**Business Requirements**

Visualization uses a variety of techniques to present large amounts of information in a pictorial form so that it can be understood more easily. Comprehending a large amount of data can be an enormous cognitive task, but may be eased through visualization which exploits the highly developed human visual perceptual system. The simplest forms of visualization use techniques from mathematics. Simple line graphs and histograms show numeric data such as patient temperatures and stock prices that change over time. Two- and three-dimensional scatter plots show clusters, trends, and outliers. More dimensions can be added by varying the size, shape, colour, and shading of each data point. Data visualization is primarily concerned with understanding large amounts of numeric information, often physical phenomena with inherently spatial characteristics. Data visualization has many applications in science, engineering, and medicine; disciplines that commonly use 3D graphics and animation to visualize data. Magnetic resonance imaging (MRI), for example, produces 3D models of organs, bones, and teeth that medical professionals can rotate and slice. Data that change over time such as weather patterns and the turbulence over an aeroplane wing can be understood more easily using animation to show the changes as they happen. Information visualization is concerned with understanding the structure of non-numeric information and its interrelationships. Examples of information visualization include network and hierarchical information structures, the spatial data used in geographical information systems, and the analysis of business transactions.The power of a visualization can be increased by providing tightly coupled tools for exploring and analyzing the data. Visual exploration has enormous potential for revealing interesting patterns and relationships such as clusters, correlations, trends, dependencies, and exceptions. Sophisticated exploratory data mining and analysis systems can be created by enabling the user’s task knowledge and sophisticated decision making abilities to drive highly interactive visualization software.