

BACKGROUND

Quite many schools use manual and some little stand-alone systems of capturing, analysing and giving operational and management information. The repetitive capture of data wastes a lot of labour hours and data accuracy is put on the line, hence the quality of information derived from it is compromised. The current automated stand alone systems are specific to certain operations, outdated, not user friendly and cannot be interfaced (linked) to any existing or future systems. All these attributes need to be replaced by easy-to-use, efficient, secure, effective and reliable automated systems that have a capacity to be scaled for the benefits of standardisation.

PROPOSED SYSTEMS DESCRIPTION

The following are the operations to be considered for automation:

1. General Administration
2. Classroom management and monitoring
3. Student's pastoral data (including their parent link)
4. Time schedules and room allocations
5. School Accounts
6. Personnel Management



SYSTEMS SPECIFICATION

Following a preview of the school operations, the following systems are proposed for implementation:

1. Students' information database
2. Parents' information and contacts
3. Timetables
4. Mark entry and generation of report forms and mark sheets
5. Past students database
6. Future Enrolment
7. General Ledger
8. Accounts Payable (Creditors)
9. Payroll (Personnel Management)
10. Systems Manager



1. Students' Information Database

The students' general information screen will be similar for all the students in the school. This screen comprises the Student's name, sex, class, stream, house, Nationality, Student's number, date of birth, parent code, index numbers, etc including two user-defined optional activities for each student.

Features of Students' Module

Detailed students records will be available from one computer screen including:

- Subjects for each student in a given term and year
- Marks for each subject
- Church details (attendance, baptism and confirmation details)
- Positions held
- Allergies and immunization
- Registration and graduation details
- Discipline records
- Accidents and illnesses
- Transport ticketing (if the school provides transport for its students)
- Attendance
- Emergency telephone contacts
- Confidential family notes (and special notes kept about a given student)
- Musical instruments.

General Students' information Screen

Students' data may be published over the Internet or just the School Intranet

Students' data may be directly published on the Internet. Users will also be able to use their familiar web browser to view/print students' records including timetables and enrolment statistics on the school computers.

Standard printouts

- Registers and alphabetical lists
- Stream Lists
- Students' subject lists
- Subject class lists
- Mark entry sheets
- Graduating students lists
- Students enrolment statistics
- Attendance / absentee lists
- Optional activity lists
- Students age lists
- Students with discounts / bursaries
- Allergies and immunisation lists
- Students address labels
- Students ID labels
- Students transcripts
- etc

Printouts and listings will easily be selected from menus. Students may be listed by Class, Houses, etc. Class lists will allow for composite classes – Students may belong to a given stream but attend specific subjects in another stream. Parents will optionally be notified automatically by the system via email (or SMS) when their children are marked absent from school.

Promotion of students to new classes at the end of the year will be an automatic process, whereas students may be allocated to user-defined categories e.g. Wildlife Club, etc.

The SchoolWrite Intranet allows administration staff and teachers to access the learners' non-confidential information from ANY terminal on the school network without logging onto the database (See SchoolWrite Demonstration).

2. Parents' School Fees, contacts and Bio-data

The Parents' subsystem combines features of general administration and accounts (tracking fees payments). It has features of accounts where parents pay their dues to the school and other features pertaining to the administration office e.g. contacts and family notes. All students at the school from the same family may be linked to that family through a common "Parent code" for that family. This proposal will point to both features generally.

The Parents module interfaces directly with the General Ledger, if installed, so that fees payments made are automatically reflected in all the necessary books of accounts. This reduces the workload and maximises accuracy.

Standard letters may be printed for selected groups of parents (i.e. parents on a specified association, Parents with outstanding debts of above a certain figure). Emergency phone numbers are kept to help on emergencies as well as confidential family notes.



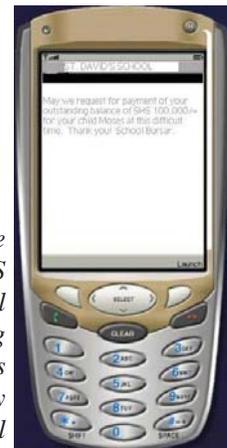
Students link to their parents' records on the database.

Features of the Parents Module

- All students' family contacts are kept in this module.
- Fees may be billed at any desired frequency. It is possible to bill an extra charge to a specific parent/student or to a group of parents/students at once. There is also an option to bill a parent once irrespective of the number of students coming from that family *e.g. for a school magazine*.
- Fees statements may be printed as frequently as required. These are statements showing the amount of money a parent/student has to pay to the school. If a parent has an outstanding balance *e.g. from the previous term*, it is also shown and added to the current due to make the total.
- Overdue fees are followed up via printouts (Changes may be requested)
- Address labels can be printed as required.
- Family lists include parents and their children at the school.
- Like students, parents may also be allocated to user-defined categories or association at the school.
- The parents' module can also optionally send SMS to a group of selected parents (or all parents) to demand for payment of outstanding balances, notify them of any events at the school. Parents may optionally be notified of the daily attendance of their children when the roll calls are marked (requires subscription).

Standard printouts

- Parents' fees statements
- Family listings
- Parents listings
- Parents occupation lists
- Parents address lists
- Verification reports (Very important)
- Absentee email/SMS notification reports
- Aged transaction reports



Parents receive personalised SMS from the school database demanding for standing fees balances or any activities at school

3. Timetables

Teachers do appreciate the professionalism of being presented with an up to date timetable for all days in their teaching cycle. Administration time will be greatly reduced by supplying teachers and/or students with printed timetables at the start of the term/year.

A staff person or a student can quickly be located by bringing the relevant timetable onto the screen and reading across the current period. When a staff-member calls in sick, his/her current timetable may be easily printed, as well as “free teachers” timetables for available staff. Classes may then be quickly re-allocated. When an extra room is required outside of the normal timetable requirements, the “free rooms” timetable may help to locate available rooms.

Features of the Timetable Module

The school will determine the teaching cycle that best suits.

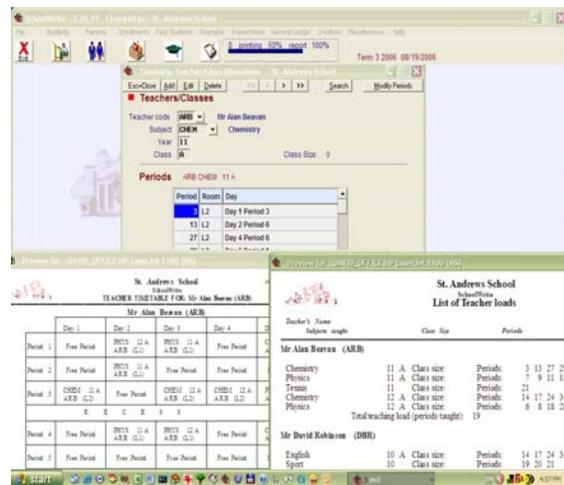
- Over 10 periods per day may be defined
- Up to 10 days per teaching cycle may also be defined.

It should be noted that the smaller the number of days in a teaching cycle, the more periods there are per day. However, The system will allow up to 200 periods – enough for a typically busy school.

Classes and periods taught by teachers will be easily entered; along with rooms in which the subjects are taught. When that is done, and students have subjects attached to them, timetables may then be automatically generated according to that definition.

Standard Printouts

- Students’ timetables
- Teachers’ timetables
- Room usage timetables
- School Timetable
- Free teachers and Free rooms
- List of Teacher loads
- Teacher Clashes
- Room Clashes



Timetable allocations, timetable and lists of teacher loads

4. Mark entry and generation of report forms (Requires a Tailored menu)

ReportWrite is the professional software for teachers to enter students' marks offline. It will be the starting point of the report-card writing process. It will add *professionalism* to the role of teachers in the school. Students' marks and comments will be typed onto a computer screen using familiar word processing techniques. Marks will be entered as raw data and the system will do the grading according to the UNEB standards and the school preferences.

Features of the Reports Module

- Teachers are individually given a downloaded students sub-database to record marks and comments for end of term Reports. Included with the download are software and a spell checker for their comments.
- Returned marks are uploaded, and teacher's marks and comments merged into *SchoolWrite*'s main students' database.
- Each download may hold all classes for a given teacher with provision to enter marks and a comment about a student's progress in class for each subject or paper.
- All comments may be spell-checked with a 70,000-word dictionary.
- A database of standard comments may be distributed on each teacher's downloads. A standard comment, or multiple standard comments may be drawn down for each student to minimise typing. A database administrator (someone in charge of this system) may set up the comments (of course being advised by teachers) which comments are likely to appear so often such that when ever such a comment is needed, the teacher selects it from the list and the computer inserts it against the student's subject it is supposed to go to after on-screen confirmation.
- Approximately 10,000 standard comments may be set up and distributed to teachers while some comments may be restrained from use by the teachers.

Control of returned marks to the database is provided via a **Mark Entry Grid control report**. This report indicates the percentage of data (i.e. marks and comments) that have been uploaded/returned into the main students' database. Mark sheets may also be selectively printed from the computer at this time.

Standard Printouts

- Report Cards
- Mark entry grid control reports
- Performance analysis reports
- Marksheets
- Performance graphs

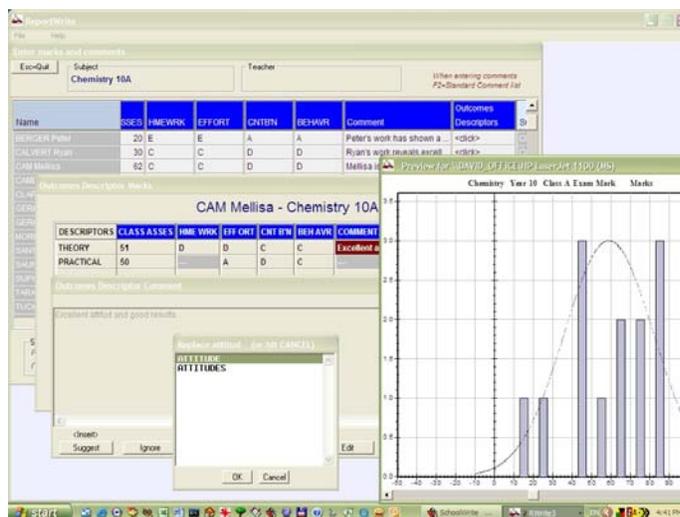


Image shows screens where the teachers enter marks and the analysis that the computer does for them

Academic reports show marks, assessments, grades and teachers' comments in any style presented to us by the school. Grading are automatic whereas marksheets are selectively printed as the school academic office may prefer to do it.

5. PAST STUDENTS

- All current contact details for the students are easily maintained even when they graduate.
- Form letters can quickly be constructed, mailed to past students with any requested alumni year using the contacts retained.
- Address labels can as well be easily printed.
- Married names and maiden names may be optionally displayed.
- When Deceased date is entered on the “Past Students Details” screen, that past student is excluded from standard letters and labels but all the other details are kept e.g. positions held whilst in the school, marks scored for the different years, etc.
- Notes page allows for unlimited entry of contact and follow up details.



Past students records can be kept with their photos automatically from the students' database

The administration effort in keeping track of past students is greatly reduced. Students are automatically transferred to past students on graduation. For a student who repeats the final year, the graduation date is deleted from his/her records such that the student is not rolled over to the past student's database. Mailing labels and standard letters may be printed by alumni year, for mailing newsletters and fundraising material.

Previous academic results may be viewed on screen for any term whilst the student was at the school. Positions held in any school year may also be viewed, making it easy to provide references, recommendations and achievement statements.

6. Future Enrolments

SchoolWrite still leads the way even in computerizing the admissions.

- Organisation and control over all future enrolment enquiries and placements is a feature of this software.
- Standard letters can be printed for selected groups of prospective parents and enrolment fees collected. These enrolment fees are automatically posted to the General Ledger and are also reflected in the books of accounts e.g. in the trial balance, Income and Expenditure Statement and the Balance Sheet.
- The source of each enrolment is noted to provide future marketing statistics.
- Applications that are accepted are “rolled over” to Students and Parents, requiring very little or no further keyboard entries when the student commences.
- Administration time at the start of the year is significantly reduced.

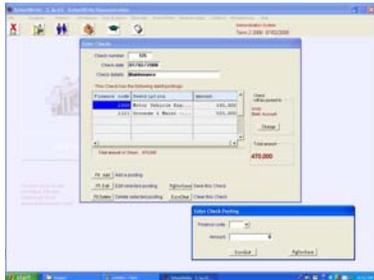
Future enrolments may be entered for any number of applicants, for any entry school grades, and for any enrolment year into the future.

Initially, enrolment applicants are entered into a computer with a “low grade” status (placement code) e.g. “application to be sent”, or “On Waiting List”, etc.

Application Fees (and possibly Enrolment Fees) are collected, and the details recorded on the applicant's screen. The placement code may also be changed – e.g. to “Offered a place” or “Not Offered a Place”. Interviews and entry exam results may be recorded.

7. General Ledger

The GL will be run on basically three (3) transaction entries (Deposits, Cheques and Journal Transactions). The main transaction entry will have unlimited capacity, handling any size journal. Data validation when entering transactions will verify dates within the financial year, and provide a quick look up of financial codes (usually called 'Votes' in schools) by number and name.



All transaction entry and reporting is date driven. There may not be requirement for "end of period" processes performed. Budget and reporting periods may be monthly, or may be set to suit the school, e.g. term, semester or year. **In fact, someone with very little accounting experience can easily manage the SchoolWrite General Ledger.** This is truly accounting for non accountants.

Features of the General Ledger Module

- The general Ledger is fully integrated with all **SchoolWrite** components.
- Standard profit and loss, Balance sheet and trial balance reporting are provided for.
- Multiple tailored financial statements may be set up, for school departments and sections, covering all business reporting needs.
- Report heading styles too may be chosen from four standard layouts.
- Standard Chart of accounts for schools is also provided, which may be added to and/or changed as required.
- Easy entry of Cheques and journals with full audit trail printouts of document entry and posting activity.
- Bank reconciliation gives verification that all General Ledger entries to the Bank account are correct – Very Important.
- Bank Reconciliation Report shows un-presented cheques and variances to be adjusted.
- On screen enquiry into transactions for any required period.
- Budget figures are established to provide additional financial control and management information.
- **Budget amounts** may be copied from prior year actual totals, with easy spreading of annual budget figures.

Standard Printouts

- Trial balance
- Standard profit and loss (Income & Expenditure) statement
- Balance sheet
- Finance code posting reports
- Chart of accounts
- Bank reconciliation reports
- User defined financial statements
- Multiple tailored financial reports (developed on request)

SchoolWrite Demonstration
Balance Sheet as at 07/02/2008

ASSETS			
9,650 Cr	Furniture and Equipment	9,650 Cr	
32,006 Cr	Motor Vehicles	32,006 Cr	
2,413 Cr	Cash at Bank	1,827 Cr	
26,980 Cr	Other Investments	26,980 Cr	
69,059 Cr	TOTAL ASSETS	68,511 Cr	
LIABILITIES			
5,750 Cr	Deposits Held on Behalf of Building Fund	9,078 Cr	
	Shareholders	1,556 Cr	
5,750 Cr	TOTAL LIABILITIES	10,634 Cr	
CAPITAL / EQUITY			
74,307 Cr	Surplus / Deficit for the Year	57,878 Cr	
74,307 Cr	TOTAL CAPITAL/EQUITY	57,878 Cr	
69,059 Cr	TOTAL LIABILITIES & EQUITY	68,511 Cr	

Balance Sheets are printed as per nominated dates and they show prior year for comparisons

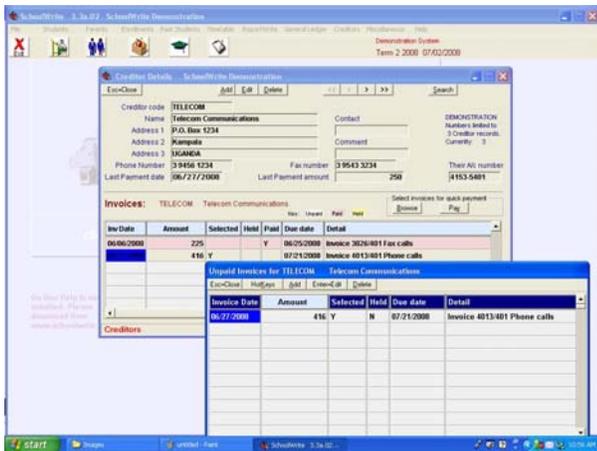
Income & Expenditure statement showing budget figures to ease expenditure monitoring

8. Accounts Payable (Creditor Accounts)

Creditors' invoices are entered into the system as soon as they are received. Invoices may be marked with a 'due date' for payment, and with appropriate general ledger account codes, which are to be fed into the computer during invoice entry.

The computer then becomes the repository of all accounts payable. It is therefore possible that at any stage the amount of funds required can be established.

Payment of invoices may then be done on a selection basis. (The usual selection is "specific invoice for a given creditor").



Creditor screen showing supplier details, invoice details and history. All on one screen

Creditor	Invoice Date	Amount	Selected	Held	Due date	Detail
TELECOM	06/27/2008	416	Y	N	07/21/2008	Invoice 4013/401 Phone calls
WILSONSS	06/27/2008	820	Y	N	07/21/2008	Invoice 51432 Work books - blank

You may choose to view invoices for one creditor or all invoices for all creditors, or even those selected for payment.

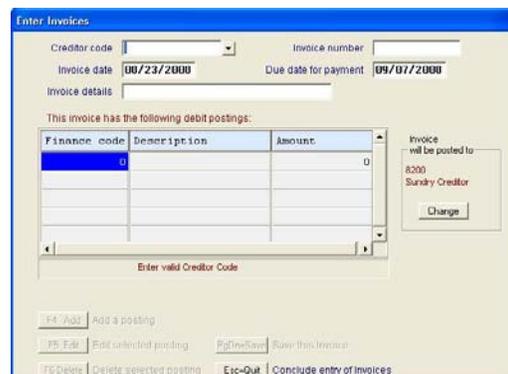
Standard Printouts

- Creditor details
- Transaction details
- Cash required for selected invoices
- Projected cash flow reports

The layout of cheque forms and remittance advice can be adjusted to suit existing stationery whereas history of paid invoices is stored for as long as required, even for a number of years.

Features of the Creditors' Module

- Creditors' invoices may be split over any number of finance codes.
- A projected cash flow report will show funds required by future dates.
- Creditor invoices may be selected from a total list of unpaid invoices. All unpaid invoices may be deselected. A specific invoice for a specific creditor may also be selected. Invoices may also be paid in any number of instalments.
- Cash requirements report confirms the selection of invoices.
- Cheque and remittance advices may be optionally printed.
- Easy on-screen enquiry of creditor transactions are provided.
- Creditors' invoices in dispute may be held back from payment.
- The Creditors' module is also automatically integrated with the **SchoolWrite** General Ledger i.e. Creditor transactions are automatically reflected in the books of accounts.



The invoice entry screen is designed to provide ease of data entry to the accounts office yet capturing all the relevant information.

9. Staff Payroll (Personnel Management)

The PAYROLL can be a far independent system that can even run for a large organisation. It is easy to learn and use with extensive help messages providing assistance. All categories of staff may be handled, teaching staff, non-teaching staff, fulltime and casual staff. The payroll caters for both salaried and hourly employees.

Weekly, fortnightly and monthly pay periods may be handled at once. It is also possible to process one or more selected employees at any intervening time. The payroll integrates with the **SchoolWrite** General Ledger, i.e. PAYROLL amounts will automatically be reflected in the General Ledger for financial reporting.

PAY SLIP		RATE	
School/Write	Demonstration		
F. Alan Robert BEAVEN		FAY	NORMAL
		Travel Allow	45 x 0 =
PAY FOR PERIOD ENDING			650
07/02/2008		TOTALS	679
TAX	OTHER DEDUCTIONS	NSSF	
Christmas Club	9	EMPLOYEE	33
MLC	16	MLC	16
118	25	EMLOYEE	16
		NET SALARY	
		BANK	597

Payslip showing an employee's salary and deductions as well as allowances where they apply.

Features of the Payroll

- Holidays, sick leave and long service leave are accrued automatically.
- A full history of pay details is kept indefinitely.
- Pay slips may be previewed on screen, to confirm accuracy of data entry.
- Unlimited earning codes and cost centres help to provide a detailed cost analysis of staffing.
- The PAYROLL also provides comprehensive costing and reporting facilities based on unlimited cost centres, earning rates, allowances and deductions.
- Correct Password permissions give full security to the payroll.
- Superannuating deductions are automatically calculated, and held for remittance to superannuating funds, (where applicable e.g. NSSF).
- Flexitime is automatically handled for employees (optional).
- Tax coefficients are easily changed on screen when new tax rates are announced.

Standard Printouts

- Employee details
- Alphabetical employee lists
- Personnel history reports
- Employee ID labels
- Lists of codes used in the payroll
- Timesheet reports (for hourly employees)
- Employee payslips
- Cost & Earning centre reports
- Accumulated transaction reports
- Allowances & Deductions' reports
- General Ledger posting reports
- NSSF member details
- Periodic NSSF remittances
- NSSF Month/Year accumulators
- Leave liability reports

Employee details (up) and timesheets (down) both show an employee's photo such that the right data is entered onto the right employee record.

Cost Center	Code	Description	Reference	Hours	Rate/hr	Amount
PAY	H	HOURS		0.00	0.0000	650.00

10. System Manager

System requirements

Pentium processor on a single PC or network (for easy installation)

128Meg or more of RAM (with less memory, restrictions may apply to the number of module screens that can be open concurrently – e.g. Students but not Parents)

WINDOWS 95+

Hard disk drive with at least 100MB of free space

A printer (all printed reports are designed for A4 paper)

Display settings: 800 x 600 (minimum)

Font size: small fonts

Software Support

The school will be supported by phone, Fax, Email, Direct contact and as follows:

- ✓ Questions regarding the use of the software will be answered on training, by phone and by return email.
- ✓ Problems with data will also be resolved. The school may send its data files with email or in person, so that our software can address specific problems.
- ✓ Errors or hardware related problems would be resolved by a diagnostic that the school would be asked to send. The diagnostic gives details of the user's hard disk and operating system environment – enough for us to recommend a course of action.
- ✓ Additional programs will be tailored to your exact needs.

Multi-Usability Vs Security

The system will be network ready. Authorized users will have immediate access at any terminal to the most up-to-date information available in case a network will be developed. Any amendments made on one terminal will be immediately available to all authorised users - ensuring the highest degree of accuracy is maintained.

Data security will be provided for through making backup disks and through correct password permissions that may be set up by the database administrator. More than 20 passwords may be set up, each with its own levels of access. In this case, an authorized user will need a password before starting to use the system. Access may be further restricted to various functions within any module of the system. The system 'Log file' will provide information on who entered where and at what time and what they did there. This is a very sophisticated disaster tracking and recovery tool.

Areas for Future Development/Automation Include:

1. The Library System (Available on request)
2. Fixed Assets register