

GIT submodules: we have monorepo at home



Vadim Tsaregorodtsev



v_hadoopcken



vtcaregorodtcev





6 00

Kanban project
Software project

KP board
Kanban board

KP-81

Make feature X on project A

...

STR
add steps to reproduce

1.

AR
add actual result

ER
add expected result

Platform:
Browser:
Software version:

Activity Comments ▾

Add a comment...

Status: Backlog

Assignee: Unassigned

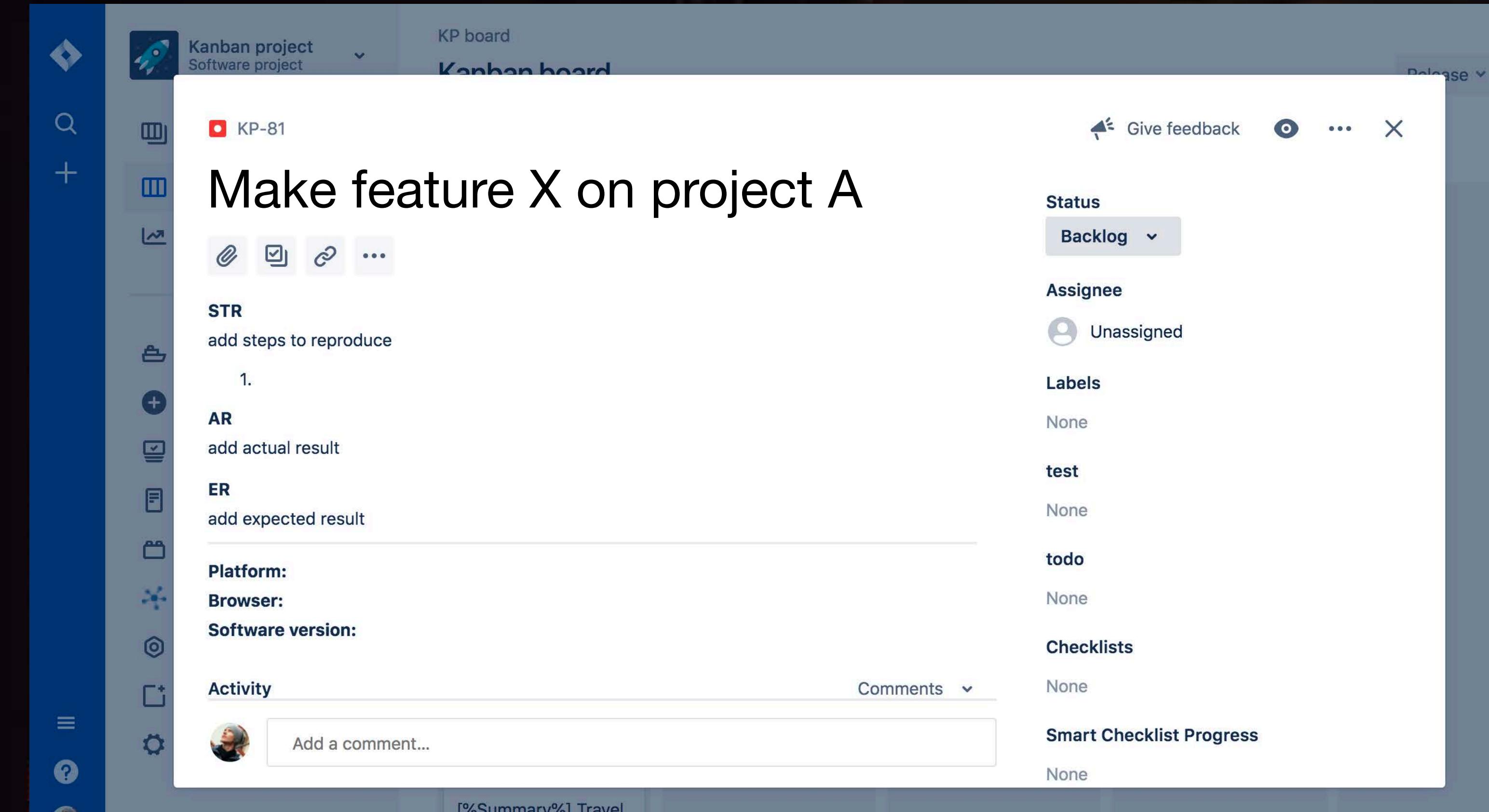
Labels: None

test: None

todo: None

Checklists: None

Smart Checklist Progress: None



A FEW
MOMENTS
LATER



6 00

Kanban project
Software project

KP board
Kanban board

KP-81

Make feature X on project B

...

STR
add steps to reproduce

1.

AR
add actual result

ER
add expected result

Platform:
Browser:
Software version:

Activity Comments ▾

Add a comment...

[%Summary%] Travel Request Process

Status: Backlog

Assignee: Unassigned

Labels: None

test: None

todo: None

Checklists: None

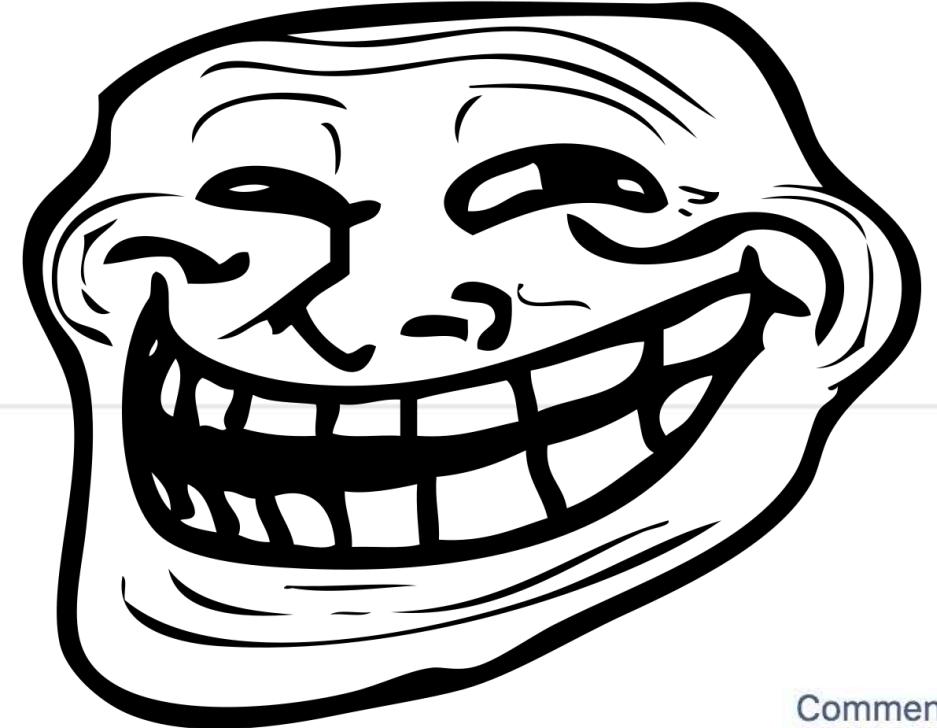
Smart Checklist Progress: None

Kanban project
Software project

KP board
Kanban board

KP-81

Make feature X on project B



STR
add steps to reproduce
1.

AR
add actual result

ER
add expected result

Platform:
Browser:
Software version:

Activity

Add a comment...

Comments ▾

Status: Backlog

Assignee: Unassigned

Labels: None

test: None

todo: None

Checklists: None

Smart Checklist Progress: None

[%Summary%] Travel Request Process

Kanban project
Software project

KP board
Kanban board

KP-81

Make feature X on project C

...

STR
add steps to reproduce

1.

AR
add actual result

ER
add expected result

Platform:
Browser:
Software version:

Activity Comments ▾

Add a comment...

[%Summary%] Travel Request Process

Status: Backlog

Assignee: Unassigned

Labels: None

test: None

todo: None

Checklists: None

Smart Checklist Progress: None



Manager: It's the same feature,
but in different projects, right?

Developer: ...



Manager: It's the same feature,
but in different projects, right?

Developer: ...





Vadim Tsaregorodtsev

10 years in development.

Frontend Team Lead at ETG

Writing #2minsDevsNotes



emerging

TRAVEL GROUP



Terabytes

of data in the database and
tens of terabytes of images

340+

Employees
in Engineering

4.4 / 5

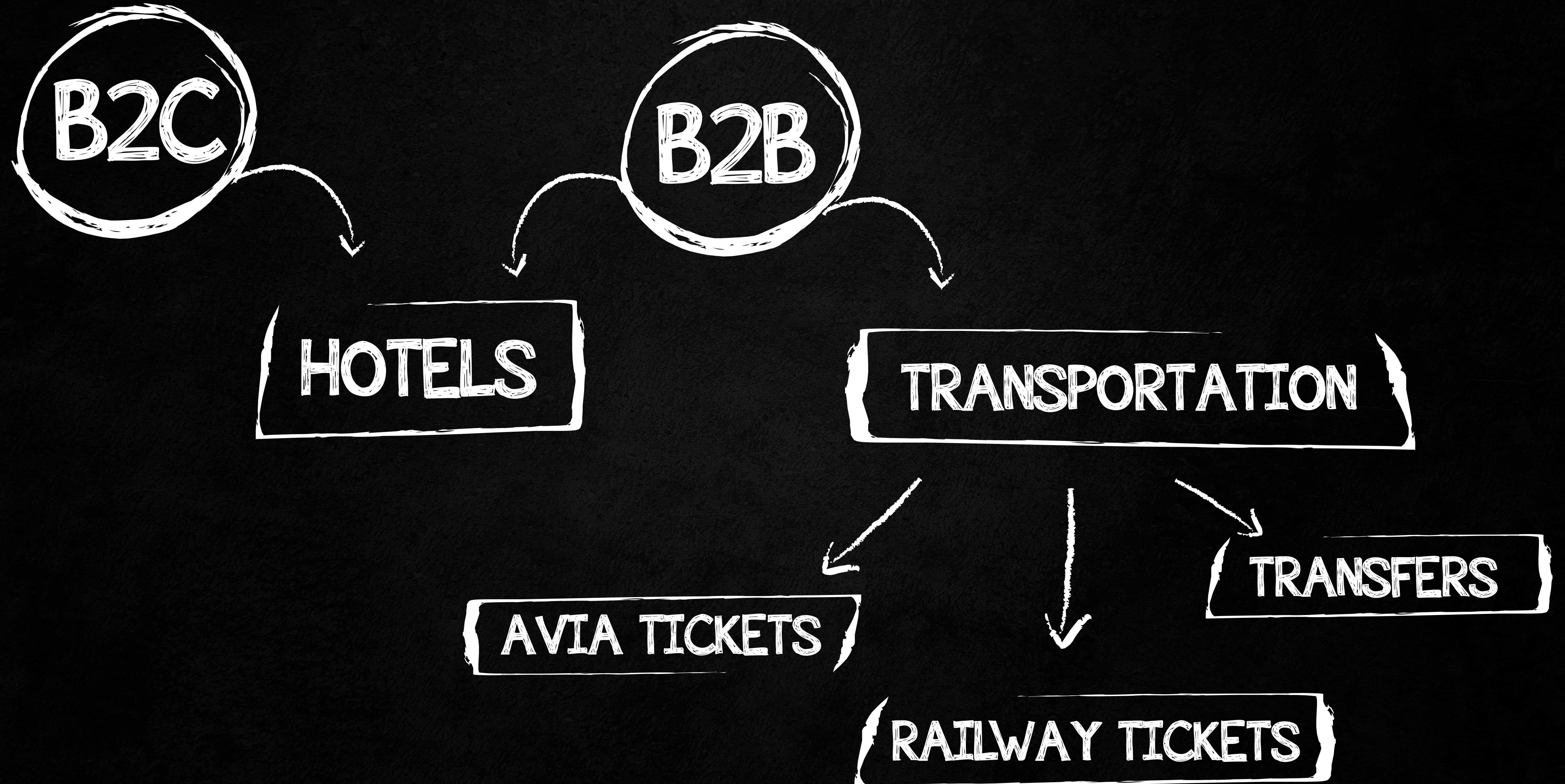
Job satisfaction
among employees

200 000

search queries per
minute and possibly more.

B2C and B2B
segments





- ✗ Frontend is Next.js.
- ✗ Same set of pages
- ✗ Similar domain
- ✗ Similar data services
- ✗ Similar work with suppliers





How to do it once and forget?



Monorepository

Polyrepository



Repository 1

src

components

...



Repository 2

app

lib

...



Repository 3

configs

...

Monorepository



Repository

Project 1

src

components

...

Project 2

app

lib

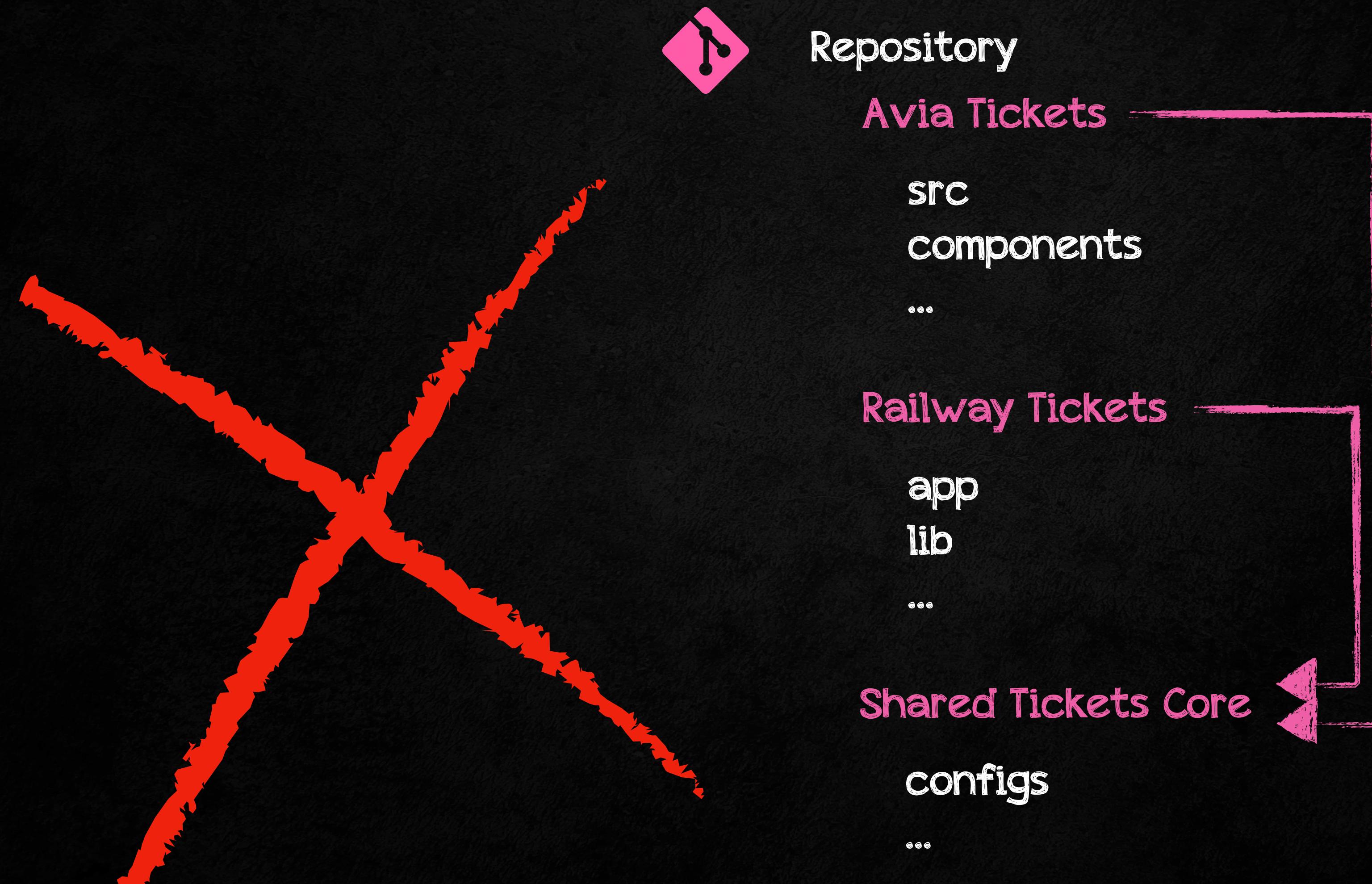
...

Project 3

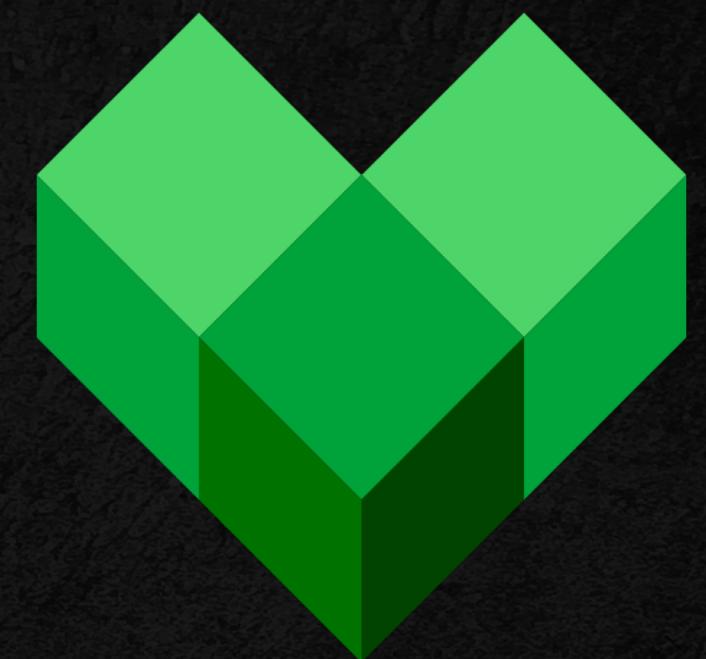
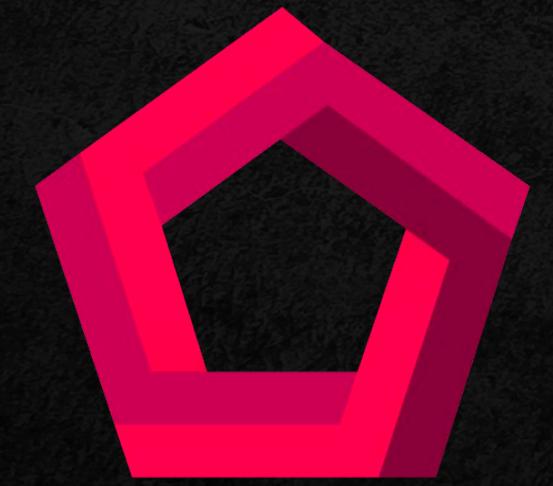
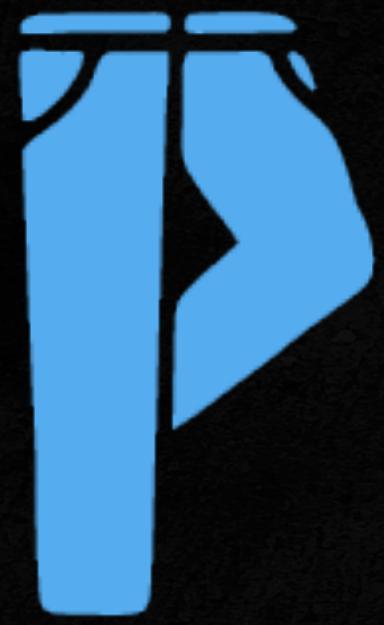
configs

...

Monorepository

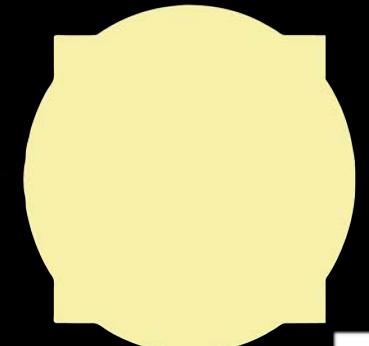


- ✗ Being similar doesn't mean identical
- ✗ Different backends, different languages
- ✗ Many edge cases
- ✗ Single git history is only confusing
- ✗ Different release cycles and versioning





Bus factor = 1

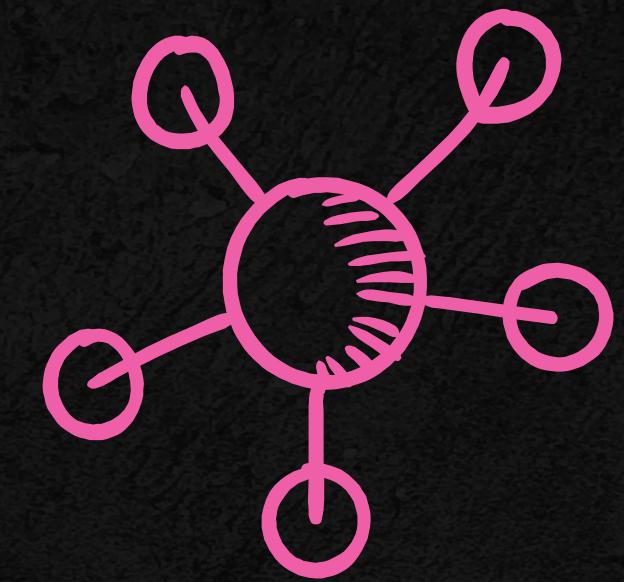


DAN ABRAMOV THE WET CODEBASE

DECONSTRUCT 2019
DECONSTRUCTCONF.COM



6 00



Polyrepository and packages



UI components

lib

components

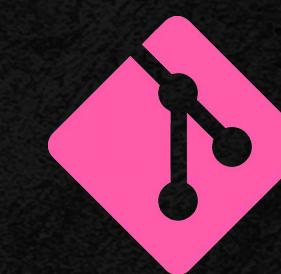
...



Validators

src

...



Project

src

tsconfig.json

package.json

- ✗ Popular method in the company = uniformity
- ✗ Git history is isolated in the repository
- ✗ Intuitive flow

DO -> UP -> SET



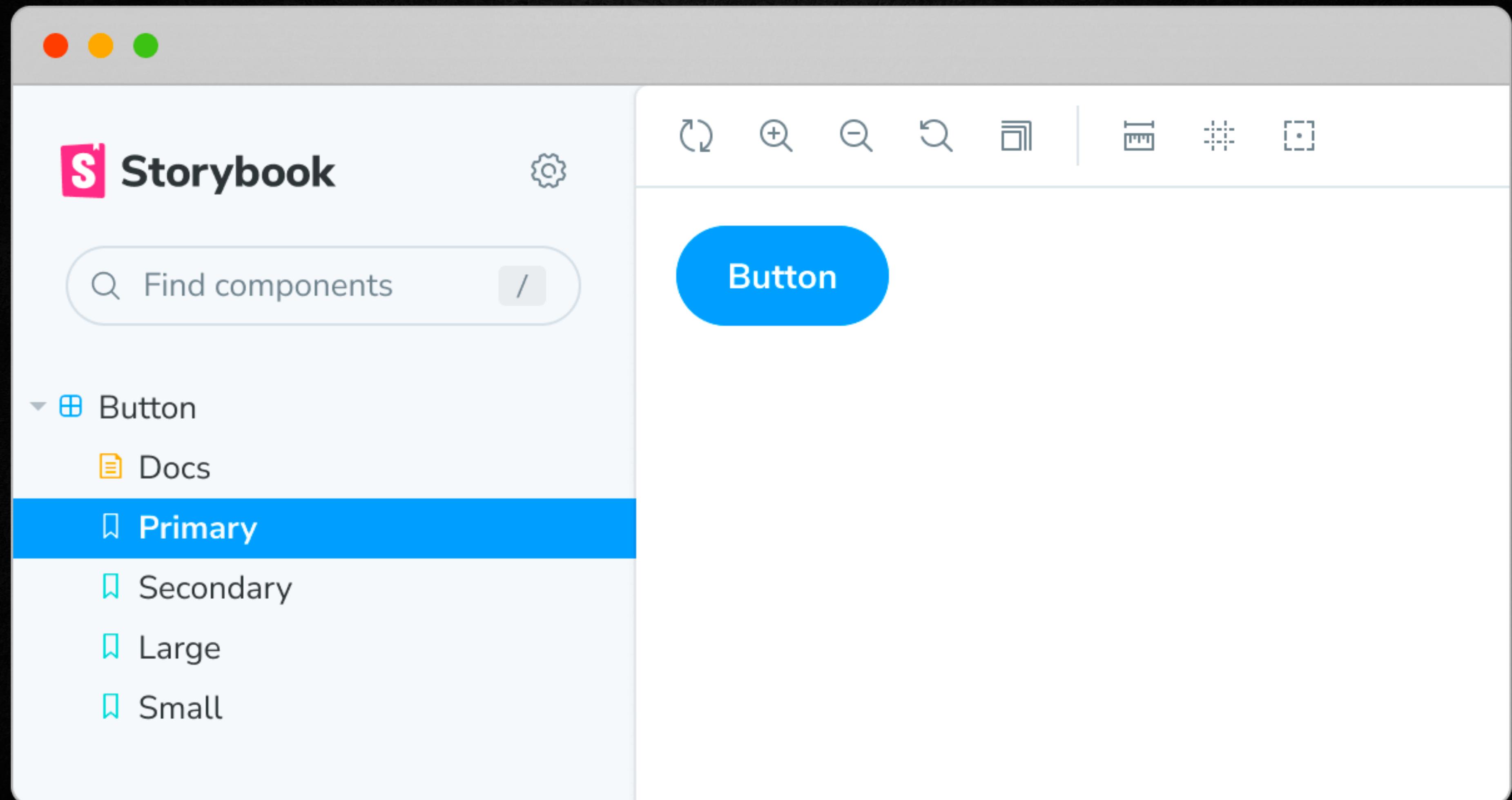


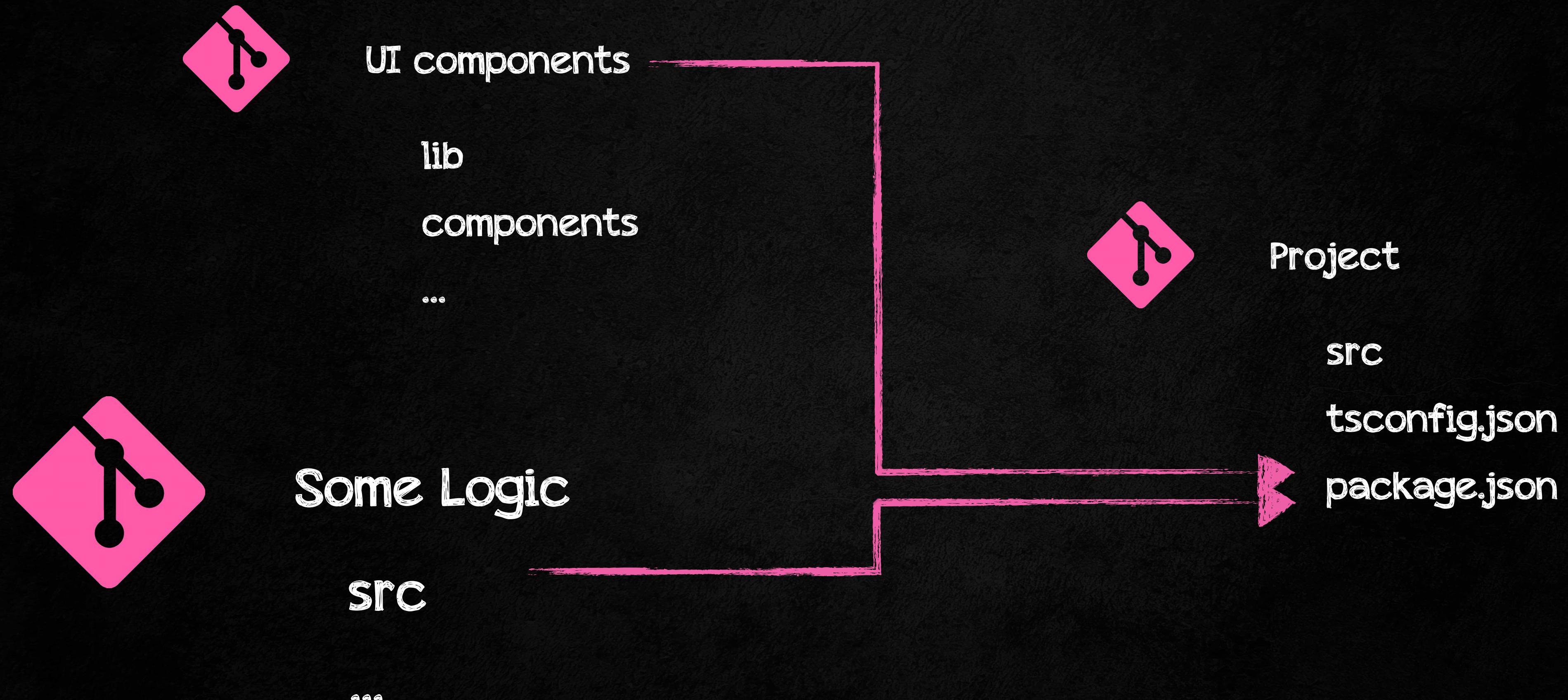
6 00



How to test reusable code?

```
export const Button = ({  
  text,  
  onClick,  
}: Props) => <button onClick={onClick}>  
  {text}  
</button>
```





-app
generic

yarn link

+

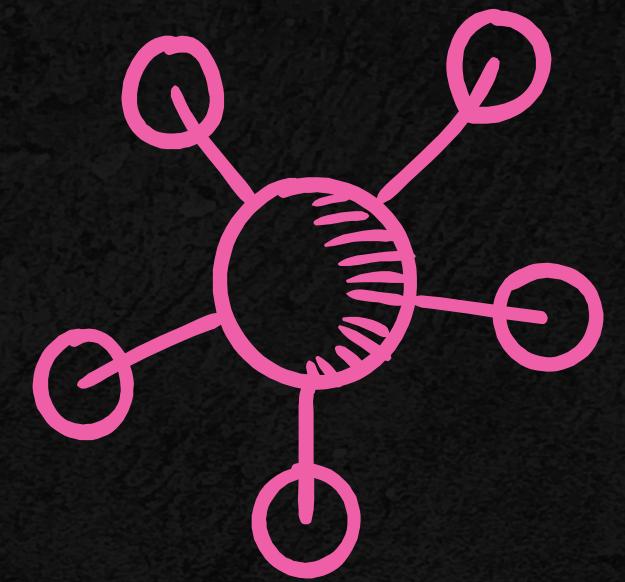
!



Monorepo
DX

Polyrepo
Independency





git submodules



Shared Submodule

...



70c4ac9f

475556d4

d7d3ad5d

125fa571

73760e26

883hd373

dj224tw11

...



Project

src

▶ shared (symbol link)

tsconfig.json

package.json

git submodule add .../your/submodule-path

```
$ git status
```

```
On branch master
```

```
Your branch is up-to-date with 'origin/master'.
```

```
Changes to be committed:
```

```
(use "git reset HEAD <file>..." to unstage)
```

```
new file: .gitmodules
```

```
new file: submodule-path
```

```
[submodule "submodule-path"]
path = submodule-path
url = .../your/submodule-path
```

```
$ git status
```

```
On branch master
```

```
Your branch is up-to-date with 'origin/master'.
```

```
Changes to be committed:
```

```
(use "git reset HEAD <file>..." to unstage)
```

```
new file: .gitmodules
```

```
new file: submodule-path
```

```
$ git diff --cached submodule-path
diff --git a/submodule-path b/submodule-path
new file mode 160000
index 000000..c3f01dc
-- /dev/null
++ b/submodule-path
@@ -0,0 +1 @@
+Subproject commit
c3f01dc8862123d317dd46284b05b6892c7b29bc
```

git submodule update --remote --init

yarn update:gitsub



6 00



Teach me

```
# change code inside submodule  
cd submodule-path  
git commit  
git push
```



Shared Submodule

...



475556d4

d7d3ad5d

70c4ac9f

125fa571

73760e26

883hd373

dj224tw11

...



Project

src

shared (symbol link)

tsconfig.json

package.json

```
# commit changed submodule link  
git commit  
git push
```



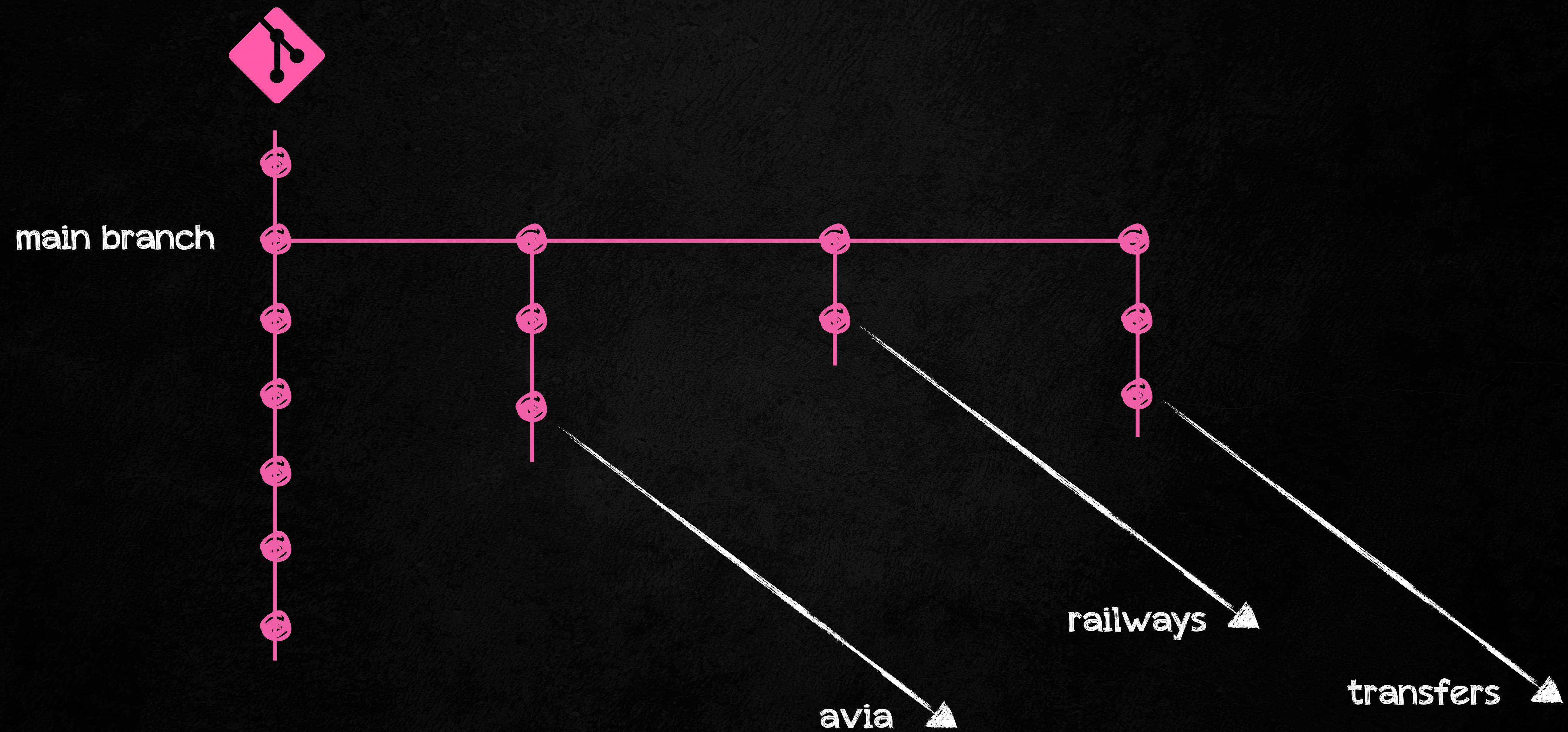
Shared Submodule / main default

...

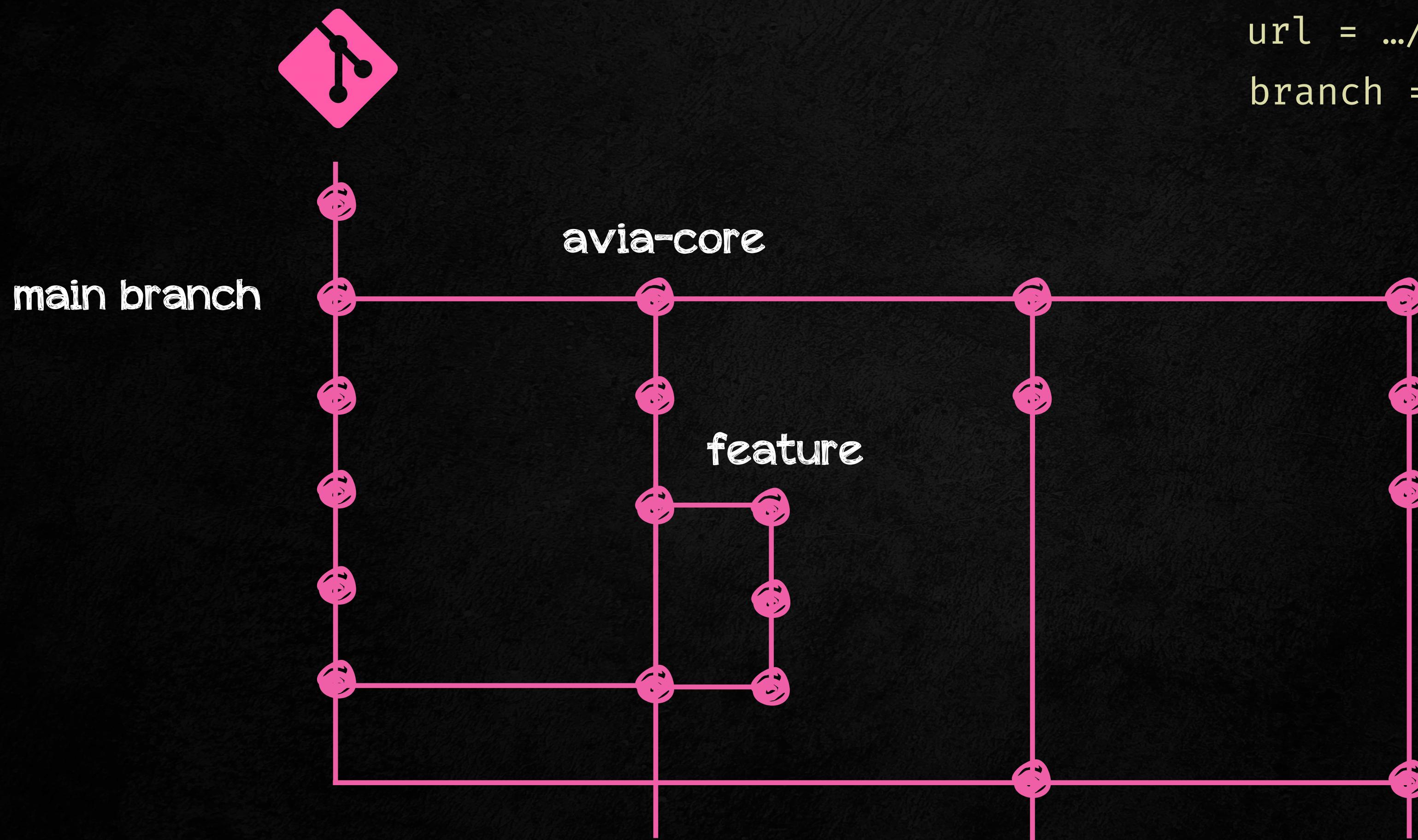
- 475556d4
- d7d3ad5d
- 70c4ac9f
- 125fa571
- 73760e26
- 883hd373
- dj224w11

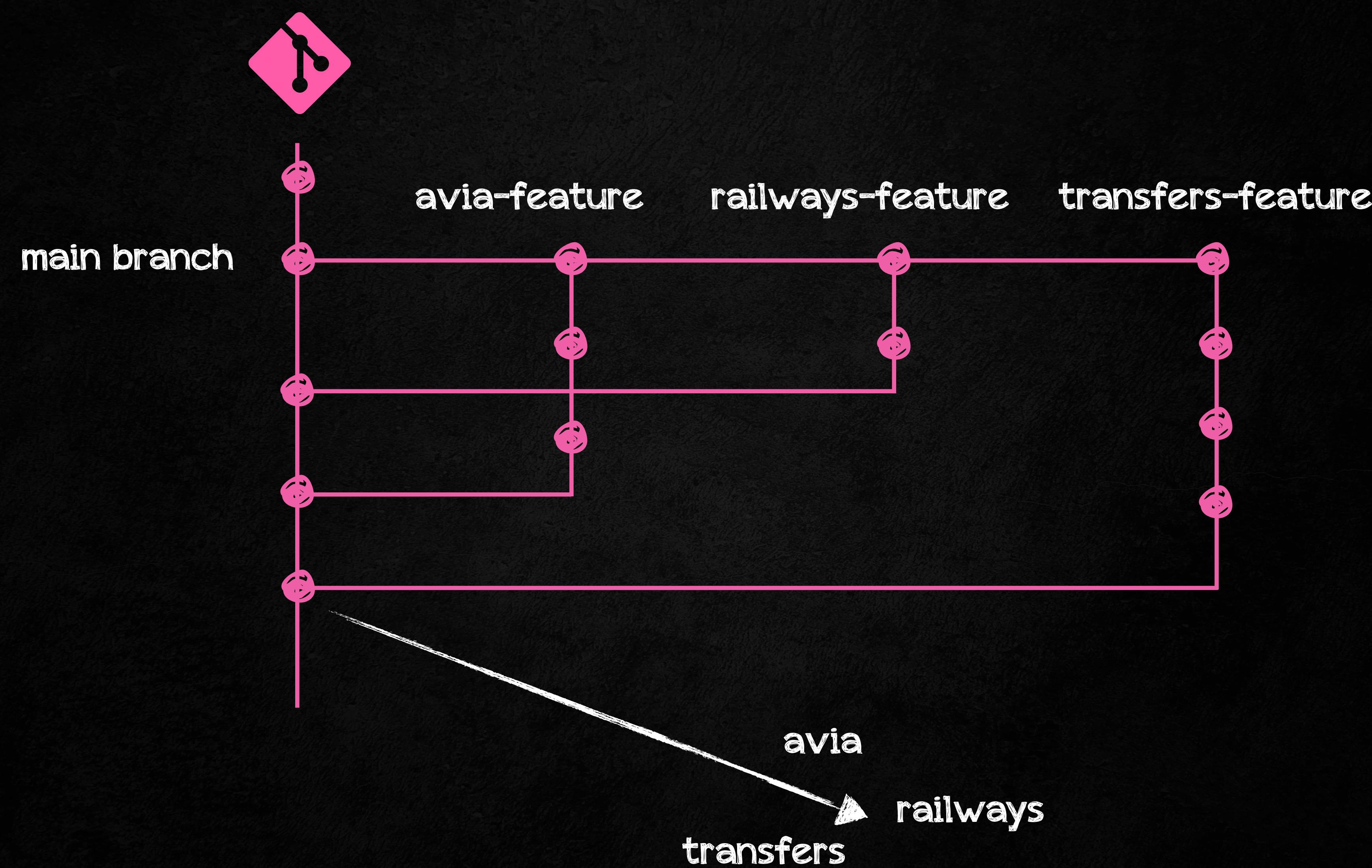
...

```
[submodule "submodule-path"]
path = submodule-path
url = .../your/submodule-path
branch = your_branch
```



```
[submodule "submodule-path"]
path = submodule-path
url = .../your/submodule-path
branch = feature
```





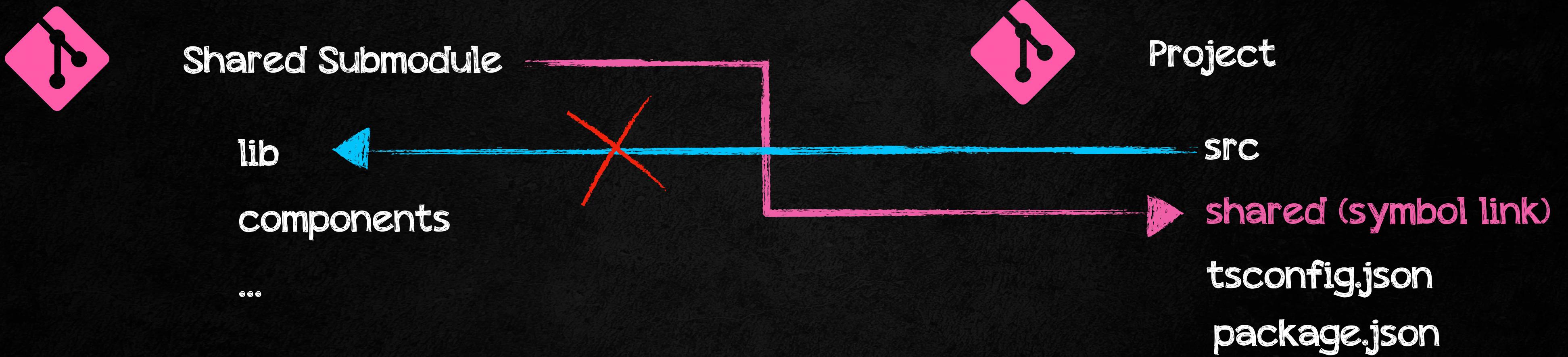
- ✗ Searching through all files and submodules
- ✗ Submodule stores regular TypeScript
- ✗ Pipelines are integrated
- ✗ Submodules are an agnostic tool
- ✗ Reusing UI, logic, and infrastructure
- ✗ No more drama, only boost

- initiator: Initiator.USER,
- + initiator: Initiator.USER,

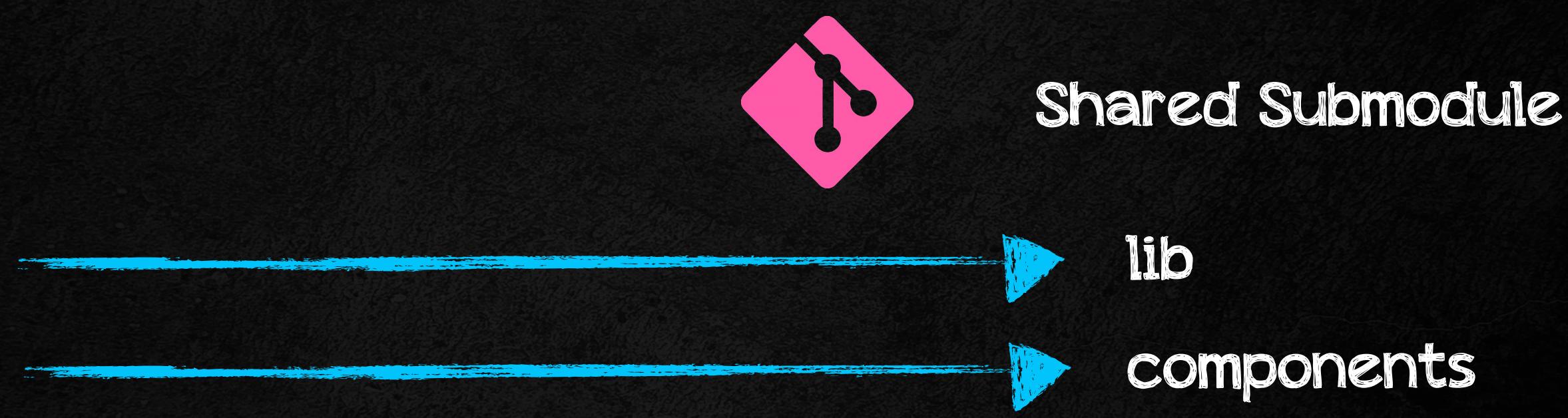




Tips and tricks / trade off



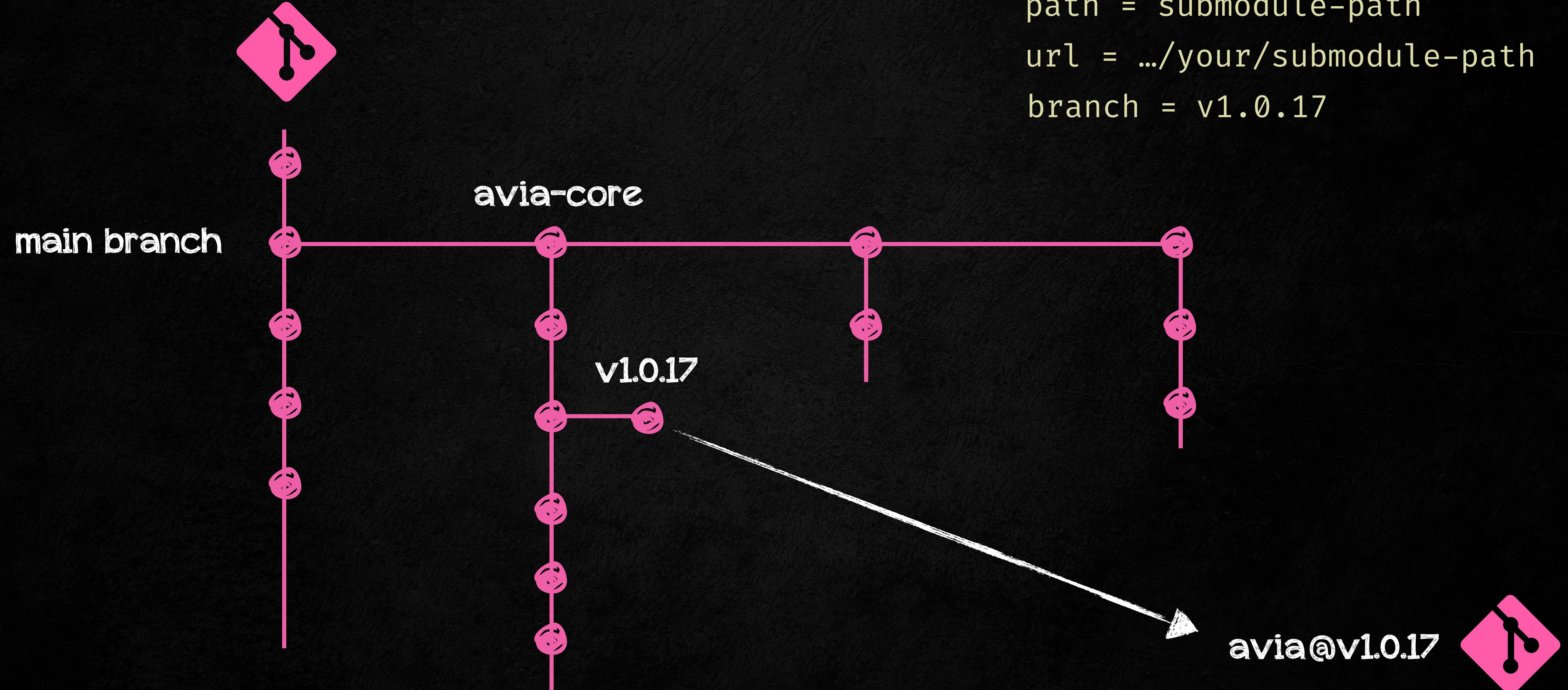
Apollo
React



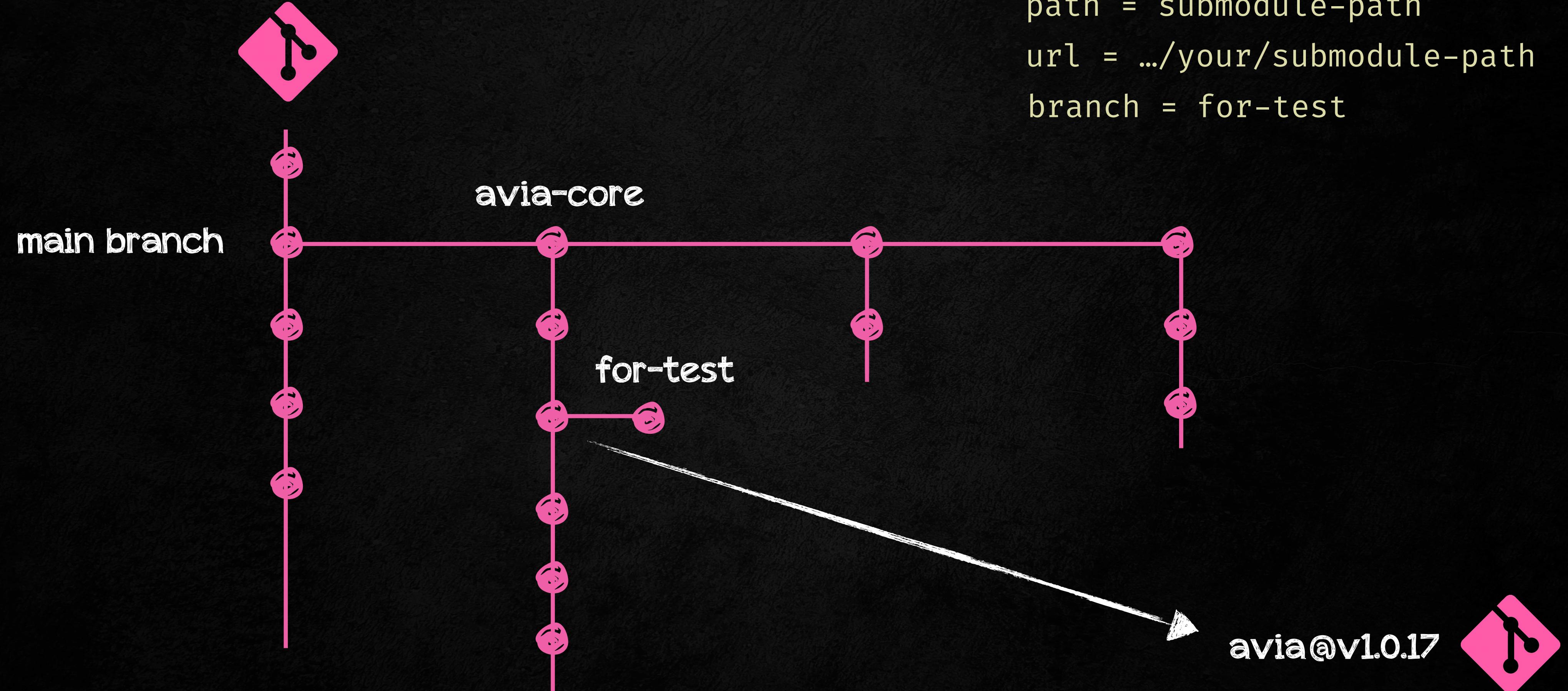
...

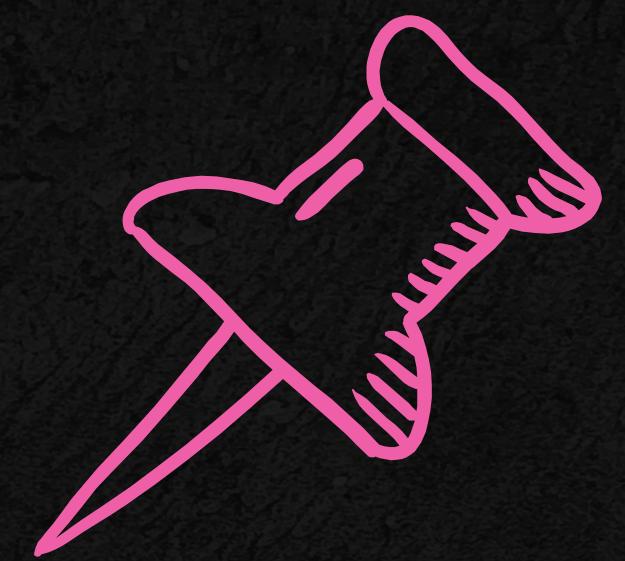


Common functionality should
have common text translations.

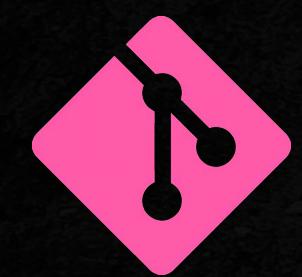


The current submodule commit
is not compatible with
avia@v1.0.17, which is currently
in production.





Abstract, parameterize, minimize.



Shared Submodule

lib

A_B_and_some_C_helpers.ts

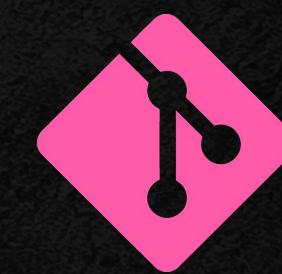
...



Project A

shared (symbol link)

tsconfig.json



Project B

shared (symbol link)

tsconfig.json



Project C

shared (symbol link)

tsconfig.json



Collaboration is good.

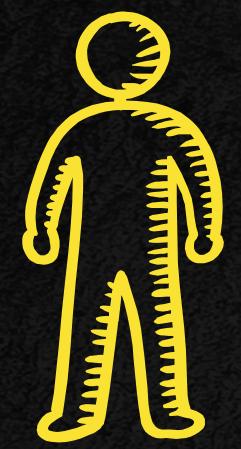


Shared Submodule

lib

common_feature.ts

...



Project A

shared (symbol link)

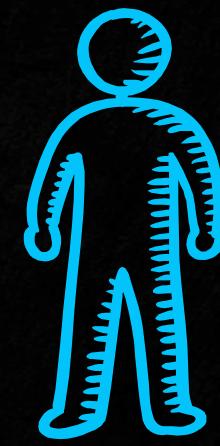
tsconfig.json



Project B

shared (symbol link)

tsconfig.json



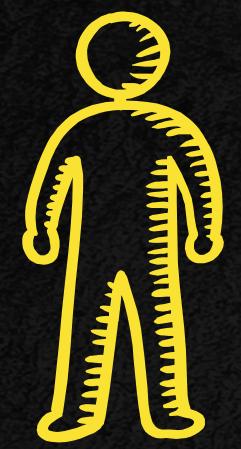


Shared Submodule

lib

common_feature.ts

...



Project A

shared (symbol link)

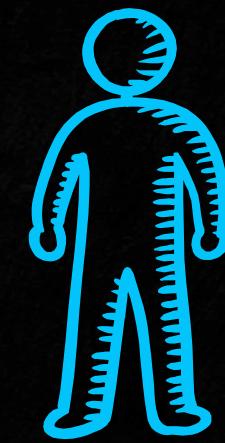
tsconfig.json



Project B

shared (symbol link)

tsconfig.json





Shared Submodule

lib

common_feature.ts

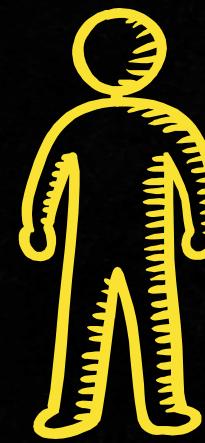
...



Project A

shared (symbol link)

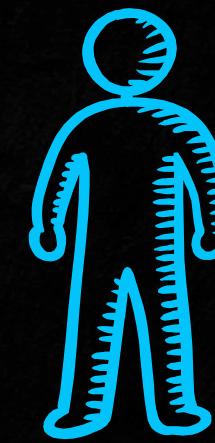
tsconfig.json



Project B

shared (symbol link)

tsconfig.json





Document the questions.

- ✗ Code reuse problem is as old as the world itself
- ✗ The monorepo approach doesn't suit everyone
- ✗ Polyrepo works, but for components
- ✗ Git submodules combine the best of both worlds
- ✗ Listen to your team



emerging
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Vadim Tsaregorodtsev



v_hadocken



vtcaregorodtcev