q Why Do Front-End Framework Exist?

Q, Why not use Vanilla JS → to render our apps

Olden days
↓
Only Server Side
Rendering was
Possible

Example

View ───┐
        ├──→ Rendered → you will
Data ───┘   webpage   get the
                           webpage

(Rendered on Server/
back End)

This resultant
webpage is sent
to the client
who requested
it

(basically the
browser)

takes the code
and simply paints
it on the screen

One good eg

All the websites that
are built with (All the Server Side ... UA)
wordpress ──→ ① simple
                animations
(to add simple dynamics   ② hover
to the page)   effects

JQuery

This was helping
(made JS work the
exact same way
across all the browsers)

Over time → Developers started writing
more and more JS code to be executed by the
browser

↓

This became fully fledge → which led to the rise of
web applications

Single web page
applications

↓

webpages that
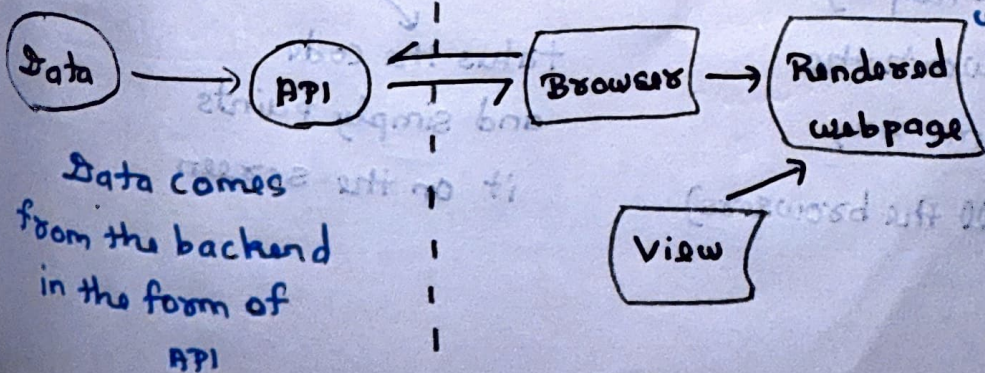are rendered
on the client
side (not on the
server side)

(All the Server side rendering
is now done on the
client side)

Client Side Rendering

(we don't call it webpages anymore
we rather call them as web apps)

(Still needs data
which comes from the
backend in the
form of API)

Data → API ⇄ Browser → Rendered
webpage

Data comes
from the backend
in the form of
API

View

Application consumes the data **&** renders a screen
from the API → for each view
of the application

(Server Side Rendering
frame works are getting built)

Eg

Next.js
Remix
(To use
with UI)

Modern client Side
Rendering frameworks

Building front end user apps

(most imp role of a
front end app)

① Handling data
↓
Displaying it in a
User interface

→ keep the User Interface
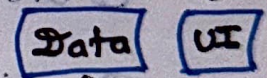stay in sync with the
Data

Problems with Vanilla JS and JQuery

① Requires lot of direct Dom manipulation
and traversing → (lot of boiler plate code)

② Data (State) → usually stored in the Dom
(Shared across the entire app)

→ **Result**
we end up with
with many parts
of the app accessing
and changing Dom state
directly

you end up creating
your own frameworks
(which wouldn't be well
established than all

Why Do front End frame works exist?

① keeping a user Interface in Sync with data is Really hard and lot of work

(front end frame works takes this complex data of synchronizing data with UI)

So that we can (you team) focus on the most

~~Data~~

② enforce a correct way of
   ① Structuring } the code
   ② writing

③ They give developers and teams a consistent way of building front-end apps

(with less boiler plate code)

Building the User Interface

↓

authors of these frame works

came up with a good idea/way of structuring apps

↓

So that other developers can fallow these well in order to build better applications