THE COMPLETE JAVASCRIPT COURSE

FROM ZERO TO EXPERT!

SECTION

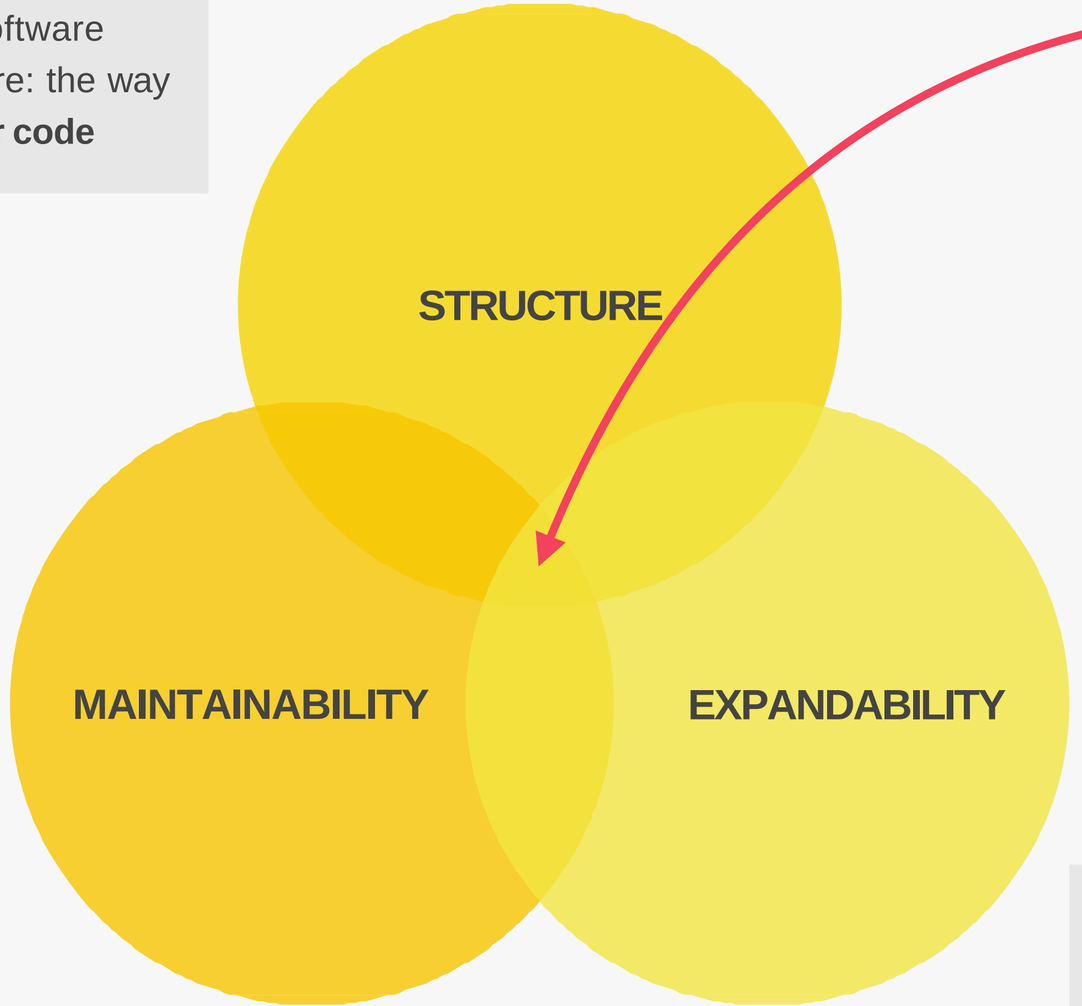
FORKIFY APP: BUILDING A MODERN APPLICATION

LECTURE

THE MVC ARCHITECTURE

WHY WORRY ABOUT ARCHITECTURE?

👉 Like a house, software needs a structure: the way we **organize our code**



The perfect architecture

👉 We can create our own architecture (Mapty project)

👉 We can use a well-established architecture pattern like MVC, MVP, Flux, etc. (**this project**)

👉 We can use a framework like React, Angular, Vue, Svelte, etc.

👉 A project is never done! We need to be able to easily **change it in the future**

👉 We also need to be able to easily **add new features**

COMPONENTS OF ANY ARCHITECTURE

BUSINESS LOGIC

- 👉 Code that **solves the actual business problem**;
- 👉 Directly related to what business does and what it needs;
- 👉 **Example:** sending messages, storing transactions, calculating taxes, …

STATE

- 👉 Essentially **stores all the data** about the application
- 👉 Should be the “single source of truth”
- 👉 UI should be kept in sync with the state
- 👉 State libraries exist

HTTP LIBRARY

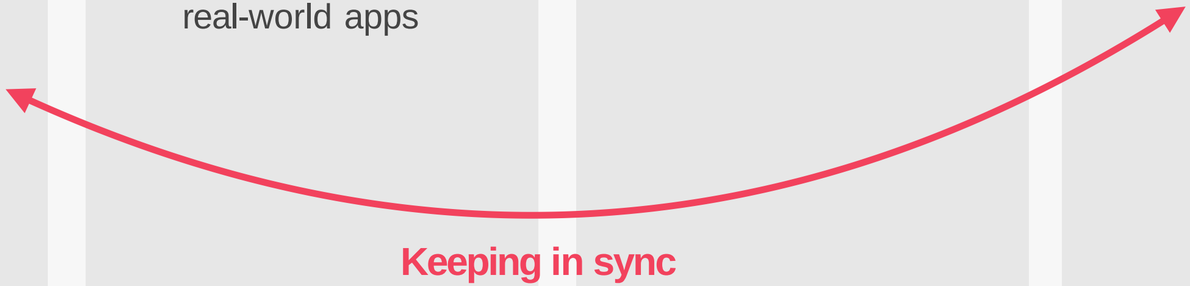
- 👉 Responsible for making and receiving AJAX requests
- 👉 Optional but almost always necessary in real-world apps

APPLICATION LOGIC (ROUTER)

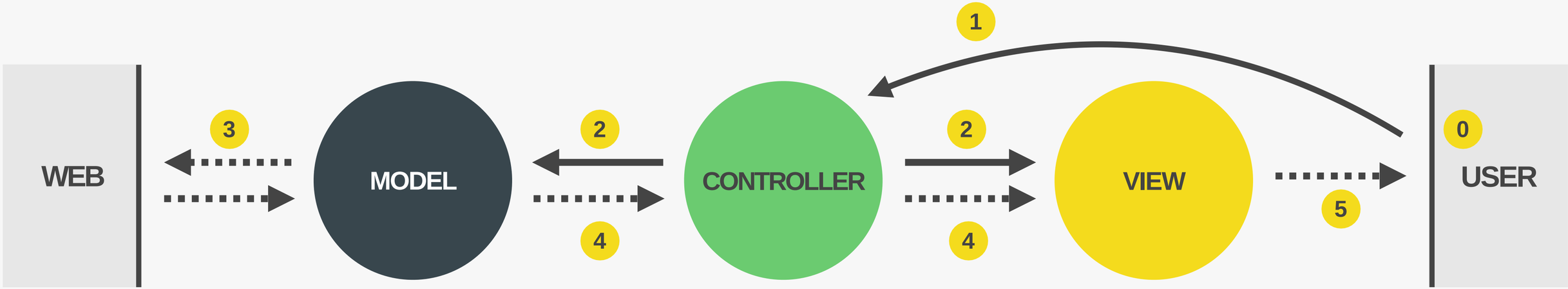
- 👉 Code that is only concerned about the **implementation of application itself**;
- 👉 Handles navigation and UI events

PRESENTATION LOGIC (UI LAYER)

- 👉 Code that is concerned about the **visible part** of the application
- 👉 Essentially displays application state



THEMODEL-VIEW-CONTROLLER (MVC) ARCHITECTURE



BUSINESS LOGIC

STATE

HTTP LIBRARY

APPLICATION LOGIC

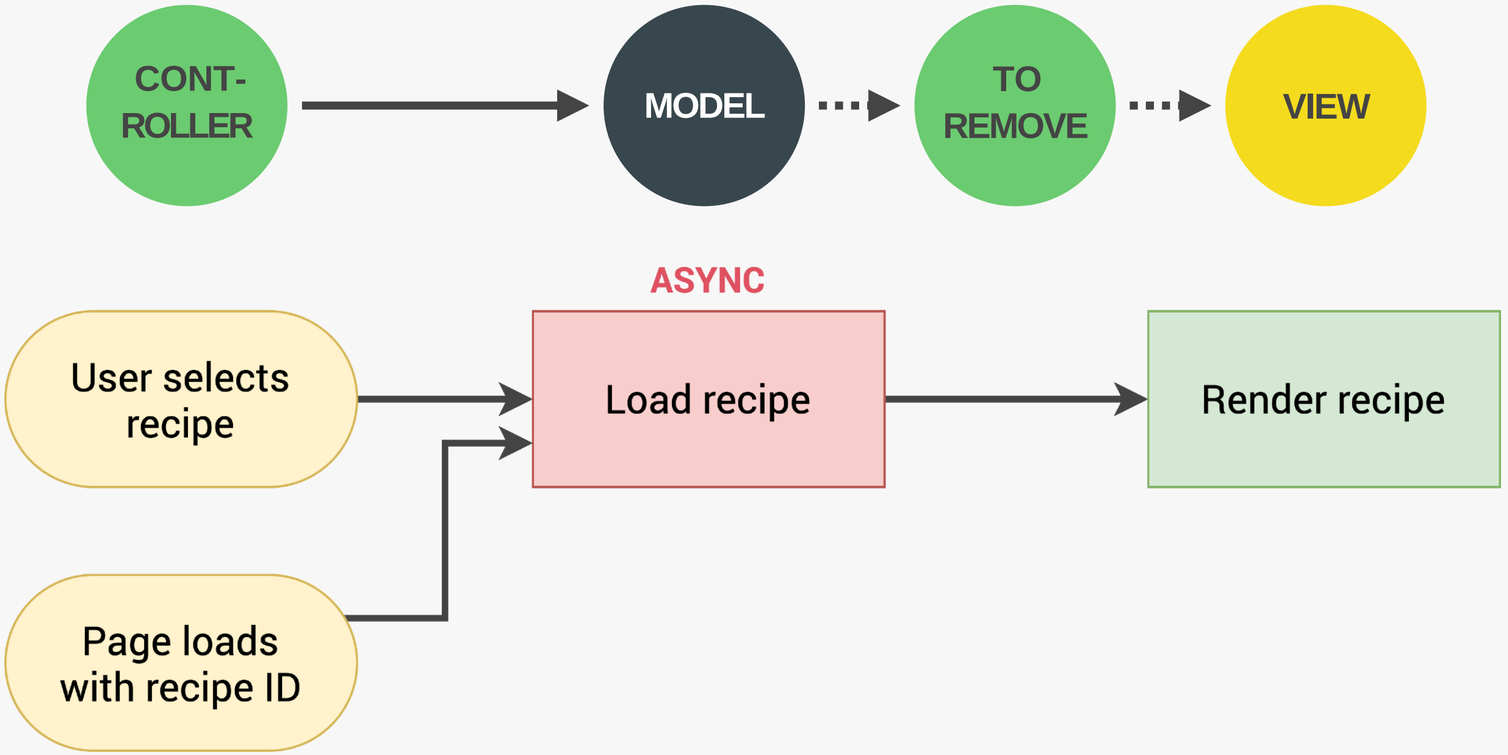
- 👉 Bridge between model and views (which don't know about one another)
- 👉 Handles UI events and **dispatches tasks to model and view**

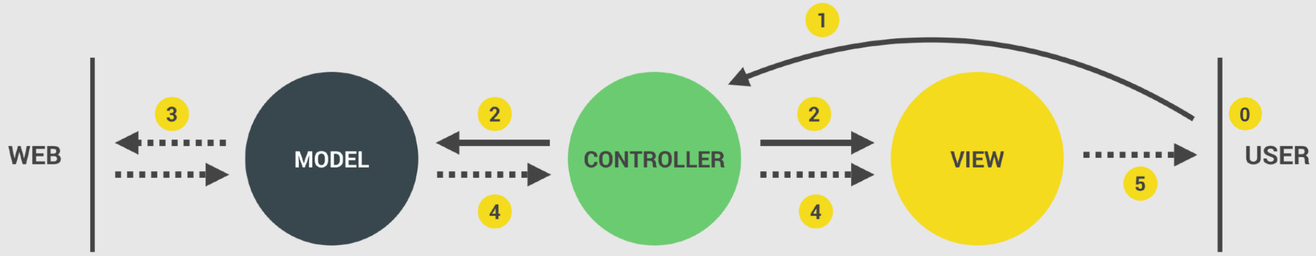
PRESENTATION LOGIC

Connected by function call and import

Data flow

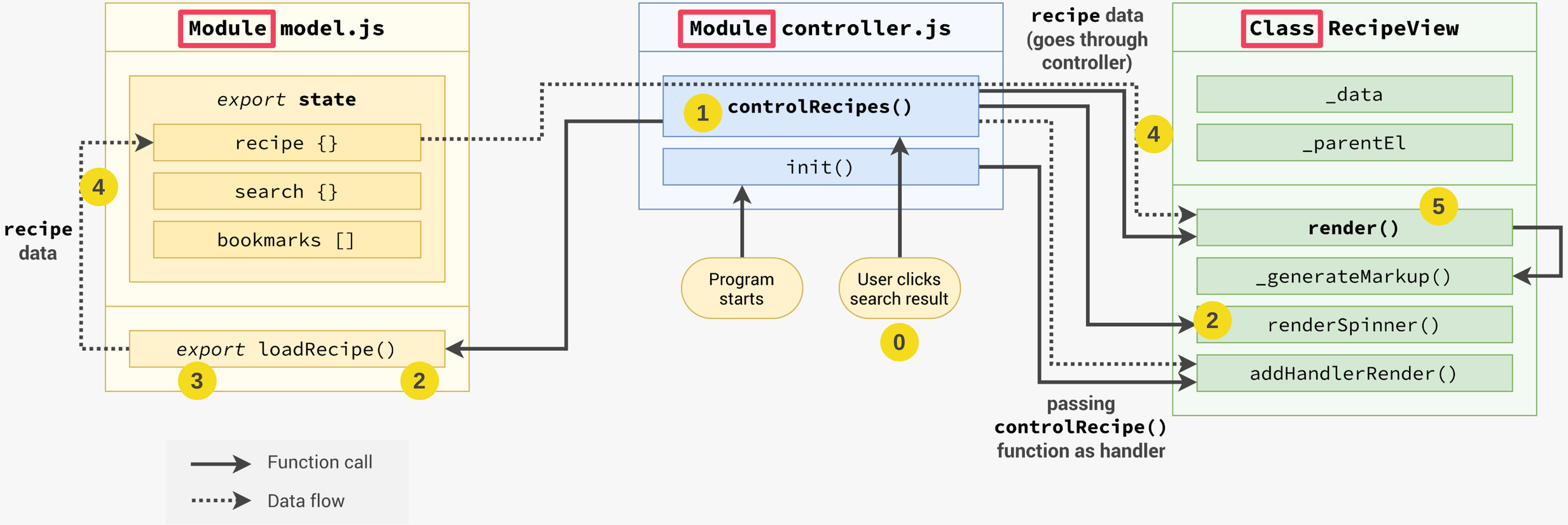
MODEL, VIEW AND CONTROLLER IN FORKIFY (RECIPE DISPLAY ONLY)

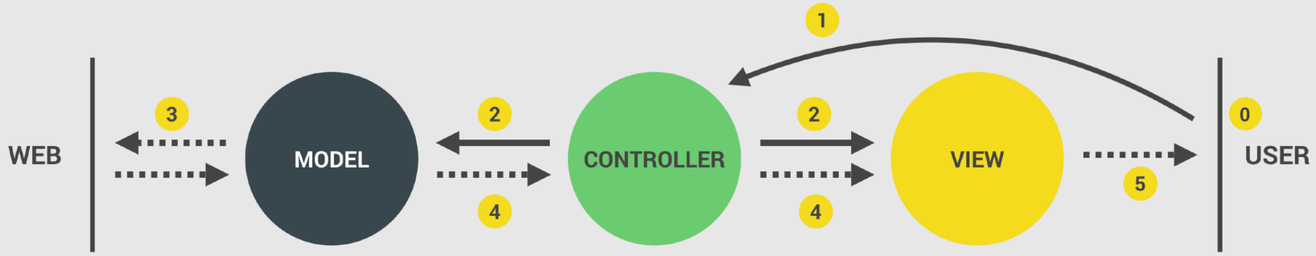




MVC IMPLEMENTATION (RECIPE DISPLAY ONLY)

forkify





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EVENT HANDLERS IN MVC: PUBLISHER-SUBSCRIBER PATTERN

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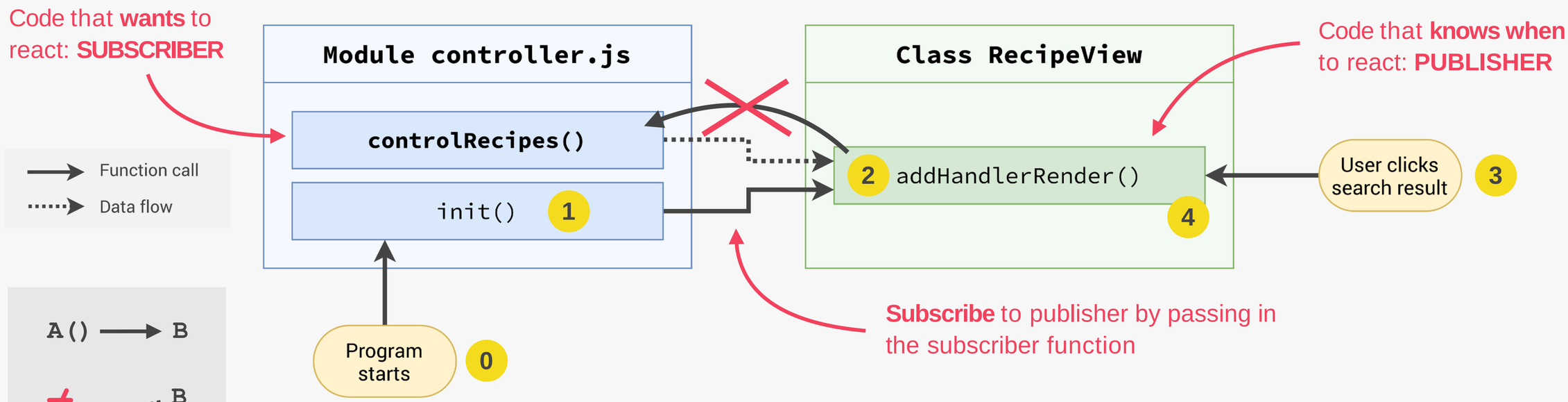

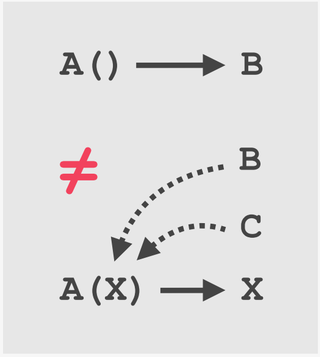

- 👉 **`controlRecipes`** will be passed into **`addHandlerRender`** when program starts
- 👉 **`addHandlerRender`** listens for events (`addEventListener`), and uses **`controlRecipes`** as callback

- 👉 Events should be **handled** in the **controller** (otherwise we would have application logic in the view)
- 👉 Events should be **listened for** in the **view** (otherwise we would need DOM elements in the controller)

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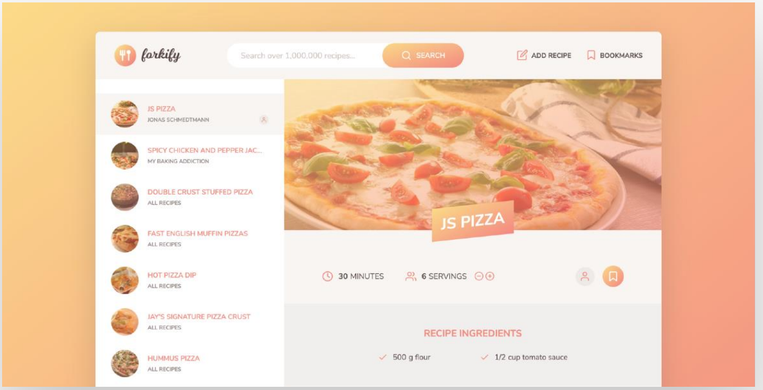
WRAPPING UP: FINAL CONSIDERATIONS

IMPROVEMENT AND FEATURE IDEAS: CHALLENGES 🤓

forkify

- 👉 Display **number of pages** between the pagination buttons;
- 👉 Ability to **sort** search results by duration or number of ingredients;
- 👉 Perform **ingredient validation** in view, before submitting the form;
- 👉 **Improve recipe ingredient input**: separate in multiple fields and allow more than 6 ingredients;



- 👉 **Shopping list feature**: button on recipe to add ingredients to a list;
- 👉 **Weekly meal planning feature**: assign recipes to the next 7 days and show on a weekly calendar;
- 👉 **Get nutrition data** on each ingredient from spoonacular API (https://spoonacular.com/food-api) and calculate total calories of recipe.

END