TESTING BROWSER APIS

Dependencies Injection

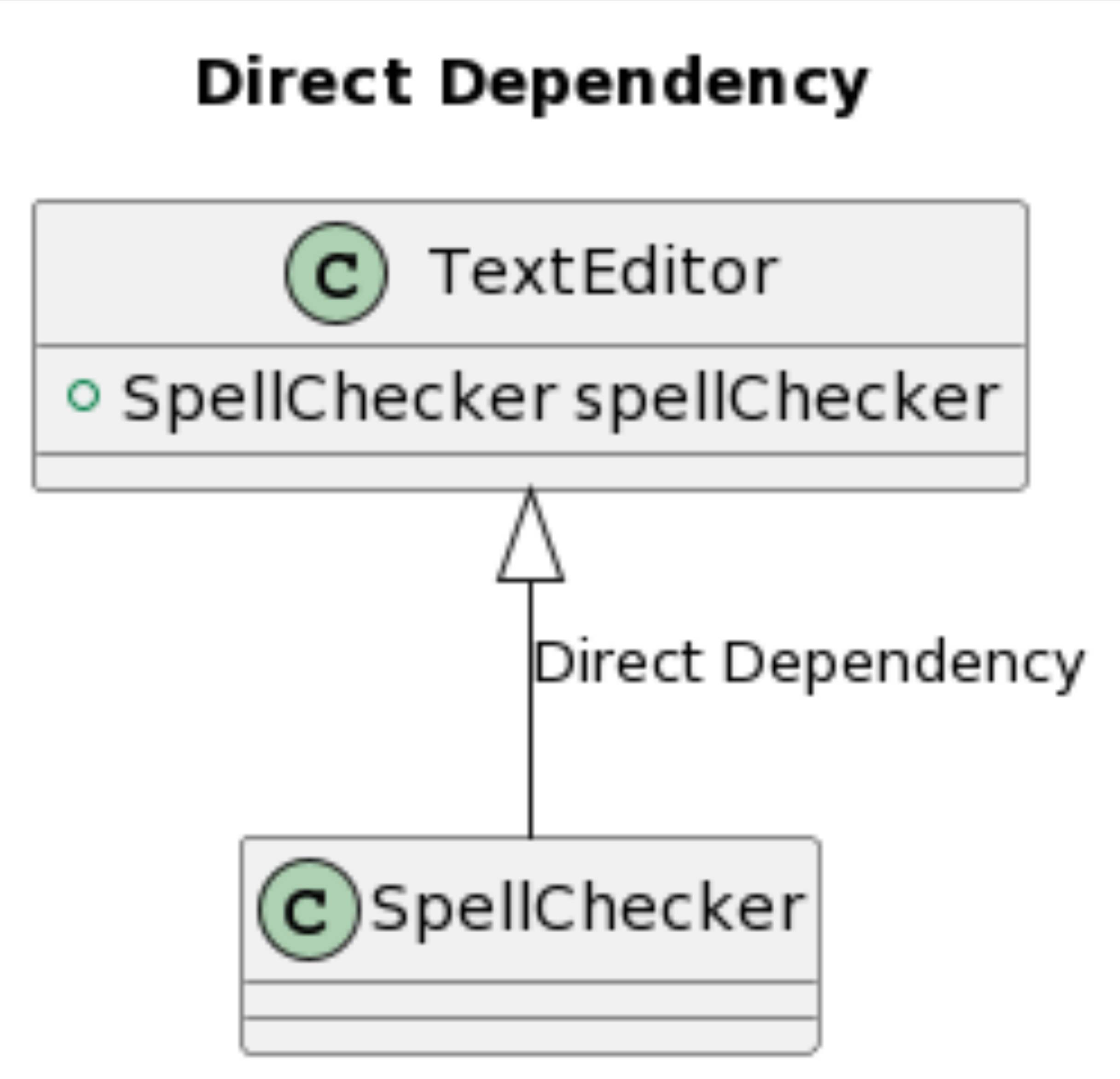
- Separation between Object creation and usage
  - leads to loosely coupled programs
- Objects which use a different object should not know how it is created

DEPENDENCIES INJECTION

```
class TextEditor {
    private SpellChecker checker;

    constructor() {
        this.checker = new SpellChecker();
        //             ^^^^^^^^^^^^^^^^^^
        // TextEditor depends the implementation of
        // the SpellChecker class
    }
}
```

DEPENDENCY INJECTION

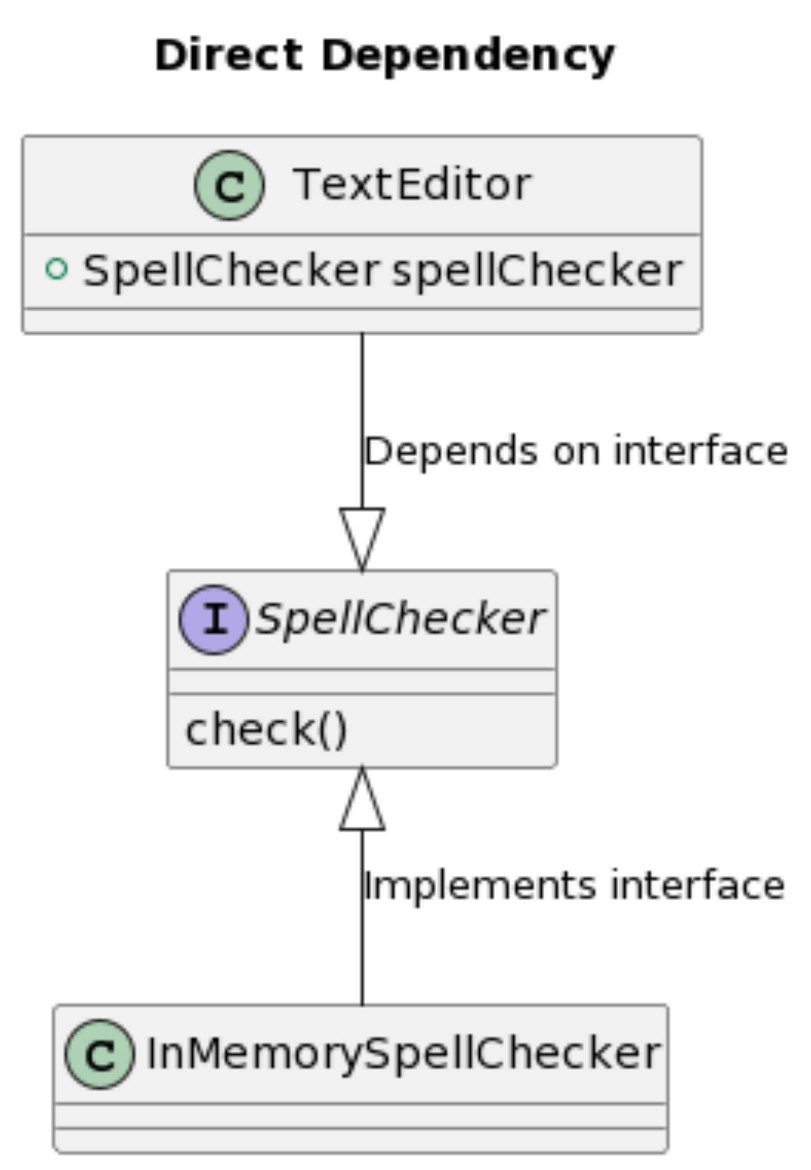
DIRECT DEPENDENCY



DEPENDENCY INJECTION
INVERSION OF CONTROL

```
interface SpellChecker {
  check(text: string)
}

class TextEditor {
    private SpellChecker checker;

    constructor(spellChecker: SpellChecker) {
        //                    ^^^^^^^^^^^^
        // spell checker is an interface. TextEditor
        // depends on an abstraction and not a concrete
        // implementation.

        this.checker = spellChecker;
    }
}

const textEditor1 = new TextEditor(new InMemorySpellCheck())
const textEditor2 = new TextEditor(new GoogleSpellCheck())
```

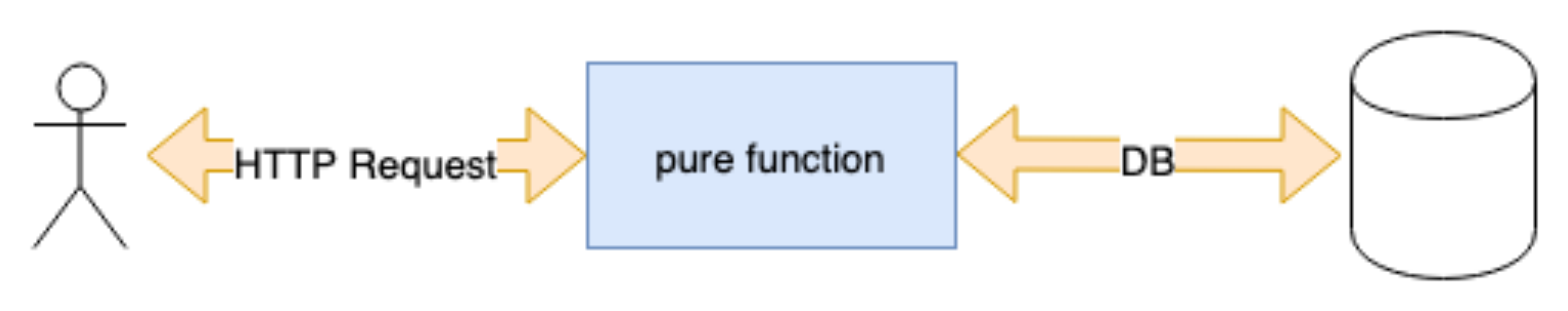
DEPENDENCY INJECTION
INVERSION OF CONTROL



IoC in Real Life

- You have a laptop computer and you accidentally break the screen
  - Without IoC: Laptop screen can't be replaced or is not available on the market. You have to replace the whole laptop.
  - With IoC: You can grab almost any desktop monitor from the market, and it'll work.

SIDE EFFECTS

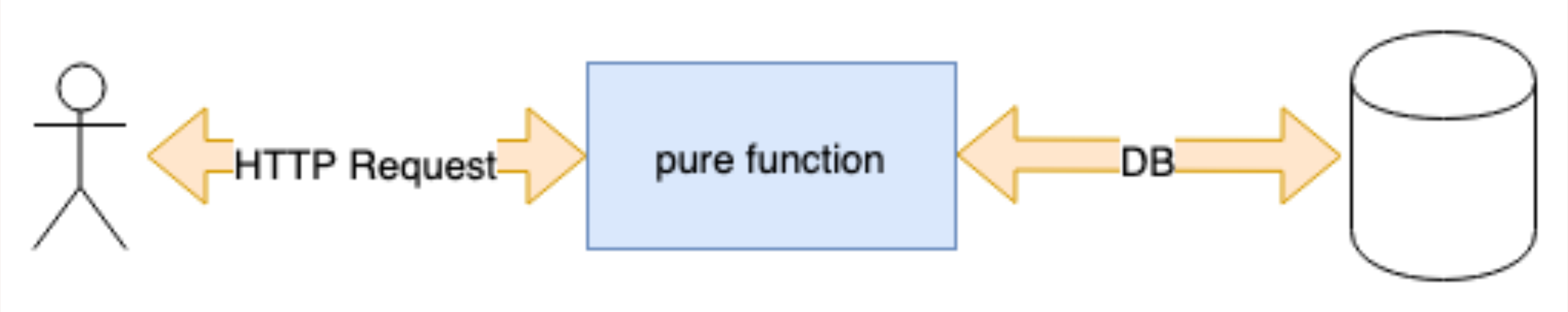


SIDE EFFECTS

- Render Elements to the DOM
- DB/HTTP calls
- changing the file system
- querying the DOM
- printing/logging
- accessing system state (eg. Clock, Geolocation,...)

SIDE EFFECTS

- How do we test/extract the business logic without depending on React/Browser APIs



Dependency Injection React Kata

- Repository