Smart Cook

There will be three main components to the Smart Cook App. First there will be a frontend, which is the most important part to the users, as this is what the users will see and use all the time. For this we want to stay as simple as possible while still offering a lot of different possibilities on how to interact with the Smart Cook.

The idea is, that a user can upload a picture of all his ingredients (all ingredients on one picture) to find one or multiple possible recipes that he can cook with these ingredients. As it is not always possible to find a recipe with just these ingredients, the recipe might feature a few more ingredients than the user has. These recipes will be in descending order, based on how many additional ingredients the user might need.

The second component will be the Machine Learning implementation. Here the picture that got uploaded by the user will get analyzed and every type of ingredient will get listed.

This list of ingredients then gets used in the third and last component, the backend, in which the list of ingredients will be called on an API to get recipes fitting to the given ingredients.

Before the list of ingredients gets queued to the API, the user will see the list of ingredients and must confirm them. In case that the AI identified an ingredient wrongly, the user can correct this mistake by deleting that ingredient. The user can also add an ingredient in case, either the AI did not identify that ingredient, or the user forgot to put that ingredient in the picture. The user may also upload an additional picture to add ingredients.

When confirming the ingredients, the user might also need to specify some ingredients, as it is impossible to sometimes know, what exactly is used. For example, if the ingredient gets recognized as "cheese", the user will maybe want to specify that it is "parmesan", to find a recipe that better fits his actual ingredients. Especially when it comes to bread, it might be hard to see, whether its full grain or not, but this might still be important for the recipe, so our idea for now is, that the user is able to specify what kind of bread it is, in the ingredient list.

After confirming the list of ingredients, the user has the opportunity to add additional information for the recipes he would like to get returned. The user will be able to add specific filters, for example for ingredients he is not allowed to eat, either due to religion, due to health problems or just due to individual taste. This, for the start, will be as basic as clicking an option for "vegan", "vegetarian", "no pork" or "no lactose".

With these additional information and filter criteria, the backend team will also filter through all the given recipes and filter out all recipes that do not fit those criteria. After that, a list of different recipes will get returned to the user in descending order, based on the overlap of available and missing ingredients of the user.