School of Engineering and Applied Science
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Software Engineering
Submission of Initial Problem Definition
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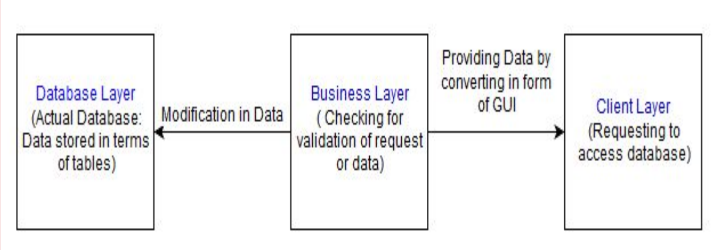
Initial Problem Definition

1.	Title of the Project	**Transportation Management system**
2.	Objective/ Vision	A system which is useful for a cement agency to manage their data more efficiently with the help of proper statistics and bridges the communication gap among different agencies like Manufacturer, Agent, Distributor, Truck Agent, etc.
3.	Functional Requirements	Database Administrator keeps track of details of Following details: • Cement manufacturer • Agent (Market organizer) • Cement Distributor • Truck Agent: details of truck providers of different cities • Truck driver • Truck details • Cement details: type (PPC,OPC), rate, etc. • Order

		• Stock • Factory Employee • Transport journey and expenditure: route details, petrol pump details, remarks • Blacklisted Truck: If cement is stolen during transportation from a particular truck then it will be recorded. • Slip: Carried during transporting cement at the destination which includes source and destination point, quantity, date, etc. • Receipt: details of orders (stock, quantity, LR no, expenditure, etc) in form of a report will be sent (mail and sms) to owner and accountant. • Payment: category (payment to driver or Agent or manufacturer)
4.	Users of the System	• Data Entry Operator • Database Administrator • Admin • Accountant
5.	Non-functional requirements	• Each user has different access on database because of the security purpose. • System design should be implemented such that it will be easily modified with respect to future extension. • Mail and SMS service to owner and accountant to view the business details remotely. • System should generate report of monthly or yearly transaction. • System should take backup of database after given period of time. • System should provide report of current market (details of new manufacture, changes in rate of cement, etc) status to owner.
6.	Supplementary requirements or other important issues	• Remote access of a system to users for efficient time management • Software should be highly customizable and flexible enough to easily updated as and when

		needed if government or owner or manufacturer wants to change any policy. ● Since communication is a problem among many teams across many industries which can mislead teams and deadlines can be missed, it should be taken care properly. ● Timelines are important in transportation. It requires time to complete the delivery. If not enough time is given for transportation, major issues can occur. While distributors might be looking for a delivery as soon as possible, manufacturers must explain why more time is needed. If this is not taken care, many connected tasks can be interrupted. ● Solidification: If the cement becomes wet during transport, it will become hard and unusable. This is why it's very important you ensure all transport containers/vehicles, whether barge, truck, or railcar, are completely clean and dry before transporting. ● Contamination: fertilizer and sugar easily contaminate cement and render it useless, so you should always make sure the vessel used for transport has been properly cleaned before placing any cement inside. ● If a client is being unreasonable and not accepting practical pushback, teams should consider whether or not they should take on the client.
7.	System Architecture	● System has 3-tier architecture ● All user will access system through GUI they can not access actual database directly. (Client Layer) ● As each user has different access on database, there is requirement of validation of user and their permissions on database. (Business Layer) ● If a valid user wants to modify his accessible data then it will be modified in actual database. (Database Layer) ● Database will be created using MySQL or Excel tools.

		 Database Layer (Actual Database: Data stored in terms of tables) Modification in Data Business Layer (Checking for validation of request or data) Providing Data by converting in form of GUI Client Layer (Requesting to access database)
8.	**User-interface priorities**	● **GUI should be easily accessible to all users.** ● **GUI should include customizable color scheme or skins.** ● **GUI must include filtering facility. (Allow to view report based on different features).** ● **Reports exportable in .XLS, .PDF or any other desirable format.** ● **Statistics (graphs, pi chart etc) should be easy to interpret. It should provide proper information.**
9.	**Reports or system-outputs**	● **Report of every transaction should be deliver to client in form of mail.** ● **Report submitted to owner should include details of total available stock, total expenditure and total sales.** ● **If a system can predict future sales based on previous years sales data, it could be beneficial for owner to run the business smoothly and effectively.** ● **System should provide statistics based on sale and expenditure in form of pie chart, bar graph, line graph etc. that will help owner to manage and visualize business efficiently. CA can also take advantages of such facilities and guide the owner accordingly.**
10.	**Team Size**	● **4**
11.	**Technologies to be used**	● **J2EE, XML, AJAX, Web 2.0, Web-services, SOA, PHP or any other Open Standards** ● **RAD, RSA, WSAD, DB2 Express- ‘C’ or DB2 UDB**

12.	**Tools to be Used**	● **Window Builder Pro’s WYSIWYG (in eclipse)** ● **Python tkinter GUI Builder** ● **Java #E3 (in eclipse)** ● **Java #N3 (in netbeans)** ● **Glade and gtk** ● **Unity UI drag and drop** ● **Microsoft Visio** ● **Draw.io** ● **MySQL**