INGENEERING METHOD

Phase 1: Problem Identification

Based on a sample of the population of Bogota, Identify and analyze the data about the type of covid contagion. If it's either imported, related, in study or unknown and represent this information in charts, tables and maps.

Phase 2: Necessary Information gathering

Covid: Is a highly contagious disease caused by a new strain of coronavirus. Is spread through droplets released when a person coughs, sneezes or talks and by touching an infected surface.

GMap.NET: is great cross platform with an open source .NET control. It enables the use of routing, geocoding, directions and maps from Google, Yahoo!, Bing, OpenStreetMap, ArcGIS, Pergo, SigPac, Yandex, Mapy.cz, Maps.lt, iKarte.lv, NearMap, OviMap, CloudMade, WikiMapia, MapQuest in Windows Forms & Presentation. It supports caching and runs on windows mobile. Radioman.It (2013).

Phase 3: Search of Creative Ideas

Questioning

1. What problem do we need to solve?
2. What kind of information do we need?
3. Where are we finding our information?
4. How are we going to manage our information?
5. What are we analyzing?
6. How are we analyzing it?
7. What kind of input are we getting?
8. What kind of output should we display?
9. What data are we working with?
10. How do we what it to look?

Phase 4: Preliminary Design

Answers

1. Identify and analyze the data about the type of covid contagion on a sample of the population of Bogota.
2. A data set with the required information.
3. In a reliable website called datosabiertos.bogota.gov.co
4. We have our data in an excel document, so it can be filtered, graphed and analyzed.

5. We want to analyze de behavior of the virus by location, age, cases, deaths and recovered people.
6. Showing graphically data about covid cases.
7. Information from an online, reliable database.
8. Tables, maps and graphs with the information.
9. Cases, city, town, age, gender, location, state and source.
10. We want a window with the possibility to choose how to display the information, if its by a table, a map or graphs and to filter this information.

Phase 5: Selection of the Solution

After analyzing the answers presented before, we decided that what's best is to create a software where we can load a set of data about COVID-19 with all the information we need, so we can organize it and give the possibility to the user to filter the information and display it by a table or a map and to view some statistics shown in different types of charts.

Phase 6: Functional Requirements

- The software must be able to load data from a file in the system and show it in a table that contains the case number, when did the symptoms start, the date of diagnosis, the city, the town, the age, the gender, the location and the state.
- With the loaded data, the software must be able to filter the information from the table by case, city, age, gender or town.
- The filters of the table must be able to be erased.
- The software must be able to show a map that with the uploaded data, shows the towns of Bogota.
- The software must be able to show pins in the map that point to places with certain filtered information. This information being the number of infections, the number of recovered people and the deceased people.
- The map must be able to be cleaned.
- The software must be able to show three different graphs with the uploaded data. There must be a bar diagram with the source and age, a pie chart with the town and age and a line graph with the location and age.

References:

- Radioman.It (2013). GMap.NET - Great Maps for Windows Forms and Presentation. Lithuania: Codeproject. Retrieved from https://www.codeproject.com/Articles/32643/GMap-NET-Great-Maps-for-Windows-Forms-and-Presenta