

an

Name - Proxy / Surrogate

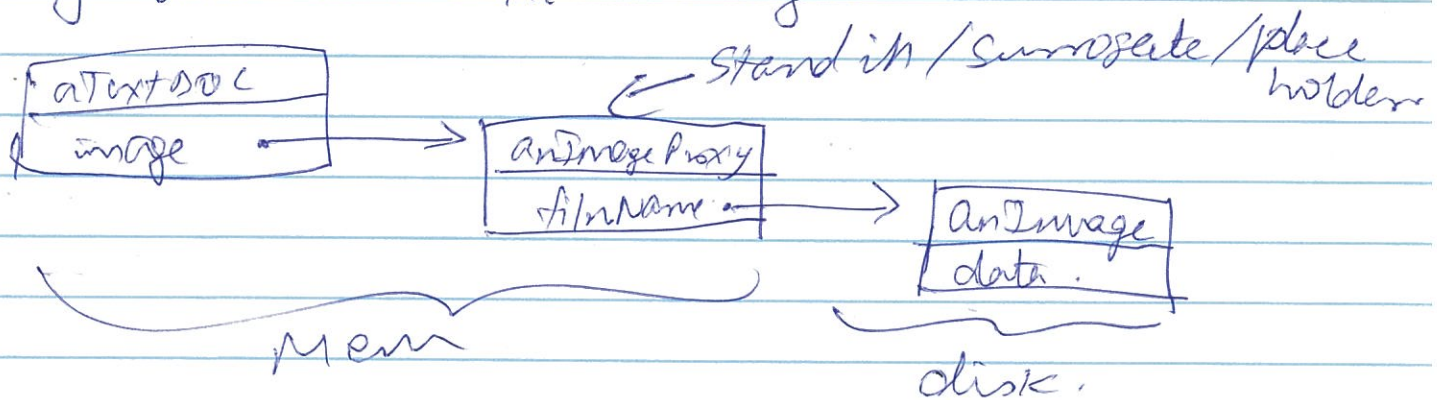
Intended use case - Provide a placeholder for another object to control access to it.

Motivation:

~~Motivation~~: ① Delay / defer the cost of creation & initialization of an object.

eg. Consider a doc with a high res image in 2nd page. It takes the editor 2 secs to open a pure text doc and 10 secs to open just an image of high res.

Should I have to wait for 10 secs even though my doc has text & images?



Such a proxy is called virtual proxy.

- ② Remote proxy: object in diff address space.
- ③ Protection proxy: To control access based on rights.

vocabulary.

Client : class/object that needs access to a RealSubject

RealSubject : defines the real/actual object.

Subject : Defines the common interface for the RealSub / Proxy, so that proxy can be used anywhere that a real subject can.

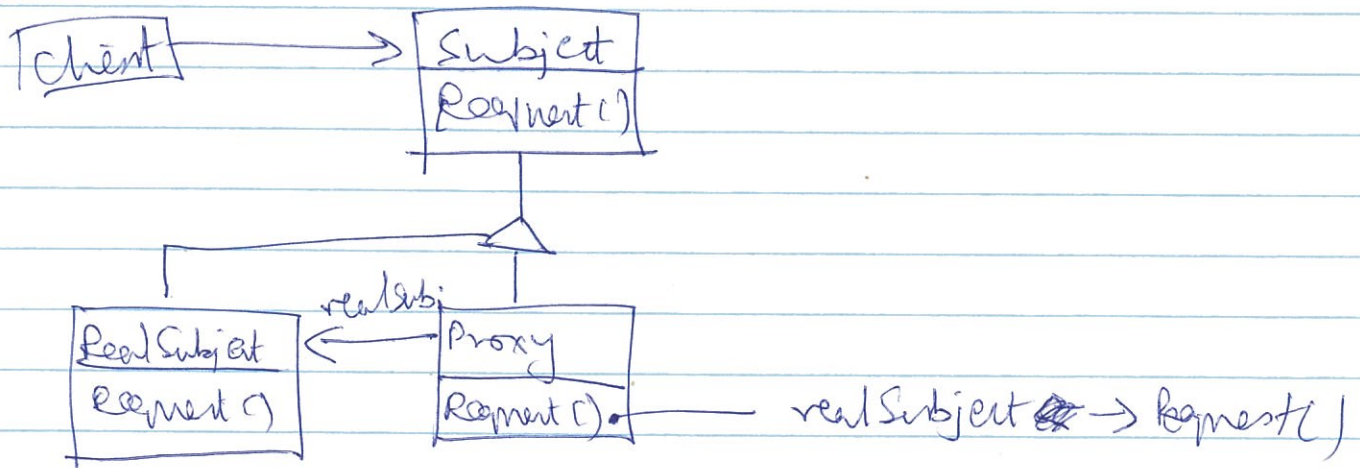
Proxy : The surrogate object

- ↳ Maintains a ref to the actual subject.
- ↳ Interface is identical to Sub/RealSub.
- ↳ Controls access to real sub.
- ↳ Responsible for ~~sub~~ creating & deleting it.

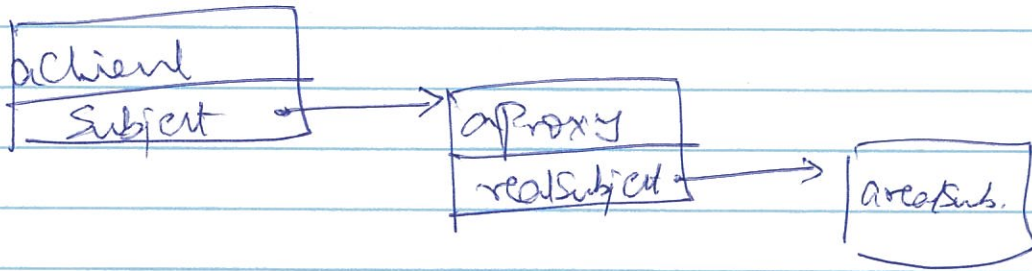
Additional

- ↳ virtual proxy → can cache some details like the size & the image
- ↳ remote proxy → knows where to send the req to
- ↳ protection proxy → checks for access rights.

Structure:



Runtime



Consequences: -

adv

- a virtual proxy can optimize perf
- a remote proxy can hide location
- a prot proxy can do additional checks

disadv

- When used in other cases may be an overkill.

NFPI's

- Improves perf
- " Security

Similar patterns

- Adapter → changes a few methods though
- Decorator → adds one/more responsibility.