CLERP – Clever Enterprise Resource Planning

# Functional Requirements

* CRUD for a product
* CRUD for product type
* Each product and each product type can have multiple parent- and/or child-products
* All products can be presented with their tree of sub/parent products
* CRUD for business partners
* CRUD address
* Each business partner can have multiple addresses
* CRUD for order
* Incoming deliveries and their products can be recorded via barcodes
  + product type (EAN)
  + serial number (SN)
* All barcodes can be recorded manually, if necessary
* CRUD warehouse
* CRUD shelf
* CRUD compartment
* Each product has a physical location in a warehouse (warehouse -> shelf -> compartment)
* On incoming order check availability of required products
  + If products available: option to reserve them
  + Else: option to automatically order the required amount

# Non-Functional Requirements

## General

* CLERP will be a web application, as a single page application

## Frontend

* The frontend design is primarily optimized for desktop and tablet devices. The architectural design should contain the possibility for future mobile implementations.
* The frontend will be developed using the angular framework in the version 7.
* The angular 7 framework is using:
  + HTML 5
  + TypeScript, which will be converted to JS ES5
  + SASS, which will be converted to CSS 3
* The frontend will use additionally:
  + Bootstrap V4 (customized)
  + Font Awesome

## Backend

* The backend will be an ASP.NET Core Version 2.2 Application implemented as a RESTful API
* The backend will have C# as main language
* The Entity Framework Core will be used for data access
* The database will be generated and designed using the Code-First-Principle (Exceptions: Views and other unsupported elements in EF Core)
* The database will run on a MSSQL (-Express) server
* The database will contain specific tables which are indexed