Design (Functional & Graphical) plan Smoke-it web shop

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S3-CB03

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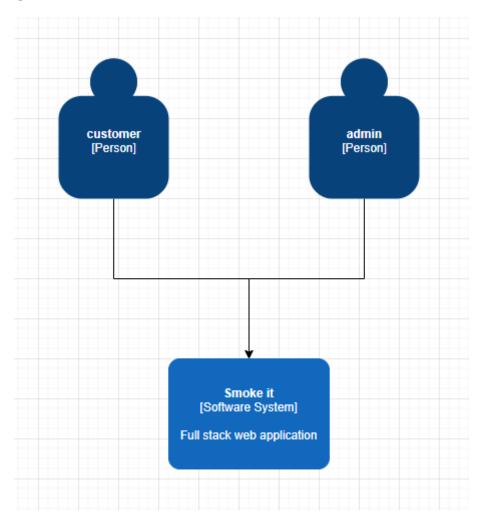
Introduction

This document contains the functional and graphical design for the smoke-it web shop. For the functional design you can find the C4 diagrams (excluding C4 level) explaining the system structure on multiple scopes. This system structure is made from the user stories, which can be found below the C4 diagrams. To supported certain design decisions, there can be some diagrams found after the user stories. These diagrams are accompanied by some description what they are supposed to display.

As for the graphical design, you can find the original wireframes for the UI at the end of the file. The application is currently designed after these wireframes. In a later stage the UI should receive an overhaul to 'look better' and support a better User Experience.

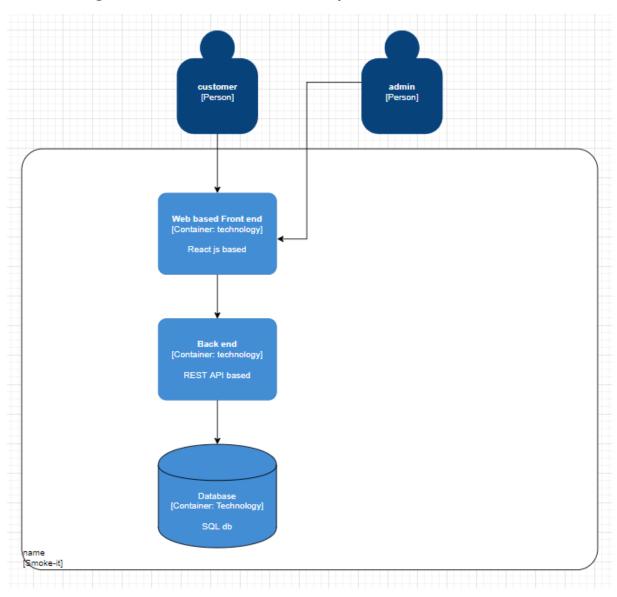
C4 diagram

C1:



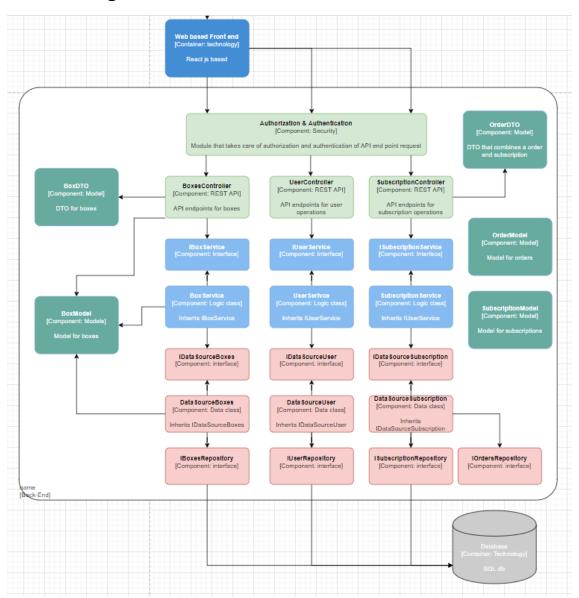
The C1 architecture is quite simple. At this point in time there is only 1 system being created and used. This is the smoke it software system. This system includes the interface for the user, as well as the logic and the database. These can be seen in C2. As 'actors' there are customers and admin.

C2: Zooming in on the Smoke-It software system



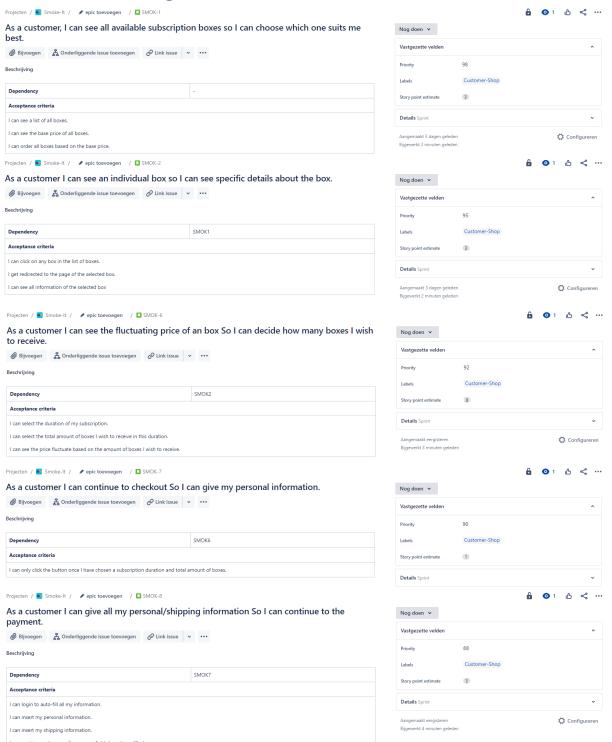
The software system mentioned in C1 can be split up into 2 key components. These components will be a React Js based front end and a REST API based back end. The user will be able to interact with the front end, which will contact the back end via the API endpoints. This backend will communicate with the database.

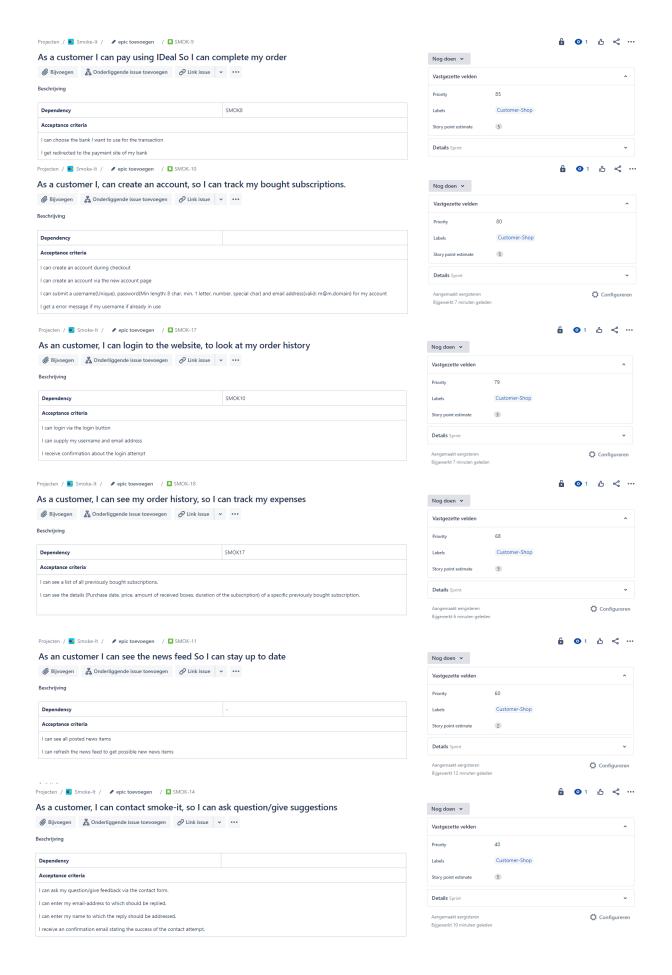
C3: Zooming in on the back end

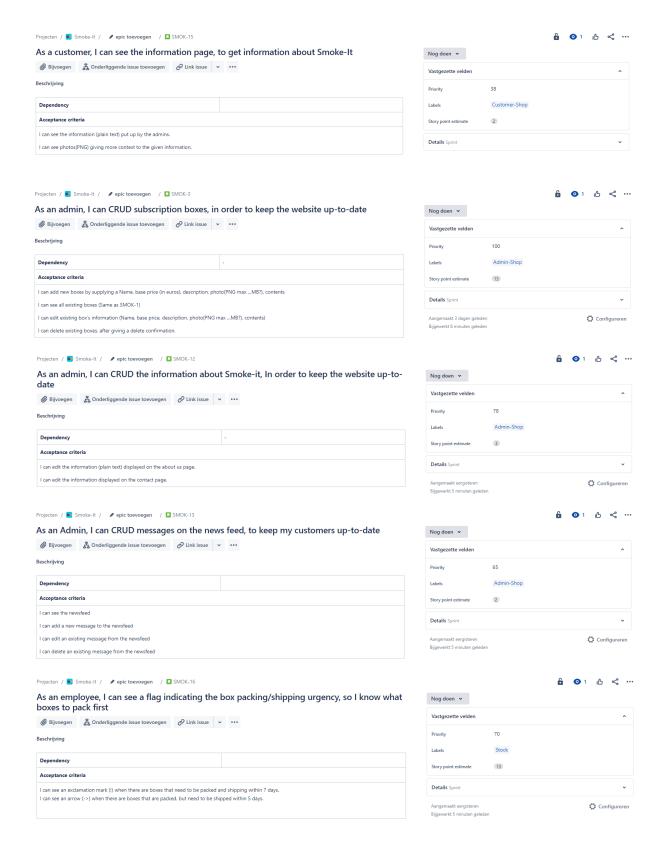


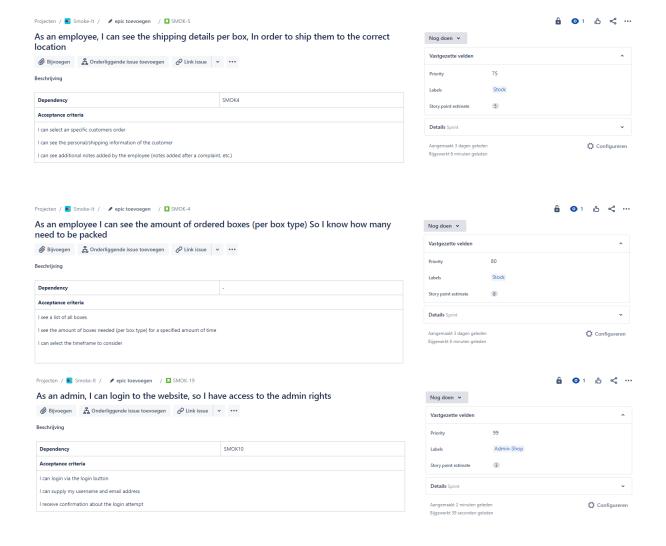
In this C3 diagram we zoom in on the back end application. The user still interacts with the back end via the React based front end. The structure in the back end should be quite clear. The multiple controllers form the API, which the front end can reach via the created end points. For some of these end points, the user needs to be authorized to access them. The Authorization & Authentication modules takes care of authenticating who the user is and checking if they are authorized for the requested action. If they are, they can access the end points. These controllers in their turn use a service class. This class handles the logic of the system. In the first version, the service layer talks to a fake DB class, containing some fake data. In the current version, the service layers talks to a database class that is connected to a JPARepository interface. To prevent dependency on the service or DB class, interfaces have been created. They are inserted in between the layers to invert the dependency. Doing this made it easier to, for example, switch out our fake data source for a real one. Not all models have been added in the diagram since they all function the same as the BoxDTO and BoxModel. The Order and Subscription model are connected the same way as the BoxModel, to their respective classes.

Screenshots backlog





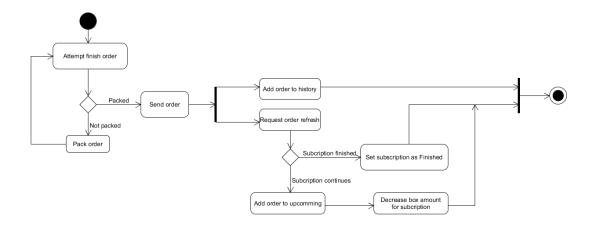




Diagrams

Ship order flow:

Subscription = what you buy on the website. Contains personal information and box/duration choice. Order = 1 box from the subscription. History = list of all finished orders Upcomming = list of all orders that need to be send



The ship order flow was created to present myself with a clear image of what steps the system must take to send an order. Creating this diagram helped me realize that my back end needed a refactor, to support both the use of subscriptions and orders. In an older version of the back end, there was only the order model. This addition solved the issue I was facing, of not knowing how the system would handle shipping an order.

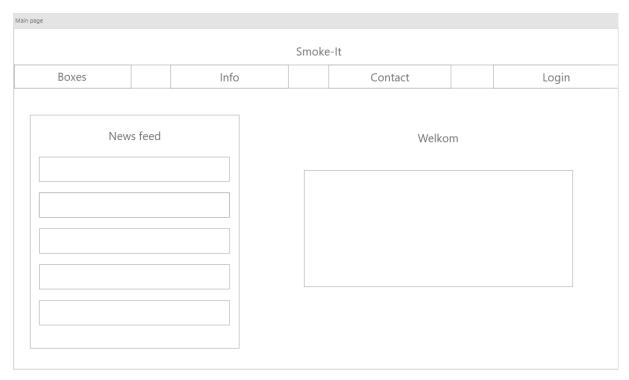
CI Diagram

CI Diagram Local machine Gitlab Gitlab_runner Sonarqube Push code Run yaml file Navigate to BE folder Execute gradle Build Return result alt [Build failed] Stop running [Build successful] Navigate to BE folde Return result [Test failed] alt Stop running [Test successful] Navigate to BE folder Execute gradle Test Navigate to BE folder Return result Return result from sonarqube Set pipeline status (Succes/Fail) Local machine Gitlab Gitlab_runner Sonarqube www.websequencediagrams.com

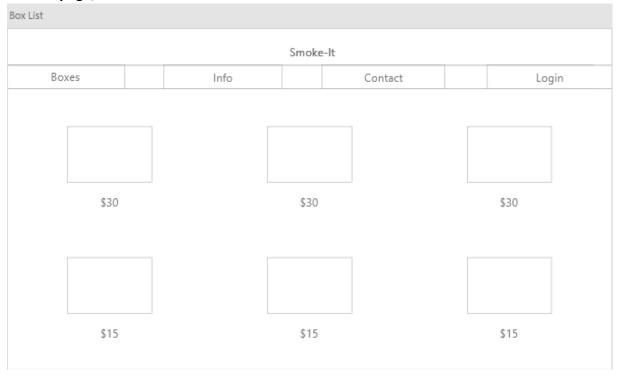
The above diagram was created to visualize the steps the CI pipeline does when pushing code to the repository. This helps make sure I understand what my pipeline is doing when I make a push, and helps to expand the pipeline, since I know what is going on.

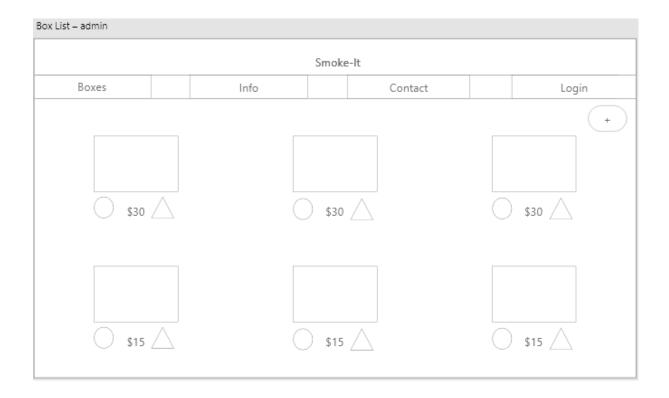
Front end drafts

Main page:

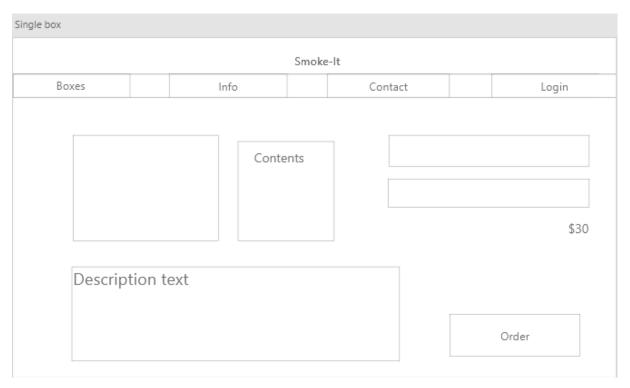


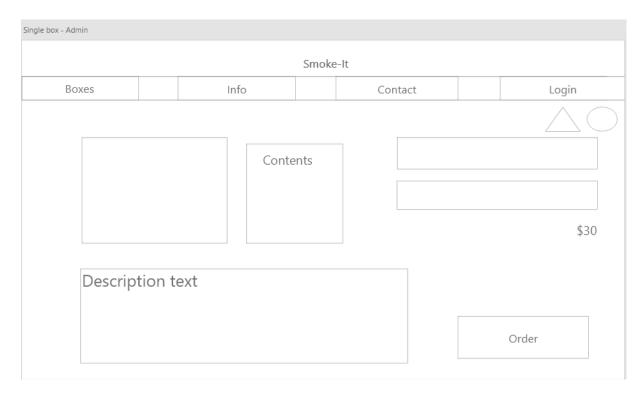
Box list page/Admin view:





Single box page/Admin view:

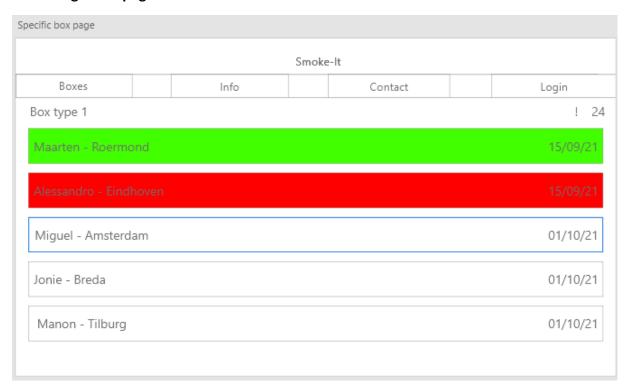




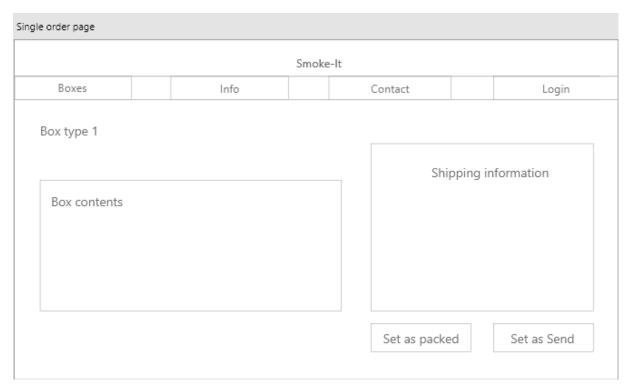
Stock box list page:

| | Sı | moke-It | |
|------------|------|---------|-------|
| Boxes | Info | Contact | Login |
| Box type 1 | | | ! 24 |
| Box type 2 | | | ! 9 |
| Box type 3 | | | 6 |
| Box type 4 | | | 18 |

Stock single box page:



Stock single order page:



Version History

| When? | What? |
|------------|---|
| 09/09/2021 | First draft of document. Added wireframes and screenshots of user stories |
| 05/10/2021 | Added the C4 diagrams with context for each diagram for the current state of the project. |
| 4/11/2021 | Updated C4 diagrams to supported newest version of BE |
| 23/11/2021 | Added an introduction to the file |
| 25/11/2021 | Updated C4 diagrams to support newest version of BE |
| 26/11/2021 | Added the diagrams |