## 1. *Defining the problem*

***"To enhance the functional and operation efficiency of a Printing Press"***

The project will be designed for a Printing Press, and its operational staff. The client for the software will be the staff supervisor and his team, who are responsible for manually maintaining details of paper-bundles and rims that arrive at the factory and assign orders to respective managers who then have the job of using these paper-rims and bundles to print books/magazines etc. as ordered by clients. They are also responsible for manually recording order specifications like the quantity, paper type, paper quality etc. as requested by the clients.

However, manually keeping a record of order details and paper that arrives at their premises interferes with the operational and functional efficiency of the factory and proves to be inefficient in certain ways –

1. Slips and papers on which the details are recorded are misplaced and are difficult to maintain, making the system dependent.
2. Paper-rims and bundles that arrive at the premises, supplied by client A are confused with the bundles and rims of paper that are already stored in the facility, provided by client B, as they sometimes share the storage space.
3. It is difficult to keep track of which orders have been assigned to which managers, who are responsible to print the orders with their teams.

Having identified the problem, I wish to provide a computer based solution that fits the factories needs of recording and keeping track of order details, paper bundles, rims that arrive at the factory and administer the relationship between client-orders and managers.
*(word count = 250)*

## *Rationale for the proposed solution*

After consultation the staff supervisor and his team, a computer-based solution to the existing problem was supported (refer to Answer 4*, Interview with Supervisor*, Appendix page 2), to make the daily functioning of the factory easier and independent of the current manual-method. A computer-program will enable the staff-members to record client and order details simultaneously, overcoming problems in the current-method, where staff-members use two separate printed-forms, as evidenced by the supervisor's response to question 2, from *Interview with Supervisor* in Appendix1, page-2. Basic computer-skills will be required to operate the software.

I have chosen to work with JAVA Eclipse IDE and MYSQL WORKBENCH for the following reasons:

1. Platform-Independent: An application developed in Java is workable on any operating system. Thus, if in the future the press migrates to another OS, the developed program will still be runnable.
2. Graphic User Interface: GUI features allow the program to be user friendly and data can be input easily, without having to learn code/train.
3. User Application and Database Management through MYSQL: The IDE and GUI features of JAVA enable the development of interactive forms, use file streams and create databases allowing easy access to client and paper detail forms.

4. Object-Oriented Programming: Such a programming methodology views programs as consisting of objects that interact with each other by means of methods.
5. Security: Java ensures safety and security compared to the use of Python or C to develop programs, as classes created using Java can be set as private or protected.

*(word count = 250)*

## *Criteria for success*

The success of this program lies on its ability to meet the following criteria -

1. To allow the staff to keep track of client order and paper history – Using MySQL DB, orders will be stored in a database which will allow members of the staff to easily navigate through their order history.
2. To provide different levels of access to the staff and the staff supervisor – Different forms will be generated for the staff and the supervisor, where the staff will have the power to add delete, update records and create excel files, while the staff supervisor will be able to view reports for the same data.
3. To ensure an accurate, efficient and detailed information transfer between the staff and the managers with their teams– drop down lists, radio buttons, text fields and other GUI elements will be used to create forms to record appropriate order details. The forms will be updated by the staff which will automatically lead to updates that will be seen by the supervisor in his reports.
4. To provide a graphical solution to eliminate the confusion of the availability of storage space for the paper – Forms that the staff will be required to fill, will incorporate a basic structure of the storage space available in the factory, so that once a storage space is full, the staff members would be asked to choose a vacant place to store the paper, and therefore eliminate confusion.
5. To ensure the program is user friendly for the staff members and provides easy navigation – Basic buttons to navigate through records, such as Add, Remove, Back etc., will be provided that allow easy navigation
6. To ensure safety from unauthorized access – The program will provide password security to the admin (Staff Supervisor) and the member of the staff to prevent the program from being accessed by an unauthorized person.
7. To allow the staff supervisor to keep record of the orders handled by each manager (and his team) – the staff supervisor will have the ability to create text files that will contain the name of the manager and the clients handled by him and his team.