SaSS
Smart and Simplified Shopping

Load cell

Checks weight of Products

ESP32

Adds Products to List when weight is low

DataBase — Recieves the shoppinglist from the customer and all available items for the customer to choose

Indoor navigation — Uses images to locate and save the position of the different products

App

Requests via URL

Springboot

Checks current position of cart and sends the new position

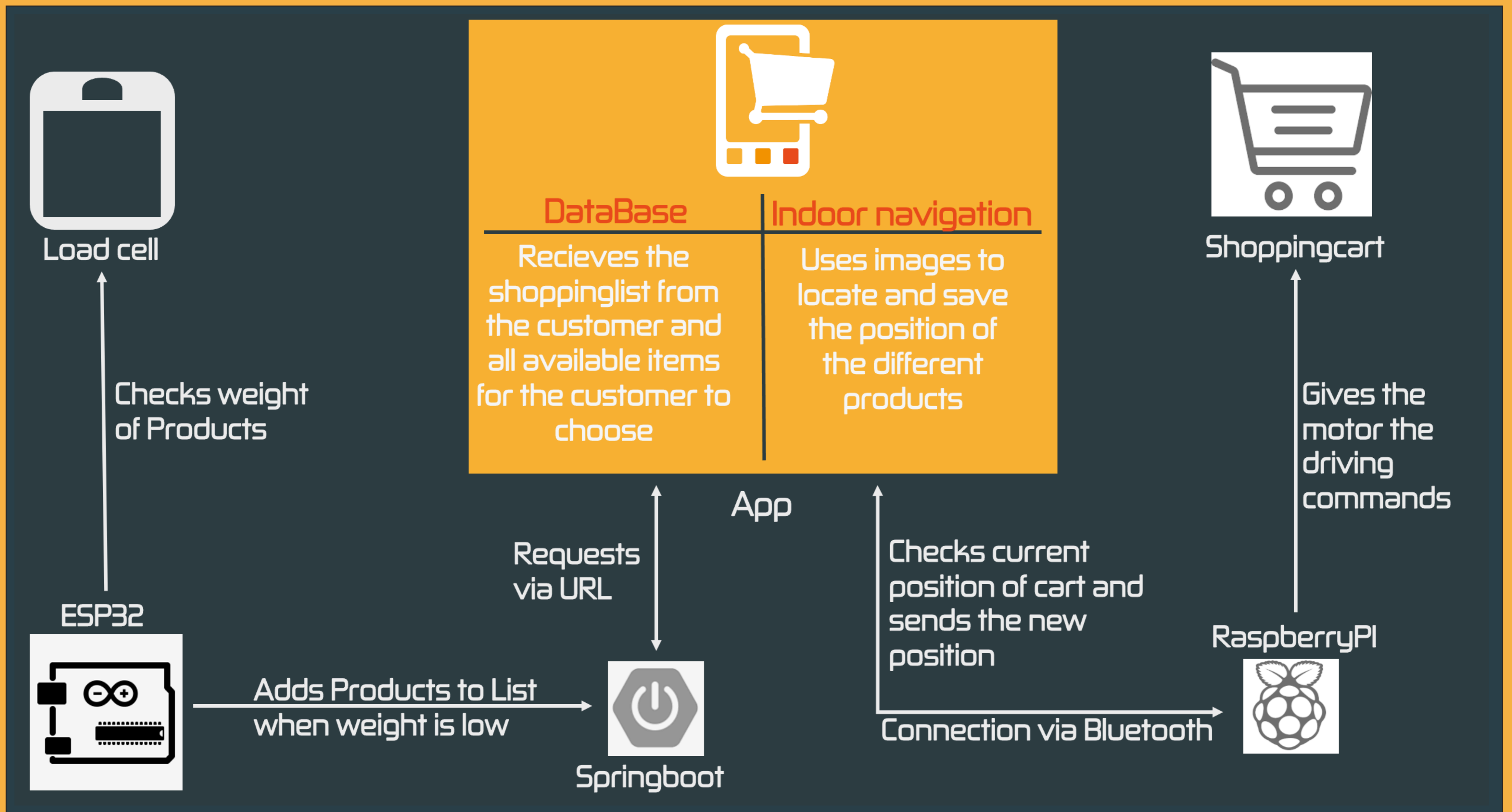Connection via Bluetooth

RaspberryPI

Shoppingcart

Gives the motor the driving commands

The Problem

People have less and less time and patience, which is why products are forgotten or not found at all while shopping. Additionally, the product status in the refrigerator cannot be called up remotely. Pushing loaded shoppingcarts is also cumbersome and tedious. In some stores, shopping carts that show the location of products or detect obstacles are tested but there is no real solution used.
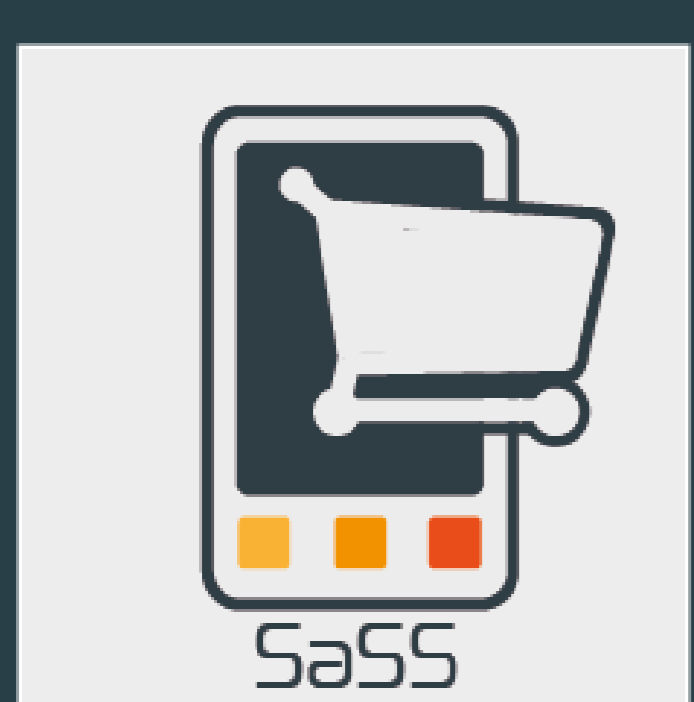
Our Solution

SaSS is a smart project, that helps with the grocery-shopping organisation. In the SaSS-App the customer searches for products, that are saved in a Springboot-Database and creates a personal shoppinglist.

When the customer goes grocery-shopping, the App connects via a QR-Code with the shoppingcart and starts the shopping-tour by driving to each product in the shoppinglist via indoor navigation.

The indoor navigation reads the camera and knows its position with the help of Visual SLAM. The App compares the current position with the wanted position of the product and sends driving-commands to the card until the whole shoppinglist is empty.

Additionally the customer can use the load-cells for the refrigerator. The load cells, check the status of the product and add it to the shopping-list in the Database, if the product is nearly empty.

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