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INTEGRATION OF THE MODELING VISUALIZE THE DATA GRAPH IN THE DATA WAREHOUSE CLOUD

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Abstract:

The information visualization in reports is a significant aspect of human-computer interaction, for both the accuracy and complexity of relations between data must be maintained. Visualization of individual reports with different kinds of graphs, such as Histograms and Pies has been paid greater attention. Moreover, There are different information items and no sustaintion to visualize their interrelationships that are highly important for most decision processes given by this type of indication. A design methodology is presented in this paper to extract the visual language [1] based on a logic pattern. QR Code allows to form the visualization through the QR (Quick Response) Code model which represents the relationships graphically between a view that a conceptual map and information items can be considered with. This design methodology proposes four phases: the MOLAP (Multidimensional On-Line Analytical Processing) Operation pattern and QR Code Modeling definition phases define the QR Code model and underlying metadata information, the MOLAP (Multidimensional On-Line Analytical Processing) Operation phase extracts data from a data warehouse physically and the final visualization generated by report visualization. Moreover, the real data of a case study is given.

Keywords: cognitive systems, information visualization, QR (Quick Response) Code model, MOLAP (Multidimensional On-Line Analytical Processing) reports, user interfaces, data and knowledge visualization

1. INTRODUCTION

Common results in a more compact QR (Quick Response) Code model Code that is quicker to debug and write. When creating high-performing visualization applications, compiled systems are necessary. Computer system resources are accessed by low-level access also offered by compiled systems [2]. We require that our system has the best interpreted and compiled approaches. We decided to develop high-level applications using the core computational objects using a compiled language and an interpreted language as results [3].

As researchers, we decided that the best way to complete this was to make the QR (Quick Response) Code model Code source easily available [4]. The expected this approach's benefits include the ability to better publicize our algorithms, collaborate with other researchers, build up credibility in the graphic and visualization fields, and offer tools for educational and research purposes [5]. We knew that there were valuable suggestions and bug fixes outside users to improve the systems. the efforts to use design patterns to improve the analytical visualization and productivity of development, the usage effectiveness in dynamic [6]. A new area that is presented to help visualization users and developers to better understand, develop, and utilize visualization tasks is called design patterns of visualizations [7]. Thus, nine design patterns of visualizations are described which surround many general practices and techniques used in the data visualization and analytical process [8].

The QR (Quick Response) Code's definition's primary purpose is to support a designer activity of the graphic representation of complex systems, by a development environment that facilitates the components abstraction process and interrelationship identification process, which are the basis for several decision activities. Information visualization was enhanced by a large document [9]. thought about the contributions of tar and beer tin for mapping and scientific visualization, and contributions by Card, Mackinlay, and Schneider collection man where they emphasize adopting visualization to explore relationships and connections. Besides that, many tools of software to aid the

operations of design, development, and management of various visualization approaches are available [10]. Graphical language supports the complex information's specification and design that offers a methodological approach, the designer is allowed to combine unambiguously the architecture as a language expression [11]. These expressions give the meta-information representation and allow for completeness and correctness verification concerning the initial specification, the last representation semantics of the experimenting process, and different views of changing [12].

The visualizations must describe what is happening in the system, how the behavior returns, transforms the structural relationships, and how the structure causes the behavior in the system. According to Tufte, (to understand is to know what cause provokes what effect, by what means, at what rate) [13]. Tufte analyzes the effect and cause relationships and discusses created several dynamic representations, and how knowledge about such concepts can be described graphically. He emphasizes the importance of making a closed link between cause and effect as well as time in data visual representations. He emphasizes the importance of being able to communicate graphically [14].

In the Two-Shower Model, the visualizations may cause the participants to monitor each other and help them understand that the effects of their decisions are connected. At the same time, their actions are shown on both screens, and this may help them determine whether other participants understood what something was said. The primary purpose of the visualizations is to assist the participants in the common understanding development process of the system [15]. This paper finds out softwood-dimensional diagrams mean the issues regarding continuity between their presentations of 3D objects. How the current pedagogical methods/media do not speed up demonstrations of relationships between observer, object, and representation, and how current attempts of using computer visualization do not leverage the computer environment's inherent characteristics [16]. Choosing better layouts among possible candidates to optimize the cost functions is used by simulated annealing. The approach applies to networks with a few hundred nodes only due to the computationally costly calculation of the layout. The authors showed that the algorithm works smoothly on scattered or planar graphs and clarifies the network structure as the method cost function places one another related node together [17]. Closed parts of the graph in the same area would be placed by this layout algorithm leading to many edge crossings. Moreover, as no reduction in the number of nodes or edges is carried out, the graph structure identification would be too hard for large graphs with many edges [18].

The augmented and virtual reality tools mentioned above are quite complicated and sophisticated owing to offering the potentiality of visualizing complex data in a virtual environment and may further simulate processes [19][20]. Moreover, they cannot integrate visualization, debugging, testing, and simulation efforts into one coherent workflow. This development paradigm is realized by vIsage, part of a tool chain. An individual operational activity in the system at a time, one would absolutely fall short in detecting the complex cause of erroneous behavior in most cases [21]. The entire related info representing communication among the individual parts and their internal processes should undoubtedly be under observation to monitor the whole system. vIsage offers the feasibility to visualize all network data packages that are exchanged and haphazard data about the single component's internal state [22].

2. RELATED WORK

The paper also gives a brief description of our approach for an ideal visual software engineering system that is centralized on both Program Visualization and Visual Programming. They discussed and took it as a new promising trending software engineering and the industrial systems targetted by this project need more complicated software development with high qualities in terms of reusability and maintainability, and a high-level conceptual model to this project target the industrial systems require more complicated software development with high qualities in terms of maintainability and reusability, and a high-level conceptual model to demonstrate the roles of the user, user interface, and visual program [23]. This paper discusses the features of the package. It is designed by merely making use of already Rand's existing functions and its graphics system and thus shows the extensibility of the Rgraphics system. Moreover, some examples on generated and provided by real worlds, as well as the source code and the help page of scatter plot 3rd [24].

Stoakley et al. used an interface for exploring large multi-dimensional databases in this paper, Polaris, that extends the Pivot Table interface. The Polaris novel appearance includes the capability to produce an accurate set of relational queries and interface for building the visual specifications of table-based graphical presents from the visual specifications. It was able to be incrementally and quickly developed, as they built complicated visualizations and queries that were given by the analyst [25].

Bederson et al. discuss the usability of concept data within a framework for program dynamic analysis. This work shows dual case studies requiring a large Java virtual machine (the popular Jikes RVM system) and a small Java program used in a previous research exercise. These studies detect dual applications of dynamic concept data: profiling and visualizations [26].

Leung et al. Discuss two different concept visualization styles: the concept execution sequence and the proportion of overall time spent on every concept, separately. The profiling study was concerned with the interaction between garbage collection and run-time compilation in Jikes RVM [27].

KhanIn their research, they were able to take on a substantial reduction in garbage collection time for some benchmark cases. They discussed how this phenomenon might overlap to enhance the scheduling of garbage collection in Jikes RVM [28].

3. PROPOSED SYSTEM

QR (Quick Response) Code ought to be used as a tool to efficiently establish the visualization for architectural structure. Besides that, QR(Quick Response) Code allows to resolution of managing the complexity of human limits, since it is a strict coding system for the visualized meta-information, then computerized processing [29]. To manage the parts of graphical visualizations by a representation in QR(Quick Response) Code as different items as a tool that supports the visualization operation. Then, it can improve the designer create imagination, by making architectural structure modification or parameters of visualization much simpler. However, it is possible that some computerized semantic visualizations by semantic analysis [31]. Thus, they can save the data graphical representations both in an image format and statement for formal syntactic in CoDe, which are more suitable inputs for data mining or information retrieval with computer algorithms. With these goals, there's a need to state the useful definitions to contrast the visualizations as illustrated in the following part.

For intermixed scenarios of learning or a traditional lecture, enrichment is adequate by this procedure. Moreover, AlgoViz can be exploited in a different situation. During software training the embedding frameworks implementations for the algorithms in focus, a less delightful but inevitable job. Besides that, in several cases, the framework takes most of the time with it. The participants of software training using a uniform framework as provided by AlgoViz, can focus on substantial parts of program development rather than rewriting frameworks.

4. CODE MODELING

Pseudo code is a lightweight simple language that permits core entity association data to be meticulously conveyed in a succinct format akin to languages already adopted. It is parsed to make up a model rendered to other languages like Java, and SQL, Pseudo code's syntax is very similar to that of Java. Considering Java, it is a set of objects communicating via invoking each other's methods. Our proposed system programming into flowing terms**:** objects have both states and behaviors, in them; an object represents a class instance that defines its attributes and actions it can perform. A class is like a blueprint that outlines the characteristics and behaviors of objects belonging to its type. Methods are essentially behaviors that a class can possess; various methods can be present, within a class where operations are defined, and data is managed. Each object maintains its set of instance variables that differentiate it from others in the class. The condition of an object is determined by the values given to these variables within it.

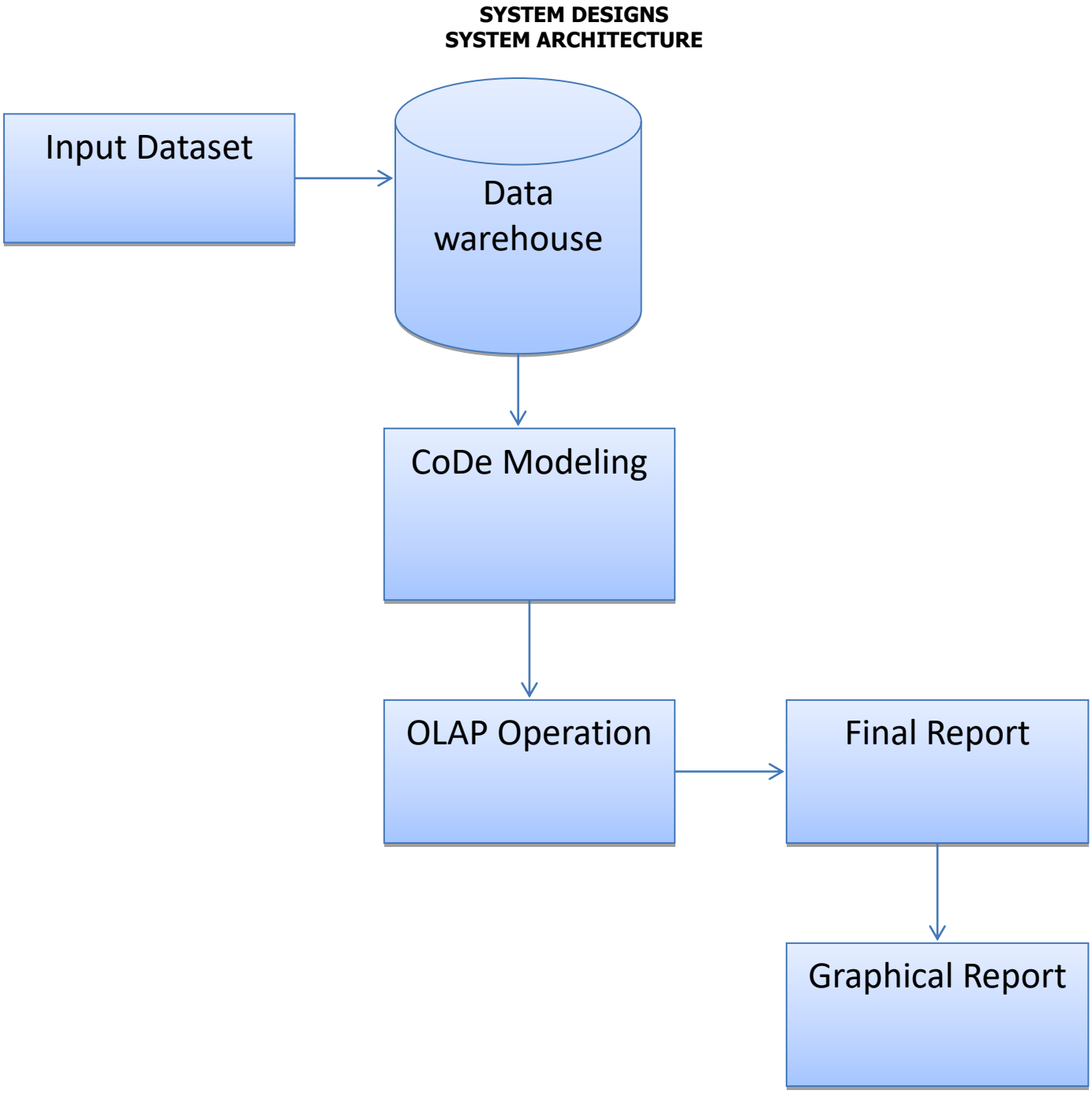


Figure .1 Illustrated system architecture for system design

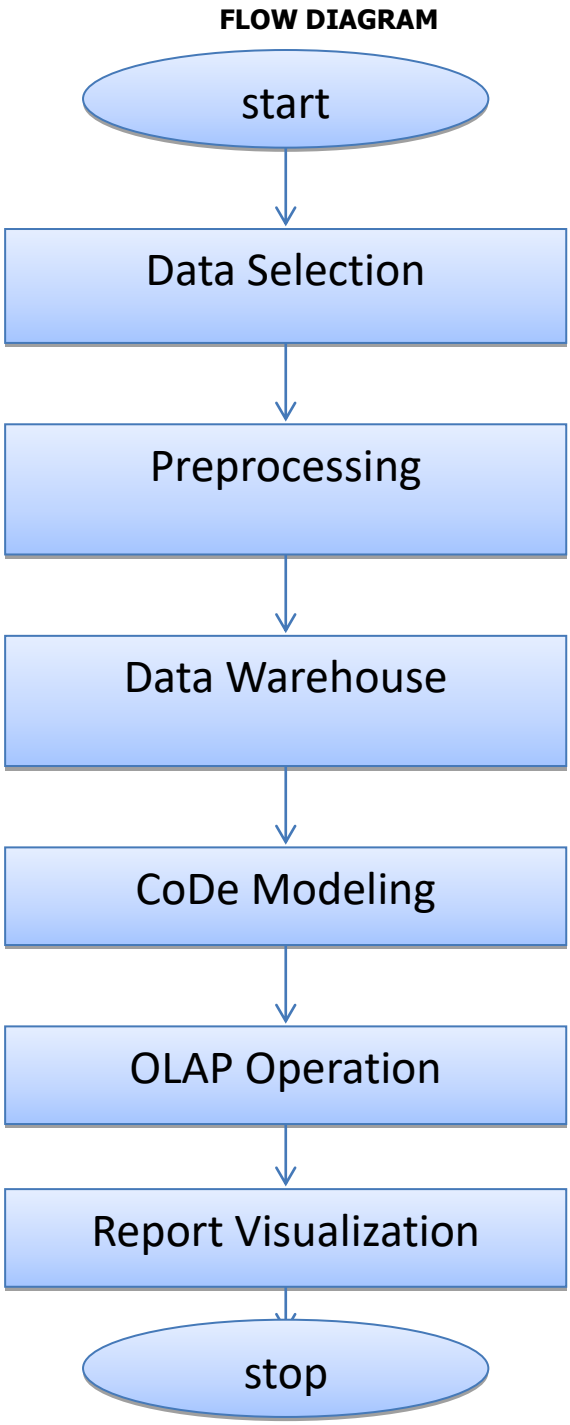


Figure .2 Showing flow diagram for module description

5. MODULES

- Data Collection
- Data Warehouse Creation
- QR (Quick Response) CodeModeling
- MOLAP (Multidimensional On-Line Analytical Processing) Operation
- Report Visualization

6. MODULES DESCRIPTION

- **Data Collection**

The module involves for usage of simulated data and the collection of data needed to predict the future. Data consist of several forms and are formulated with real-world data sets and may be in improper format manner. Maybe cleansing of collected data by the operations are performed on data to be processed including

preprocessing of data in the specified format. Data collection involves on collection of huge data to be converted for preprocessing in the native language. A specific format for the collection that is integrated by operations for collection data from which proper predictions are made, as shown in Figure 3.

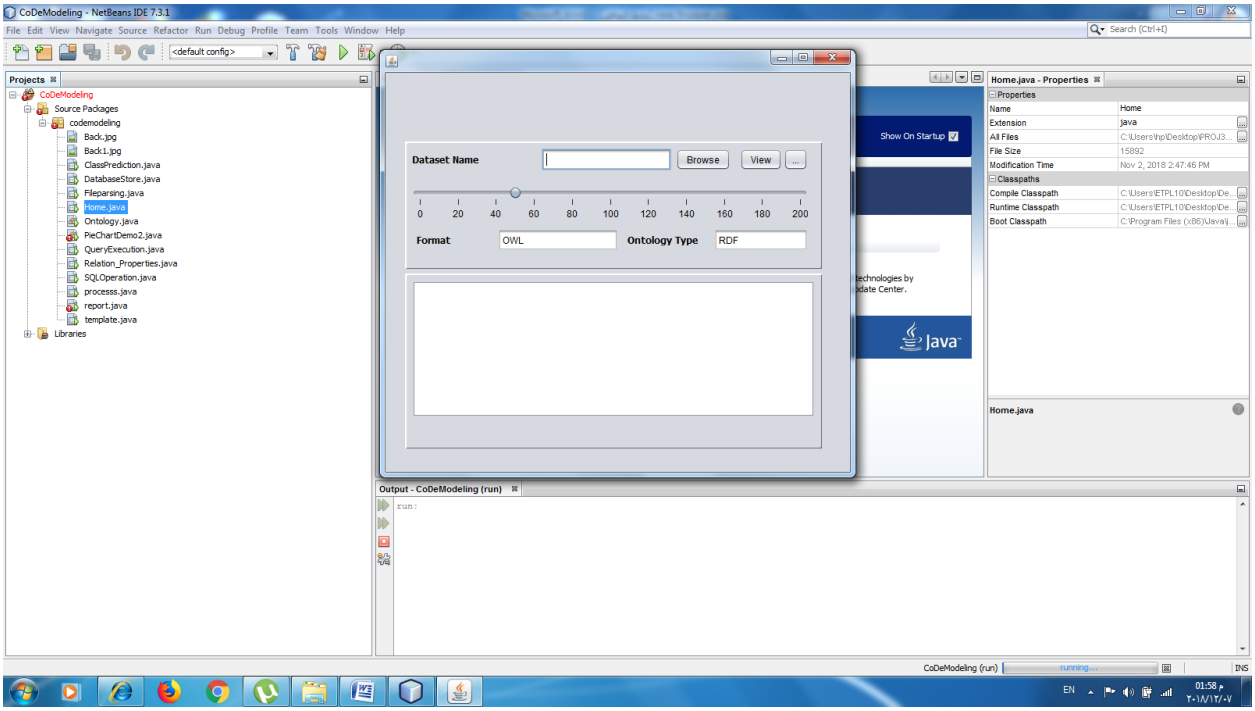


Figure.3.a . showing the type of dataset which be selected

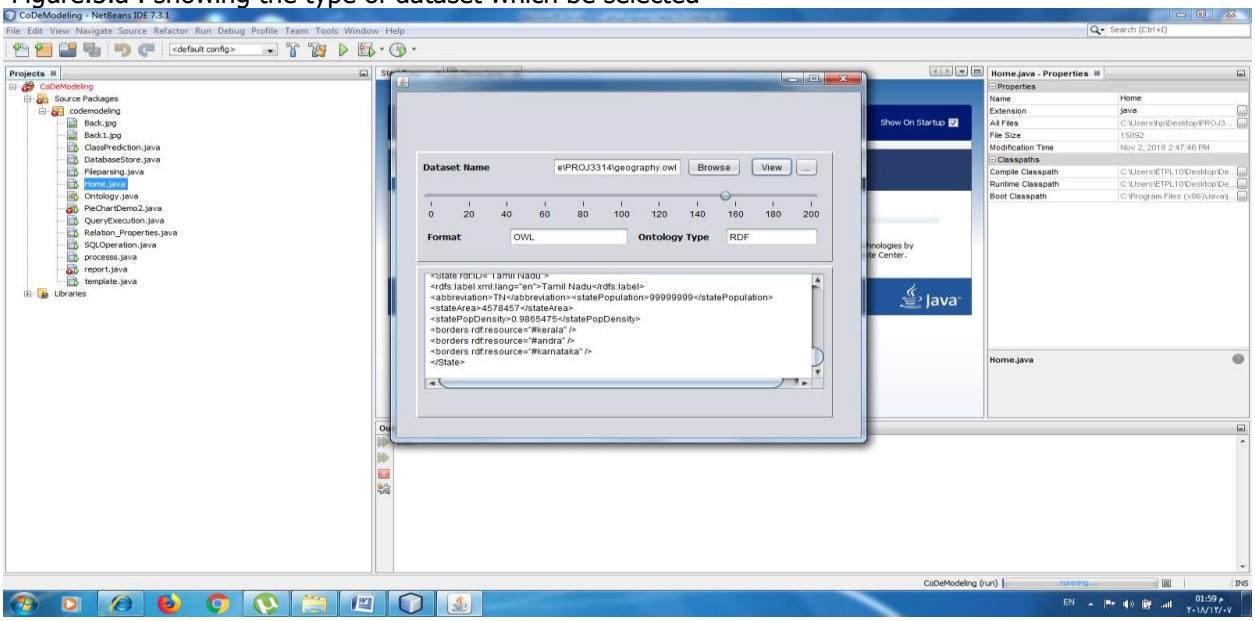


Figure.3. b. Illustrated the geographical data which upload to the data warehouse

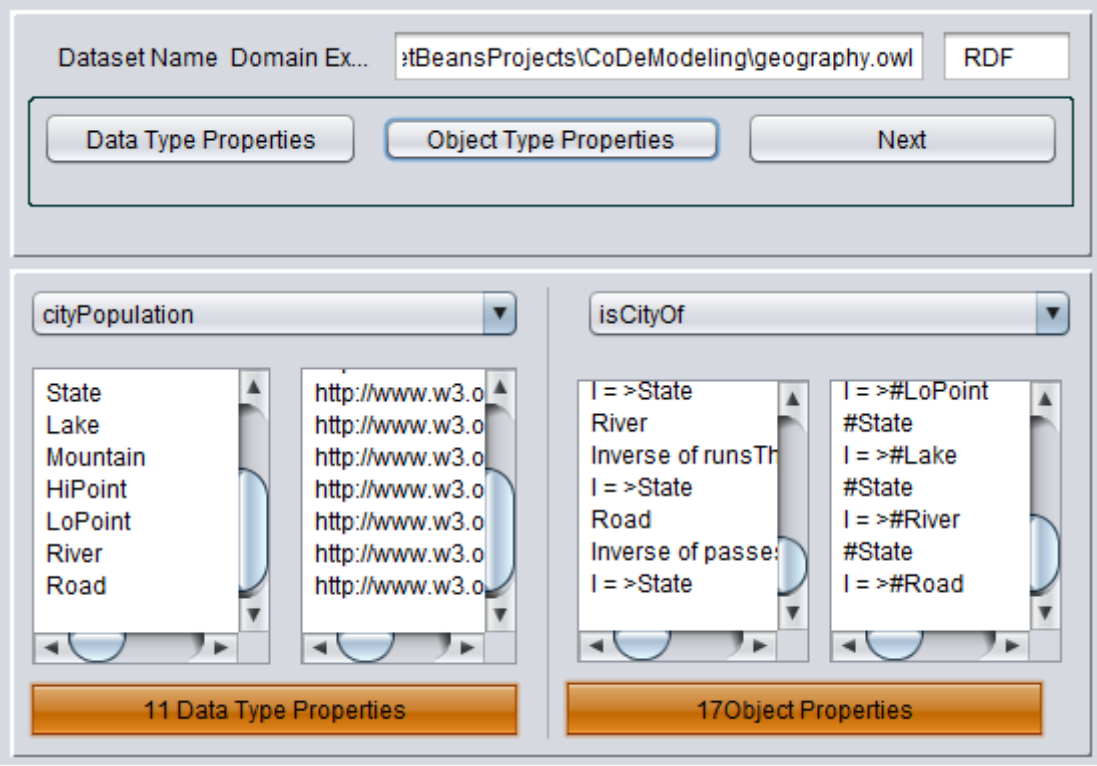


Figure.3. c. Explain the properties of geographical datasets in the data warehouse

- **Data Warehouse Creation**

In collection of data, collected from various sources may consist of separate hosts used in various formats. Various formats of data to be converted into a single integrated format on a system from a data warehouse. Information can be retrieved at any time when warehouse consists of a single interface for data. Separate schema warehouse based on the processing format and data to be retrieved and processed. Data in the warehouse produces needed information for simulated predictions that are performed by integration. As shown in Figure4.

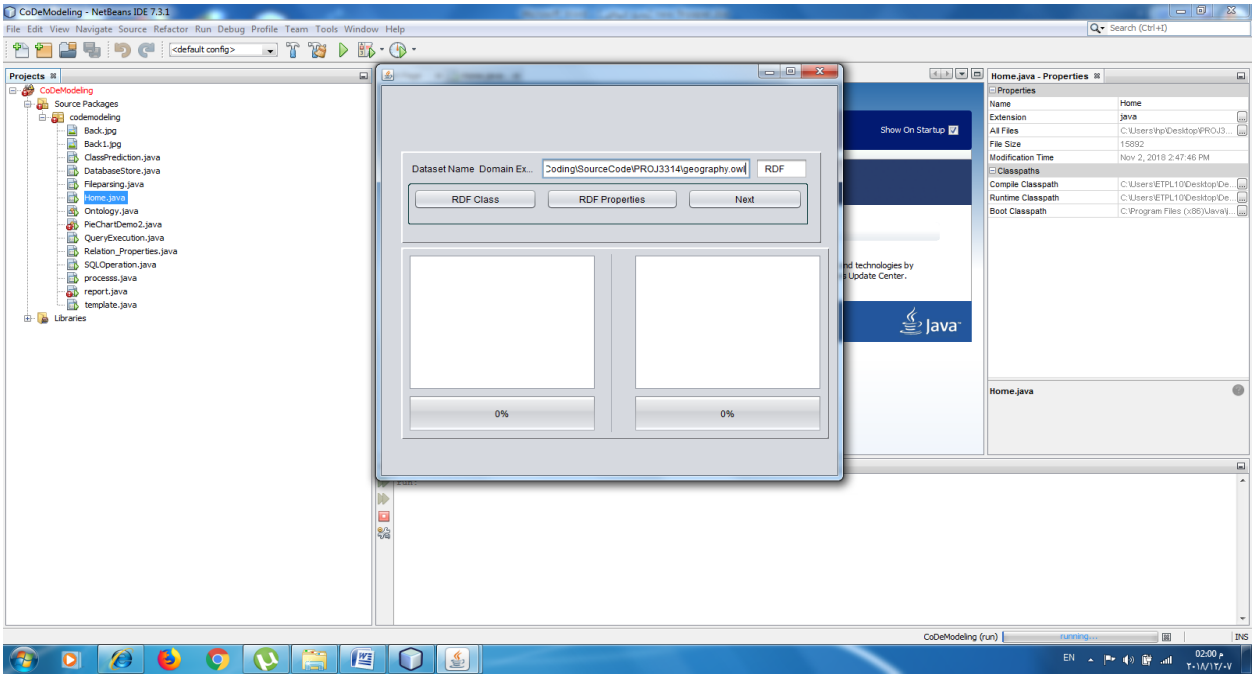


Figure .4. a. Showing the dataset name domain in the data warehouse

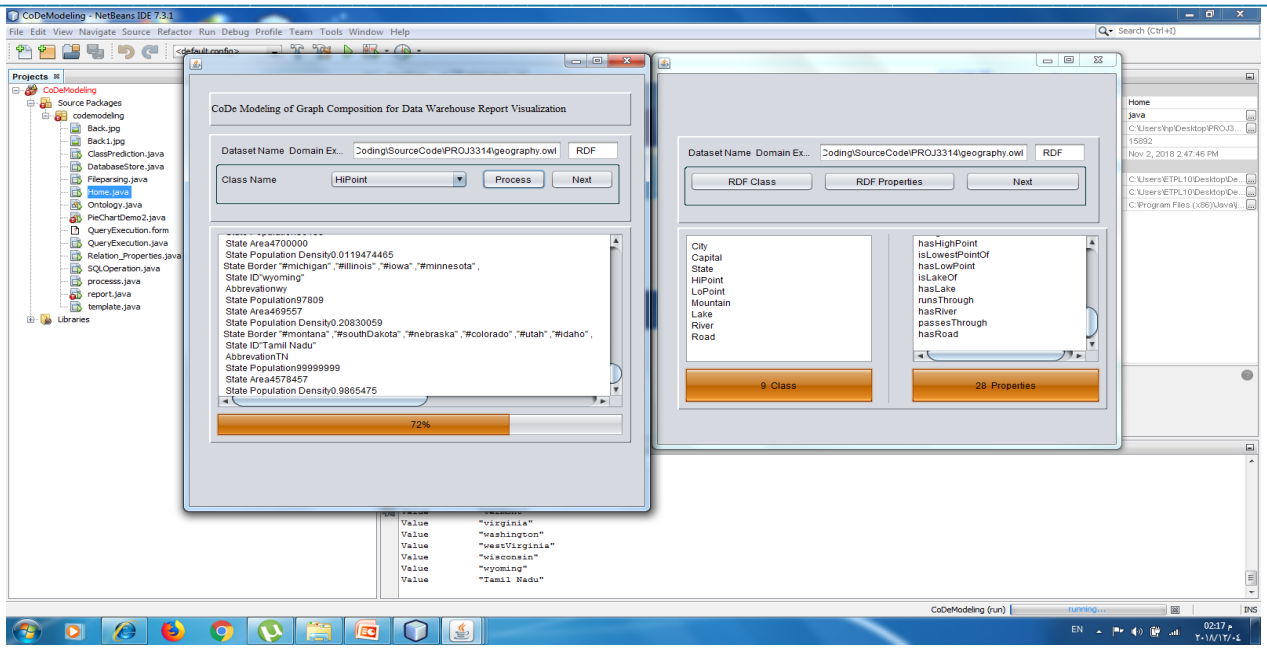


Figure.4. b. showing the class type and the properties for each class that has been selected.

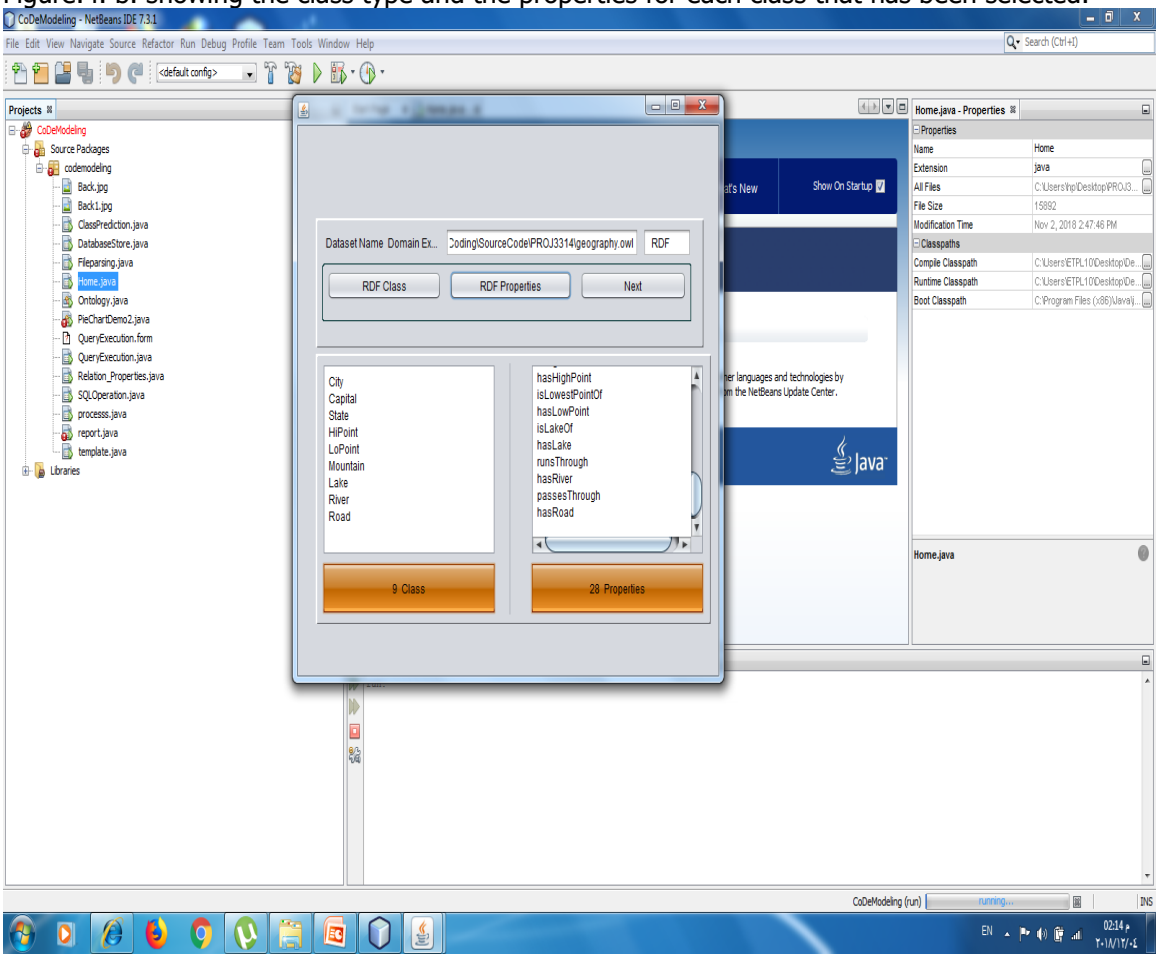
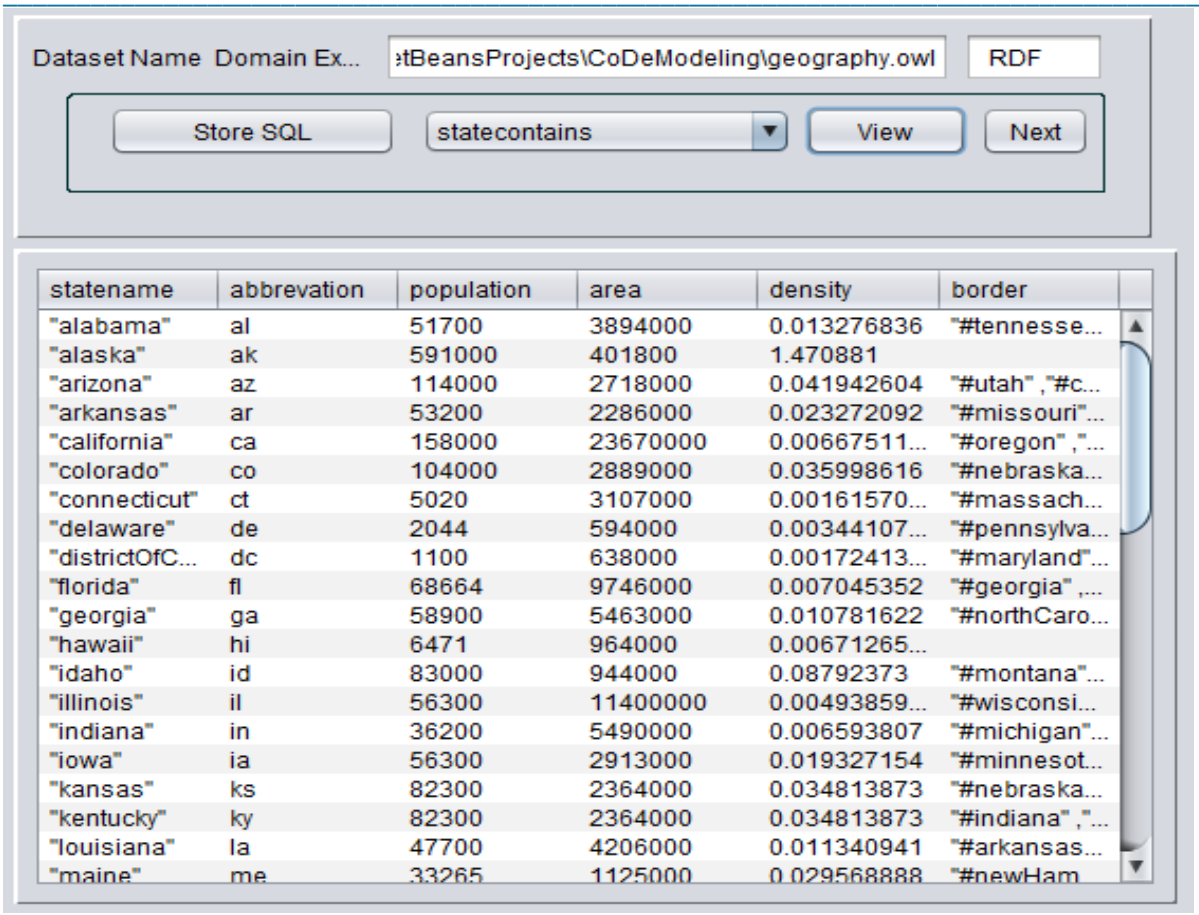


Figure 4 . c . upload selected classes and their properties in data warehouse visualization.



statename	abbrevation	population	area	density	border
"alabama"	al	51700	3894000	0.013276836	"#tennesse...
"alaska"	ak	591000	401800	1.470881	
"arizona"	az	114000	2718000	0.041942604	"#utah" ,"#c...
"arkansas"	ar	53200	2286000	0.023272092	"#missouri"...
"california"	ca	158000	23670000	0.00667511...	"#oregon" ,"...
"colorado"	co	104000	2889000	0.035998616	"#nebraska...
"connecticut"	ct	5020	3107000	0.00161570...	"#massach...
"delaware"	de	2044	594000	0.00344107...	"#pennsylva...
"districtOfC...	dc	1100	638000	0.00172413...	"#maryland"...
"florida"	fl	68664	9746000	0.007045352	"#georgia" ,...
"georgia"	ga	58900	5463000	0.010781622	"#northCaro...
"hawaii"	hi	6471	964000	0.00671265...	
"idaho"	id	83000	944000	0.08792373	"#montana"...
"illinois"	il	56300	11400000	0.00493859...	"#wisconsi...
"indiana"	in	36200	5490000	0.006593807	"#michigan"...
"iowa"	ia	56300	2913000	0.019327154	"#minnesot...
"kansas"	ks	82300	2364000	0.034813873	"#nebraska...
"kentucky"	ky	82300	2364000	0.034813873	"#indiana" ,"...
"louisiana"	la	47700	4206000	0.011340941	"#arkansas...
"maine"	me	33265	1125000	0.029568888	"#newHam

Figure.4. d. showing the description type of the dataset uploaded in data warehouse visualization.

- **QR(Quick Response) CodeModeling**

Warehouse separate QR (Quick Response) Codemodel generated for processing formed based on the retrieved data. QR (Quick Response) Codemodel produced the process to be done in visualization format on data. The report generated by warehouse processing to the specified composition process that produced by graph elements. Comparisons are generated on the system of reports for every data and promote system accuracy. Separate time-based evolutions are provided for several users who need the same topic mood. As shown in Figure 5.

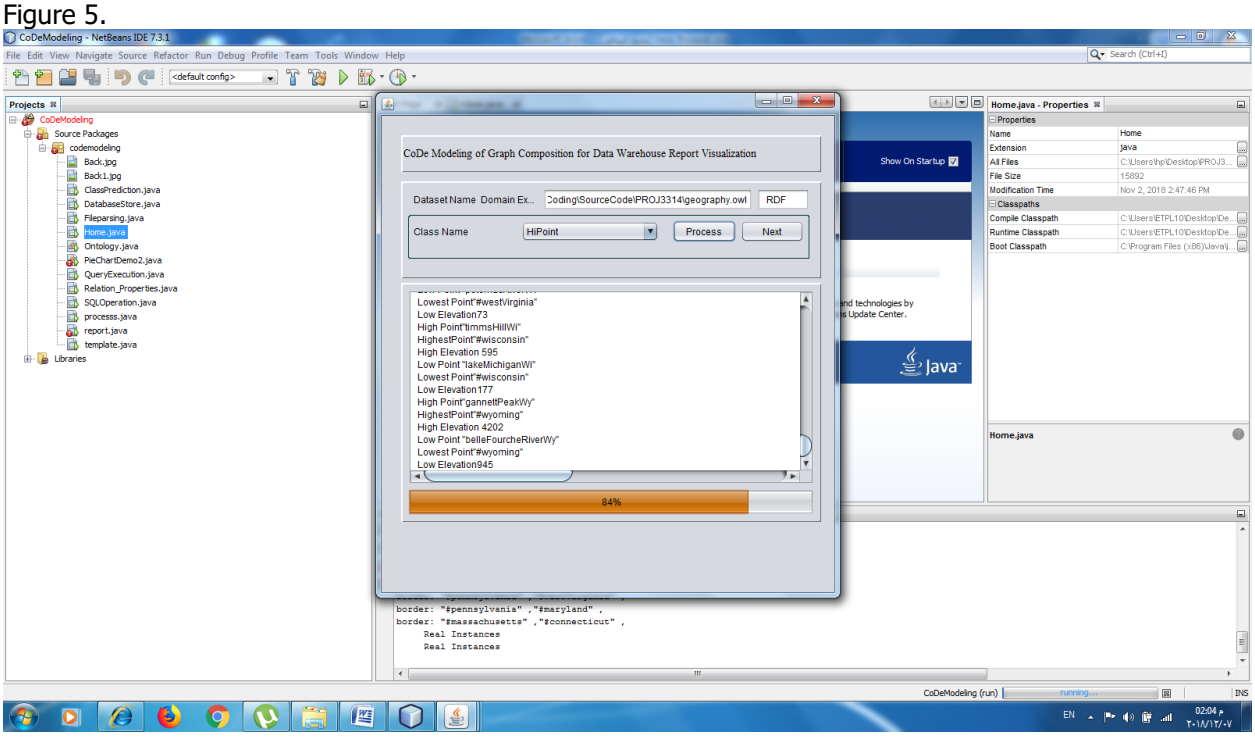


Figure 5 . a. showing the integration CoDe Modeling of graph composition for data warehouse report visualization.

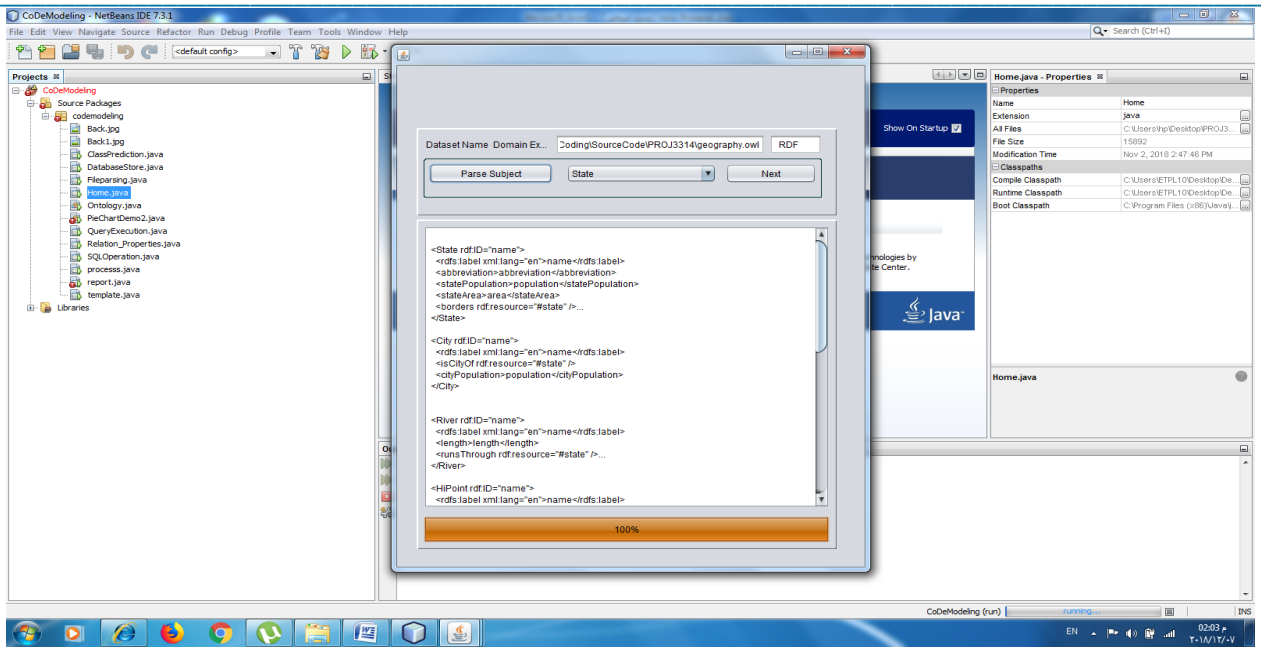


Figure 5. b. ilustreated the complete integration CoDe Modeling of graph composition for data warehouse report visualization.

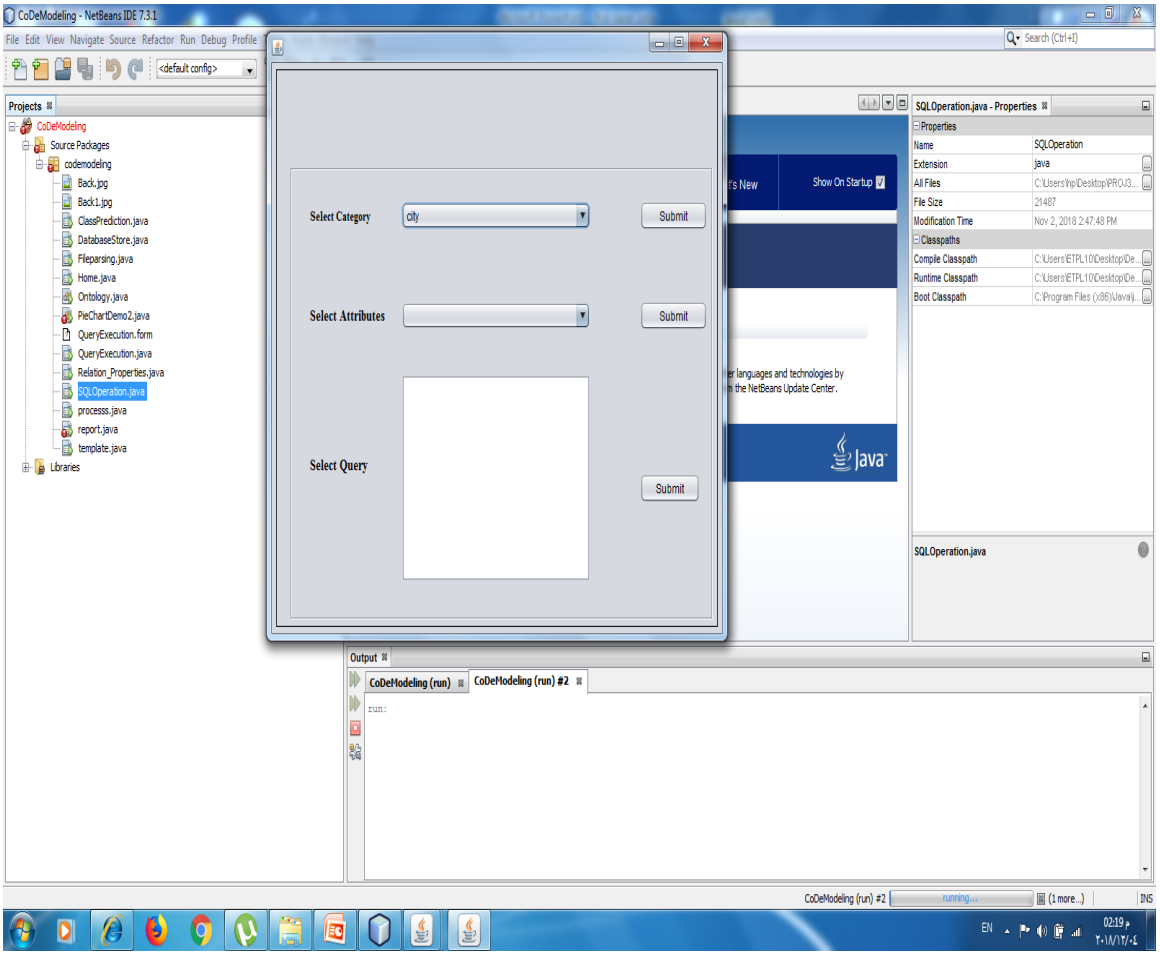


Figure 5. c. illustrates the query execution (SQL) file of the dataset in data warehouse.

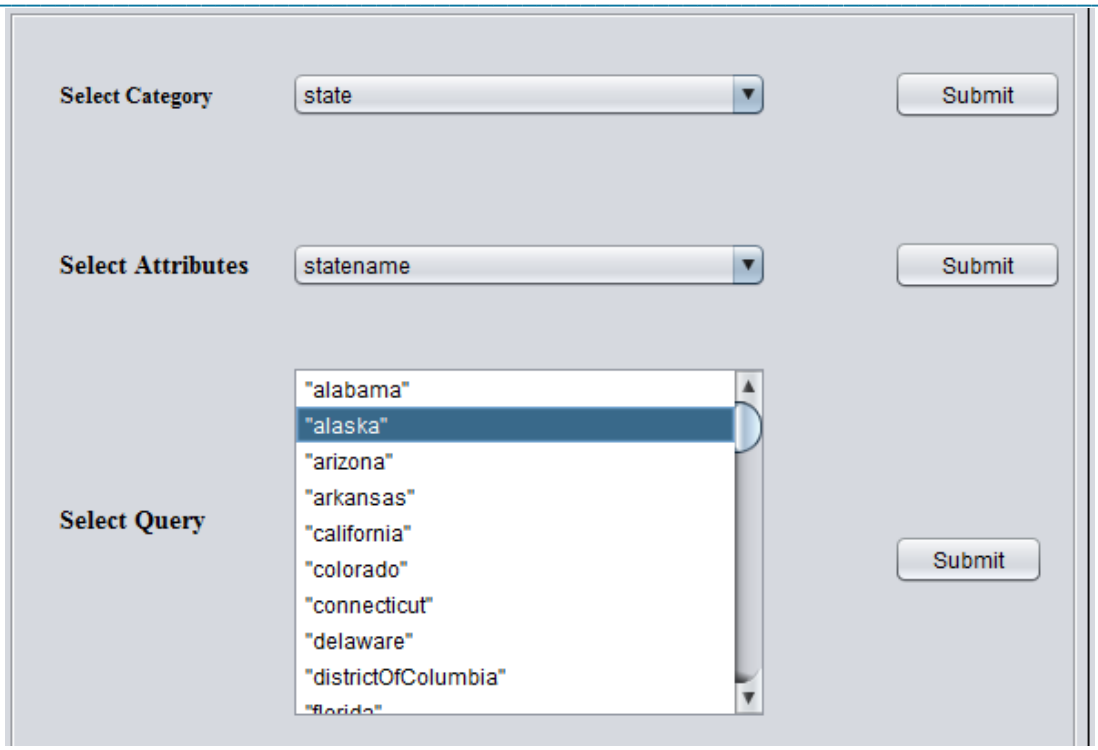


Figure 5 . c. determines the query of selected category area and attributes that submitted in the data warehouse.

- **MOLAP Operation**

In the world of data analysis and processing technology lies MOLAP. A system that delves directly into databases for quick insights and access, to information nuggets stored within them. Imagine painting a picture of your data landscape where you can effortlessly explore angles like sales trends over periods or across different regions and product categories. That's the magic of MOLAP at play. When data resides in a database setup of a multidimensional one, like MOLAP offers the advantage of swiftly navigating through diverse dimensions to dissect and analyze data sets comprehensively but typically involves some repetitive querying and processing steps. The process of MOLAP involves analyzing data that is already organized in an array where all potential data combinations are represented in cells that are easily accessible (refer to Figure 6)

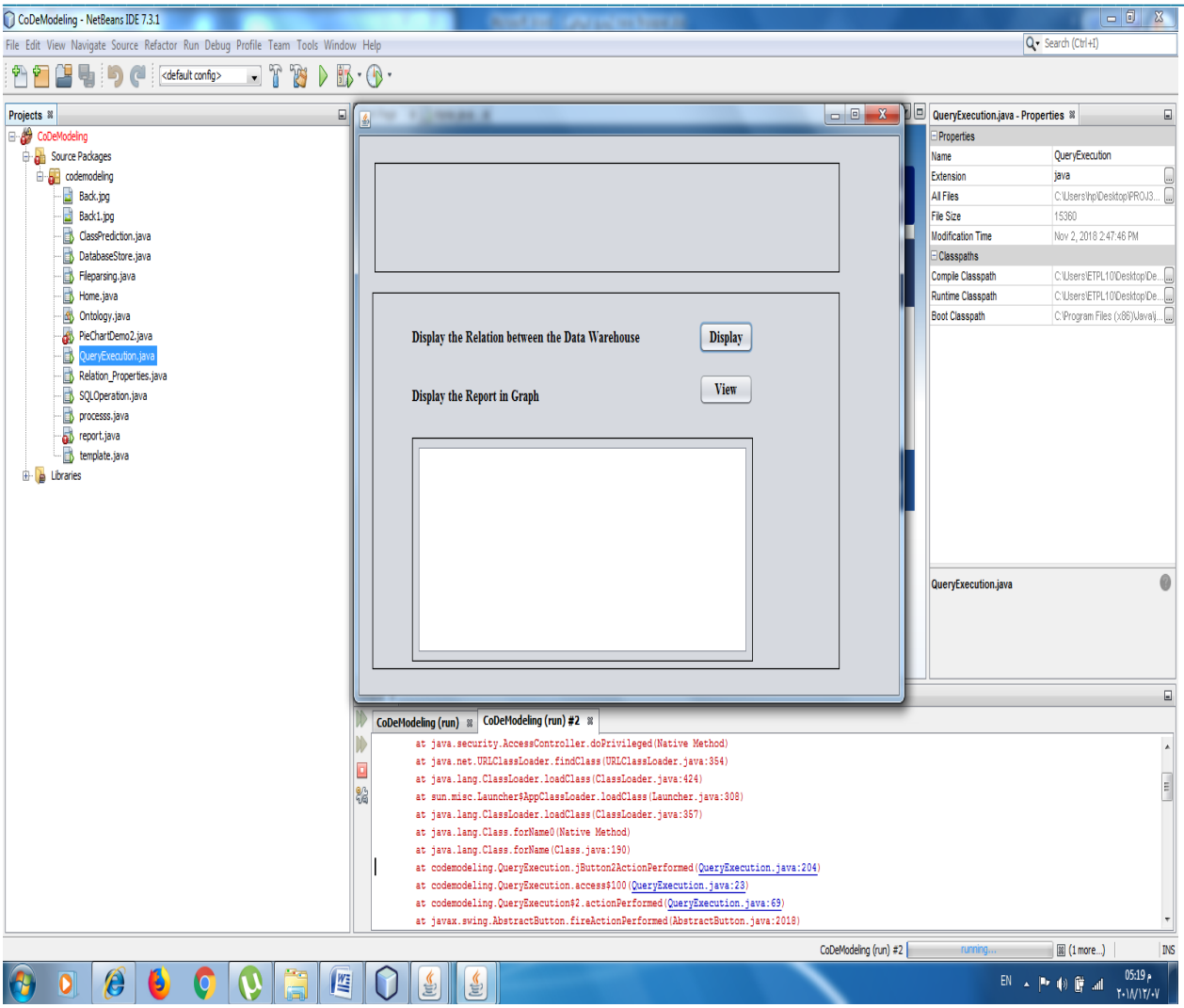


Figure 6. Illustrated relations display between the data warehouse

- **Report Visualization**

  The analysis of time-oriented data facilitated by providing proper methods is a fundamental obstacle in numerous application domains. Combining analytical and visual methods has turned to be a vital issue increasingly. The main problem and dynamic updates supported by user-centered visual analysis should be done. Space and time complexities are clearly provided and dynamic updates are obviously made.as shown in Figure 7.

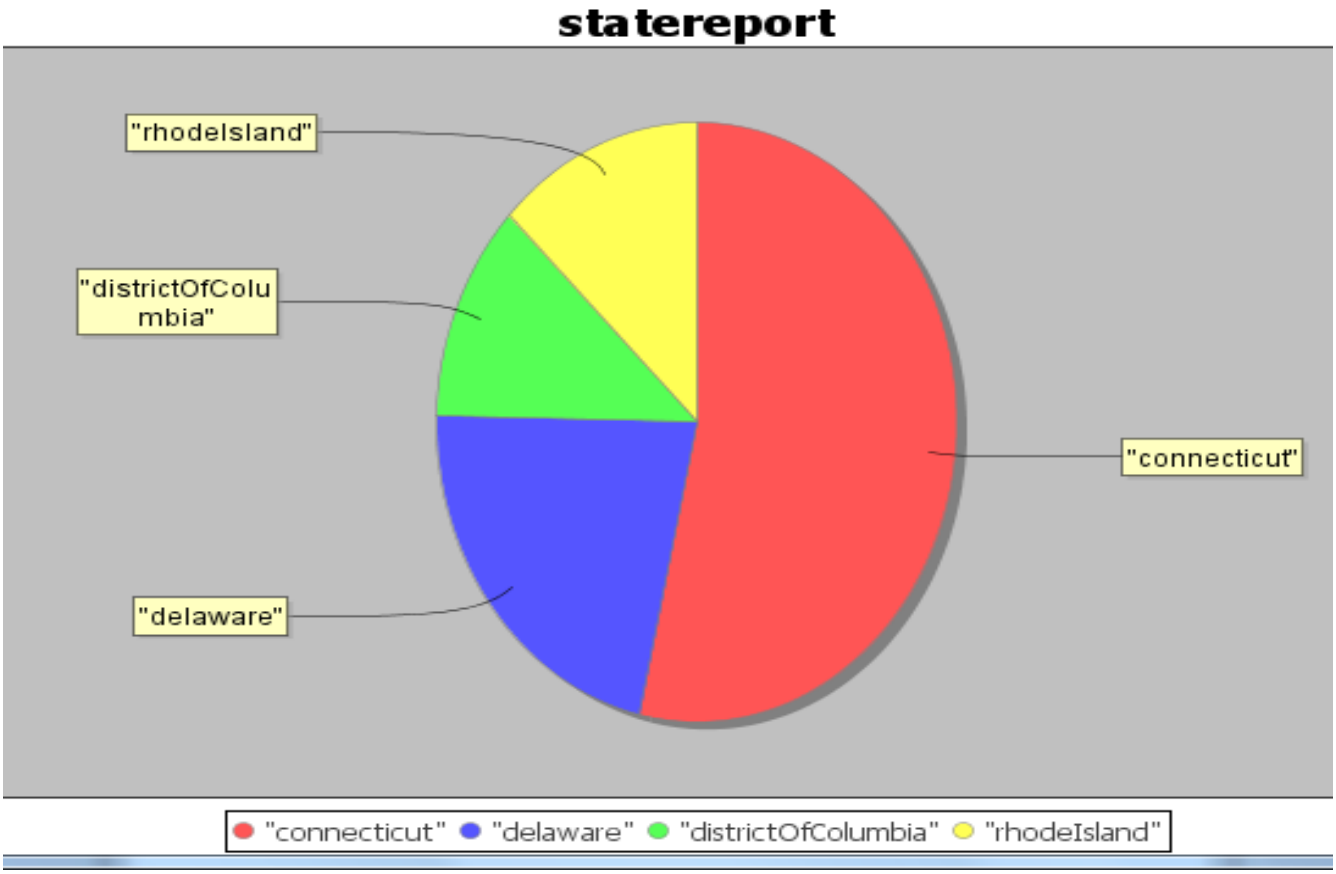


Figure 7. Showing a report visualization for data graph in the data warehouse cloud

CONCLUSION

Study activity concerning the graphical language QR (Quick Response) Code used in data mining and data warehousing is in action, remaining in the decision systems field. It is possible to link the data warehouse comes to a graph module. Based on the properties of the graphical language in the last section, perhaps that could premeditate the activators as a visual function for cube composition. Hence, we target at use of QR (Quick Response) Code as a tool to describe the information recovered with a graphic representation structure from a data warehouse. It is to be highlighted in such terms that we obtain information in technical view, but undefinable as a machine learning technique or data mining. Moreover, to be able to take advantage of the operators and modules displaying as a backing for the abstraction process guiding to a complex system with relevant identification and for the identifiying process of components between relationships in an interactive environment by considering the language. Humans conducted both processes underlie many decision activities.

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