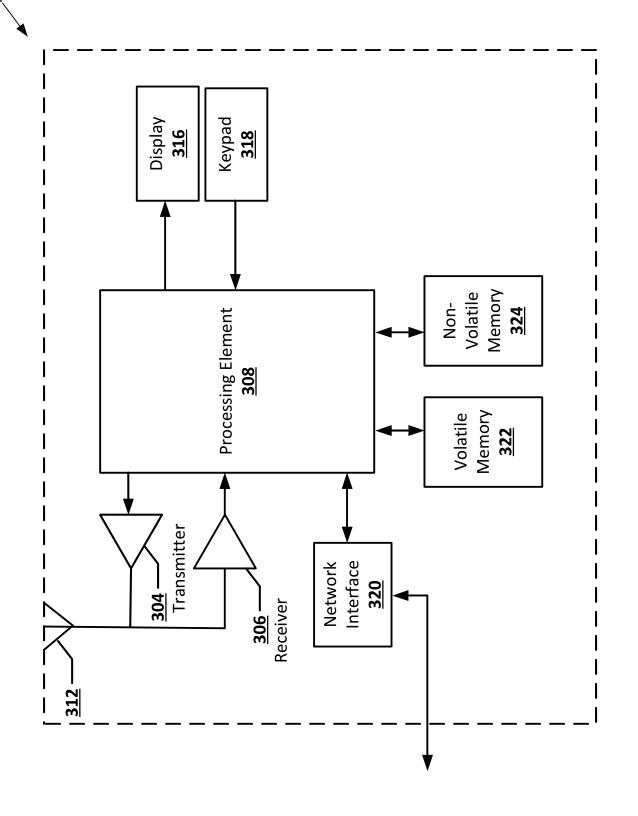


FIG. 1

<u>106</u>

FIG. 2



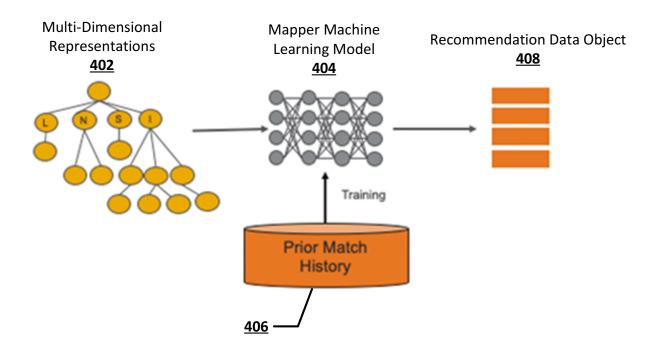


FIG. 4

Obtain canonical multi-dimensional representations for a plurality of canonical data element types that belong to a canonical schema

501

Identify an external data element type that belongs to an external schema

<u>502</u>

Generate an external multi-dimensional representation for the external data element type

<u>503</u>

Determine a predicted similarity score for each canonical data element type using a machine learning model configured to compare multi-dimensional representations

504

Generate and provide a recommendation data object indicating one or more mappings between the external data element type and one or more canonical data element types using predicted similarity scores

<u>505</u>

External Data Element Type **600**

602	DataElementName	IndividualFirstName				
	DataElementUri	http://marklogic.com/metadata-registry/data-element/individual-first-name.xml				
	DataElementObjectClassCode	Individual				
	DataElementAbstractIndicator	false				
	DataElementPropertyTermName	First				
	DataElementRepresentationTerm	Name				
604	DataElementDefinitionText	An Individual's First Name or Given Name				
	SubjectAreas	SubjectAreaCode		demographic		
	DataStewards	PrimaryStewardId ac			admin	
		AlternateStewardId			dmccrear	
	Approvals	Approval	ApprovalTypeCod	e		
			ApprovdeByUserId			
			ApprovalDateTime			
	DataElementStatistics	xml-schema-type	ml-schema-type		xs:string	

702 <sample-data> <fname>Alex</fname> <fname>Arun</fname> <fname>Dan</fname> <fname>John</fname> <fname>Ravi</fname> <fname>Susan</fname> </sample-data> 704 **Extracted Data Profile:** Datatype: String Average Length: 7.4 characters LengthStdDevLength: 4.2 Character Pattern: [a-z]

Canonical Data Element Types 802

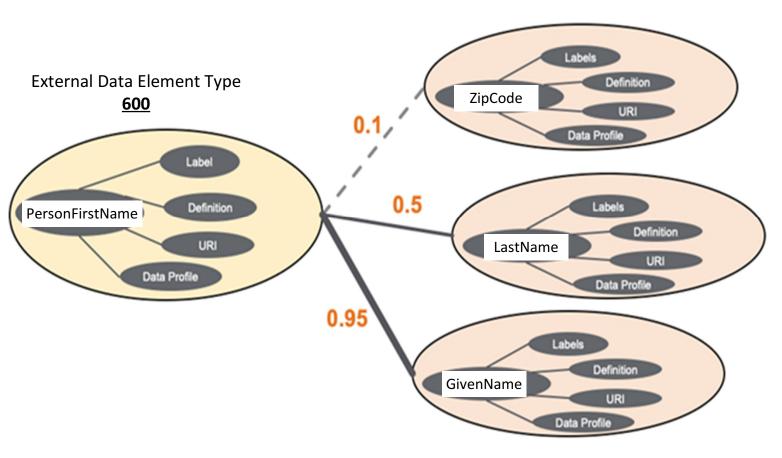


FIG. 8



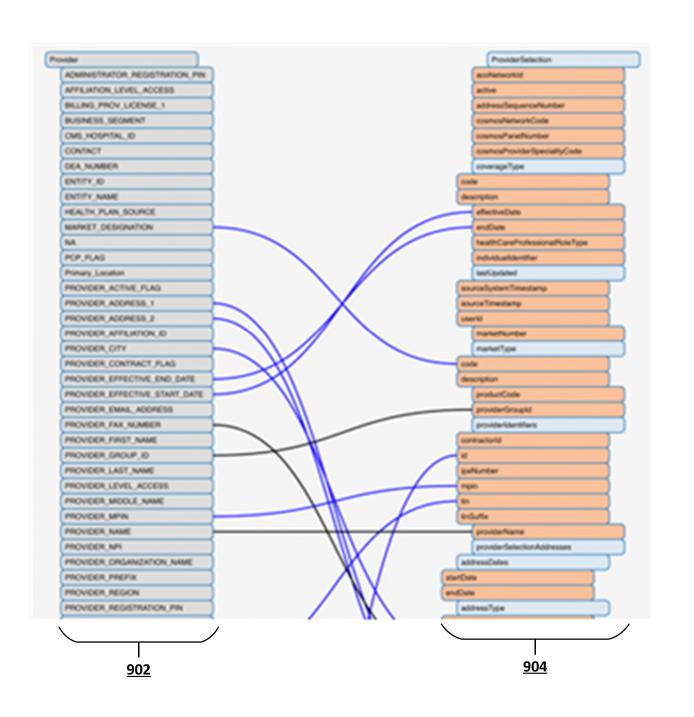


FIG. 9