

CASE STUDY

Genero® Studio



SCHAAFGRUPPE

The challenge was to respond to rising demand from diverse industries without escalating development costs.

The solution

Schaaf's approach was to create a library of configurable business objects that could be easily enabled and disabled at runtime according to industry, customer needs and user access rights.

Improved developer productivity. As one of the first developers with Genero Studio, Schaaf was able to create a single ERP solution serving all of its customers across multiple industries very early on. This approach has now matured into a platform that enables it to enter new markets and manage growth without escalating engineering costs – the development team never exceeds 5 people, even to this very day.

Of the 3.5 million lines of code that comprise the application, only 100,000 lines of bespoke business logic are written manually, which dramatically reduces maintenance and development costs. This ability to respond to new demand quickly is a key differentiator in the face of the industry giants that it often competes with.

Web services integration. Genero's COM and XML classes make Schaaf's solution one of few regional ERP solutions to directly integrate with Document Management Systems (DMS). All outgoing documents are automatically indexed and archived using 'Easy-Archiv' – a German industry leader. Incoming documents are given a bar code label and once scanned, are automatically appended to the corresponding operation. All related documents in the DMS can be displayed within the application using Genero's Web services generated with its intuitive wizard. Other Genero "utility" classes interface directly with "CSS" – a leader in accounting systems. This ease of use is best demonstrated by the Web services integration with Canon, Samsung and Nikon repair service centres for warranty claims and spare parts order processing – coded in just a few days.

Key points

- State-of-the-art solutions
- Cross-industry with single code stream
- Low development costs
- Runtime configuration, rapid setup
- Consistent application 'look and feel'
- Template architecture enforces conventions
- Templates improve quality and agility



"Over 10 years ago, I made the decision to use Genero Studio. Schaaf today is a much stronger company for having made that decision."

Holger Schaaf, Managing Director,
Schaaf Gruppe GmbH.

Background

For the last 25 years, Schaaf Gruppe has been providing their bespoke turn-key 'SCS' ERP system to small and medium sized businesses across a broad range of industries including printing and packaging, camera repair services, pharmaceutical and precious metal manufacturing. Installations are typically between 10 and 50 users.

Methodology

Template driven architecture. Once the database design is complete, the developer uses templates to associate business logic with screen layouts using Studio's Form Designer. New templates can be created quickly as needs evolve. These templates are then taken by Application Generator to automatically create the code that will eventually make up the finished application suite.

Quickly adapt with regeneration. Application Generator reads the database schema, its fields and their properties to generate a fully functional program. Bespoke workflow or data validation is coded manually within 'user blocks' of the generated source code – this protects it during code regeneration should the template be modified to fix bugs or support new features and technologies. Modified templates immediately apply everywhere – this is the value of such an approach. Program dependencies of the generated modules are identified automatically and a full rebuild is only necessary if the database has been modified.

Application Generator recognises 1:n and n:1 relationships at any level and creates the SQL query required for the creation, modification and deletion within a single or across multiple databases.

Training and support

Since Schaaf's application modules are identical in appearance, customer training is greatly reduced. Developers can also very quickly navigate their way through the source code and repair other colleague's work. Once errors have been corrected in the template, they are automatically fixed for all programs that reference it.

About Genero Studio

Genero Studio is an open software design framework developed by Four Js Development Tools for creating sophisticated, platform agnostic applications for the complex enterprise. Through object relationship modelling techniques, forms and reports based applications can be generated and adapted faster than more traditional development methods. Create applications in a fraction of the time and synchronize between database schema and data model as needs evolve. Application architectures can be visualized and code analysed before deployment to desktops, web browsers, smartphones and tablets.

About Schaaf Gruppe GmbH

Schaaf Gruppe GmbH provides a full range of business services ranging from organizational analysis, design, software and hardware solutions, office equipment, training and personnel support to manufacturers and service providers in the German marketplace.

Its software division, Schaaf Software GmbH, develops markets and sells 'SCS' a complete ERP system providing inventory management, service, and production planning control modules. Inventory Management includes order processing, incoming goods, auditing, and warehouse management. Service Centre offers an effective solution for service providers and manufacturers that manage repair processes such as confirmation receipts, estimates, supplier data transfers, warranty settlements, event monitoring, technical analysis, telephone support, and spare parts processing. Production Planning Control tightly integrates with its ERP system and caters to discrete and non-discrete manufacturing processes across multiple sites and service providers.

Web service integration with:

- CSS (market leader in accounting software)
- SAP R3
- Addison
- Datev
- Easy Archiv DMS
- Babtec QS/QM
- Solid Works CAD/CAE/CAM
- Atlas Export

... and tight integration with:

- MS Word/MS Excel

Application facts

- 700 screen layouts
- 600 programs
- 1,300 Create, Update, and Delete (CRUD) modules
- 150 lookup 'zooms'
- 3.5 million lines of generated code
- 100,000 manual lines of code
- 4,000 individual revisions
- A database with around 800 tables and 12,000 columns

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