Dialog

2019

anyvex Research. Software. Product.

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Information technology is like an extension of your mind

Software only exists
for one reason:
to benefit you.

Provide

Accelerate

Calculate

Simulate

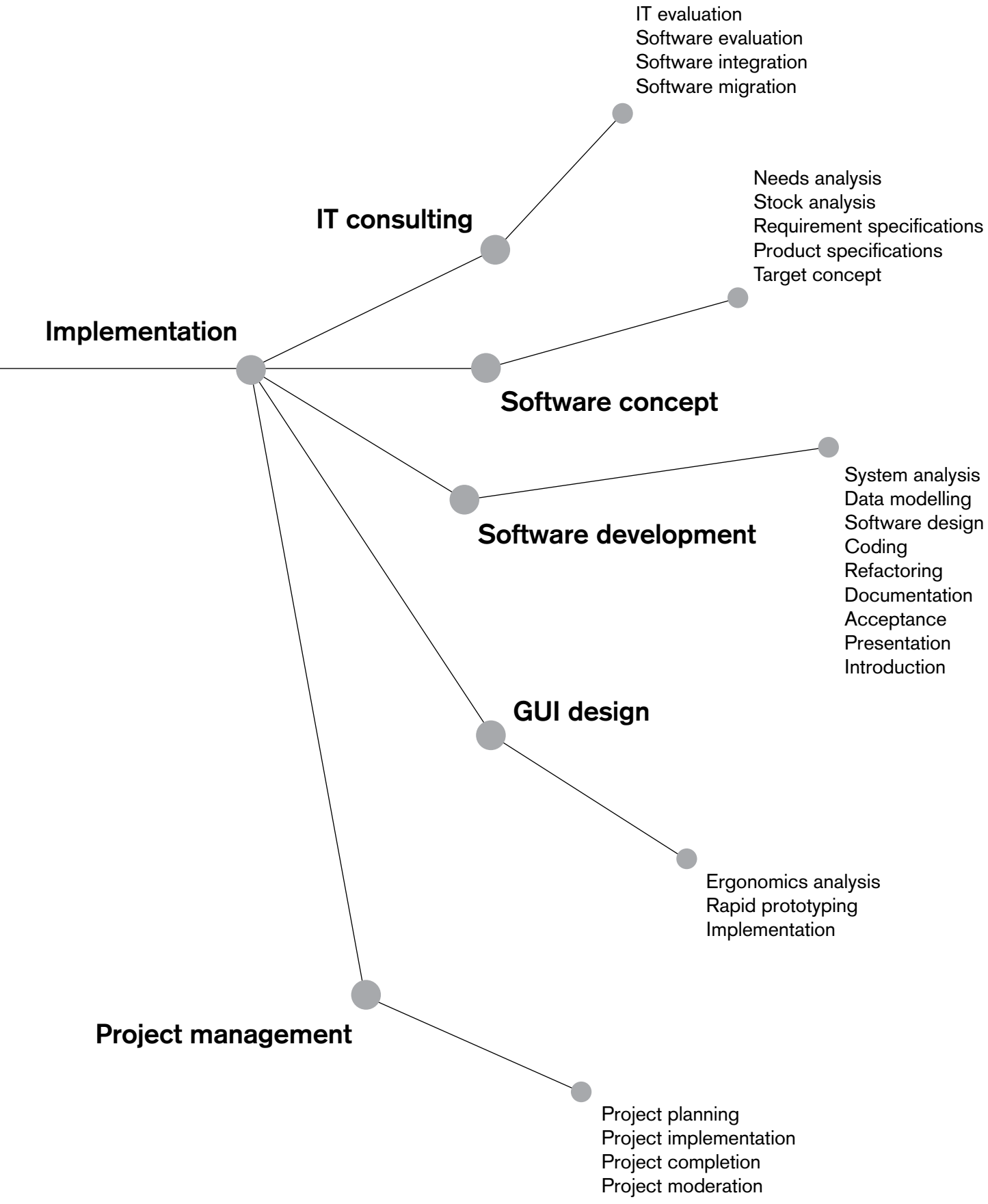
Allow time warps

Visualise

Capture the essential

Decelerate

Our services


IT evaluation
Software evaluation
Software integration
Software migration
IT consulting
Needs analysis
Stock analysis
Requirement specifications
Product specifications
Target concept
Implementation
Software concept
System analysis
Data modelling
Software design
Coding
Refactoring
Documentation
Acceptance
Presentation
Introduction
Software development
GUI design
Ergonomics analysis
Rapid prototyping
Implementation
Project management
Project planning
Project implementation
Project completion
Project moderation

Our key skills

Client/server web technologies

Simulation

Project management

Your value added

Evaluation and consulting

The software in your company must be continuously adapted to changing framework conditions in order to support your business success. What is the optimal way to structure these processes?
We offer you a comprehensive IT evaluation and recommend the optimal steps. You will receive a report that describes all aspects of the evaluation and shows which strategy is the most efficient for you.

The functional and data aspects of your applications will be checked for possible redundancy, as would be done following a company merger. A software integration concept will standardise the data model. Interfaces and conversion processes for data synchronisation will be newly and efficiently defined.

Save time and money by appropriate software migration. We develop your strategy, implement it and also provide noticeable streamlining of your software system.

Concept and application

A viable software concept directly and without detours? All this in agreement with your IT strategy, based on the latest software technology and compatible with your existing IT environment? The anyvex specialists make it easy for you.
We develop your software concept in close cooperation with you, using a documented, iterative process that also allows adaptation during the project.

We will develop reusable solutions for you, embedded in an integrated software development process. We are experts who offer valuable experience gained in numerous projects with structured concepts and open methods for leading industrial companies.

IDuring the planning phase, we will provide you with elaborate prototypes that enable you to simulate realistic examples on a GUI. We have the competence to design user interfaces that are perceived as attractive and achieve high acceptance rates among the users. Our front ends are used as reference products by our customers and were already presented at trade fairs.

Management and coordination

External project management is always focused on the overall project and higher-level goals. Our neutral and objective view will help you make your project interdepartmental, independent of individual interests and designed according to a common vision. We remain your partner, even when the tasks are very extensive and integrate all internaland external participants. Our controlling unit will inform you about the current status and ensure that costs and schedules are adhered to.

In our role as external consultants, we will gladly negotiate the project goal and budget with the end customers and suppliers at your request - from project controlling to quality assurance and verification of the goal achievements for milestones - from the coordination of integrated project parts to the acceptance deadlines. We coordinate, verify and document all sub-tasks for you - to ensure excellent results.

Our experience shows that large projects require project coordination. The project coordinator maintains continuous information exchange with all project participants and ensures that everybody is integrated and understood. He recognises hidden problems and helps to find viable solutions. It requires high social competence to stimulate collegial cooperation in the project team and to overcome faults in a productive way.

Jürgen Augsbach
Managing director

Detailed skills

Paradigms

We will use common paradigms for the design of your software. There is no good, bad, ideal or generally applicable programming paradigm. We follow a pragmatic approach and will use the most suitable paradigm for the respective problem area and the relevant software environment in agreement with our customer.

When the solution approach allows for alternatives, we will discuss those with you. When different solutions provide equivalent advantages, we will tend to prefer object-orientated, declarative and generic approaches.

Quality assurance

Each project is different and has its own dynamics and safety relevance. We will select the appropriate methods and procedures for quality assurance and combine them in an integrated package. The implementation of extensive software tests, including test-driven development, is relatively expensive, but your investment in our selection of quality-building measures will be worthwhile: follow-up costs for the removal of faults at the end of the development process are reduced and resource planning becomes significantly more reliable.

Our frequent participation in projects in the defence environment has made us familiar with the use of standardised quality models (V-models) to achieve high and exceptionally high requirements regarding fault-free software. This may, on the other hand, improve innovative developments in a project when the less safety-critical components are not developed in a test-centred manner.

Technologies

Our specialists have been working on projects in various industrial sectors for over 15 years. We are therefore familiar with all common and popular technologies that were used in the last one-and-a-half decades. But for us, this is not a reason to relax. We use our solid technological competence as a basis to explore the future. We stay current through focused study of all important, current trends in software technology. We regularly test new developments to determine whether they might be of use in our software projects.

Here is one example: we decided to use the Open Architecture Ware platform instead of the common XML processors in the A400M project and have managed to establish the automated generation of models (controllers, sensors, etc.) from XML-based interface descriptions with a high level of reusability.

Languages

The anyvex development team focuses on object-oriented and declarative languages. Intuitive GUIs are preferably created with Qt4 or C# (Windows .NET). Recent applications in the Java environment used application frameworks.

Our customer Airbus uses the TSD (Tactical Scenario Display) developed by anyvex for the simulation of flight manoeuvres. It allows a view of the manoeuvre on loadable map material, similar to Google Earth. We managed to provide the TSD within a relatively short period, as we based it on the ANYCLIPSE* framework, which was also developed by us and in turn builds on the Eclipse Rich Client Platform.

* ANYCLIPSE can be used to create geo-information systems (GIS). ANYCLIPSE facilitates the integration of 2D/3D map material, an interface to view live information (e.g. simulation data, flight path), hierarchical layers for controlling the map information level and Google Maps integration with a KML interface.

Enjoyment through IT

Case Study 1 anyvex developed numerous interdepartmental, web-based applications for the intranet of the research and engineering centre (FIZ) of the BMW Group. The ANYFRAME* Java web application framework, which was designed and provided by us, is the joint framework for all applications. Migrating external software into the BMW Central IT system requires consistent checking of the architecture, integrity, behaviour under load and security of the software in a standardised test and acceptance workflow.

All ANYFRAME web applications fulfilled the criteria required by BMW right away. We defined the use cases in tight cooperation with the users at BMW. The development of the user interfaces was iterative, using Perl-based prototypes. The solutions used by BMW included:

Virtual Safety XML: Administration and organisation of input and evaluation datasets for crash simulation in the field of driver/passenger safety during pre-series development.

Feature Fitment List: Table-oriented administration of safety components in vehicles, with provision of an Excel interface for data import and export.

Connect PDM: Integration platform for control and communication of different PDM systems and pre-processing tools used at BMW, in cooperation with Stuttgart University and the Federal Ministry for Education and Research. Reference project for the use of CORBA as middleware.

Our BMW supplier status enabled us successfully to negotiate several maintenance contracts for the operation of ANYFRAME web applications extending over several years.

* ANYFRAME allows you to create table-based web applications. It offers adaptors for common databases, user, role and rights administration, personalisation, storage of complex searches, import/export of any data, integration of external applications and many other features.


BMW

Advantage through IT

Case Study 2 After the successful introduction of the XViSa data management system at BMW, we succeeded in establishing the comparable Occupant Safety solution at Audi AG. We coordinated the required adaptations of the applications to the IT environment of this globally successful automotive company in a series of sub-projects.

Flexibility through IT

Case Study 3 Time management for staff members and external partners of T-Systems is handled on behalf of the whole company with a J2EE application that is integrated into the T-Systems e-business portal. We were awarded with a contract for planning and implementation of the complete holiday and stand-in planning area, as anyvex has excellent skills in GUI design. Our challenge was to capture the complex, role-based workflow in a user-friendly and intuitive manner with a web-based user interface. The solution designed by us found broad support and was shown at trade fairs and in presentations as a reference product for the time management system used.


Audi
Audi A8 Hybrid


T-Systems

Protection through IT

Case Study 4 anyvex has been closely cooperating as a strategic partner of Krauss-Maffei Wegmann in training and simulation. We have, for example, developed a completely new method for the automated creation of infrared textures (IR view) used in the Leo II (Leopard II simulators for the Swedish armed forces). The temperature values determined are transferred back onto the original texture coordinates of the wire-frame model, based on thermo-analysis calculations for 3D models.

Numerous other activities for Krauss-Maffei Wegmann are evidence of excellent cooperation. Here is just a small selection:

_Visual system optimisations and redesign (wheel simulation, German armed forces)
_IT consulting with regard to visual system simulation (Swedish armed forces)
_Interface concepts for the integration of external visual system components (INDRA, Leopard II, Spain)
_Discussion, design and development of PC-based visual system prototypes (Gepard anti-aircraft tank, German armed forces)
_PC-based scenario viewer (stealth overview / SteVe, desktop system for officers of the Federal Office of Defence Technology and Procurement, German armed forces)
_IIT consulting for the compilation of offers, for example, concerning the adaptation of visual systems (Federal Office of Defence Technology and Procurement)
_Maintenance contracts for several years (operation, further development, knowledge: Gepard anti-aircraft tank, German armed forces)

Krauss-Maffei Wegmann (KMW)

Connected worlds through IT

Case Study 5 2005 launched the first joint project with the European aerospace group EADS (Division Military Air Systems, Cassidian, now Airbus Defence and Space). Until now, anyvex got involved in projects concerning Eurofighter, A400M and Tornado environment. A number of products are built on ANYCLIPSE *, that prevailed as a standard in Airbus / Eurofighter environment.

Thus, for example, the simulation of an AWACS C2 station acts as a control center for research and development projects (SAR image transmission / evaluation, cooperation with ESG, UAV project). The plug-in concept of ANYCLIPSE Framework makes application shortly adaptable to new requirements.

Since 2008, anyvex has handled the whole GUI development (in-game-GUI, instructor-GUI, student-GUI) for the Telerob EOD / IEDD robot training simulation.

Since 2010 anyvex has been planning integration and upgrade measures for FCS (Flight Control System) and IMU (Inertial Measurement Unit) for the EF ASTA project.

Since 2011 anyvex has been developing a head tracking based solution for the simulation of the helmet vision system (Helmet Mounted Symbology System, HMSS) in Euro Fighter HEA helmet (Helmet Equipment Assembly), which, inter alia, is used in Euro Fighter 8-channel Trainingsdom (MACS).

Since 2014 anyvex is decisively essential involved in the development of components of the Tornado Desktop Trainer (TSD) ASSTA 3.2 (MIDS-simulation).

Since 2015 anyvex is designing for Human Factors at Airbus, the Java / Eclipse-based engineering software XHTA (Hierarchical Task Analysis), which is planned to be used as standard software for the development of operational concepts and cockpit design, starting in 2016.

Moreover anyvex perceives in 2016 consulting tasks for future cockpit designs at Airbus.

Airbus Group

Services from A to Z

IT consulting

_Requirement analysis
_Business process optimisation
_Status analysis
_IT evaluation
_IT coaching
_IT strategy
_Feasibility analysis
_Migration strategy
_Process optimisation
_Interface optimisation
_Training
_Safety analysis
_Software ergonomics
_Software evaluation
_Software integration
_Software migration
_Software strategy
_Target concept
_Standardisation
_Strengths/weaknesses analysis
_System integration
_Usability analysis
_Streamlining
_Profitability analysis

Project management

_Budget planning
_Controlling
_Technical concept
_Detailed concept
_Business process definition
_Overall concept
_Harmonisation
_IT concept
_Conflict management
_Staff interviews
_Project definition
_Project documentation
_Project communication
_Project management
_Project coordination
_Project planning
_Project presentation
_Project security
_Quality assurance
_Reporting
_Resource planning
_Risk planning
_Target/actual comparison
_Team building
_Team coordination

Software concept

_Needs analysis
_Status analysis
_Requirement specifications
_Product specifications
_Target concept

Software development

_Acceptance
_Coding
_Data modelling
_Documentation
_Introduction
_Presentation
_Refactoring
_Software design
_System analysis

GUI design

_Ergonomic analysis
_Implementation
_Rapid prototyping

Skills from A to Z

Paradigms

_Agent-based software structures
_Aspect-oriented design
_Generative coding
_Generic software design
_Model-driven architecture patterns
_Object-oriented design
_Process-oriented system development

Quality assurance

_Constructive cost model
_Grey-box test
_Software metrics
_Software testing methods
_Test-driven software development
_V-model

Technologies

_Client server
_CORBA
_Eclipse modelling framework
_Eclipse rich client platform
_Design pattern
_Intranet/internet portal development
_Microsoft .NET framework
_Military simulation
_MIL-standards
_Model-driven architecture
_OSGi framework
_Platform-independent development
_Visual system development
_Simulation frameworks

Languages

_Boost
_C++
_C#
_J2EE
_Java
_Java-Frameworks
_Microsoft .NET
_MOF
_OpenGL
_Perl
_PHP
_Python
_Qt
_Ruby
_SQL
_STL
_UML2
_XML
_XML processors
_XML languages

The most important case examples at a glance

BMW

Features:
_Client/server
_Databases
_Intranet
_Software migration
Services:
_GUI design
_IT consulting
_Project management
_Software development
_Software concept
_Maintenance contracts
Products:
_ANYFRAME
_Connect PDM
_Feature Fitment List
_Virtual Safety XML

Audi

Features:
_Client/server
_Databases
_Intranet
Services:
_IT consulting
_Software concept
_Maintenance contracts
Products:
_ANYFRAME
_Occupant Safety

T-Systems

Features:
_E-Business
_Intranet
_J2EE
_Role model
Services:
_GUI design
_IT consulting
_Software development
_Software concept
Products:
_ANYFRAME
_Holiday and stand-in planning

Krauss-Maffei Wegmann

Features:
_HLA / DIS
_International projects
_Visual system simulation
Customers:
_German armed forces
_German railway
_Swedish armed forces
_Spanish armed forces
Services:
_GUI design
_IT consulting
_Project management
_Software development
_Software concept
_Maintenance contracts
Products:
_IRTex
_SteVe
Topics:
_Interface conception (Leopard II)
_Simul. tracked vehicles (Leo II, Gepard)
_Simul. wheeled vehicles
_Simul. rail vehicles

Airbus

Features:
_HLA
_International Projects
_JMessages
_MIDS
_Model Driven Architecture
_Training simulation
Services:
_GUI design
_IT consulting
_Software development
_Software concept
Products:
_ANYCLIPSE
_AWACS C2-Station
_Instructor Operator Station
_Scenario Overview Tool
_Tactical Scenario Display
Topics:
_A400M
_AWACS
_Baracuda / Talarion
_EFA ITD / Eurofighter
_EF ASTA / FCS / IMU
_Telerob

Company information

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Exclusion of liability

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