Project report DevOps and Cloud-Based Software

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Introduction

This report describes the work done so far for the group project for the course DevOps and Cloud-based software. For this, a definition of the project is provided in the Project outline section. Since we work scrum on this project, we have also provided a description of the progress in the Scrum documentation section.

Project outline

In this section, we will give an overview of what the final product will entail. Since we are working Agile, this is of course not set in stone.

Project description

For this project, we are working on a website where it is possible for users to create and share recipes. These recipes can be viewed by anyone, where the users can only edit their own. Users can create recipes with a title, ingredients, instructions and a picture.

Architecture

We host the final product on AWS services, where the API will be run from an EC2 instance, since it needs computing, and the front-end will be hosted on S3, since the files are static. All computation of the front-end is done at the client side.

We have put the project code under version control at GitHub, because we want to use Travis to ensure continuous integration. For the back-end, the tests are run and when successful, a Docker image is created and pushed to DockerHub. This Docker image is integrated into an EC2 instance that will run the API and save the recipe data in a MongoDB database.

For the front-end, the tests are run and the Vue project is compiled to static files. These files will then pushed to S3 and hosted from there.

Scrum documentation

For this project, we are working as a scrum team and are applying the concepts we have learnt from experience and the guest lecture by Jelena Gordijenko. Below, we have outlined how we have applied the different aspects of a scrum workflow to our project.

Roles

First, we have defined roles for the project, with some minor adaptations.

Nino: Scrum Master
As scrum master, Nino will make sure that we as a team will follow the scrum process for the project activities. Nino has experience with working scrum and can apply this in this project. We have made an adaption to this role where Nino will also be participating in the team work, rather than only governing the process as is custom with a scrum master.

Daan: Product owner
Daan had the idea for the product and is therefore the product owner. He prioritizes the work in the backlog and makes sure that the user stories are relevant to the product he has in mind. Daan also still works on the project as team member.
Rosco: Team Member
Rosco works as a team member. During sprint meetings, decisions are made as a team, where all project members have an equal say.

Tjarco: Team Member
Same as with Rosco, Tjarco works as team member without an explicit extra role in the scrum process.

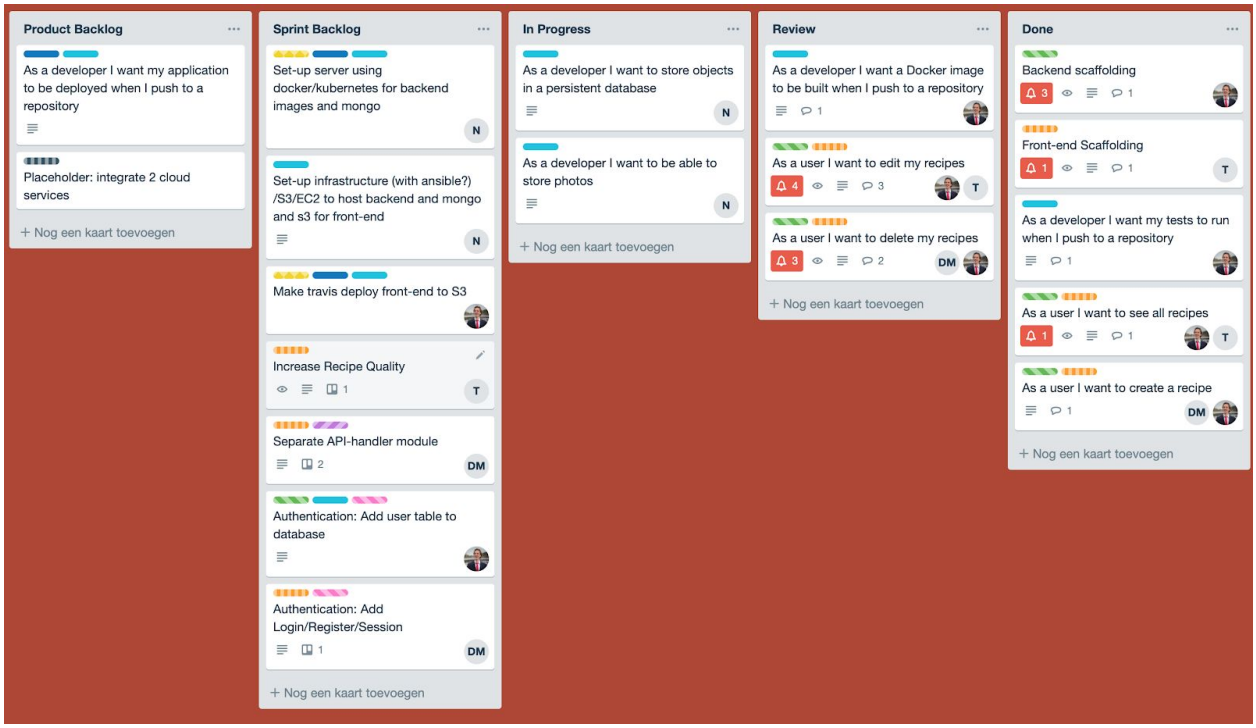
The Process

We do one week sprints, from Wednesday to wednesday. Therefor, we have a sprint meeting Wednesday after the lecture. Later in this document, we provide a detailed description of each sprint. In each sprint, we make sure that there is enough work for every team member. We do this by writing stories in the backlog and assigning points to them. We then divide the stories over all project members, ensuring everyone has about equal work.

We start each sprint with a retrospective, where we talk about what we did last week, what went well and what could have been better. We try to take this possible improvements into account for the next sprint.

Storyboard

We have created a storyboard on Trello, where we keep track of the work. See below for a screenshot of our current board.



We write each story from an actor perspective, to create a better idea of the actual feature. Below is an example of a user story:

As a user I want to edit my recipes

in lijst Review

LEDEN

T +

LABELS

Backend Frontend +

Omschrijving Bewerken

Description

As a user I want to specify the edited details of my existing recipe and replace the old recipe.

Definition of Done

A user can enter the new ingredients and instructions for their recipe. They can also add a new picture to the recipe. The picture will be stored on a file storage server, and the information in a database. The form should include the old values as placeholders

Tasks

The tasks for this user story are:

- Create an API endpoint for recipe editing
  - Store image on file storage, details in db
- Create a form to enter recipe details
  - Should include ingredients, instructions, image

Effort estimation

The effort estimation for this user story is 3.

The first sprint

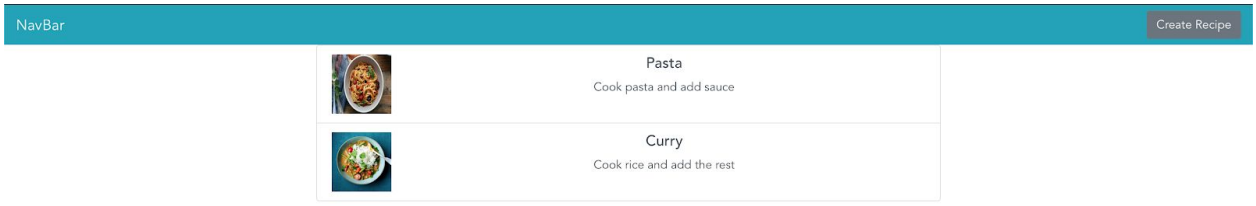
We started the first sprint in week 3, where we had a meeting with all project members and we decided on the process. During this meeting, we have filled the backlog and assigned stories to all project members.

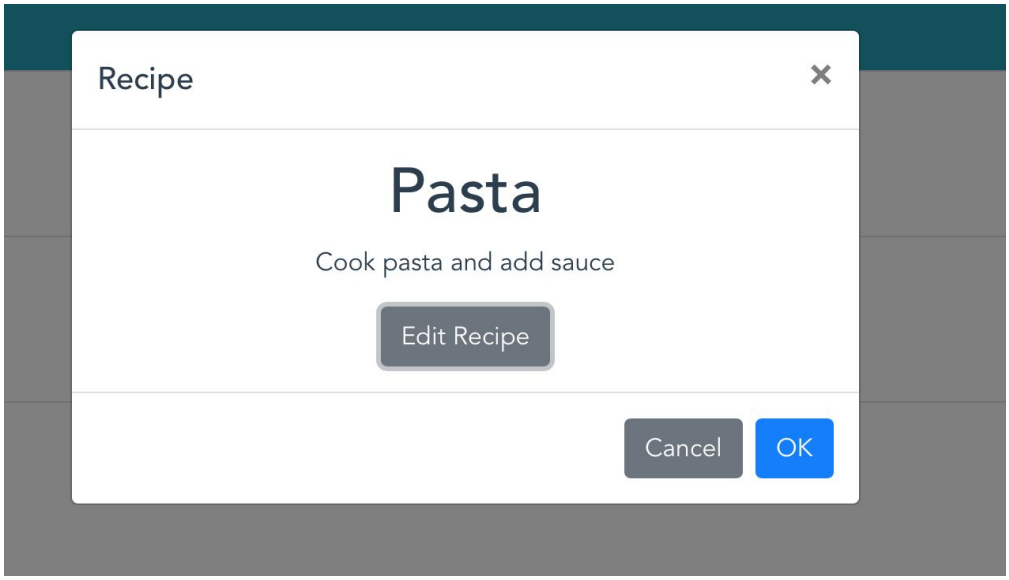
In the first sprint, we have delivered a MVP of our final product. In this MVP, it is possible to view, add and edit recipes. We also have setup the workflow with Travis. For the next sprint, we can iterate on this process by improving recipe quality, creating the infrastructure and expanding the database with user accounts.

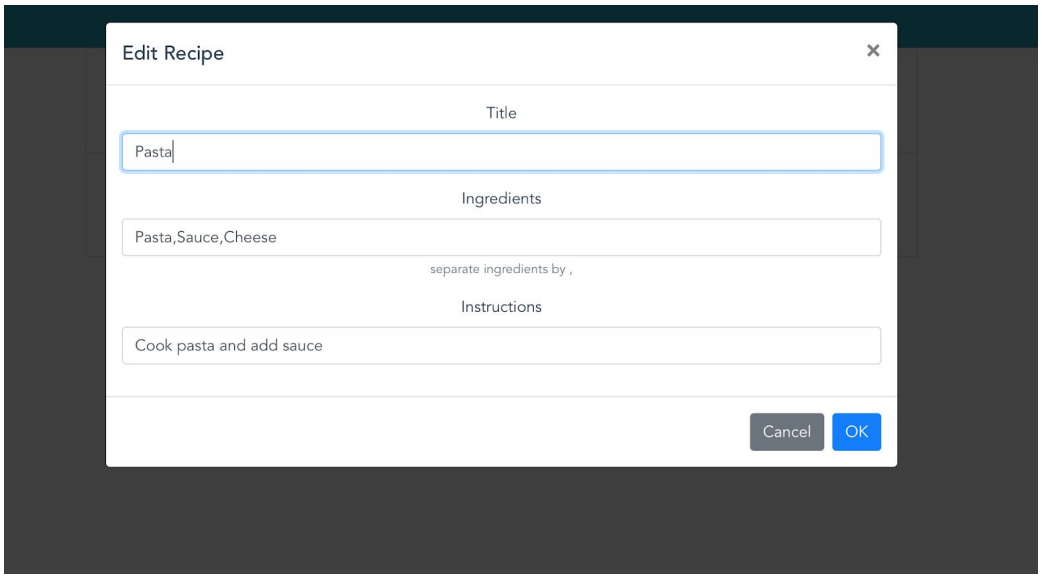
Since everyone has already seen the product, the demo was not that surprising. We did not find out any new things during the demo.

During the retrospective, we have concluded that the user stories are too dependent on each other, making it hard to work really agile, since we often had to wait for other stories to be finished first. We have tried to reduce this dependency for the next sprint.

Below are some screenshots from the product delivered in the first sprint.






Edit Recipe
Title
Pasta
Ingredients
Pasta,Sauce,Cheese
separate ingredients by ,
Instructions
Cook pasta and add sauce
Cancel
OK