Veteran Health Affairs and Compensation

Team Name: WebScrapers

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Type of Project: Custom Project

1. INTRODUCTION

Veteran Health Affairs and Compensation is a annual report that shows the veteran health facilities and compensation for major programmatic areas by geographical state wise and age group distribution. The major programmatic areas are: Compensation and Pension, Emergency health care facilities (ICU and Emergency Beds) and staff availability.

The Compensation and Pension by County dataset represents the number of veterans qualified and are receiving disability compensation or pension payment from Department of Veterans affairs. The datasets under consideration represents the quality of care based on hospital settings, availability of services and medical center staffing. The dataset represents the geographical distribution of expenses by State for Veteran Affairs.

2. TARGET AUDIENCE

Datasets 1152 and 1210 were helpful in getting total veteran population, ICU and emergency beds for every state. Veterans' health administrative department can analyze and understand the availability of emergency services, identify whether emergency facilities are in proportion to the veteran population in each state for year 2008 and if any improvements are to be made.

Datasets 1205 and 1212 were helpful in getting number of Inpatients, Outpatients, hospital staff (physician, nursing, and professionals) for each state. Veterans' health administrative department can analyze and understand the availability of medical staff, identify whether physician, nursing and professionals are in proportion to the number of veteran patients in each state for year 2008 and if any improvements are required.

Datasets 1210 and 1212 were helpful in getting number of Inpatients, ICU and emergency beds for every state. Veterans' health administrative department can analyze and understand the quality of emergency care, identify whether emergency facilities are in proportion to the number of inpatients in each state for year 2008 and if any improvements are to be made.

Datasets 1537 and 1538 were helpful in obtaining total compensation and pension trend of the veterans in 2 years for every state. This helps us in identifying an increase/decrease in expenditure values of the two years. This also helps the Veteran affairs department in predicting the expenditure for the upcoming years.

Dataset 1538 helps us in knowing about the total number of veterans receiving compensation and pension in specified age groups. The veteran's affairs department can use this information to identify in a state, which ages of people get the highest compensation and pension and also among all the states in which state and between which age's people are getting highest compensation and pension. So, this information gives a detailed analysis of compensation and pension to the veteran affairs department.

3. DESCRIPTION OF DATA SOURCES

Datasets under consideration are:

Dataset 1537: http://data-gov.tw.rpi.edu/raw/1537/data-1537.rdf (53488 triples)

Dataset 1538: http://data-gov.tw.rpi.edu/raw/1538/data-1538.rdf (53488 triples)

Dataset 1210: http://data-gov.tw.rpi.edu/raw/1210/data-1210.rdf (1534 triples)

Dataset 1212: http://data-gov.tw.rpi.edu/raw/1212/data-1212.rdf (1554 triples)

Dataset 1205: http://data-gov.tw.rpi.edu/raw/1205/data-1205.rdf (1257 triples)

Dataset 1152: http://data-gov.tw.rpi.edu/raw/1152/data-1152.rdf (44007 triples)
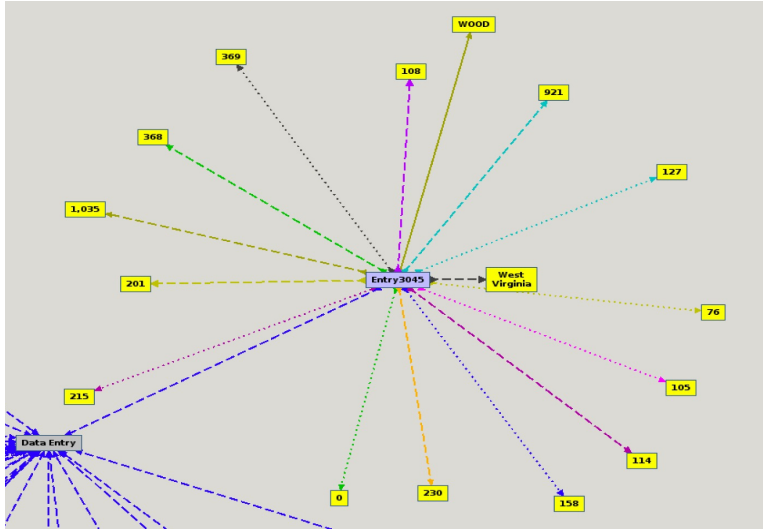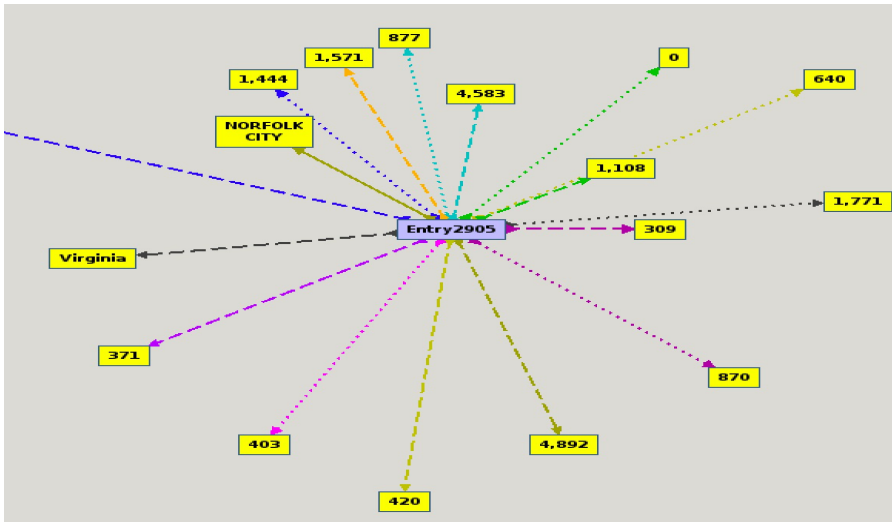

Figure 1: Triples in DATASET 1537

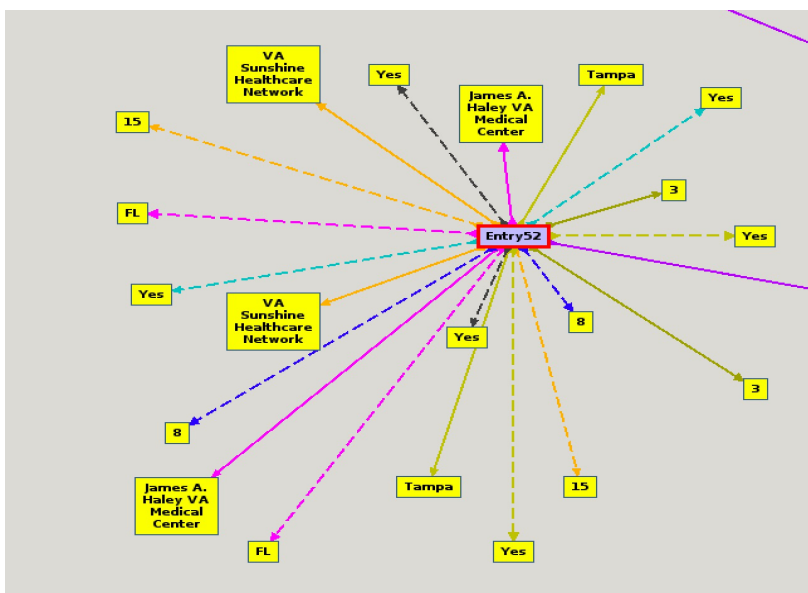*Figure 2: triples in DATASET 1538*

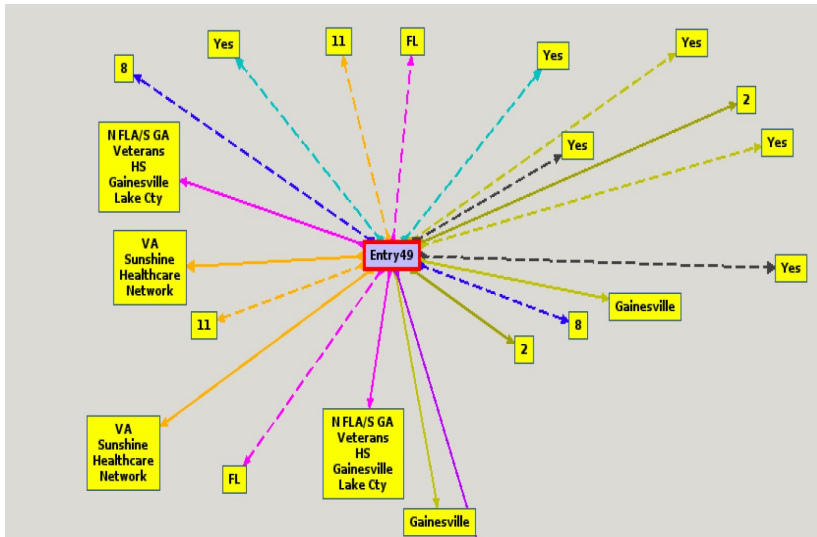

Figure 3: Triples in DATASET 1205
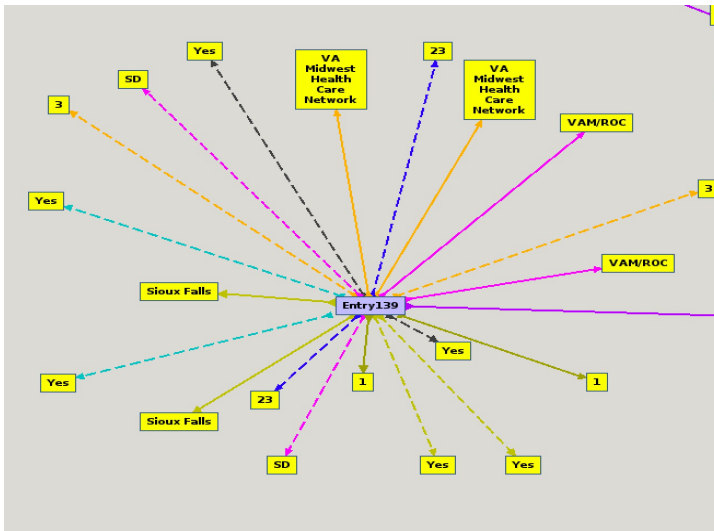
Figure 4: Triples in DATASET 1210
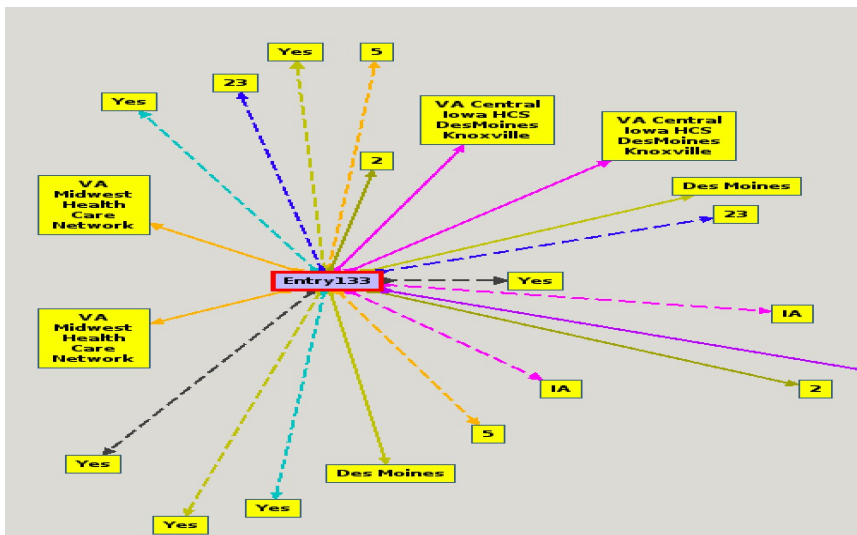

Figure 5: Triples in DATASET 1212

Figure 6: Triples in DATASET 1152

4. DATA INTEGRATION

Different datasets have useful attributes which would help us in our analysis and prediction. These datasets can be integrated to get more useful information. To perform this analysis, the above datasets from Data-govsite are uploaded to Fuseki server.

Apache JENA Fuseki: SPARQL server. Provides REST-style SPARQL HTTP Update, SPARQL Query, and SPARQL Update using the SPARQL protocol over HTTP.

COMBINING DATA:

   a) Datasets 1152 and 1210: When integrated we get the overall information on the veteran population and number of ICU and emergency beds for each state.
   b) Datasets 1205 and 1212: When integrated we get the overall information on the number of veteran patients and medical center staff for every state.
   c) Datasets 1210 and 1212: are integrated to get the overall information on the number of veteran inpatients and emergency health care facility for every state.
   d) Datasets 1537 and 1538: are integrated to get the overall information of total pension and compensation for veterans in years 2007 and 2008 for every state.
   e) Datasets 1538: is used to get the information of number of veterans receiving compensation for each age group irrespective of state.

Attributes:
Dataset 1152,1210:

Attribute	Description
veteran_population	total population of the veterans in every state
State	state's name
intensive_care_unit_class	Number of ICU's in each facility
emergency_room_beds	Number of emergency beds in each facility

Dataset 1205,1212:

Attribute	Description
inpatient	total number of inpatients
outpatient	total number of outpatients
staffing_physicians	number of staffing physicians in each facility
staffing_nursing	number of staffing nursing in each facility
staffing_other_health_professionals	number of other medical staff in each facility
State	state's name

Dataset 1212,1210:

Attribute	Description
inpatient	Number of veteran inpatients in every facility
State	state's name

intensive_care_unit_class	Number of ICU's in each facility
emergency_room_beds	Number of emergency beds in each facility

Dataset 1537,1538:

Attribute	Description
State	state's name
Total_c_p	Total compensation and pension for veterans for each state in year 2007
Total_c_p	Total compensation and pension for veterans for each state in year 2008

Dataset 1538:

Attribute	Description
compensation_30	Number of people receiving compensation below age of 30
compensation_30_50	Number of people receiving compensation between ages of 30 and 50
compensation_60_90	Number of people receiving compensation between ages of 60 and 90
compensation_100	Number of people receiving compensation above age of 100
State	state's name

5. DATA PRODUCT RESULTS:

SPARQL Queries:

The data is being integrated using the "**state**" property in every dataset. The SPARQL queries shown below are executed in FUSEKI server's on " http://localhost:3030/sample/sparql " sparql endpoint and the corresponding results are retrieved:

a) Comparison of veteran population with number of ICU and emergency beds in given time frame
Query 1:

PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX voc1:<http://data-gov.tw.rpi.edu/vocab/p/1202/>
PREFIX voc2:<http://data-gov.tw.rpi.edu/vocab/p/1150/>
PREFIX g:<http://localhost:3030/sample/data/>
SELECT distinct
(SUM(xsd:decimal(?pop)) AS ?population) (SUM(xsd:decimal(?noICU)) AS ?ICU)
(SUM(xsd:decimal(?noEB)) AS ?EmergencyBeds) ?state
FROM NAMED <http://localhost:3030/sample/data/data1152>

FROM NAMED <http://localhost:3030/sample/data/data1210>
WHERE {
GRAPH g:data1152{
?s voc2:veteran_population ?pop.
?s voc2:state ?state.   }
  GRAPH g:data1210 {
?s1 voc1:intensive_care_unit_class ?noICU.
?s1 voc1:emergency_room_beds ?noEB.
?s1 voc1:state ?state.   }
} group by ?state order by ?state

Result: This output shows the veteran population, ICU, and Emergency Beds in each state.

```
{
  "head": {
    "vars": [ "population" , "ICU" , "EmergencyBeds" , "state" ]
  } ,
  "results": {
    "bindings": [
      {
        "population": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "74556.63" } ,
        "ICU": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "0" } ,
        "EmergencyBeds": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "0" } ,
        "state": { "type": "literal" , "value": "AK" }
      } ,
      {
        "population": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "1250841.03" } ,
        "ICU": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "268" } ,
        "EmergencyBeds": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "1005" } ,
        "state": { "type": "literal" , "value": "AL" }
      } ,
      {
        "population": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "524748.62" } ,
        "ICU": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "225" } ,
        "EmergencyBeds": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "1800" } ,
        "state": { "type": "literal" , "value": "AR" }
      } ,
      {
        "population": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "1702894.95" } ,
        "ICU": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "60" } ,
        "EmergencyBeds": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "345" } ,
        "state": { "type": "literal" , "value": "AZ" }
      } ,
      {
        "population": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "17055512.64" } ,
        "ICU": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "580" } ,
        "EmergencyBeds": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "5626" } ,
        "state": { "type": "literal" , "value": "CA" }
      } ,
```

Figure 7: JSON output showing veteran population, ICU and Emergency Beds state wise

b) Comparison of number of veteran patients and hospital staff for each state

Query 2:
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX voc:<http://data-gov.tw.rpi.edu/vocab/p/1202/>
PREFIX g:<http://localhost:3030/sample/data/>
SELECT distinct
(SUM(xsd:decimal(?inp)) AS ?inpatient) (SUM(xsd:decimal(?outp)) AS ?outpatient)
(SUM(xsd:decimal(?phy)) AS ?physician) (SUM(xsd:decimal(?nur)) AS ?nursing)
(SUM(xsd:decimal(?prof)) AS ?professionals) ?state
FROM NAMED <http://localhost:3030/sample/data/data1205>
FROM NAMED <http://localhost:3030/sample/data/data1212>
WHERE {
 GRAPH g:data1212{
?s voc:inpatient ?inp.
?s voc:outpatient ?outp.
 ?s voc:state ?state.}
 GRAPH g:data1205{
?s1 voc:staffing_physicians ?phy.

```
?s1 voc:staffing_nursing ?nur.
?s1 voc:staffing_other_health_professionals ?prof.
?s1 voc:state ?state.
 }
} group by ?state order by ?state
```

Result: This query output shows the number of inpatients, outpatients, physicians, nursing and professionals in every state.

```
.
.
"head": {
  "vars": [ "inpatient" , "outpatient" , "physician" , "nursing" , "professionals" , "state" ]
} ,
"results": {
  "bindings": [
    {
      "inpatient": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "92" } ,
      "outpatient": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "76" } ,
      "physician": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "32" } ,
      "nursing": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "119" } ,
      "professionals": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "113" } ,
      "state": { "type": "literal" , "value": "AK" }
    } ,
    {
      "inpatient": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "864" } ,
      "outpatient": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "699" } ,
      "physician": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "813" } ,
      "nursing": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "2853" } ,
      "professionals": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "3426" } ,
      "state": { "type": "literal" , "value": "AL" }
    } ,
    {
      "inpatient": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "354" } ,
      "outpatient": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "300" } ,
      "physician": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "594" } ,
      "nursing": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "2062" } ,
      "professionals": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "2254" } ,
      "state": { "type": "literal" , "value": "AR" }
    } ,
    {
      "inpatient": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "561" } ,
      "outpatient": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "453" } ,
      "physician": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "622" } ,
      "nursing": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "2394" } ,
      "professionals": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "2784" } ,
```

Figure 8: JSON output showing number of Veteran patients and hospital staff

c) State-wise comparison of number of veteran inpatients to number of emergency health care facility

Query 3:
```
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX voc:<http://data-gov.tw.rpi.edu/vocab/p/1202/>
PREFIX g:<http://localhost:3030/sample/data/>
SELECT distinct
(sum(xsd:decimal(?inp)) AS ?inpatient) (sum(xsd:decimal(?noICU)) AS ?ICU)
(sum(xsd:decimal(?noEB)) AS ?EmergencyBeds)
?state
FROM NAMED  <http://localhost:3030/sample/data/data1210>
FROM NAMED  <http://localhost:3030/sample/data/data1212>
WHERE {
GRAPH g:data1212
 {
?s voc:inpatient ?inp.
?s voc:state ?state.
 }
  GRAPH g:data1210
  {
?s1 voc:intensive_care_unit_class ?noICU.
?s1 voc:emergency_room_beds ?noEB.
```

?s1 voc:state ?state.
  }
} group by ?state order by ?state

Result: This query output shows the number of inpatients and number of emergency health care in each state.

```
{
  "head": {
    "vars": [ "inpatient" , "ICU" , "EmergencyBeds" , "state" ]
  } ,
  "results": {
    "bindings": [
      {
        "inpatient": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "92" } ,
        "ICU": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "0" } ,
        "EmergencyBeds": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "0" } ,
        "state": { "type": "literal" , "value": "AK" }
      } ,
      {
        "inpatient": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "864" } ,
        "ICU": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "12" } ,
        "EmergencyBeds": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "45" } ,
        "state": { "type": "literal" , "value": "AL" }
      } ,
      {
        "inpatient": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "354" } ,
        "ICU": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "6" } ,
        "EmergencyBeds": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "48" } ,
        "state": { "type": "literal" , "value": "AR" }
      } ,
      {
        "inpatient": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "561" } ,
        "ICU": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "8" } ,
        "EmergencyBeds": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "46" } ,
        "state": { "type": "literal" , "value": "AZ" }
      } ,
      {
        "ICU": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "60" } ,
        "EmergencyBeds": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "582" } ,
        "state": { "type": "literal" , "value": "CA" }
      } ,
      {
```

Figure 9: JSON output showing number of inpatients and the emergency healthcare facilities for each state

d)State-wise comparison of total pension and compensation for veterans in years 2007 and 2008

Query 4:

```
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX voc1:<http://data-gov.tw.rpi.edu/vocab/p/1538/>
PREFIX voc2:<http://data-gov.tw.rpi.edu/vocab/p/1537/>
PREFIX g:<http://localhost:3030/sample/data/>
SELECT
(SUM(COALESCE(xsd:decimal(?comp_yr1),0)) AS ?compensation_2008)
(SUM(COALESCE(xsd:decimal(?comp_yr2),0)) AS ?compensation_2007)
?state
FROM NAMED  <http://localhost:3030/sample/data/data1538>
FROM NAMED  <http://localhost:3030/sample/data/data1537>
WHERE {
GRAPH g:data1538
{
?s voc1:total_c_p ?comp_yr1.
?s voc1:state ?state.
 }
GRAPH g:data1537
{
?s1 voc2:total_c_p ?comp_yr2.
?s1 voc2:state ?state
```

```
}
}  group by ?state order by ?state
```

Result: This output shows the veteran compensation and pension in each state for two years.

```
{
  "head": {
    "vars": [ "compensation_2008" , "compensation_2007" , "state" ]
  },
  "results": {
    "bindings": [
      {
        "compensation_2008": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "1117091" } ,
        "compensation_2007": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "1096589" } ,
        "state": { "type": "literal" , "value": "Alabama" }
      } ,
      {
        "compensation_2008": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "63828" } ,
        "compensation_2007": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "61155" } ,
        "state": { "type": "literal" , "value": "Alaska" }
      } ,
      {
        "compensation_2008": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "42315" } ,
        "compensation_2007": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "40740" } ,
        "state": { "type": "literal" , "value": "Arizona" }
      } ,
      {
        "compensation_2008": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "1489800" } ,
        "compensation_2007": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "1484700" } ,
        "state": { "type": "literal" , "value": "Arkansas" }
      } ,
      {
        "compensation_2008": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "379610" } ,
        "compensation_2007": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "372476" } ,
        "state": { "type": "literal" , "value": "California" }
      } ,
      {
        "compensation_2008": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "564992" } ,
        "compensation_2007": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "541312" } ,
        "state": { "type": "literal" , "value": "Colorado" }
      } ,
```

Figure 10: JSON output shows the veteran compensation and pension in each state for two years

e) Comparison of compensation of veterans for each age group irrespective of state

Query 5:

```
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX voc1:<http://data-gov.tw.rpi.edu/vocab/p/1538/>
PREFIX g:<http://localhost:3030/sample/data/>
SELECT distinct
(SUM(COALESCE(xsd:decimal(?c_60_90),0)) AS ?compensation_60_90)
(SUM(COALESCE(xsd:decimal(?c_30_50),0)) AS ?compensation_30_50)
(SUM(COALESCE(xsd:decimal(?c_100),0)) AS ?compensation_100)
(SUM(COALESCE(xsd:decimal(?c_30),0)) AS ?compensation_30)
FROM NAMED  <http://localhost:3030/sample/data/data1538>
WHERE {
GRAPH g:data1538
{
?s voc1:compensation_60_90 ?c_60_90.
?s voc1:compensation_30_50 ?c_30_50.
?s voc1:compensation_100 ?c_100.
?s voc1:compensation_30 ?c_30.
}
}
```

Result: This output shows the veteran compensation for each age group in year 2008.

```
{
  "head": {
    "vars": [ "compensation_60_90" , "compensation_30_50" , "compensation_100" , "compensation_30" ]
  },
  "results": {
    "bindings": [
      {
        "compensation_60_90": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "375118" } ,
        "compensation_30_50": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "415299" } ,
        "compensation_100": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "213387" } ,
        "compensation_30": { "type": "literal" , "datatype": "http://www.w3.org/2001/XMLSchema#decimal" , "value": "484990" }
      }
    ]
  }
}
```

Figure 11: JSON output shows the veteran compensation for each age group

6. BUILDING VISUALIZATION

Based on the results obtained above sparql queries, a web page has been designed using HTML, CSS, java-script, AJAX and bootstrap. The json output is used as input to query url in building the visualization charts.

The initial view on loading the html page in the web browser:

Figure 12: Home page with links to various visualizations

*First Link: **Veteran Population vs No of ICU and Emergency Beds*** gives the geo map of United States showing the distribution.
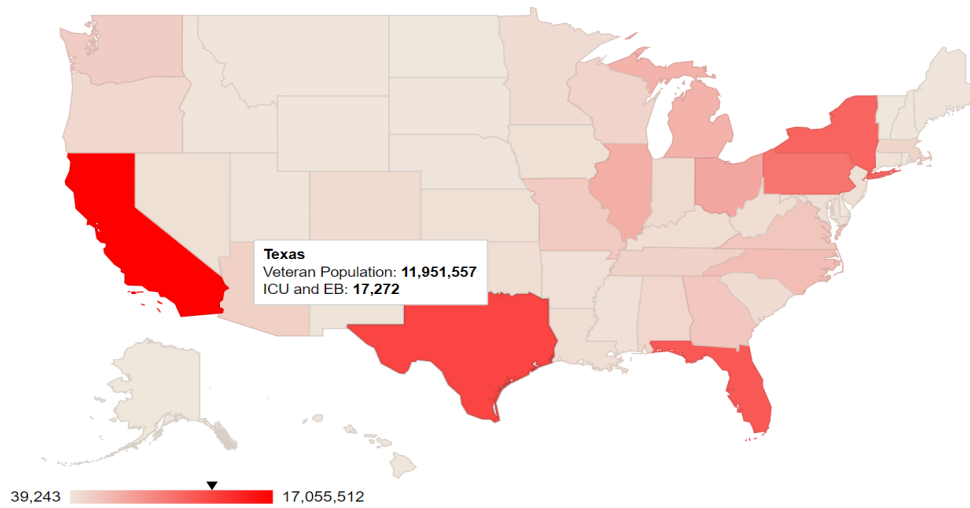
Figure13: Geomap showing veteran population and No of ICU and emergency beds for each state

*Second Link: **Veteran Patients vs Hospital staff** gives the geo map of United States showing the distribution.*
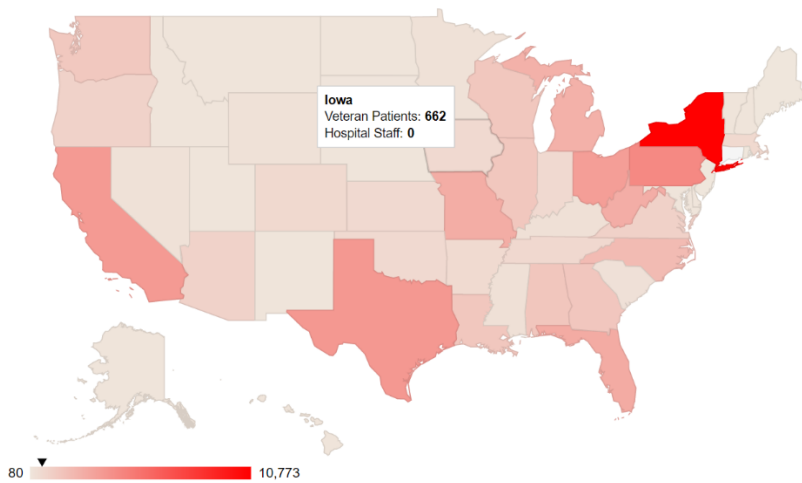

Figure14: Geomap showing veteran patients vs hospital staff for each state

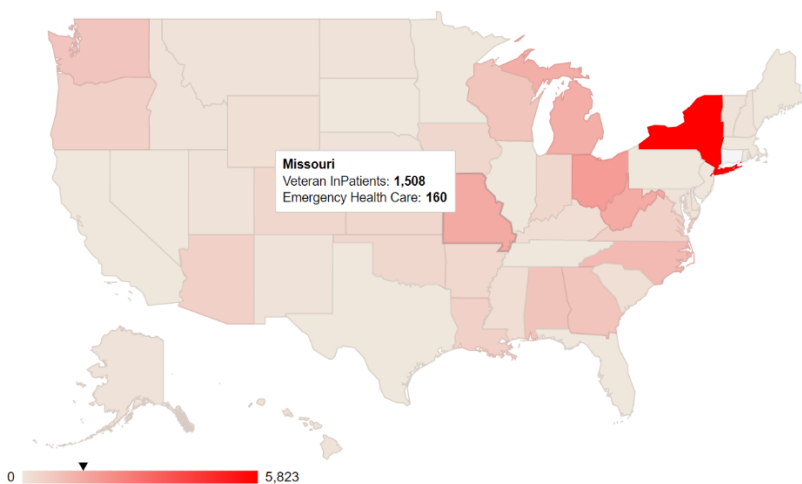*Third Link: **Veteran InPatients vs Emergency Health Care** gives the geo map of United States showing the distribution.*

Figure15: Geomap showing veteran inpatients vs emergency health care for each state

Fourth Link: V*eteran Compensation Comparison 2007/08*, shows the expenditure distribution in all the states of United States in two years.
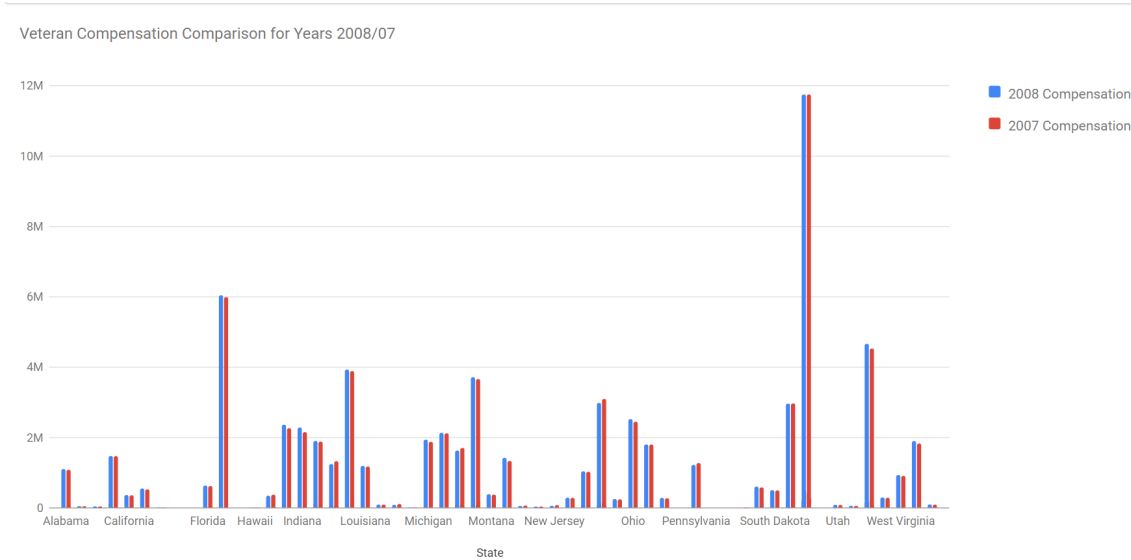

Figure 10: Chart showing compensation expenditure for 2 years

Fifth Link, ***Veteran compensation for each age group*** shows the distribution of veterans receiving compensation for each age group irrespective of state.
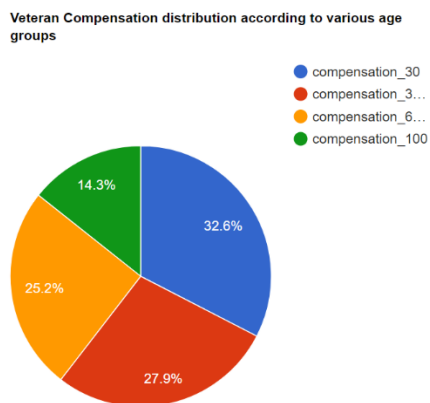

Figure 11:Pie Chart showing no of veterans receiving compensation for each age group

7. CUSTOM PROJECT JUSTIFICATION

We justify this as a custom project by looking at the following:
   a) Framework used - SPARQL endpoint of Apache Jena FUSEKI server - uses local host to access the server in web page whereas a logd project uses the LOGD sparql endpoint.
   b) In our project, datasets are taken from the Data-gov site and loaded to the server to use the triples in them, where as in logd project the datasets are already present on the logd site.

c) Localhost json output query was used in our visualisation whereas in logd project the query is present on the logd site.

8. SUMMARY

First step in the process is to identify the datasets that would help us in this project (Source of datasets: Data-gov site). After some research we have concluded that datasets numbered 1152, 1537,1538, 1210, 1205 and 1212 would help us in this project.

Once the datasets are chosen, the underlying rdf and ontology information of the datasets is understood. We have also used Gruff to get a visual understanding of the semantics of the datasets. Then we have analyzed if there is a chance to integrate two datasets based on certain attributes to get more useful information.

Fuseki, an Apache Jena server is used to load the rdf datasets and sparql queries are written to query the interested rdf data and get desired results. Sparql supports various output formats such as text, json. Also, Google visualization API's are used to improve the visualization of the results.

A webpage has been created using javascript(Server side scripting language), Bootstrap (front end design framework) and Google visualization packages (Geomap, corechart and table) for visualization of the results.