Visual Analytic Tools for Role of Functional Foods in VUE Software

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Abstract - Foods have a historic precedent in a region wise cuisine, state wise cuisine, local wise cuisine. Role of functional foods are prevention of several diseases and fitness of health. In Disease prevention and Health Promotion, we are using different types of food and ingredient to reduce complex diseases with balanced diet is carried out. Visual analytics of Roles and maintenance of functional foods, ingredients are explored. The study shows the drugs were discovered through identifying the active ingredient from traditional remedies or by serendipitous discovery and role of the functional food are explored.

Keywords - Visualization; food; diseases; data mining*;*

I. INTRODUCTION

Visual analytics are representing the information based on the analysis and processed of data along with essential application fields to explore the knowledge. The information is completely interact conclusions of gain insight view and it finally gives us to decisions with more visually. Visual analytics describes relationships, groups with inference of the information. Visual analytics tools can analyses and processed large amount of data converted into graphs, tree, chart, or visually calculation, etc. Visual Analytics are expressed in different term as per their results of the applications in different areas of scientific, social, computational, etc. As the visual analytics are new trend to explore the data depending upon their condition of visualization and result of their respective purpose. Visual analytics are used in various scientific, industrial, business; etc for information is giving automatically without checking each and every data manually or some other queries. Suppose In Business world profit or loss is very crucial thing in each and every minute for focusing on data rather than visually. Visual analytics are important factor to express the exact accuracy of the results to view in visually manner. Most of the techniques of comparison or analysis are to establish the real time applications for innovative ideas to show visually. Some of the topics are many conflicts to express the things in real situation compared with data represents without visually. Data represented by visually for enable to human understandable forms. Sometime visual analytics tools are discover the unpredicted assumption to taking count or making a valuable purpose. These types of some results are luckily executed through visual analytics while doing visualization and it is additional information of impossible things before the design of the different area. The steps of the visual analytics are collection of data, preprocessing of data, summarization, transformation, inference results, and interaction of multiuser.

II. VISUALIZATION TOOLS AND TECHNIQUES

A. Google Fusion Tables - Fusion Tables is a kind of app from Google. This can be used to display tabular data, graphs, charts, animations, create maps, etc. Google provides Fusion Tables Example Gallery like Tell the story with data, Host data online, Gather data in real time, Simple info graphics with Fusion Tables, Troop levels over time, Local newspapers, worldwide, Look at Cook, Share bike trails, The Nature Conservancy, Montreal Gazette, San Map, Internet across oceans, Stalled construction in NYC, Tsunami in Japan, March 2011, etc. These are completely customizable visualization to view data easily and understandable way of structure.

B. Quadrigram - Quadrigram is explored, design, analyze and communicate large data with visualization through a very extensive interactive visualization catalog. This software is not free version but trail version software only. During this trail period we can easily explore data according to our requirement of visualizations with proper inference of data.

C. Tableau - Tableau is connect to database for creating relationship of their input fields and data are visually indicated by graphically of Bar Chart, Crosstab, Scatter Plot, Bubble Chart, Bullet Graph, Box Plot, Tree Map, Pie Chart, Bump Chart, Gantt Chart, Histogram, Motion Charts, Line Chart, Waterfall Charts, etc. Data are filtered by based on Basic Sort, Quick Filters, Context Filters, Condition Filters, Top Filters, Filter Operations, etc. Tableau is calculated by numeric, string, date, table, LOD expressions etc. These methods are used to extract the data visually for expressing the content.

D. SPSS - SPSS is used to Statistics operating methods for data analysis and management. It is one of the handling huge amounts of complex data and performs analyses based on data requirement. SPSS is widely used in business of any constraint throughout the world.

E. VUE - VUE is suitable software designed to Information Communication and Technology purpose for creating nodes and links, formatting nodes, links and map, finding and linking resources, creating and display pathways presentation, map display, semantic mapping and analysis in electronic content into their ICT learning.

Visual Understanding Environment (VUE) is a visually represent data based on interrelated data effectively and effi-

-ciently. VUE tool is managing data with a focus on using digital repositories; the process of organizing, selecting and managing data with information into significant of Conceptual knowledge.

Some of the other tools are Many Eyes Project (IBM), Zoho Reports, Datawrapper, Infogram, Jolicharts, Piktochart, InstantAtlas, Exhibit, Visualize Free, Microsoft Excel, etc.

III. FUNCTIONAL FOODS

Functional foods for gut health is probiotics, which are considered to maintain or improve gut health via several mechanisms: They maintain a barrier against colonisation by pathogenic bacteria, inhibit the growth of pathogens and enhance the gut immune response by contact and crosstalk with the host via the mucosa [10]. A food that provides benefits beyond basic nutrition that may reduce disease and/or promote good health. Foods are both preventive and therapeutic health effects, a view that is now being increasingly recognized around the world. Today, Generally everyone view what food is required for me like nutritional deficiency, Identifying necessary nutrients for health and life, Nutritional optimization of quality of life, Identification of physiological active components to prevent or delay premature onset of chronic disease. According to role of Herbs that Heal natural remedies for health is categorised into Antibacterial, Anticoagulant, Anti-diabetic, Anti-diarrhoeal, Anti-inflammatory, Antioxidants, Antiviral, Blood pressure lowering, Calming and sedative, Cancer fighting, Carminative, Cholesterol lowering, Diuretic, Immunity stimulating, Life prolonging, Memory enhancing, Mucus clearing, Oestrogenic, Pain killing, Sex stimulating, Ulcer fighting and Weight reducing [6]. In any food, traditional ingredients have served useful functions in a variety of foods. Ingredients have been used for many years to preserve, flavor, blend, thicken and color foods, and have played [3] an important role in reducing serious nutritional deficiencies and several diseases. These ingredients also help ensure the availability of flavorful, nutritious, healthful, safe, and convenient [4]. Natural food, ingredients, diseases are collected from several books. From this book database there are 108 ingredients, 116 diseases and 23 food groups based on Medicinal aspects.

IV. STUDIES TO FIND VISUALIZATION METHODS

Several visualization techniques are involved to explore data with effectively and easy to understand. Here we are using VUE Software, Diseases based ingredients of food group classification are explored. In VUE tools, import from CSV file to datasets and make relationships to interrelated data. So, easily all data are visually explored in efficient manner.

In our database, 170 ingredients are mapped to different kinds of food groups. Several ingredients are shared with one another food group.

SL No	Food Group	Ingredients
1	Anti-inflammatory Foods	22
2	Antibacterial Foods	21
3	Anticoagulant Foods	9
4	Antidepressant Foods	11
5	Antidiabetic Foods	23
6	Antidiarrhoeal Foods	22
7	Antioxidant Foods	26
8	Antiviral Foods	11
9	Blood Pressure Lowering Foods	7
10	Calming and Sedative Foods	16
11	Cancer Fighting Foods	23
12	Carminative Foods	19
13	Cholesterol Lowering Foods	18
14	Diuretic Foods	22
15	Immunity Stimulating Foods	12
16	Life-Prolonging Foods	12
17	Mucus-Clearing Foods	24
18	Oestrogenic Foods	6
19	Pain Killing foods	10
20	Sex Stimulating Foods	32
21	Ulcer Fighting Foods	11
22	Weight Reducing Foods	11

Visualize representation between shared food groups of Antibacterial Foods and Antidiabetic Foods

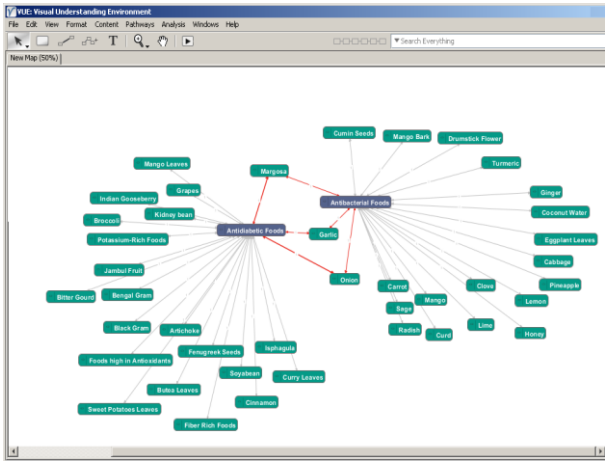

Figure. 1

From the above graph Ingredients like Margosa, Garlic and Onion are shared with one another food groups visually. Strength and weakness line indicates that role of ingredients in several health issues. Functional foods are very useful for human with controlled our health.

In Weight reducing food group,

a) Lime is used for several Diseases like ARTHRITIS, BLADDER INFECTIONS, COLD, GOUT, OBESITY, PEPTIC ULCER and TONSILLITIS (Total Count: 7).
b) Cabbage is used for Diseases like BREAST CANCER, COLON CANCER, OBESITY, STOMACH CANCER and STOMACH ULCER (Total Count : 5).

From the above graph visually represents the strength and weakness of the ingredients based on Line graphics in Fig. II and respective of sharing of one ingredient to another and sharing of one disease to another is explored in Line graphics with all the details. For example, Lime have 7 strength, display the line of respective diseases and COLON CANCER using two ingredients Wheat Bran and Cabbage is visually explored in Fig. III. Similarly all the types of food can be explored in visually using VUE tools (Ex. Ulcer fighting foods from Fig. IV).

TABLE I and TABLE II are the values of strength and weakness of the Line graphics (Visual representation).

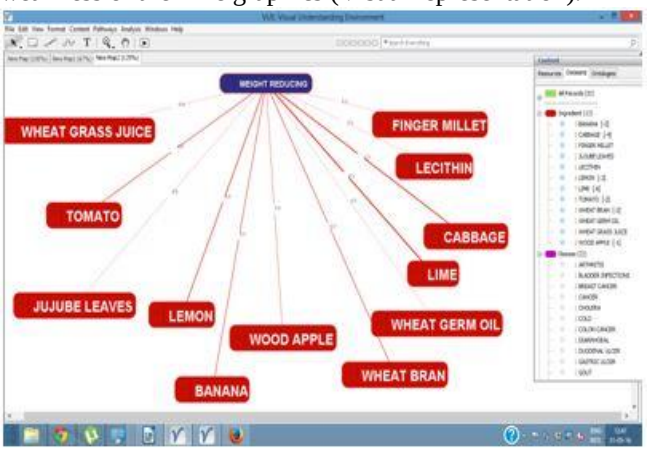

Figure. 2

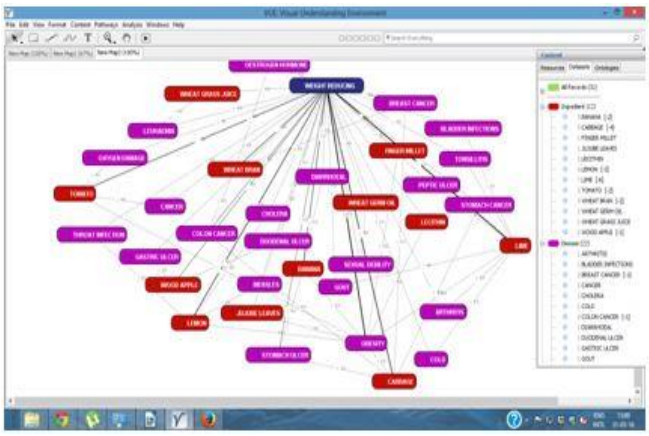

Figure 3

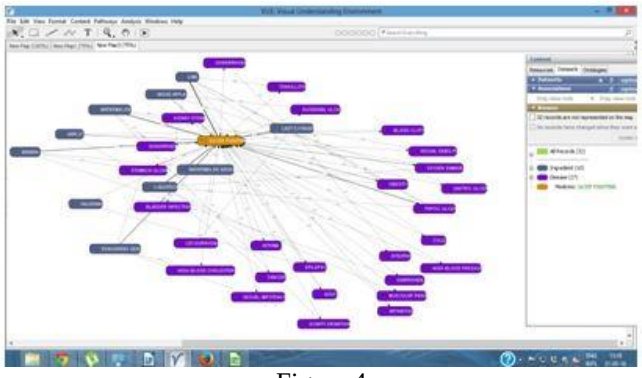

Figure 4

Table 1

No	Ingredient	Diseases used
1	Banana	3
2	Cabbage	5
3	Finger Millet	1
4	Jujube Leaves	1
5	Lecithin	1
6	Lemon	4
7	Lime	7
8	Tomato	3
9	Wheat Bran	3
10	Wheat Germ Oil	1
11	Wheat Grass Juice	1
12	Wood Apple	2

Table 2

No	Disease	Ingredient Used
1	Arthritis	1
2	Bladder Infections	1
3	Breast Cancer	2
4	Cancer	1
5	Cholera	1
6	Cold	1
7	Colon Cancer	2
8	Diarrhoeal	1
9	Duodenal Ulcer	1
10	Gastric Ulcer	1
11	Gout	1
12	Leukaemia	1
13	Measles	1
14	Obesity	8
15	Oestrogen Hormone	1
16	Oxygen Damage	1
17	Peptic Ulcer	1
18	Sexual Debility	1
19	Stomach Cancer	1
20	Stomach Ulcer	2
21	Throat Infection	1
22	Tonsillitis	1

V. RESULT AND CONCLUSION

Customized software with a user-friendly interface and improved graphic representation was explored. Visual representations developed have provisions to view any sort of data and to view graphics and final results. In Datasets, consists of different kinds of foods like Weight Reducing Foods, Ulcer Fighting Foods, Anti-diabetic foods, etc. From these food groups chosen to disease and ingredient entity and explore the usage of ingredient and controlling of our health. Today in the world controlling health like heart disease, diabetic, cancer, obesity, etc are difficult to maintain their food on day to day. From these all

phenomenon, Natural food is helpful for controlling our health. Food consumption is large variations across the regions of the world [2]. The software could be used while comparison between different types of food groups to new R&D proposals by finding the food nutrient value and to identify Recommended Dietary Allowance of balanced diet for different categories of people to have healthful life.

VI. ACKNOWLEDGEMENT

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