University Institute of Engineering, Chandigarh University
Department of Computer Science & Engineering
Phase I (Project Scope, Planning and Task Definition)

Date: 13/03/2022

Project Title

Advanced algorithmic trading system using fundamental and technical analysis

Project Team

Team Designation	Name	UID	Section
Lead	Ayush Raj	20BCS7576	718 B
Member1	Lekhraj Sharma	20BCS7553	718 B
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Project Scope

Algorithmic trading is amongst the most talked about technologies in the recent years. It has given trading Firms more power in the rapidly evolving markets by eliminating human errors and changing the way financial markets are interlinked today. Its usage is credited to most markets and even to commodity trading. Some of the best performing hedge funds attribute their success to it. Devoid of human emotions, repelling latency, technology-oriented and fast-paced, Algorithmic trading executes trading commands instantly and with accuracy.

Project Planning and Task Definition

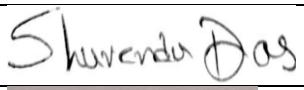
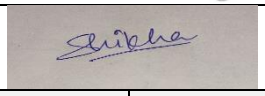
At the most basic level, an algorithmic trading system is a computer code that has the ability to generate and execute buy and sell signals in financial markets. The main components of such a system include entry rules that signal when to buy or sell, exit rules indicating when to close the current position, and position sizing rules defining the quantities to buy or sell. One of the first steps in developing an algorithmic strategy is to reflect on some of the core traits that every algorithmic trading strategy should have. The strategy should be market prudent in that it is fundamentally sound from a market and economic standpoint. Also, the mathematical model used in developing the strategy should be based on sound statistical methods.

Algorithmic trading strategies follow a rigid set of rules that take advantage of market behavior, and the occurrence of one-time market inefficiency is not enough to build a strategy around. Further, if the cause of the market inefficiency is unidentifiable, then there will be no way to know if the success or failure of the strategy was due to chance or not.

With the above in mind, there are a number of strategy types to inform the design of your algorithmic trading system. These include strategies that take advantage of the following (or any combination thereof):

- **Macroeconomic news (e.g., non-farm payroll or interest rate changes)**
- **Fundamental analysis (e.g., using revenue data or earnings release notes)**
- **Statistical analysis (e.g., correlation or co-integration)**
- **Technical analysis (e.g., moving averages)**
- **The market microstructure (e.g., arbitrage or trade infrastructure)**

Project ID (If selected from project basket)											
Project Outcome (Tick the Column)	**Patent**		**Journal Paper**		**S/W Project**	**yes**	**H/W + S/W Project**		**Other**		
Remark of Supervisor											

Name of Supervisor	**Shuvendu Das**	**Signature**	
Name of Co-Supervisor	**Shikha Atwal**	**Signature**	

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Signature

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