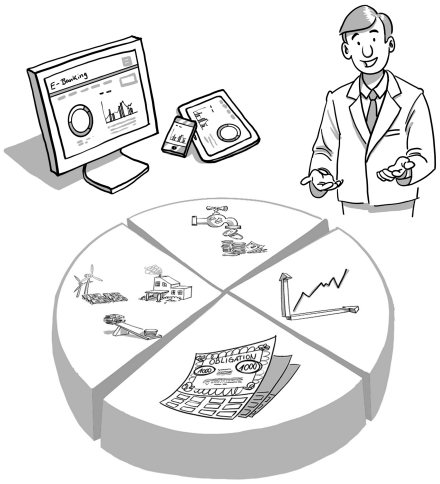

Development of the Portfolio Management Game

Master Project

University of Zurich - Department of Banking and Finance

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Contents

1. Motivation

The Portfolio Management Game is a simulation thought to.....
Both members of the project team work at the Department of Banking and Finance UZH as web developers parallel to their studies achieving their Master's degree in Informatics. Both interested in developing applications from scratch and analyzing the procedure of financial processes. By re-developing the application the Department of Banking and Finance wants to achieve having a sustainable simulation of a typical portfolio management process.

2. Project Description

The "Portfolio Management Game" was initially developed in 2001 by an external company for the Department of Banking and Finance. This simulation of a portfolio manager was being used from the DBF over several years by multiple seminars of their departement. A course named "Advanced Portfolio Seminar" has given insights to the portfolio management process for Master students by playing the game in between different rounds playing the game. For the final seminar of the "Executive Education" the game was being played for two days on Uetliberg with all the executive students.
The game has been deprecated by its implemented technologies and after each round the supervisors had to collect a USB-stick where all decisions of the students have been saved to. The supervisors had to collect this data for each group on a central device with administrative access (on a windows native application) to calculate the result of the teams decisions.

3. Methodology

A first task was to understand the concept of a typical investment advisory process.

3.1. Requirements Engineering

User stories

3.2. User Interviews

Interviews with professionals and other people Understanding of the overall process

3.3. Observation of Game Execution

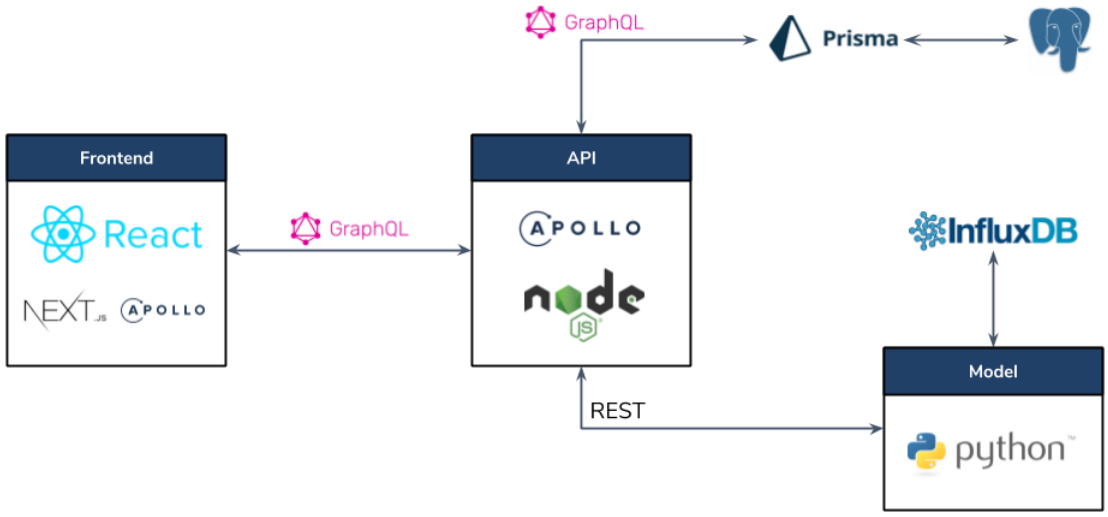
The game observation was separated in following parts:

- Executive Education Students Observation during their final seminar at the Uetliberg
- Observation of different knowledges in one room
- Master Seminar: Advanced Portfolio Management Seminar

3.4. Design and Iterative Prototyping

...

4. Architecture



4.1. Frontend

We use the React Framework which is developed by Facebook. Based on NextJS.

4.2. API

Bla

4.3. Model

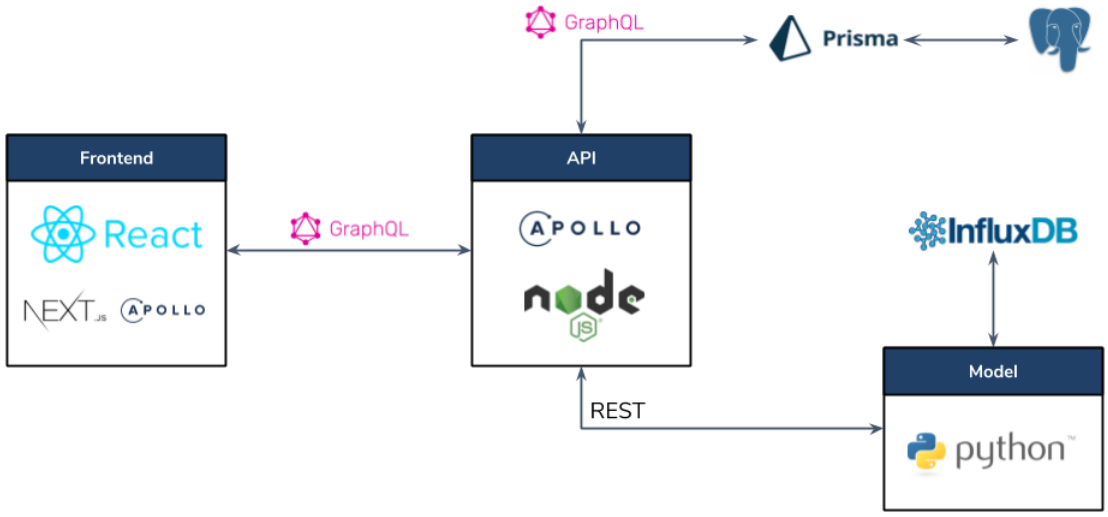
All calculations of the simulation are performed in a python-model which interacts with the time series data stored on an InfluxDB. A Restful service fetches the data from the model.

4.4. Contnious development

5. Market Model

6. Application Overview

6.1. Architecture



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6.2. Administration

6.3. Team View

7. Future Development

A. Exemplary scenario