# HASH TECHNOLOGIES PVT LTD

*Friday, February 15, 2019*

**The Principal**
**Dr. B.C. Roy Engineering College, Durgapur**
**Management House**
**Jemua Road, Fuljhore**
**Durgapur - 713206 (WB)**

Dear Sir,

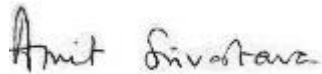*Subject*: **Customized Application Software for your Organization**

Based on our software demonstrations, interactions and discussions with the user groups, we are submitting the revised technical and commercial proposal, incorporating the changes, for your kind perusal.

Trust you find this in order.

Thanking you and assuring of our sincere services at all times.

Yours truly,

**For Hash Technologies Pvt Ltd**

**Amit Srivastava**
**(Director)**

*Enclosed*: Techno-Commercial Proposal

# Institute Management System

*Developed by:*

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## INSTITUTE MANAGEMENT SYSTEM

The proposed Institute Management System would be an integrated system, broadly comprising the following modules…

1. Student Affairs Management
2. Payroll & HR System
3. Stores & Purchase System
4. Finance & Accounts System
5. MIS System

The design is modular with facility to have screen-level and button-level access controls for individual users.

The access rights can be managed by the authorized person using an interface that allows him to define access rights of the selected user. The administrator also has the capability to assign a particular task to be performed only from specific desktop using authorized credentials.

Upon successful login, the opening page provides the user with the usage statistics (including documents created or modified) during a particular period. It also provides the user with an alert notifying the documents pending his intervention, based on the job role assigned to him and the status of the document.

It also provides the users with a window to exchange communication with other ERP users and user group besides viewing general postings on the public board.

Another window is provided to users for preparing a To-Do list or Keeping Notes that relate to the ERP operations and remain visible till not dispensed with.

The Page has Navigators for each module which also defines the workflow and a flag on the activities that the user is authorized to perform in the system.

The details of the individual modules are as follows…

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## Student Affairs Management

This module, in turn has following sub-modules…

a) Admission module
b) Student information module
c) Fees system
d) Routine Management
e) Attendance module
f) Performance module
g) Faculty Module
h) Placement module

## Admission module

This would cover the entire workflow of Admission related activity. The system comprises following steps…

a) Student profile entry – The system proposes entry of the Student profile at the time of admission itself. Preferably, the entry is done by the student himself. The interface captures all the basic data about the student. A print-out may be taken at this point.

b) Verification of Student data & documents – The Institute's authorized official then verifies the data (either on screen or from the print-out) with the Original documents and on compliance clears the system lock by approving the entry for onward processing.

c) Payment of Fees – The next step is the payment of fees, whereby the student pays the required fees at the admission stage. On receipt of the fees, the system generates the Student id number and confirms admission to the Institute.

d) Photo-ID card – The student then walks into the next counter, where the Institute official captures his photograph on a webcam and prints his Student Identity card.

This entire workflow of student entering the Admission cell and leaving with the Student ID card is automated.

Keeping in mind the logistics of student rush during the Admission days, the system also has provision to execute this entire workflow in offline mode (in case the main server is down) and updating the server with a button click.

### Student information module

This module would capture the students' profile such as personal details, educational details, contact details, etc. The base data is captured from the Admission System.

The system allows the Student to view his profile and can update selective information such as email-id, mobile/telephone number and address, which may change during the course of his association with the Institute. However, the information captured at the admission type remains secured.

### Fees System

This module would integrate the Academy system with the Finance system. The major function of this module would be…

a) Setup of fees structure – The system allows setting up of Fees Structure for the new batch. Fee amount is broken up under different account (charge) heads for each semester. The system simultaneously sets up the date of billing for each semester. The fees structure is broken up by category of students such as General, TFW, etc. The system, however, enables modification of fees amounts in case of any revisions at future dates.

b) Auto-Generation of Bills – On designated dates of the semester, the system automatically generates invoice for the semester for each student and appropriate account posting is done. The student account will reflect the outstanding amount.

c) Receipt of Fees – Handled by the Finance & Accounts system.

d) Due Status – The student can view his due status and personal ledger with transaction details from his login-Id of the Student affairs system.

### Routine Management System

This system module is operated by the back-end staff of the Institute. Semester-wise routine is created for each stream. The user can copy the previous schedule and make required changes wherever required or can create it afresh. The other features of this module are…

a) Allows scheduling of both permanent and visiting faculty.
b) Assigns Room/Hall/Lab numbers to class-slots.

c) Allows clubbing of multiple periods.
d) Allows multiple faculties to same session.
e) Allows clubbing of multiple sections.

Once created, the routine can be viewed & printed for the Batch. Additionally, a faculty can view his classes across all batches.

## Attendance System

This module would capture classroom as well as lab/workshop attendance of individual students. The system works as follows…

a) Based on the routine, the system internally generates a proforma for class attendance.
b) On completion of the class, the faculty invokes this option for giving Student attendance.
c) The interface displays all the students in the list with attendance "flagged" by default.
d) The faculty unchecks only the absent cases and clicks on the "Save" button.
e) This posts the Student attendance as well as the Faculty's own class attendance.

The Student can view his "Attendance record" at any point from his login-Id. Similarly, the faculty can view his "own attendance" record from his login-id.

## Performance Record (Results)

This module would archive the performance record (semester results) of individual students and generate various statistics.

The system has the facility to import semester results data received in Excel format from WBUT.

## Faculty Module

The module displays details of all teachers such as…
a) Personal data such as Basic demography, Qualification, Contact details, Career track (Experience), etc.
b) Research & Publications
c) Seminars conducted and attended
d) Awards & Recognitions
e) Project Guidance

f)  Salary details (Pay-slip view) for any month/year
g)  Leave status, etc.
h)  Class Attendance record
i)  Class Routine

Faculty can login to Student Affairs system and can view any of the above information. The faculty can update selective information such as Project details, Students' attendance, etc.

**Placement Module**

This functionality of this module would comprise…

a)  Database maintenance of companies and their placement history
b)  Searching & extracting Student list based on the guidelines/requirements of the prospective companies.
c)  Scheduling of campus interviews (Campus Notices)
d)  Updating result of the campus interview
e)  Tracking performance of individual candidates
f)  Placement statistics

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## Inventory & Purchase Management

This module automates the integrated process-based workflow on following (customizable) lines…

### a) Requisition System

Any authorized user can electronically log their Item requisitions through this interface of the ERP system. A hierarchy is maintained mapping all requisitioner to their approving authority (usually the Departmental head). All approved requisitions are electronically transmitted to the Stores for onward processing.

### b) Indent System

There are two modes of generating Stores Indents, viz. Auto-indent and Requisition-based indent.

The system generates auto-indent based on the defined rules in the system, such as re-order level and minimum stock levels.

Based on the requisitions received, the Stores may issue the item if the item is in stock, while the system accumulates and tracks such item for subsequent indenting based on the stock levels. However, if the item is not in stock, the same is automatically flagged for raising indents and electronically sent to Purchase department for procurement.

### c) Purchase Order System

Based on the Stores indent, the Purchase department raises the Purchase department. The Orders are based on both Initial deficiency indents as well as Replacement indents.

Initially, the draft PO is prepared which gets electronically transmitted to the approving authority for Approval. Only approved Purchase orders are printed by the system.

The system also has provision to generate Service Orders based on the service requisitions by users.

The system allows generation of Cash Purchase orders in case of emergency purchases that needs subsequent approval.

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### d) Gate Pass (UGRM) System

The system prints Gate Pass (Unchecked Goods Receipt Memo UGRM) is generated for all incoming materials. The system expects inward challans be backed up by the PO number. However, it allows Gate Pass printing for all incoming materials even without the PO reference for subsequent tagging (as in emergency PO could be raised subsequently).

### e) Material Inspection System

The concerned official checks the inward material for quality checks. An Inspection note is generated by the system for the items passing the quality checks and a Return Note is generated for items failing the tests and earmarked for return to the supplier.

Only the consignments backed up by the Purchase Order are subjected to Material Inspection as the detailed specifications are verified from the PO only. Hence, the inward goods not having PO are kept on hold till the PO is raised by the system.

### f) Goods Receipt Note (GRN) System

The system generates GRN for all Inspection cleared items based on the Purchase Order. The receipts are valued as per PO and the quantity based on the Inspection note and PO. The items are now taken into the Stores accounting system and the physical GRN is printed for statutory records.

### g) Purchase Bill System

The inward bills from suppliers are logged into the system based on the GRN entries only.

The Software prompts for the Supplier name and displays all the active Purchase Orders. On selecting the relevant PO as billed by the supplier, the system displays the charged GRNs in the system for acceptance as Purchase liability. This ensures that only the Purchase bill item entries accepted by the system (via GRN) and valued as per our Order gets accepted as the Purchase bill and in case of any discrepancy the bill is returned to the Supplier for amendment.

### h) Issue System

The system issues the item to the Requisitioner based on the approved requisitions only. The status of such requisitions gets updated as "Served" and the stock gets updated accordingly

### i) Material Loan System

This sub-system takes care of materials entering the company premises on rent or hire and would be subsequently returned. The system generates Gate Pass Loan-In and Loan-Out documents and generates the Material Loan register. This ensures that any un-owned item in the office premise could be easily tracked.

Likewise, the items sent out for repairs or replacement are also handled through this system and any pending/idle item could be easily tracked.

### j) Query & Reporting System

The system generated all the statutory books for the Stores such as Receipt Register, Issue Register, Stock Ledger, Stock Summary, Inventory Valuation report, etc. It also prepares all the generic documents at the input stage such as Requisitions, Indents, Gate Pass, Inspection Note, Material Return Note, Goods Receipt Note, Purchase Orders, Purchase Journal, Issue Slips, etc.

The system generates lot of Management Information and exception reports for both the Management as well as Operations level

### k) Purchase Supplement System

The system has some built-in tools to supplement Purchase function such as…
   i)      Item rate Reckoner
   ii)     Pending delivery detector
   iii)    Item Category-wise exposure to Suppliers
   iv)     Tender/NIQ Management

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## Finance & Accounts Management

This module will automate the integrated process-based workflow on following (customizable) lines…

### a) Budgets Maintenance

The system provides interface for Budget Maintenance for each Department against user-configured Budget Groups and Budget heads. This creates the basis for both regular and Project budgetary control.

The Finance Department can block funds under a specific Budget head for specific purchase or expense. This block can then be converted into Purchase Order or Service Order in due course. Once the actual payment is made against the passed bills or as Advance for the specific Purchase or Service Order, the corresponding Budget head gets adjusted with this amount. At any point of time, the Finance Department can see the Budget balance against any head of account.

### b) Receipts System

The bulk of receipts come from Student Fees. The system has controlled interface for receipts from Students.

The system displays the current outstanding of the student on selecting the student-id. The software displays the dues on individual charge heads as well as the advances received against those heads before computing the current dues. Generally, the receipt is for the actual due amount and on confirmation, the corresponding accounting entries are generated by the system and the Debtors' account adjusted.

In case the receipt amount is less than the current dues, the system prompts the user to input the collection amount against individual account heads for posting.

And, in case the receipt is more than the due amount, the system first adjusts the current dues and generates advance receipt against the specified account head for creating the liability entry.

Besides Students receipt, the system has provision for Other receipts such as Rentals, Consultancy fee, Receipts from affiliated colleges, Project Grants, etc.

### c) Payment System

The payment system has defined workflow for Suppliers, Wages, Other Liability and Personal expense accounts

i)    Supplier Payment – The Bill Passing System forwards the Suppliers bills to the Payment system. The payment could be against the supplier bills or Advance/On-account against pending bills. While making payment, the accountant prepares the draft payment voucher and sends it to the approving authority for passing.
Once the draft voucher is approved, the accountant prepares the cheque and sends it to the signing authority for final payment.
The signing authority has the option to sign or reject the voucher at the signing stage. Once signed the books of accounts are adjusted.

ii)   Wages Payment – The vouchers for salary transfer, Cheque Payment and Cash payment for the staff is generated by the Payroll system. Separate Employee-wise Salary transfer register for the Bank is system generated. Likewise the Employee-wise Cheque register and Cash registers are generated for automating the bulk payment entries towards the salary account.

iii)  Expense Vouchers – The system has provision for preparing draft voucher ideally by the individual or by the Account person. This is electronically (as well as paper) approved by the approving authority and then forwarded for Cash or Cheque payment.

### d) Receivables System

The system maintains the Fees Master for different courses with schedule. Based on the schedule the system generates invoices for each student automatically and posts it to the Accounts System. Separate accounting heads are maintained for different fees types and the accruals against each are generated.

Quite often, the schedule and the fees structure do not match the financial year cut-off. For example, the 6-monthly semester fee may become due on 1$^{st}$ January. In such cases, the system generates the Accounting Invoice for 3-months and Proforma invoice for 3-months. Receipts against the Proforma invoice goes into the system as "Advances" under the Liability head of accounts. However, on 1$^{st}$ April, the system automatically generates the

Accounting invoice for 3-month period and transfers such "Advance receipts" to these Invoices.

The system also has provision to create credit note for refunds and discounts to select cases or for students seeking separation.

The system, at any point of time, reports the Outstanding against individual student, or for a batch or for a course/stream and for the Institute as a whole.

### e) Payables System

The system comprises integrated interfaces of the Inventory System, Purchase system and the Payment system.

The system at any point of time, displays the Payables/Due to the Supplier and overall. It also reports the quantum of unbilled GRN in the system to indicate the inherent supplier liability

### f) Journal Voucher & Contras

The system supports these basic entries. It also has a provision of memorizing certain transactions, which are repetitive and could be called for the specified number to times at pre-defined periodicity.

### g) Reports System

The system generates all the raw accounting documents such as Cash Voucher, Payment Voucher, Journal Voucher, etc. It also generates all the statutory books of accounts such as

- Bank Reconciliation Statement
- Prime books such as Cash/Bank Book, Journal Register, Sales & Purchase Registers/Books, etc.
- Ledgers & Sub-Ledgers
- Trial Balance and Balance Sheet
- Cash Flow analysis
- TDS certificates & Register
- Expense Registers
- Budget Variance

### h) Cheque Tracking

The system has a Cheque Tracking system, whereby every stage of Cheque preparation is tracked. The entire payment process is tracked at various stages viz.

a) Voucher Preparation
b) Voucher Approval
c) Cheque Preparation
d) Cheque Signing
e) Cheque held at Reception
f) Cheque handed over to the recipient
g) Cheque clearance (through BRS).

At any stage, the float status, disbursement volume and pending disbursements could be ascertained.

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## Payroll & HR System

### a) Payroll System

The Payroll system comprises…

a) Automatic availability of Employee Master data from the HR System
b) Input of Attendance data
c) Payroll computation
d) Pay Slip printing
e) Statutory Reports on Overtime, ESI, Medical, Bonus, Ex-Gratia, Professional tax, PF deduction, etc.
f) Income Tax deduction
g) Professional Tax deduction & Reports
h) PF Deduction and Reports
i) Consultant Payments & TDS Register
j) Form 16 Printing
k) Integration with Accounts System

### b) Leave System

The Leave system has two sub-modules, one for the back-end official and the other for the staff members.

The Staff members can login to system (*My-Leave*) and do the following…

a. View the status of their leaves.
b. Apply for leave.
c. View the status of their leaves (whether approved or canceled).
d. Modify dates of their leave if unapproved.
e. Apply for extension of their leaves.
f. The staff member can approve or reject leave of his sub-ordinates, provided he has the approving rights for those staff members. He can also escalate it to his next level in cases he deems necessary.

The back-end official can do the following…

a. Sets up the Annual Holiday calendar.
b. Sets up the entitlement chart for each leave type.
c. Sets up the accumulation limits of each leave type.
d. Invokes credit/accrue of leaves at year beginning.
e. Sets up the hierarchy of approving authority by Department.
f. Maintains Leave ledger and other statutory books.

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**c) Personal Data Maintenance**

    a. Upon joining, the HR Department creates the Personal record of the incumbent containing all relevant details including scans of certificates and other credentials.

    b. Record with salary structure gets opened in the Payroll system.

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## MIS System

The MIS System covers all the functional modules and skims the top layered reports for the senior Management with the facility to drill down to the source raw document level.

The system has Finance Navigator, Materials Navigator, HR Navigator and Academy Navigators. Each has a set of reporting tools for viewing information on multiple parameters and navigating through various layers to access the raw document.

Some typical information areas are…

a) Fund Position
b) Vendor Analysis
c) Expense Analysis
d) Student Fees Analysis
e) Account Head Tracking
f) Voucher Tracking
g) Cost Center analysis
h) Staff Strength
i) Department-wise Staff Strength
j) Student Class Attendance
k) Faculty Class Attendance
l) Faculty Student Response
m) Communication with Students
n) Indent Tracker
o) Purchase Order Analysis and View
p) Service Order Analysis and View
q) Unchecked GRN tracker
r) Goods Receipt Note tracking
s) Item Stock
t) Item Rate Reckoner
u) Cheque Tracker

## Additional Features (will be incorporated)

a) Hostel Occupancy Tracking & Management
b) Automated Enquiry generation from Indents

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## New features to be developed

As per discussion with College officials, the following additional functionalities has to be developed:

1. Admission Module – Since B C Roy Polytechnic college is not in the main campus and the internet connectivity is not very stable and reliable, the College wants a separate application that will run locally and the entire data (student & collections) should be exported to the Central server periodically.

2. HR & Payroll / Income Tax Module – A separate interface to be developed for the users to fill up their investment and other related details.

### 2.0 PRE-REQUISITES

a) Servers – with Windows 2008/2010 with RAID implementation

b) RDBMS – SQL Server 2008 or above

c) Client Nodes with Windows XP / Win 7 / Win 8 / Win 10

d) High Speed Leased line with Static IP & Firewall for off-campus users

e) Backup server

### 3.0 DELIVERABLES

a) Software executable in CD
b) User Manual in hard/soft copies

### 4.0 IMPLEMENTATION & MAINTENANCE SUPPORT

a) We would provide implementation support for a maximum period of 3 months (onsite of remote) during which it is expected that the system would Go-Live in key areas. After that we would provide remote/phone and occasional onsite support (if needed) for another 9 months.

b) On completion of the above term, you have the option to enter into a Maintenance arrangement (AMC) with us.

c) The scope of AMC would entail providing software updates, patches/fixes, upgrades, new version release, etc. of all the Application software modules. However, new software modules would be excluded from the scope of AMC and, in all such cases, separate quote would be given after doing the requisite study.

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**5.0   OUR PROFESSIONAL CHARGES**

a) Software Price (First location)      –   **Rs 10,25,000/-**.

b) Additional Units (if any)            –   **Rs 3,10,000/- per unit**.

c) Taxes & Duties                       –   Extra as applicable. Presently, 18%
                                             GST is applicable.

**5.1   Other Terms**

**a) Outstation charges** (other than Kolkata) – You have to arrange accommodation, fooding & local conveyance of the Engineers in Durgapur (or any other outstation location except Kolkata) during their onsite visit for study, installation, customization, training, implementation and support**.**

**b) Payment Terms**

- Advance with the Order – 35%.
- 50% on loading the Software.
- Balance on implementation.

**c) Annual Maintenance Charge**

- 20% of the Software price.
- Taxes & Duties – Extra as applicable.

<u>**Validity**</u>

90 days