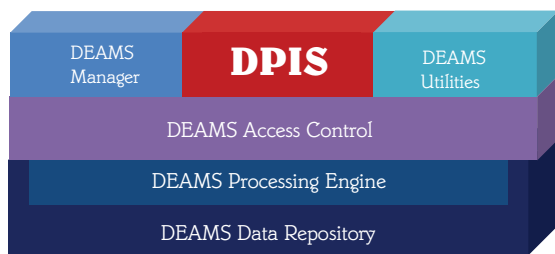




## Better education through better data...

The DEAMS platform is a computer application framework developed to address the education management and assessment needs of developing countries. The solution is designed for the PC-based Microsoft Windows platform, and is now available as a web application. It creates a structure with the flexibility to incorporate components from other vendors to facilitate the exchange of data. By so doing, it is possible to realise the benefits of using proven specialist products whilst accommodating locally developed components.

Use of the solution requires no specialist computer knowledge, basic keyboard skills and knowledge of Microsoft Windows environment would be advantageous. The use of industry standard tools and systems greatly enhances the longevity, ease of use and support of the solution.



DEAMS provides a suite of applications, as illustrated, which are useful tools in various aspects of the education sector.

### DEAMS Manager

The DEAMS Manager is geared towards stakeholders who develop and administer tests, as well as those in policy development. The design objective of the solution is to produce an application with a generic model for processing examinations and readily adapts to user-supplied rules and parameters. This, along with templates representing typical institutional scenarios allow for ease of implementation.

DEAMS is modelled around a group of core entities or objects:

- Learners & Learner Groups
- Institutions & Institution Groups
- Programmes of Study or Courses
- Subjects
- Examinations
- Test Administration
- Interest Groups

The solution provides facilities to maintain a wide range of data on each of these entities as well on several supporting entities, all of which comprise the framework of an instructional and educational assessment environment. The examination or assessment procedure is designed on two models:

- (i) Periodic examination sitting with registration of candidates for each sitting when all relevant data is recorded and the candidate is assigned an identifier. This is ideally suited for independent examination and certification bodies that carry out periodic testing in which each exercise is complete and independent of another, for assessment and certification purposes.
- (ii) Universal registration provides for the complete registration of eligible candidates entering the institution for the first time. Each candidate is assigned a single permanent identification reference, valid for all the years spent at the particular institution.

This model facilitates continuous assessment, tracking and retrieval of student data. It also allows for flexible analysis of user defined interest groups among a number of schools or for groups within a particular school or institution, thus making study or research easier.

### DEAMS Processing Engine

The DEAMS Processing Engine facilitates the processing of assessment exercises in quantities from individual institutions to entire regions in both periodic and universal registration. The processing engine provides registration, test administration materials production (timetables, answer sheets, etc.), scoring, grading, certification and reporting facilities.

The user interface of the DEAMS Processing Engine is provided by the DEAMS Manager, which provides complimentary test development support facilities. It offers a generic examination processing framework which can be configured to suit the most complex examination structures. Its flexibility is enhanced by the ability to integrate with the DPIS application to share data and functionality between the two.

The processing cycle is divided broadly into six modules as shown below:

- Set up & Configuration
- Registration
- Data Collection & Processing
- Promotion/ Matriculation
- Data Aggregation & Analysis
- DPIS for school planning

The DEAMS Processing Engine is capable of producing count of correct responses, raw, percent and standard scores as well as percentiles and stanines. In addition, strand scores or sub-scores can be recorded allowing the assessment of mastery of specific curriculum or instructional objectives. This broad structure facilitates the use of norm-based or criterion-based testing, or both, as required.

This module also facilitates the generating of scores based on regression analysis. This is applicable in cases in which a learner might have missed a subject or paper, depending on the structure used, and the assessor determines that it is statistically proper to have a score generated for that, so as to allow the learner to be realistically ranked.

The processing facilities are supported by reports which provide information at various stages of the process. Many of these provide feedback to enable test developers to improve the quality of the test instruments over time. It provides educators and institutions with more detailed information to provide an improved quality of education over time.

## DEAMS Access Control

Data integrity is important in data systems generally, and is of paramount importance in this context. Users must have the utmost confidence in the data presented by the system hence the following application.

Through the DEAMS Access Control layer, DEAMS implements various access control, validation, security and audit mechanisms to minimise the possibility or inaccuracies and inconsistencies in the data, whether originating from genuine system or human error, or malicious intent.

The user is afforded the ability to analyse data beyond the scope of the DEAMS applications, using their flexible data export facilities and any statistical application which the user chooses, such as SPSS, Stat Graph or S-Plus.

## DPIS

DPIS is an application that allows institutions to manage learners, staff and facilities. It leverages technology to provide a collection of tools to support users at all levels within an educational institution. It provides extensive and comprehensive record keeping for all aspects of institutional life, including extra-curricular activities and provides the means to co-relate this data with assessment data to better guide learners, instruction givers and administrators.

The DPIS modules currently available are:

- Student Registration
- Student Records
- Student Accounting
- Staff Records with Attendance Register
- Grade Book with Attendance Register
- Certification
- Promotion
- Curriculum/ Syllabus Records
- Unit & Lesson Plan Records
- Discipline
- Guidance and Counselling Records
- Sports
- Clubs and Organizations
- Calendar
- Asset Register
- Library Services with Materials Rental
- Locations & Facilities Management

- Medical Station Support
- Assessment
- Report Centre
- User and Permission Management
- Institutions (e.g. an institution which a learner may attend)

DPIS may be implemented with varying combinations of modules with additional modules being added as the need arises or the budget permits. It maintains historical data for all modules, limited only by database engine restrictions and the availability of storage space. Data which is deemed to be no longer current may be archived or accessed as and when required.

DPIS also provides a broad suite of standard reports geared at the day-to-day operation of the institution. Additional custom reports may be added by the publisher or by the user via a report generator such as Crystal Reports®.

The DPIS Manager modules currently available are:

- Aggregation of Data from Multiple Institutions and from all DPIS Modules
- Curriculum Maintenance
- Item & Test Banking
- Report Centre

Designed for suitability and affordability, with structured incremental implementation, the DEAMS suite represents a comprehensive end-to-end solution designed and developed in the context of developing economies, particularly in the Caribbean, and engineered recognising the challenges and nuances of this market.

## Customisation

Client specified customised reports may be added to any DEAMS application provided that the data required for these reports has been captured or generated by DEAMS. If required, customized screen forms and processes can also be designed to meet specific user needs.

## Supporting Consultancy

DEAMS support is available via telephone during working hours, and twenty-four hours per day via our online helpdesk and email. Our online knowledgebase is also available to all licensees. Users may track the progress of their tickets online as well.

DPK, along with our local and international partners, provide a range of education related consultancy services, which, while not required for DEAMS implementation and use, may be applied to advantage by institutions interested in expanding their scope. We are able to provide specialist services as well as run training seminars and workshops in specialist areas, or provide one on one support to staff in specialist areas. We will also provide the necessary close support to those venturing into specialist areas for the first time. By utilising these services institutions are able to further leverage their investment in DEAMS.



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