

A proposal on

## Applications of Secure Multi party Computation SMC

**Brief Synopsis:** In this project we have proposed a promising solution for secure multiparty computation in various domains. We have already been working in this field from past years. We have obtained some significant results which shows that SMC can solve many problems in various fields. Our developed protocol can be used to perform secure computations which has applications in Business Process Outsourcing, Defense, Banking, Corporate sectors etc. We plan to implement our project in three phases. We will conduct many tests and surveys and implement our proposal in real life problems. The technique can be developed and commercialized for business.

### **PROBLEM STATEMENT AND DEFINITION**

Our aim is to find out a new promising solution to SMC. Many scientific calculations involves surveys and data from third organizations. Many organizations due to risk of data leakage and privacy preserving issue don't willingly provide the scientific organization with their data and thus the experiments cannot be conducted will full effectiveness. Our work will be to find a new secured way of SMC which will allow many public organizations and other industries to willingly provide their data and other information for computation in a secured manner. With the help of a secured technique we will be able to conduct many surveys including data from industrial sector, educational and academic sector, medical sector, tertiary sector, and from other organizations etc. which will allow us to compute some very useful results. These results will lead to further development of our country by providing us with useful information. Usually private industries don't share their data, account information, and other details of the functioning of the industry with public or with other such industries. Many private industries will be able to conduct useful surveys which will lead to development of the industrial sector as a whole.

We will be able to evolve new technology faster and better by conducting many surveys in public. These surveys will tell us about the technology which is being used by the public the most. We will be able to conduct secured and privacy preserving surveys which will lead us with information about the thinking of people about a technology and the technology being used by the public the most. A countries growth depends upon the growth of its citizens, small and large scale industries, schools, colleges, academic institutions, small and large scale businesses and organizations and their collective growth of all of them is dependent upon many factors. For the proper functioning, improvement and betterment of an industry it is required to monitor its growth and for its improvement surveys are conducted. Surveys are basically collection of data and processing of the collected data to obtain some useful results. These results are then examined to get the required data. Surveys are conducted on a large scale to obtain useful results for the industry. The surveys may be done for market research, marketing benefits, to depict the progress and functioning of the Industry, the effect of one industry on another industry, the affect of industry on the citizens and the overall progress of a country. The surveys can provide detailed insight into the functioning of the industry as the surveys include data and