

Hiller's Barber Shop

SCOOP Project

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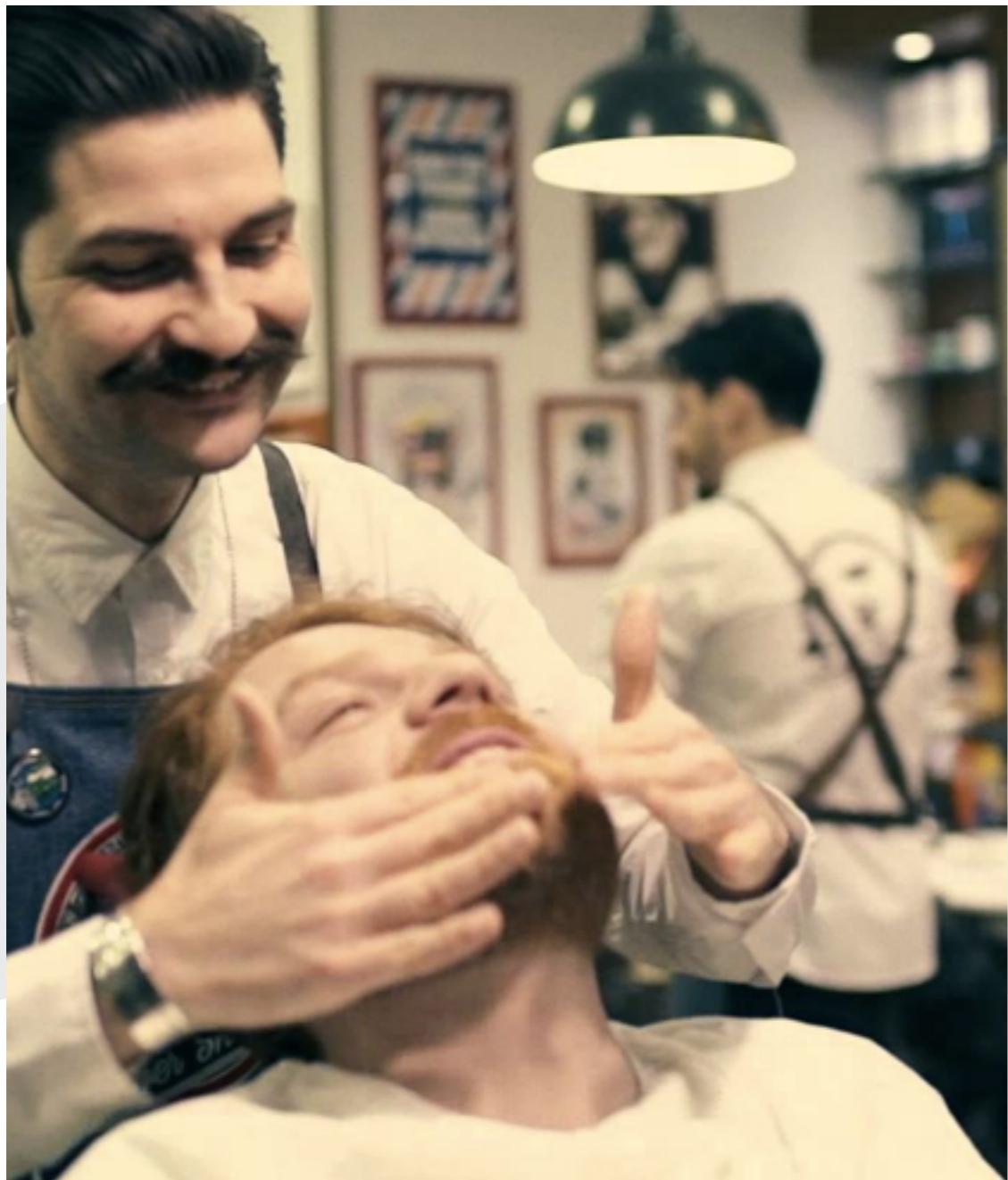
DEIB 2016

The Problem

- SHOP
- SOFA
- CASH DESK
- CUSTOMER
- BARBER



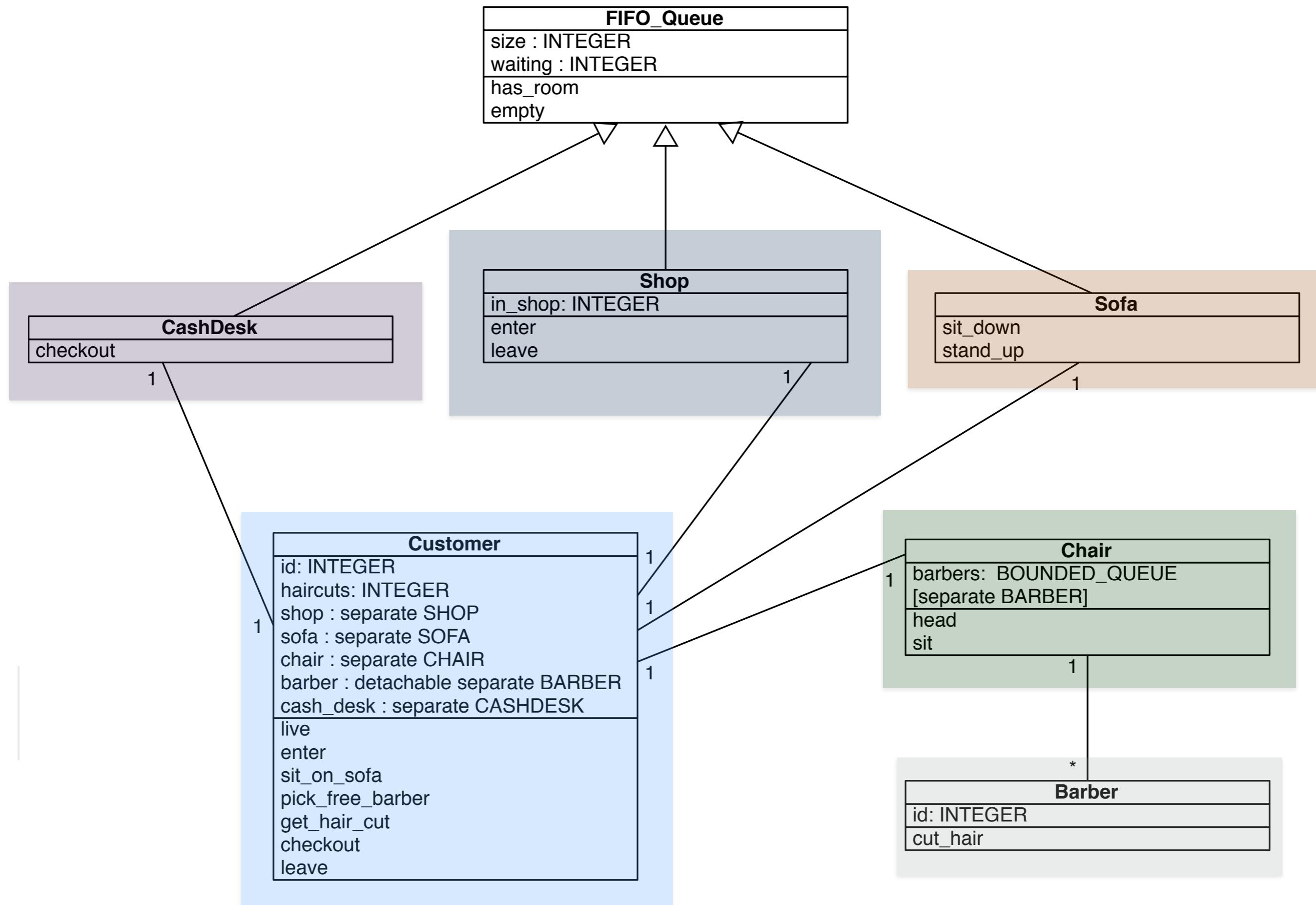
Analysis & Constraints



- SHOP SIZE
- WAITING ROOM SIZE
- SOFA SIZE
- CASH DESK SIZE
- CUSTOMER has a life-cycle (wait and release)
- BARBER CUSTOMER interaction

Design

- We model SHOP, SOFA, CASHDESK as FIFO queues
- CHAIR is a proxy for the BARBER queue used to get a free barber synchronously
- BARBER is very simple, cuts customer hair



Customer Life-Cycle

- (1) it **waits** for the shop to **open**;
- (2) it **attempts** to **enter** the shop, if there is room inside it **enters**;
- (3) it **attempts** to **sit** on the sofa, if not possible it **waits** in the standing room (waiting condition);
- (4) it **attempts** get an **haircut**, i.e. attempts to get a **free barber**, if not possible it **waits** on the **sofa** (wait condition);
- (5) it **attempts** to **pay**, i.e. it attempts to get a **free barber**, if not possible it **waits** in **front** of the **cash desk** (wait condition);
- (6) it **leaves** the shop.



Lesson Learnt

- Handling FIFO with SCOOP (**Succeeded**)
- Void Safe programming through Eiffel (**Succeeded**)
- Merging environment patterns (Failed)

Producer/Consumer Hilzer's barbershop (Failed)

- Define Barber life-cycle (i.e. “live” method)
- Model the interaction as a consumption of customer queue (sofa and cashdesk)
- we stuck in coordinating the consumption with the customer wait, i.e. they keep wait forever.



Thanks!

Questions?