INTERVIEW

Making the Case for Upgrading to STREAM

Nella Klopotek, EVP UX Design & UI Development, and Peter Karwowski, CTO, explain why publishers should upgrade to STREAM technology: reduced costs of ownership and happy users.

As a key part of Klopotek’s long term strategy, Klopotek is now in the fourth year of the development of smart apps that run on its cloud-based platform, STREAM. What is the difference between STREAM and the Classic Line that users notice first?

Peter: Using STREAM is fun. In the STREAM world, the user is at the center of everything. Today, the success of software stands or falls with user acceptance. The applications running on STREAM, our cloud-based technology platform, are fast, intuitive and – most important – enjoyable to work with. The great user interface, optimized for all types of devices, is the first thing users notice.

Nella: During the last few years, we’ve witnessed many changes in our day-to-day lives which are heavily affected by developments in technology. These changes are influencing how people work and expect to be able to work. Ten years ago, software systems and programs were more limited in their capabilities, especially in terms of the user interface. This limitation had a significant impact on usability and made working with these solutions anything but user-friendly: systems were clunky and tasks often difficult to handle. Today we see an interesting transformation process under way: it is no longer clear where technology begins or technology ends.

Augmented reality, as well as apps as tools for so many things in our everyday lives, from navigation to recognizing the title of a song playing on your phone, are just examples. As a result, users have rightly come to expect more of the same in their working environment: technology as a guide – as well as smart and easy to handle. In other words: technology that one doesn’t think of as ‘technology’ when using it. Although the architecture of STREAM is state-of-the-art, it is, of course, hugely important to achieve the ‘app feeling’: i.e. support for all the processes you deal with in an intuitive way,

Peter Karwowski, CTO
with the feeling that there is no software between you and the tasks you handle.

**Peter:** Agreed – digital natives have come to expect this kind of workflow support from us.

**Nella:** Yes, definitely, you cannot expect these digital natives to do five clicks for an action that can now be done with a swipe on the mobile.

Is Klopotek STREAM more than a state-of-the-art version of Klopotek’s well-established Classic Line?

**Peter:** Unquestionably, yes. STREAM is built on a completely new, future-proof technology stack that works on the same data model as the Classic Line. Important functional enhancements of the Klopotek system will primarily be available in STREAM applications, and if absolutely necessary, in the Classic Line. This is because specific apps are being developed to support specific business processes, such as the Royalty Sales Editor, the Contract Workflow Manager, Product 360°, and the Book Fair module of Rights Sales Manager, just to name a few among many already available and in development. These apps need STREAM as a technology platform with its user-centric approach.

**Nella:** Peter mentioned new apps for new processes, but we’re also developing STREAM apps which ‘look’ at processes that are covered by the Classic Line in a new, contemporary fashion. An example of this is the Blurb Manager app: it helps the user create and assemble all types of texts that are needed in the title approval process, for marketing activities as well as for providing bibliographic details.

**Peter:** In contrast to the Classic Line, STREAM is essentially an ERP system that can be separated into multiple elements for significantly enhanced workflow support – and these elements are seamlessly integrated.

**Nella:** As a company, we have 25 years of knowledge supporting and harmonizing publishing processes. This expert knowledge – which is the foundation the Classic Line is built on – remains exactly the same, but with STREAM we can use it more flexibly for various types of users who work with our software, not just for the Power User.

What software frameworks does Klopotek rely on to achieve STREAM’s high performance? In which aspects do you see our software architecture choices as a key benefit?

**Peter:** STREAM is an ‘orchestration’, as it is often called in information technology, of best-in-class frameworks and processes covering the entire product development process, from product development to production.
management to quality control and deployment. A fundamental element of this is agile software development and project management, which is ensured by automated quality testing and continuous delivery. This is complemented by a number of selected frameworks which are used to reach our goals in terms of flexibility and performance. The dashboard functionality is one example: The framework is based on Angular JS, and the widgets which can be shown in the dashboard using drag-and-drop are customized to show the specific content they are built for.

Nella: To be more precise, it is an Angular Plug-in: a canvas, or frame, to drag in various components: the widgets. It is an open-source plug-in developed by Sebastian Sdorra, which is to be used under the Open Angular Dashboard Framework license, an MIT license. But we only use this technology as a basis; we’ve optimized and tailored it to work for the specific requirements of the publishing industry. We’ve only been able to do this because of our subject matter expertise in this area.

Peter: In general terms, we use selected open source technology frameworks and tools to build our own Klopotek Software Development Kit which allows us fast and safe development built on highly reusable components in the core and for domain-driven functionalities. Tools like SonarQube and Apache JMeter help us to measure the quality of our development steps in the entire production chain.

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Nella: The dashboard functionality is also a key element in STREAM to provide true workflow support. Some elements of the dashboard are predefined, to ensure standardization and the ability to process a large number of data from various areas of the user’s organization in a short amount of time. This said, other elements are very flexible and enable the individual user to display a tailored view.

Central entry point for all Title Management, Editorial, and Production apps!

"Product 360° could definitely be a solution for us to get people to adapt and look at the information from Klopotek more readily that they want to know about – all in one screen, quickly and easily."

George Ricciardi, Director MIS, F.A. Davis Company

As your basic master information and control center, Product 360° provides a complete 360° view on all product information to the various functional types of users in your organization with a fully configurable, widget-based dashboard. It also provides seamless and fast jump-out functionality to other applications.
of this data in order to be able to complete their tasks in the best possible way. There is no loss due to data transition.

**Peter:** The dashboard is part of a larger UI Library that Klopotek employs to ensure recognizability across all STREAM apps and the corporate design. This same library also helps us to have a faster software development process.

**Nella:** There are two different approaches to UI views in STREAM. There is the dashboard approach: users get all the information that is available and can tailor it according to their requirements. And there are defined UIs or views that are optimized for the processes they are used for, to make them as intuitive as possible. In the latter category, there are several important questions to be addressed, such as: Which information is important at what point in time? Where are the points of interaction and how can these be handled as smoothly as possible? These are just a few. In our STREAM apps, users jump from one UI concept to the other without any conflicting transition.

**Peter:** I think we could call this 'standardized flexibility'. It sounds contradictory, but this is what our dashboard and UI technology offers the user, in a nutshell: a standard that enables flexibility.

How can the dashboard technology of the STREAM platform provide an even tighter integration of technologies, in comparison to the Classic Line?

**Peter:** In the STREAM dashboard, we can also display data from third-party providers in real-time.

**Nella:** In a broader sense, and this is not limited to STREAM but a change in our development activities that started over five years ago, we have been relying much more on web services.

**Peter:** True, but we’ve made much better use of this change in STREAM. In the Classic Line, the user interface and business logic are not separated but merged in one layer. In STREAM, the user interface is connected with the business logic via highly reusable web services.

**Nella:** The web services make this possible: a separation from the various business logics or the layers.

**Peter:** The entire business logic is moved to the back-end and addressed via web...
services, so a much more flexible integration with web apps, user interfaces, and data from third-party applications can be achieved. Using this approach, Klopotek can ensure smooth EAI – Enterprise Application Integration – on a state-of-the-art level. An element of this, to be delivered in the next version of the Product 360° app, will be a unified, combined 360° view of both one-off and subscription products. In the Classic Line, these two types of products are separate worlds.

Can you name other significant alignments of STREAM with state-of-the-art technology?

Peter: The search functionality of our Product 360° and Contact 360° apps is based on Apache Solr, an open-source enterprise search platform built on Apache Lucene™. The key features of this tool are that it’s very versatile and scalable and at the same time highly reliable and fraud-tolerant. This technology provides distributed indexing, replication and load-balanced querying, automated failover and recovery, and centralized configuration. These are the crucial elements for what can only be described as a ‘breath-taking’ search performance: it can browse through large databases containing half a million titles, or more, literally in the blink of an eye.

Recently, we conducted a series of performance analysis studies at several of our larger customers. Our research produced some noteworthy results – we consistently found that users conduct up to 2,000 product or contact searches a day. It may come as a surprise to some, but doing product or contact searches happens remarkably often during the course of the work day, and added up, consume a considerable amount of time, up to 6,000 hours – 36,000 minutes – annually at larger publishing organizations.

Nella: By switching to STREAM, this time can be significantly reduced and used for other important tasks.

Peter: As for identity and access management, we also rely on modern frameworks such as JBOSS Keycloak, so – in addition to conventional methods such as LDAP – STREAM is also open for authentication via ‘social login’: social media accounts such as Twitter which are essential to bring end-customers or authors to our solutions.

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Nella: Speaking about this topic, it should also be noted that there is a single sign-on for all our STREAM apps. You log into one app – you’ve logged into all apps. And during the transition phase we’re now in, you can also jump from STREAM to the Classic Line, and vice versa. So all processes covered by Klopotek are seamlessly integrated.

Why is the adoption of open standards so important?

Peter: Apache Solr, Pentaho, Angular JS: open standards are now, in many cases, industry standard technology: several incorporate best-in-class practices and frameworks. There are powerful development communities that provide constant improvements in new versions, and Klopotek is an active member of these communities. As a result, we are much faster in our own development activities and better focused on topics which are particularly critical to the publishing community. It should be noted that we don’t rely on specific open standards but always ensure that we can switch to others if we think that this should be done: there is no dependence, either on a specific open standard or a specific community.

In which aspects can STREAM help to improve the quality of services and processes in a publishing company?

Peter: Bottom line, happy users are unquestionably more productive. Improved processes and fewer mistakes are just a few of the cost reduction benefits from employing STREAM apps.

If a publisher considers upgrading to STREAM, will the implementation project be the same as for the Classic Line?

By switching to STREAM, the time for conducting product or contact searches, up to 6,000 hours – 36,000 minutes – annually, can be significantly reduced and used for other important tasks.

Klopotek

We listened to each other and tried to keep each other ‘sharp’. This was a breath of fresh air to me.

Olaf Hoge, Manager Services, Noordhoff Uitgevers, on ‘Sprint Meetings’ with Klopotek for the CRM project.
In our STREAM development processes, we are very close to the customer and the future end-users, so we can tailor the applications to their individual needs.

Nella: No, it won’t. Of course, we have standards for implementing software and migrating data. These standards are based on our 25 years of experience as the industry-leading provider of publishing solutions. But, for STREAM, we’ve re-aligned many of our processes.

Peter: The keywords to name in this area are, once again, agile development and scrum projects. We chose the elements that we believe are the most efficient of these approaches and want to stress that working with your customers this way is really effective.

Nella: In our STREAM development processes, we are very close to the customer and the future end-users, so we can tailor the applications to their individual needs. This starts with the UI prototype and the related workshop phase of which Visual Requirements Engineering is a core component: the visual elements are put into focus, as ‘what you see’ is a very clear and powerful language to ensure that everybody understands the requirements and processes: end-users, developers, technology specialists, managers and decision-makers, you name it. Doing it this way, you have better, more direct control of the individual project steps and can be faster in the entire project.

Peter: So, you no longer have an implementation project for one comprehensive software module, characterized by a 3-6-month development phase followed by a review phase, but ‘sprint meetings’ every two weeks to discuss the requirements for a small app, and the solutions to meet these requirements, and make changes, if necessary, which will be presented very soon, during the next ‘sprint’.

Nella: Yes, it should be emphasized that STREAM, as a platform to host small applications, is perfect for this modern method of project management. The open standards and frameworks we use

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and customize are also important: we can be considerably faster in comparison to developing all elements of a solution ourselves.

Apart from reducing process costs, how can STREAM help to lower operational costs in comparison to employing the Classic Line?

Peter: There is an immediate reduction in infrastructure costs, as the Terminal Server and Citrix are not needed for running STREAM. And there is also the matter of the operating system. You no longer have to use Microsoft but can replace it with a UNIX-based OS. This is a significant reduction in operational

Nella: And you have so much more flexibility. You don’t need specific work stations. You can use any browser you like. You can use any device you like – tablets, smartphones. If you’re connected to the Internet, you’re ready to go …

Do you have any closing remarks you’d like to offer our readers?

Peter: STREAM is proving to be everything we expected when we launched the development program – it has been an unequivocal success and remains an extremely promising strategy as Klopotek enters its second decade supporting the publishing industry.

As a company, we have 25 years of knowledge supporting and harmonizing publishing processes. This expert knowledge – which is the foundation the Classic Line is built on – remains exactly the same, but with STREAM we can use it more flexibly for various types of users who work with our software, not just for the Power User.

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IT costs which should be considered in the Total Cost of Ownership calculation. But apart from the TCO, there is also the rolling-out of the software, upgrades, patches – all of these elements can happen more smoothly because of our continuous delivery approach. There is automated control of the functionality of the applications on a daily basis, and most aspects of delivering upgrades and patches are automated. You don’t need a project to roll out STREAM from the technical point of view.

Nella: STREAM is all about the user and our strongly-held belief that modern software should not be something you feel you must switch on first and strictly follow a collection of rules you often don’t understand but a visually pleasing, powerful tool, a smart guide to help you through your tasks. Friendly, flexible and of course, very powerful.

(Email / Questions by Dr. Stefan Kaufer, Klopotek)

The Klopotek Group develops innovative technologies and services inspiring publishing companies worldwide to embrace digital change. We contribute to the success of more than 350 publishers with more than 4,400 imprints, with over 14,000 users, in 140+ locations.