

Tutorial 4: Modern JavaScript

Objectives

- Practice modern JavaScript techniques, including:
 - Keyboard events
 - Classes
 - Different meaning of `this` and effect of `bind()`
 - Communicate between classes with custom events

Tutorial Exercises

Exercise 1: Flash cards (45 mins)

Create folder `tut04/flashcards/`, and continue with the tasks below.

- `data.js`: contains a dictionary of words
- `main.js`: populate words from `data.js` into flash cards

Task 1: Click events – navigate between flash cards

Create 2 handlers (functions) for click events on button: **Previous** & **Next** to navigate between cards.

Note: if current card is at index 0, button **Previous** should be disabled. Similar to button **Next** in case of showing the last card.

Hint: [`previousSibling\(\)`](#) and [`nextSibling\(\)`](#) may be useful.

Task 2: Keyboard events – navigate between flash cards

Handle keyboard events on 2 arrow keys (left & right) to navigate between cards.

Hint: Use the two handlers created from *Task 1*.

Exercise 2: Flash cards OOP (45 mins)

Create folder `tut04/flashcards-oop/`, and refactor flashcards program into classes.

Task 1: Classes

Create 3 file `flashcard.js`, `statusbar.js` and `app.js` for these 3 classes respectively:

- `FlashCard`: represents a flash card with word and definition.

- `StatusBar`: represents the status bar
- `App`: represents the application. *App* has a list of *FlashCard*, and the status bar.

Note: `main.js` is now to start the *App* with required parameters.

Hint: use the design of pattern 1 (pass the container element inside the class constructor)

Task 2: Communication between App & StatusBar

When user click on *StatusBar*, it need to notify the App to display the correct *FlashCard*. Use ***custom events*** to facilitate this.