

codaxy

 assetmax



**DEVELOPMENT OF THE
ASSET MANAGEMENT SOFTWARE**

case study



CxJS

the enterprise framework



Combine Speed and Visual Appeal

Staying ahead of your competition is no easy task. One proven way to do so is to take advantage of modern technologies and design principles. For this reason, Assetmax AG's board of directors initiated to improve the user interface for their web-based software solution.



"We are rewriting our 300.000 line long Ext JS based front-end using CxJS. After a thorough analysis, it was an easy decision." –

Massimo Ferrari, Founder & CEO, Assetmax AG

Project Highlights:



Challenge

- ✓ Complex UI design
- ✓ Numerous components
- ✓ Large amounts of data
- ✓ Performance sensitive



Solution

- ✓ CxJS
- ✓ Experience
- ✓ Dedication



Results

- ✓ Advanced UI design and app navigation
- ✓ Codebase optimization
- ✓ Discernable performance improvements
- ✓ Visual themes and branding support
- ✓ Additional tablet app





About the Client

Assetmax AG is a Swiss-based company founded in 2013. They develop and maintain the most innovative software solution for independent asset managers and financial advisors.

Assetmax AG combines experience in portfolio management and software development to design software that delivers an excellent automation process. It optimizes clients costs and reduces operational risks by staying compliant according to the local rules and current with regulatory requirements.

Assetmax AG is among the fastest growing companies in Switzerland's service sector for independent asset managers. Their integrated software platform manages daily more than 30Bn assets.

For more information please visit the following [link](http://www.assetmax.ch) (<http://www.assetmax.ch>).

What We Think

Our clients are fantastic to work with and we learned so much from them. Thanks to them this project was an enjoyable experience.

What sets Assetmax AG apart are the employees that have a perfect mixture of business awareness and software development skills.

We are thankful that we established a long-lasting relationship with them and we are looking forward to our future ventures.





The Challenge

Having a functional and a modern user interface is a must for software at an enterprise level. The application needs to be refined, easy to maintain, and custom fit the user's requirements. It is essential that there is a continuous improvement of the overall stability and an increased level of performance of the software for continued success.

Assetmax user interface alone was not enough because the performance was in jeopardy, while the daily task of maintaining an increasingly complex code was becoming more difficult and expensive.

The Assetmax application handles a significant amount of data through an endless number of tables, forms, a variety of charts, and visual elements. All of this made the task of modernization even more challenging.

Assetmax AG decided to deal with the challenge by developing a new, more suitable visual theme for Assetmax user interface while keeping its functionality, patterns, and forms. They needed a more reliable technology that can seamlessly replace the old user interface they were using.

The Solution

We at Codaxy have a long-standing history in developing commercial themes for web application front-ends. When the founder of Assetmax AG , Massimo Ferrari discovered Codaxy, we familiarized him with who we are and what we can do for our clients. We both agreed that the primary goal was creating a new modern user interface theme for Assetmax.

The more we got to know our client and the challenges they were facing, our development team realized that creating a new theme will only solve part of the problem. When we showed our client the capabilities of the CxJS framework, he was genuinely impressed. Simply put, we provided proof why CxJS is the best JavaScript framework for building complex web applications for desktop and mobile.

“We were blown away by the technology CxJS provided.” -

Massimo Ferrari, Founder & CEO, Assetmax AG



We developed CxJS specifically for building high-performance enterprise-level user interfaces. The CxJS framework includes 50 plus ready to use widgets, numerous chart types, visual customization options, and technologies in the background that have been proven effective such as ES6, React, and Webpack.

“Using CxJS for our new user interface was a no-brainer. “ -

Massimo Ferrari, Founder & CEO,
Assetmax AG

Our client was impressed how CxJS has a different way of writing and developing a JavaScript user interface. It allows its user to build a system around test cases and develop interfaces on a much sleeker code base.

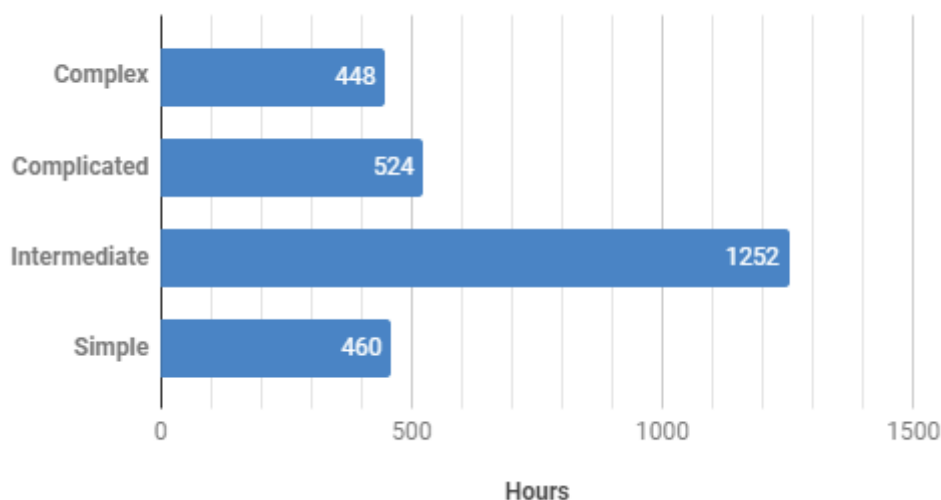
It was clear that the CxJS was a perfect match for what the Assetmax AG management team was searching for. A technology that will give a unique and contemporary look to the UI while optimizing the application’s source code and performance.

At this point, the scope of the project has changed drastically, and we found ourselves in a total redesign of Assetmax's JavaScript user interface logic. Additionally, we were also hired to develop a separate tablet version of the software.

Project insights

The project provided a significant challenge, putting the CxJS framework to an ultimate test. The project scope included implementation of nine application modules and separate tablet interface.

Time & Complexity estimation





To accomplish the primary goal of our software project, we estimated it would take around 2,500 person-hours to implement more than 350 unique components (forms, widgets, grids, charts, dialogs, etc.).

It is important to mention that during the project, we needed to improve CxJS with new features upon fulfillment of client requests.

Going into full details about the project would be too time-consuming for this case study. Having that in mind, we will briefly go over some of the most significant project requirements.

To satisfy the end-users needs, we were asked to develop a fully customizable dashboard with the following:

- ◆ An arbitrary number of separate dashboard panels
- ◆ Selectable dashboard panel layouts
- ◆ Tabable, moveable and interchangeable widgets
- ◆ Widget printing (client side)
- ◆ Widget zooming (maximize)
- ◆ Configuration and data persistence
- ◆ Optional synchronization between panels





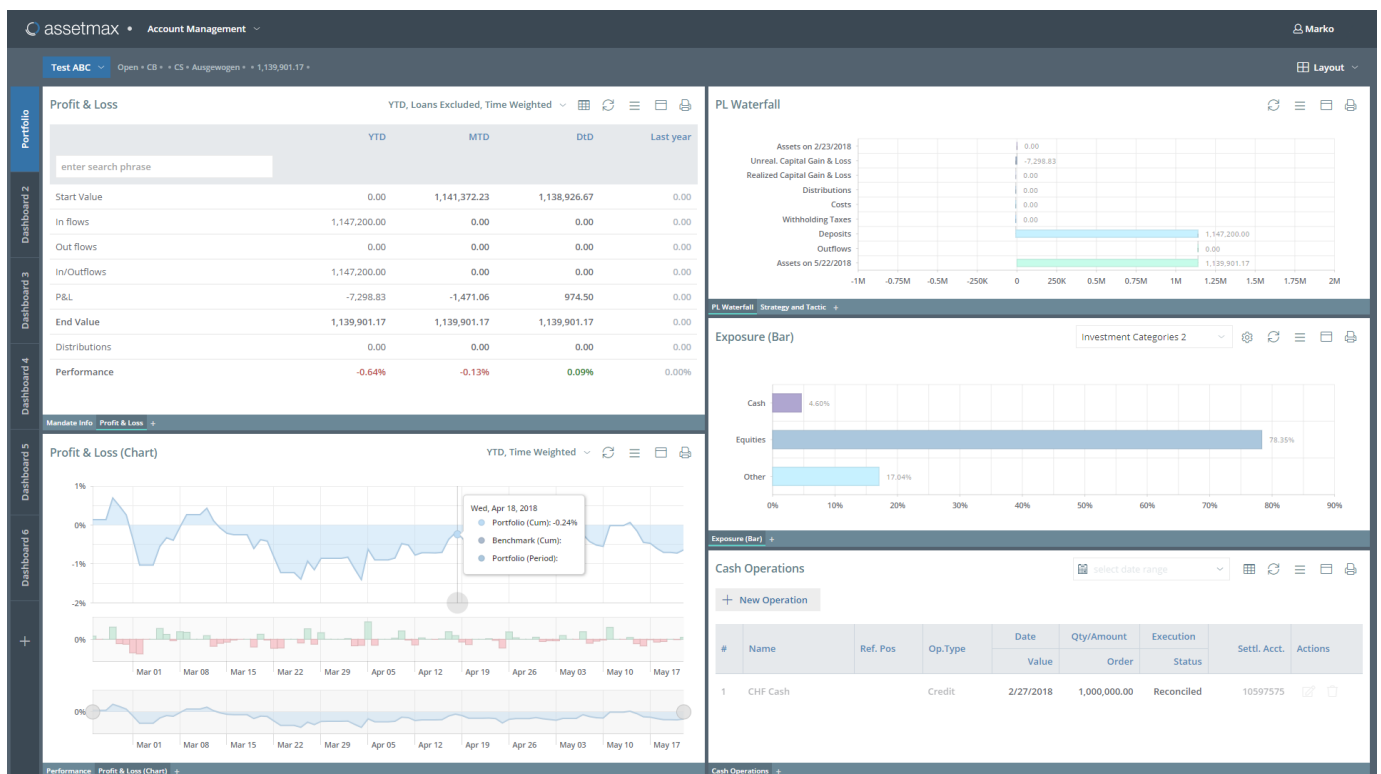
Our task was to transform most of the previous UI components into widget form to function within the new interface. In the next section, you can find screenshots illustrating the look of the developed UI and the actual dashboard.

This short project description would not be complete without mentioning one of the most demanding modules - Reporting Module. The goal was to have a report generator capable of considerable number of features. Reports are created and rendered as a web page allowing the user to customize on their own. This customization is done through predefined options in the UI editor or directly modifying the HTML underneath.

The User Interface

In this section we provide you with a couple of screenshots of the application interface, as well as the “before and after” picture examples.

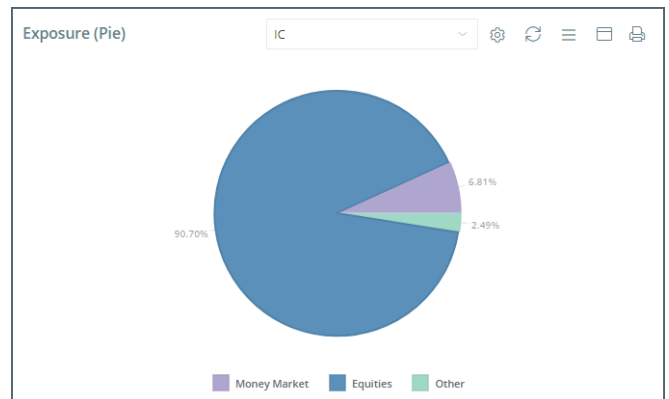
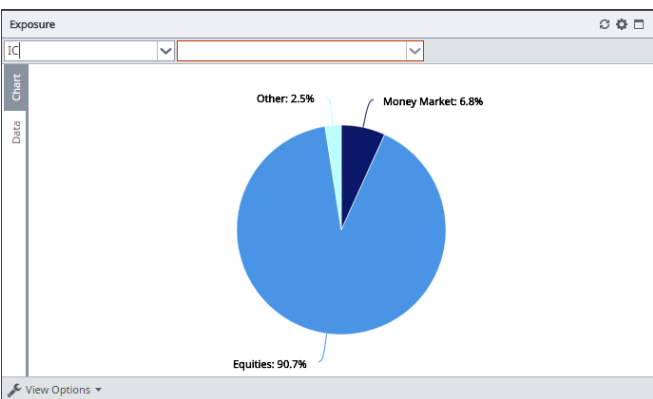
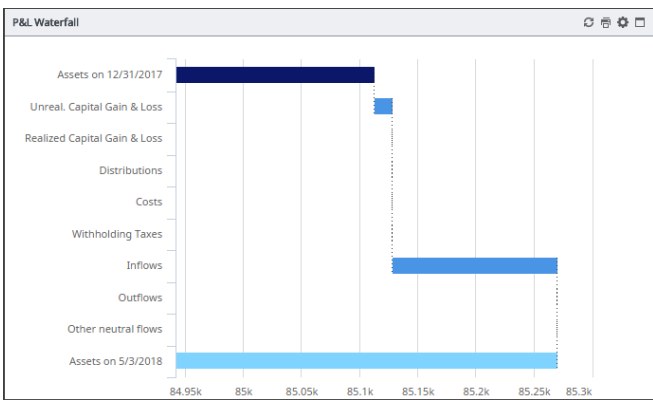
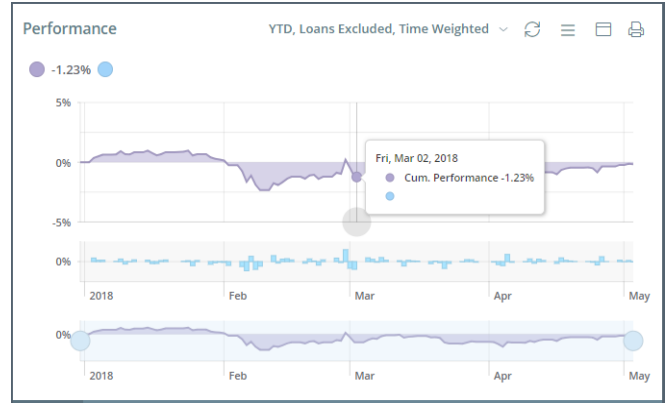
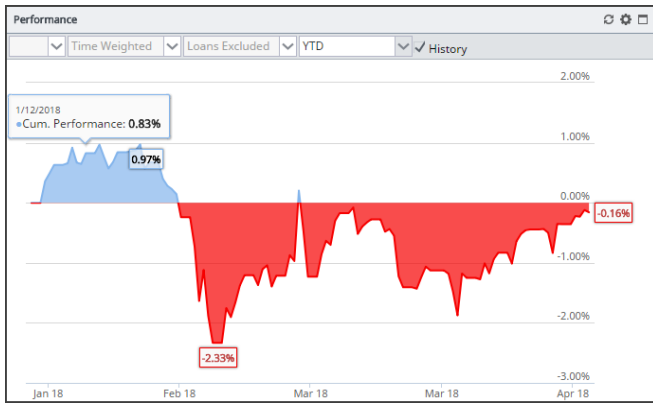
“I love CxJS! The UI is impressive, modern, and very clean.”
– Yuval Sharon, VP Engineering, Assetmax AG



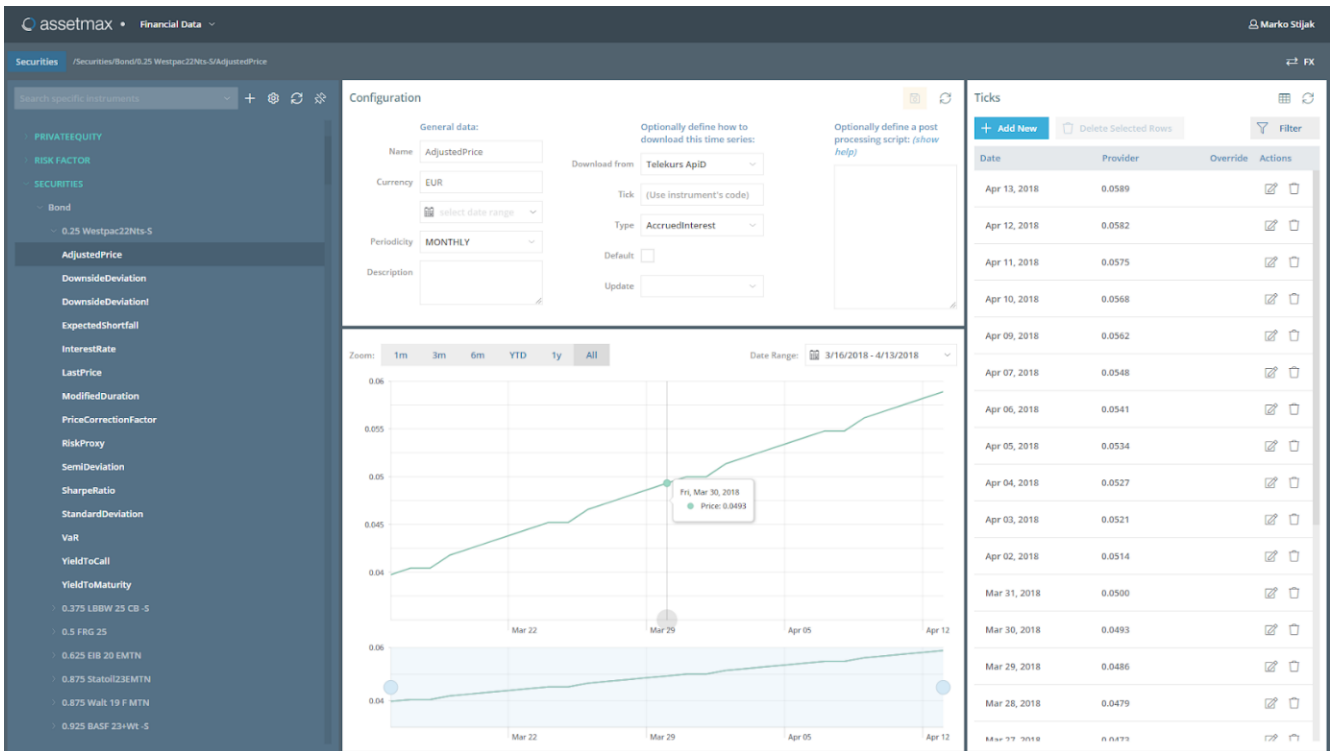
Picture 1 – Main dashboard panel with a five-widget layout



The application has a couple of base themes that can be further customized to reflect end-users branding preferences. To maintain consistency, we are presenting the UI of the new application taken in the single (“dark”) theme.



Picture 2 – Older version of the Charts (on the left) and the new Charts (on the right)



Picture 3 – Financial data module showing the time series component

The 'Cash Transfer' form in the 'before' state is orange-themed. It includes fields for Portfolio (Daniela Müller - Bank Zweipius AG), Transaction ID, Op. type (internal) set to 'Cash deposit', Original amount, Currency, Cash Account, Fx rate (1), Amount, Trade date (5/3/2018), and Value date (5/7/2018). There are also sections for Notes and Backoffice notes.

The 'Create a new instrument' dialog in the 'before' state is orange-themed. It has two tabs: 'Create from Telekurs ApiID' (selected) and 'Create manually'. A search field is present, and there is a 'Future' checkbox. A 'Create and choose' button is visible.

The 'Cash Transfer' form in the 'after' state is blue-themed. It includes fields for Portfolio (EMC LO), Transaction ID, Op. type (internal) set to 'Cash deposit', Original amount, Currency, Cash Account, Fx rate, Amount, Trade date (Jun 19, 2018), and Value date (Jun 21, 2018). There are also sections for Notes and Backoffice notes.

The 'Create a new instrument' dialog in the 'after' state is blue-themed. It has two tabs: 'CREATE FROM TELEKURS APID' (selected) and 'CREATE MANUALLY'. A search field is present, and there is a 'Future' checkbox. A 'Create and choose' button is visible.

Picture 4 – Forms and dialogs, before (left) and after (right)



The Code

It was tough to resist showing some actual code here, but with the nature of this document the limited space made this decision necessary. There are various CxJS code examples available on other more suitable channels (check them out [here](#)).

We are only going to be covering the quality and performance aspects of CxJS and this specific project.

Code quality

With CxJS we can break each component down into smaller, more maintainable parts. This partitioning helps keep files small and easy to work with, unlike the old application source code where the documents have thousands of lines of code making it more difficult to read and work with.

CxJS also reduces the number of lines in the code, which does not take away from advanced code organization explained above.

It is important to note that in CxJS we can separate business logic from the view logic with the use of the CxJS fundamental concept of [Controllers](#).

Components are loosely coupled and easily reusable which makes them composable with each other. All this made the application more modular and aligned with the best coding practices such as the DRY principle.





CxJS uses JSX syntax for the code to be more declarative and easily interpreted, making it look almost like an ordinary HTML source code.

Performance

The new application is a single page application, which means the users can navigate between different parts of the application without the need of reloading the browser window.

“CxJS is blazingly fast which makes a web application enjoyable to use.” –
Yuval Sharon, VP Engineering, Assetmax AG

CxJS also supports code splitting. This feature allowed us to split code into smaller bundles which in turn can load on demand or in parallel. By using this approach, it will result in a significant initial load time reduction.

We have also optimized the code by memorizing data often being used that does not change frequently. For example, if the user is accessing a currency field, the list of currencies are loaded only once during the entire session. All of this not only keeps the user experience more responsive but it also saves server resources by making fewer requests.

Results and Conclusion

We calculated that using CxJS reduce the development time by at least 20 percent. This time-saving quality of CxJS allowed us to stay within the budget while delivering more value to the client.

We can summarize the key project results with the following:

- ◆ Advanced UI design and application navigation
- ◆ Codebase optimization
- ◆ Discernable performance improvements
- ◆ Customizable themes and branding support
- ◆ Tablet application

The first feedback from the Assetmax’s end-users was satisfactory. The new application not only looked better but it was much easier to use. The application’s refreshed look and improved user experience helped Assetmax AG to attract new clients.



Optimized code facilitates day-to-day maintenance and provides a stable base for future development.

The application development being backed by CxJS helped directly with gaining client confidence with this project, resulting from the design and performance improvements which were evident from the early stages.

The tablet version and branding support proved very beneficial in the sales segment and the new client onboarding. These results created new opportunities for business expansion and conquering new markets.

“A high number of user requirements and the complex nature of the project put the CxJS framework to the ultimate test, a test that we passed with flying colors.” – Codaxy Team

Without any doubts, we can say that the entire project was a success. The most significant part for us was that we gained another satisfied client who was impressed with what CxJS can do for them.



Thank You!

We certainly hope that you found this case study interesting and informative, and would like to thank you for taking time out to read it.

We would like to hear from you, so please feel free to contact us if you have any questions regarding this project: *office@codaxy.com*

For more information about us and the CxJS framework please visit the official webpage – *<https://cxjs.io>*