CSC207 Tutorial 6

TUT0401 - 20th October 🍂

before we begin...

- have a team member fork the repo
- share it with your teammates
- all teammates: clone the repo & try running the code

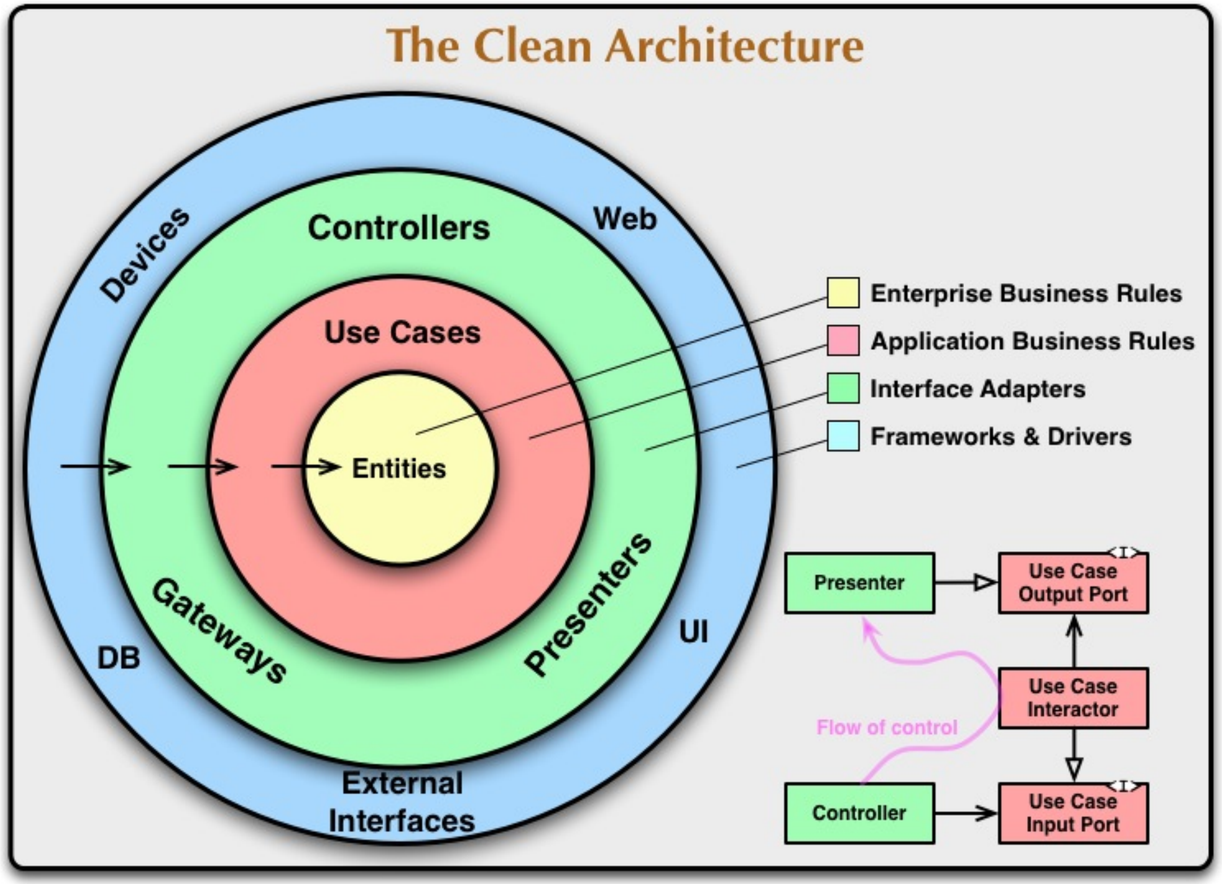
lab overview

- Introduction to Clean Architecture
- **Group Activity:** Login/logout
  - Goal: implement the logout use case
  - to be completed by the end of lab (for credit!)
- Start filling out your project blueprint (due by next lab!)

clean architecture

a refresher

- A layered model of how control flows during a user action
- Outer layers depend on inner layers, but not vice-versa
- UI -> Controller -> Interactor -> Presenter -> UI



clean architecture

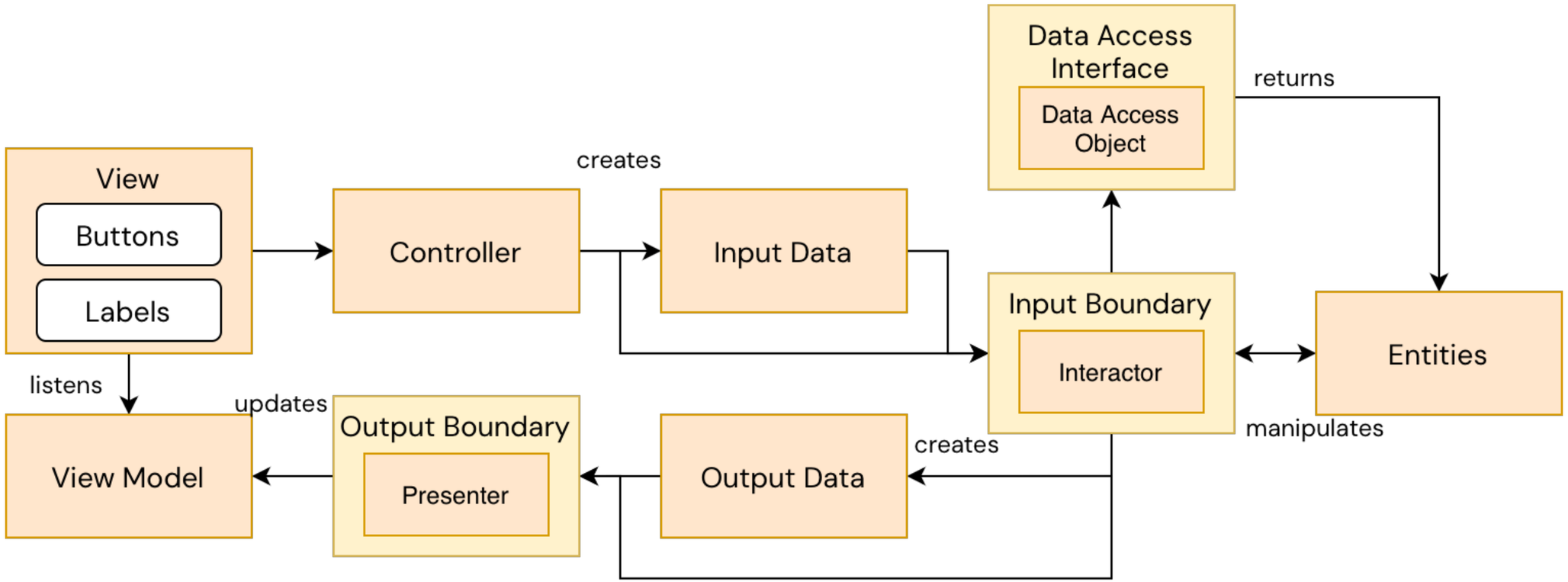
a word of reassurance...

- this was super confusing to me at first.
- thankfully, this is not really used in industry.
- **HOWEVER**, what's important is the concepts of abstraction, and the skill of writing clean, modular and testable code.

this opinion is not endorsed by the 207 teaching team!!!

clean architecture

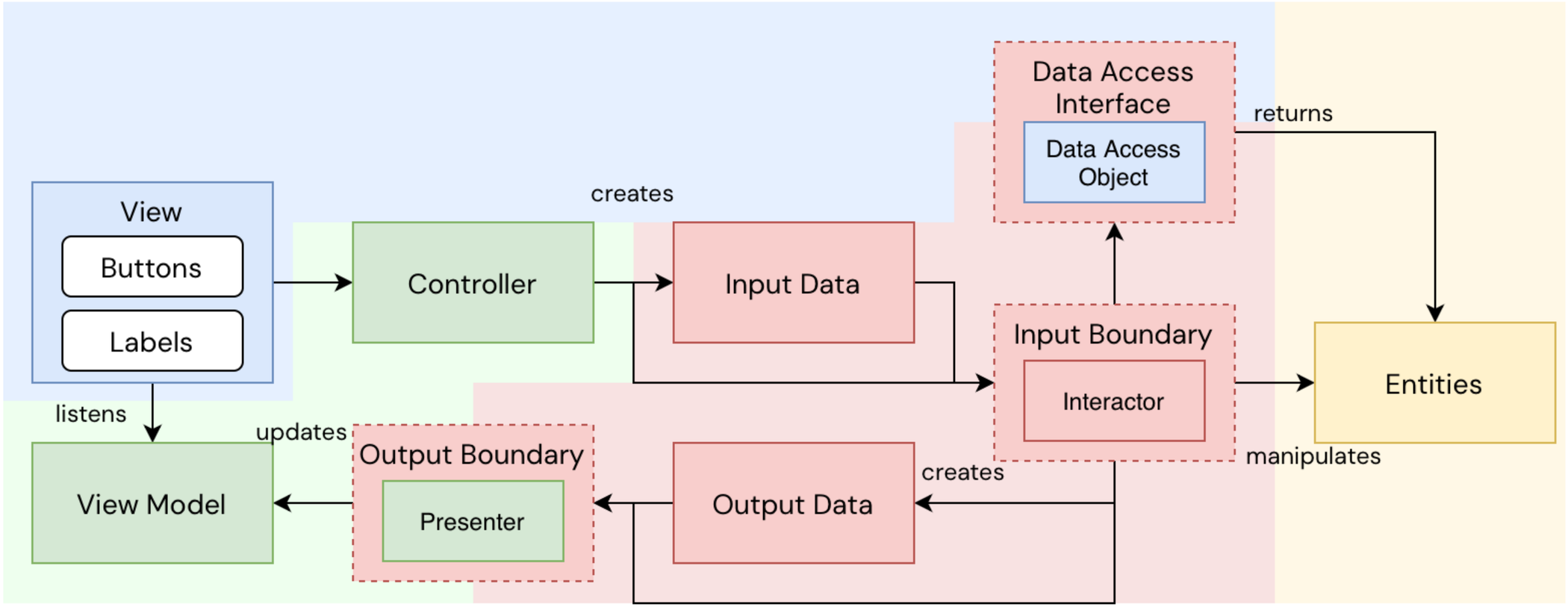
a visualization of a use case



orange = classes; yellow = interfaces

clean architecture

a visualization of a use case

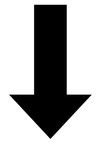


notice how dependency inversion is adhered to!

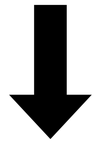
clean architecture

major components, explained

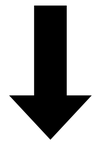
- **view:** displays the UI *(LoginView: text fields for username & password)*



- **controller:** given a user action, call the interactor with the right inputs



- **interactor:** given inputs, manipulate entities and call the presenter with the right outputs *(check if user exists / password matches)*



- **presenter:** given outputs, update & switch views

clean architecture

okay, how is the UI managed?

- each UI view is represented by a View, a State, and a ViewModel
- a ViewManager manages all views
- views are updated by the Presenter *of each use case*
  - a Presenter might update multiple views!

- **State**: an abstraction of *what* is being presented
- **ViewModel**: an abstraction of *how* the data being presented (stores state)
- **View:** UI components

clean architecture

tying it together: updating the UI for logging in