

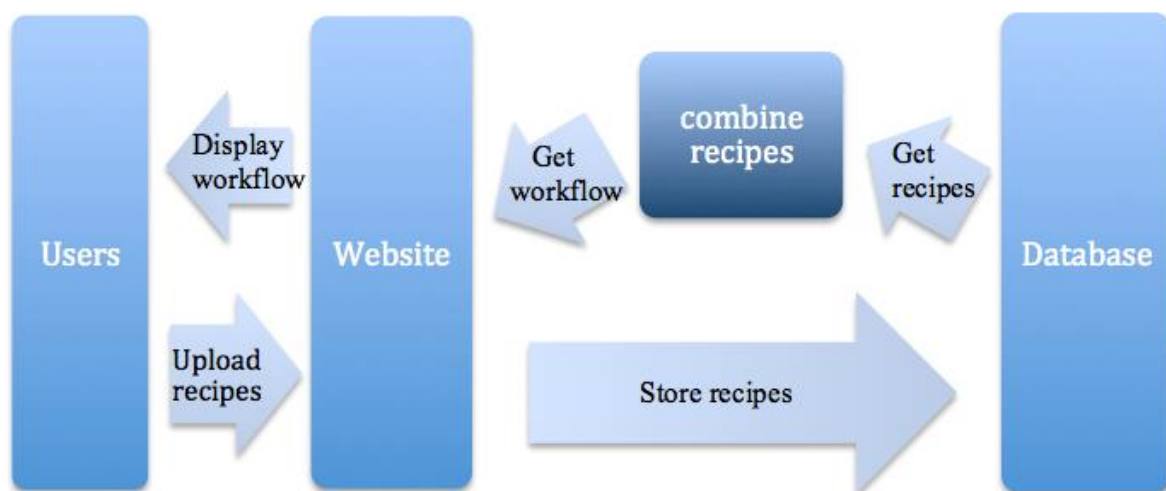
Parallel Cookbook

Vision

When cooking, a lot of people will make more than just one dish. Existing cookbook, either in paper or electronic form, only shows them one recipe at a time. When cooking several dishes, people have to manually follow multiple recipes and figure out a best way to cook them in the shortest time. But they often, especially those who are inexperienced in cooking, end up using much more time than they actually need or finishing the second dish when the first one is already cold.

Parallel Cookbook is a cookbook application that helps users better following two or more recipes. After users select the recipes they want to cook for a meal, it will combine them into one workflow that can be easily followed. There are many recipes websites/applications, but none of them have the functionality of managing multiple recipes. Handling multiple recipes at the same time can be a chaos. Compared to many cookbooks which display a single recipe at a time (e.g. <http://allrecipes.com/>), Parallel Cookbook helps users prepare meals with several dishes in an easier and more efficient way. It intelligently combines continuous actions (such as chopping ingredients) and momentary actions (such as pre-heating the oven) of different recipes into a series of steps. The target users could be anyone who likes cooking but it's especially for users who need to handle several recipes at the same time. A useful case would be cooking for a family.

Software Architecture



The architecture is basically a website to interact with users and a database to store all of the recipes as shown above. The most important part is generating workflow for the whole meal based on

users' choices of recipes. How Parallel Cookbook generates an efficient workflow is the key technical challenge. The algorithm will calculate based on how long each step takes and whether users need to work on it continuously (chopping veggies v.s. heating water). Steps that need last for a while and requires only a single instant action should be done before steps need continuous actions so that these two steps can be done together. It'll always be the most interesting part of this project to figure out algorithm that generates the most efficient workflow.

Challenges and Risks

Based on the need of the combining algorithm, users need to provide estimated time of each step and whether each step needs people working on continuously when uploading a new recipe. To make the combination of recipes more realistic, the algorithm may also need to know whether each step uses oven, sink or chopping board. How to simplify and minimize the information users need to fill becomes the most serious challenge we have. Therefore, we need to think about the trade off between the efficiency of the workflow and the complexity of recipe information. How much information users are willing to provide with will become a serious issue to consider. Another main challenge will be the scale of data. This kind of application will require a large database (recipes) in order to succeed. Existing recipes don't have all information we need, so we mostly rely on users' input, which will be difficult at the early stage of the product.