



MAGEC™ RAD PHP

Description

The MAGEC Rapid Application Development system for PHP is a very powerful, easy-to-use automated application development system that produces PHP/My SQL programs that run on an internet server and can be accessed from any device that can connect to the internet.

History

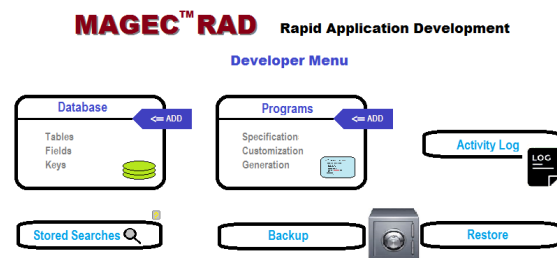
Al Lee & Associates, Inc. developed and marketed the MAGEC™ Rapid Application Development system for mainframe computers decades ago. The system is still in active use in large companies and government organizations. It is a dictionary-driven application generator that produces very powerful and full-featured online programs from specifications and data definitions with very little effort required by the developer. The new PHP implementation is based on the same proven principles; but is an entirely new product that takes advantage of the many powerful and user-friendly features that modern computer technology offers. It is even easier for a developer to produce working applications and the applications are even more powerful than was possible in the older environment.

Architecture

Applications consist of two major components: the database and the programs. A developer can define database tables and fields via MAGEC online functions. If the tables do not already exist, they can generate them immediately. If the tables do already exist, MAGEC will auto-populate its data definition from the MySQL schema. Then they can generate fully-functional programs by simply specifying which tables they wish to access.

The generated programs are ready to use immediately with no customization required. They include thorough data validation and formatting to protect against bad data being updated to the database. They also include very powerful scan and search capabilities, logical joins of records from multiple tables, audit trails of database updates, login security control, online help for every screen and every field, and many more features even without any customization—but, MAGEC also includes the ability to do virtually unlimited customization that will be saved in MAGEC's repository so the developer can iteratively modify, re-generate, modify further, re-generate, and so on without losing previous work.

If changes need to be made to the database definition, they can be made online to the MAGEC repository, then sync'd to the MySQL schema at the touch of a button. Then, the programs can be re-generated to reflect the changed database definition at the touch of another button. All this can happen in minutes, or even seconds!



Currency

One type of problem that often plagues application developers is a mismatch of versions of programs and database definitions. It is easy to modify the database definition, perhaps to add a few fields to a table, then to forget to update *every* program that accesses that table, whether as its primary table or as a joined table, so it will properly handle the new definitions.



MAGEC maintains a timestamp of all relevant activities, such as modifications to data definitions, synchronization with MySQL schema, alterations to program specifications or customization, generation of programs, and so forth. When a developer makes any changes it immediately knows what needs to be synchronized with the MySQL server definition and what programs need to be re-generated. It presents highlighted messages to the developer that include buttons they can click to do any needed task to bring all components current.

Consistency

Consistency and standardization are key factors in the power of MAGEC. Consistent screen behavior, functionality, and exception handling make MAGEC applications both easier to learn to use and easier to maintain. In keeping with that, MAGEC even encourages the developer to use uniform data names and formats from table to table and program to program by searching for and reporting inconsistencies. It will, for example, alert the developer if they define an *EmpNo* as a 9-digit numeric field in one table and as a character (not necessarily numeric) field in another. It allows the developer to allow the inconsistency if they wish to; but we believe that these inconsistencies are most often mistakes.

Consistent data names and definitions help MAGEC to automate even more processes; for example, MAGEC can assume that it can use the *CustomerNumber* in the *Invoice* table to automatically generate join logic to access the *Customer* table, or vice-versa. Of course, the developer can override that assumption via customization; but most of the time the assumption will be correct, eliminating the need for customization coding, if consistent names are used.

Stored Searches

The powerful search capability of MAGEC is the result of adding some intrinsic PHP features to the already powerful SQL capabilities and then adding some MAGEC enhancements on top of that. MAGEC also includes the ability to store search parameters for later re-use. The results of any search can be displayed to the screen, printed to paper or to a PDF file, or exported as a CSV file to be loaded into your spreadsheet software (Excel or any other), or imported into any other software product that accepts CSV input (most software does).

Stored searches can obviate the need for **report** or **extract** programs in many cases.

Audit Trails

MAGEC maintains a log of all database updates and also, as a standard, maintains a time stamp for every record in the database. These features can help you to recover from errors, hardware crashes, or malicious

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invasion. A user using any standard MAGEC-generated application can see a history of updates to any record by just clicking on a button.

MAGEC also includes an integrated **Backup and Restore** feature that keeps backup files in an organized directory and lets you do complete or partial restores at any time.



Updates to programs and data definitions are logged and timestamped and a backup of any table including its **definition and contents** is automatically taken before changes are applied to the MySQL schema. Even massive mistakes can be undone in a flash by simply restoring.

This same capability applies to the applications you develop with MAGEC.

Helpful Online Help

All MAGEC developer functions include online help for the screen, for every data field on the screen, and for the powerful search and extract features that are built in. Error messages are explicit and meaningful and the error fields are highlighted in red.

Of course, since the developer functions are actually MAGEC-generated applications themselves, all this is also true for every generated application you produce with MAGEC.

Because MAGEC's development is driven by the data definitions, a host of features are automatically generated for every data field on the screen.

Any field that is a date, for example, will automatically have a calendar date picker so the operator does not have to type in a date; but can point to it on a calendar. Currency fields are automatically formatted. So are phone numbers and numeric fields. Fields that have a finite list of valid values will present as either radio buttons or a drop-down selection list, as specified by the developer. Fields that are a VIN or NPI number are automatically checked for valid format and checksums, zip codes and email addresses are checked for validity. State codes automatically provide a drop-down list, and more.



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