

The AI Finance Explainer: a case study

Many people encounter some financial products in their lives that are hard to really fully understand. Unless you are an accountant of course. For example, the exact impact of a mortgage (hypotheek), a complex pension scheme, some forms of car loans or investment products: they all have several parameters that interact and they have so-called 'life cycle events' that can trigger changes or important steps.

Still, it is useful for everyone to understand these products better: understanding allows consumers to make the right choices and to act when they should or when their situation changes.

An example: in a pension scheme, you might be allowed to save some more money, tax-deductible, on a yearly basis. With this option, you could potentially stop working a few years earlier. Does everyone understand that? Or, in an investment portfolio, you might want to change the profile from defensive / conservative to active. What does this do with the risk? And the potential results?

Ideally, you would have your own financial advisor-in-a-box to give you an update on things to do or your unique situation a few times a year. This is what this assignment aims to achieve in a proof-of-concept style, using generative AI.

Technology

We think that using APIs, script generation and generative AI for video, it should be possible to create personalized, fully up-to-date and understandable videos for everyone with a complex financial product. Time for your yearly update on your pension or car loan? Just watch the personal video in the app from your bank to be up-to-date in three minutes. A friendly AI-generated person will tell it exactly as it is for you, right now. And maybe even offer you two or three options. What about a more ambitious investment setting? What about making an extra payment? All of that could be in the form of a generated AI-based video just for one unique person's situation.

But how?

Most financial products can be exposed using a form of API that shows all their current parameters. Some even contain a prediction module or extrapolation function that can show the future based on a given parameter set. E.g.: how full will your pension scheme be 10 years from now, or how far are the downpayments of a mortgage? All of this is still (JSON) structured digital data.

Using this data, a textual script should be generated that makes an engaging story from this. And maybe some explanatory visuals can be created, like a graph.

This script and these visuals can then be fed into a generative AI that creates a short but to the point video based on this info. A video that directly addresses the consumer that is watching it. And maybe the video can even offer some options to fine-tune the product?

This video creation, based on API data, a script and visuals, should be made available as an embeddable component for apps and web portal for major financial services companies like banks, loan companies and life insurance providers. There is also some technology involved in that.

So, in short, you will probably encounter in this assignment:

- APIs
- Script generation
- Security
- Cloud-based AI technology, probably from AWS
- Generative AI for visuals (to be fine-tuned)
- Generative AI for video (to be fine tuned)
- Component integration into apps / web environments.

Support and stakeholders

We would like to create prototype for the above idea / concept. This is your graduation project. The stake holders and people involved will be:

- A senior developer or software architect on modular software for Financial Services software at iO, who will also be your internship guidance person.
- An AI specialist from iO for support with the AI and help you navigate the options in the AI-world.
- A product owner-style person within iO, potentially with input from an external financial services specialist at one of our clients to explain the parameters of e.g. a pension scheme