



SWEN 383 PROJECT

What do I need?

Requirements

This presentation is just an overview of the requirements. You still need to reference the project page for full information and exact deliverables!

[SWEN 383 - Software Design Principles and Patterns](#)

Requirements

The application needs to track nutritional information for the user. A list of basic foods and recipes needs to be saved and shown to the user. The user may add food they consume to their log. The user may create new foods.

For the first part of the project, you only need a **CLI**.

Design

You need to follow design patterns and principles.

Composite

Classes hold other classes,
those hold even more classes.

MVC

Classes are separated into
Models, View and Controllers.

You **must** follow these two. You **should** use other pattern when it makes sense to do so, but only if it does – do not force patterns just for the sake of having them.

Food

A food is either a basic food or a recipe.

Basic food

Basic food contains nutritional information – calories, fats, carbohydrates, proteins and sodium.

Recipe

A recipe is a collection of foods and their quantities. Here, a food can be both a basic food and a different recipe.

This is an example of the composite pattern.

Food

All foods need to be saved to foods.csv

Basic food

b,name,calories,fat,carb,protein,
sodium

Recipe

r,name,f1name,f1count,f2name,
f2count,<...>,fNname,fNcount

Since the saving format is different, but they need to be in the same file, you will need a parser that will determine the correct class when loading the file.

Log

A log is a record of a specific type for a specific date.

Weight

A weight log stores the **weight** for a specified date.

Calorie

A calorie log stores the **calorie limit** for a specified date.

Food

A food log stores the **number of specific food** consumed on a specified date.

Log

All logs need to be saved to log.csv

Weight

yyyy,mm,dd,**w**,weight

Calorie

yyyy,mm,dd,**c**,
calories

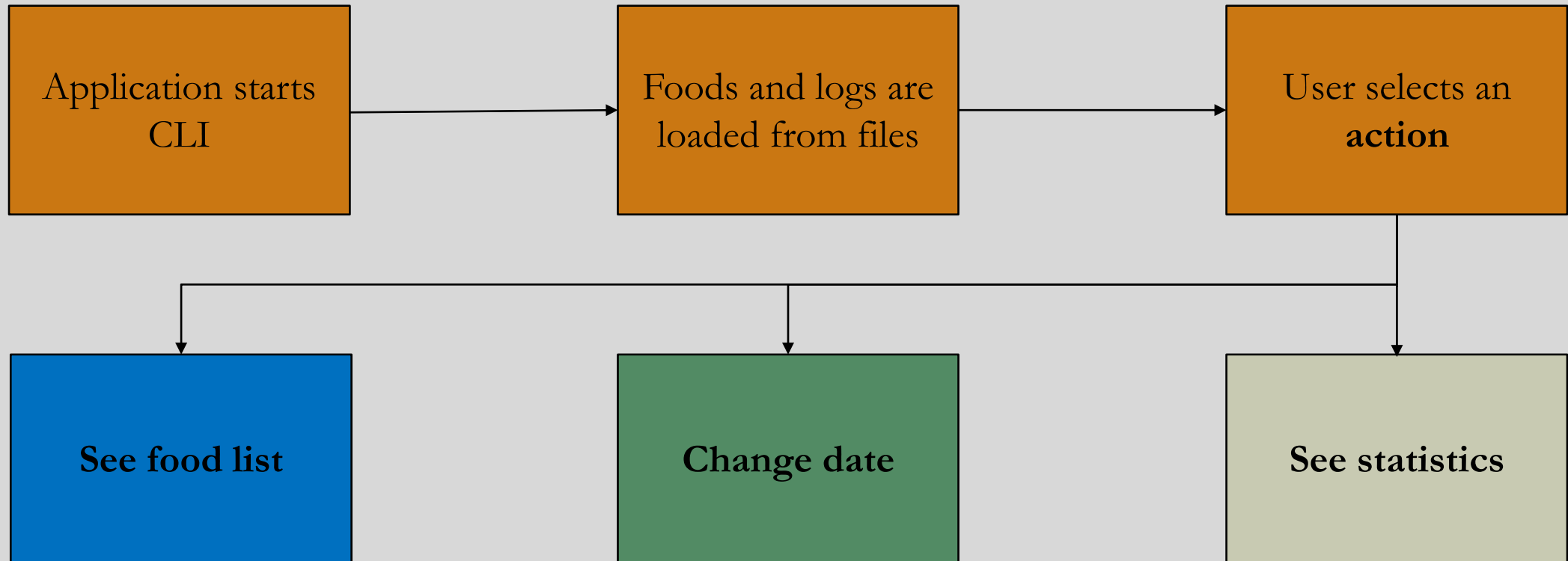
Food

yyyy,mm,dd,**f**,name,
count

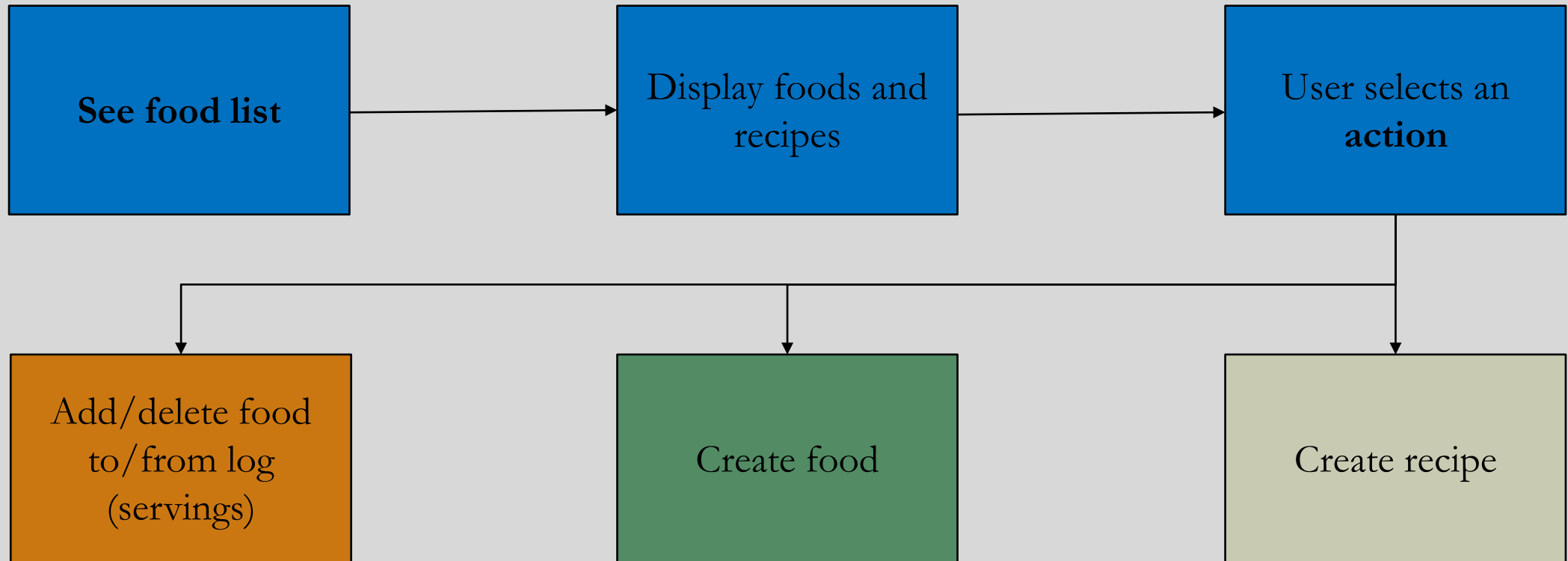
Note how food log **isn't** a log of all foods consumed in a day,
it's an entry for the number of a specific food.

Again, you need to save all of these to the same file.

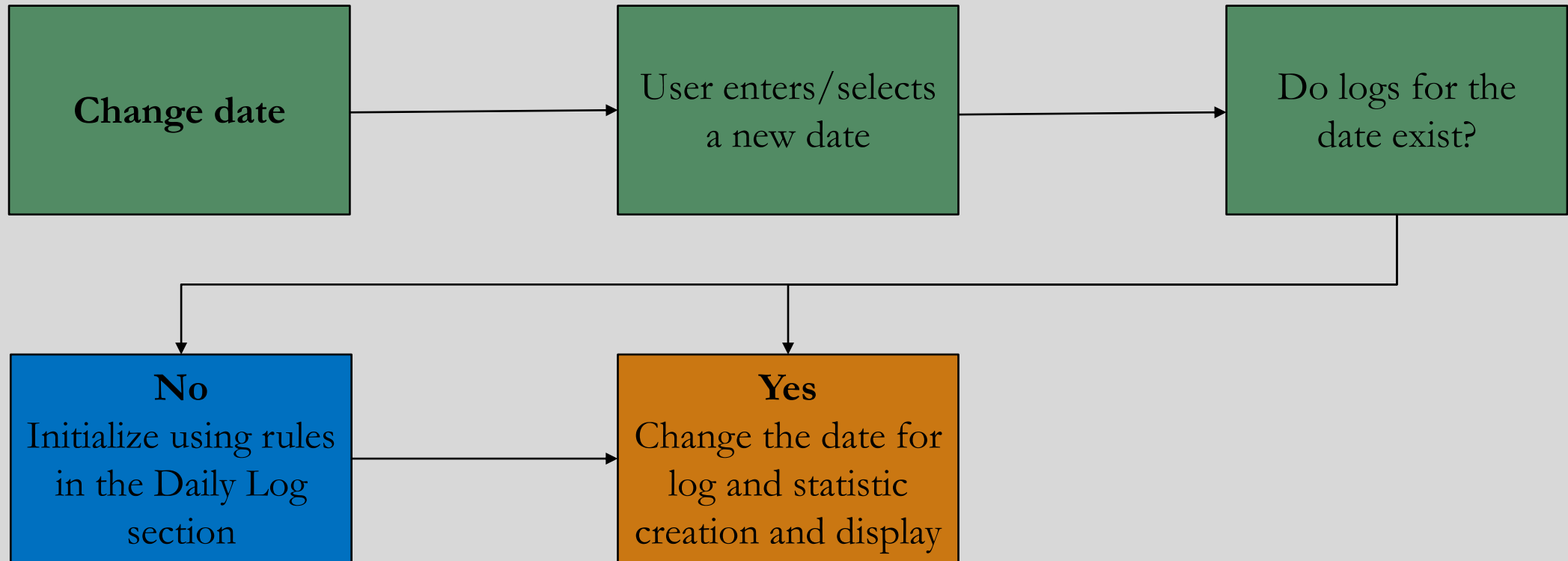
Flow



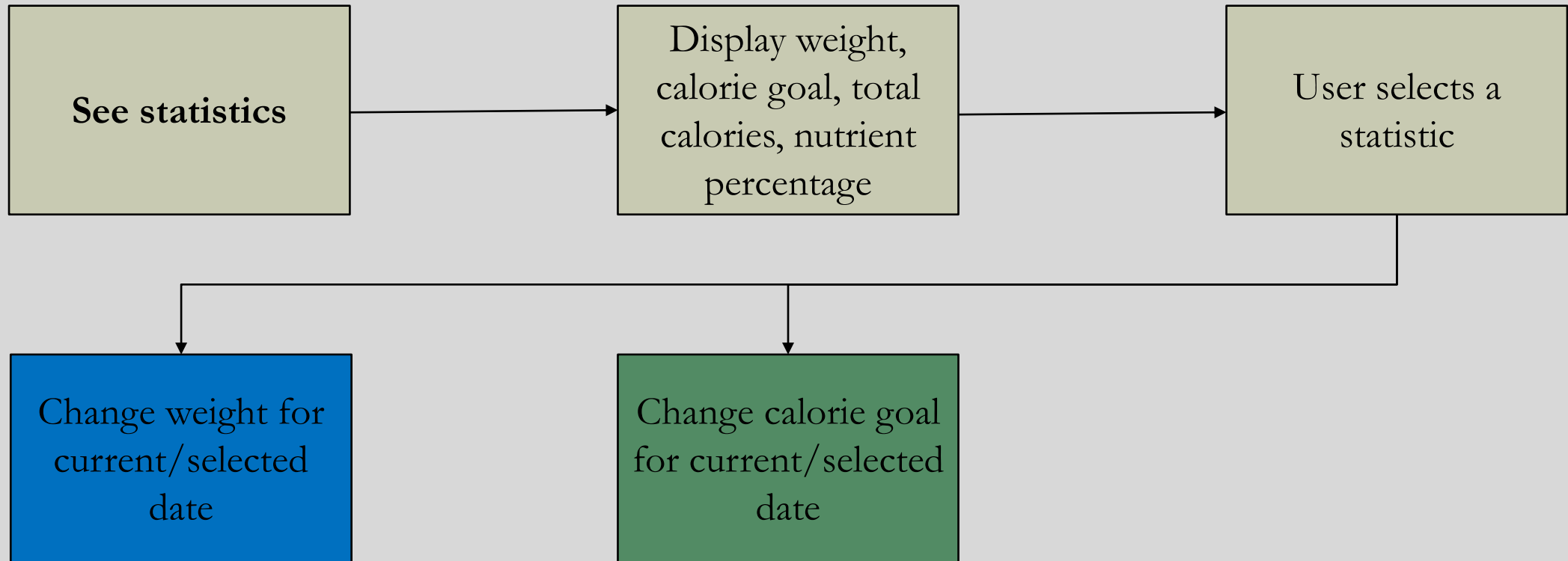
Food list



Date



Statistics



Tips

- Think of how the components interact and if they need to interact directly or through an intermediate.
- Don't be afraid to do complete model restructuring. If you find out that a different way of doing something is better, change it.
- Don't force design patterns and principles. It is better to have them, but only when they are needed.