**Project on**

**Time Series Visualisation**

**Project by**

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**Abstract**

A time series is referred to a continues set of data values which are observed on the basis of a fixed time frequency. It is widely used in used in trade, economics, sociology, space science, medical science etc. It plays a very important role in medical science also. Time sequence are created from any applications – that involves storing sensor inputs, or sampling values that changes over time. It is a conman practice to maintain a log file in computer servers and even in a stand alone system to locate various hardware and software errors occurring at different time intervals. Today most of the operating systems permit recovery of the system on the basis of such logs maintained. Successful prediction of errors in a computer system offers the promise of enabling significantly improved system management.

Large quantity of data is available from such systems and they gives us new opportunities and challenges for data mining. Systems are designed to generate events interdependently but most of the are correlated. The data is generated when recording operational processes or tracking corporate business metrics over a period of time. Analysis often shows that such data contains trends, correlations, or seasonal variations that need to be considered when planning and forecasting. The primary objective of time series analysis is to provide plausible explanations for data pattern changes. The two main goals of time series analysis are providing plausible explanations for data pattern changes and forecasting future values of data points that are being analyzed.

**Application overview and its functions**

The time series visualization application allows us to plot the unemployment rate of the states of united states of America by retrieving a data from the BLS(Bureau of labor and Statistics). It allows us to know the unemployment rate from 1978 onwards to till year.

Firstly, The application uses a map of united states for which on click on the state a respective unemployment graph is plotted for each state. User is also allowed to click on two or more states of the map and allowed to compare the unemployment rate between the states.

The application is well interactive with regard of colors, Each time when a user would like to plot a graph of unemployment a state color in the map and the stroke color of the graph appears to be same. Which makes a user to easily differentiate between the two or more states unemployment graph.

Secondly, the application also provides a checkbox for national unemployment and all states so that if a user wants to know the national unemployment rate of united states then national unemployment graph should be clicked on which national unemployment graph is plotted. In the same way with the all states, all the states unemployment rate will be displayed at once.

In this application the users can access the unemployment rate both month and yearly manner using slider application, which is plotted with reference of the X axis that contains years and Y axis that contains the unemployment rate.

Lastly, the application contains rise and drop functions that allows us to know the rise and fall of the unemployment rate between two years in percentage.

**Software Requirements:-**

Server: wamp server

Text editor: sublime

Languages: javascript and D3

Operating system: windows 7/8/10

**SCREEN SHOTS**