MediaMarktSaturn
Technology

Fullstack Coding Challenge

We ask you to build a miniature version of an order management system. It should include information about an order's current state, customer, line items, creation and last update time. The order may have the following states:

When an order's state is "IN_PROGRESS", it must know which employee is assigned to this order. This backend service shall expose the orders through an GraphQL API, including mutations for transitioning through the order's states. The state transitions are only possible in order, reverting to a previous state or skipping a state is not allowed.

In addition, we ask you to build a frontend which displays a list of all existing orders and a history of all status changes for a selected order. The website should also allow to trigger each of the state transitions.

Rules for programming style apply per your own preferences and documentation can be kept down to a minimum. Your application should be able to handle wrong input by the user and any unusual behaviour.

For this scenario we expect you to deliver a high-quality web application. Please use all available ES6+ features, including async programming style. Your backend service should be structured into functional modules and have reasonable configuration management.

List of relevant technologies to use:

- TypeScript 4.0+
- React.js (with hooks) and Webpack
- NodeJS 12+
- IoC Container, such as InversifyJS or NestJS
- MongoDB 4.2+
- GraphQL, with ApolloClient and ApolloServer

Further remarks:

- Most important for us is to understand how you tackle complex problems. Therefore, please finish this challenge as far as possible under the given technological requirements. In case of any uncertainty, please make reasonable assumptions and focus on the core functionality. A correct and understandable partial implementation is more important than a complete one.
- The assignment will be presented in a live demo as part of the personal interview.
- As you will probably not have an internet connection in the presentation room, please make sure the assignment works offline.

Happy coding!