

GIT submodules:

we have monorepo at home



Vadim Tsaregorodtsev



v_hadooken



vtcaregorodtcev



6 00



Kanban project
Software project

KP board
Kanban board

KP-81

Make feature X on project A

Give feedback

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

Give feedback

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

[%Summary%] Travel Request Process

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...

Give feedback

Status
Backlog

Assignee
Unassigned

Labels
None
test
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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

Give feedback

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

[%Summary%] Travel Request Process



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

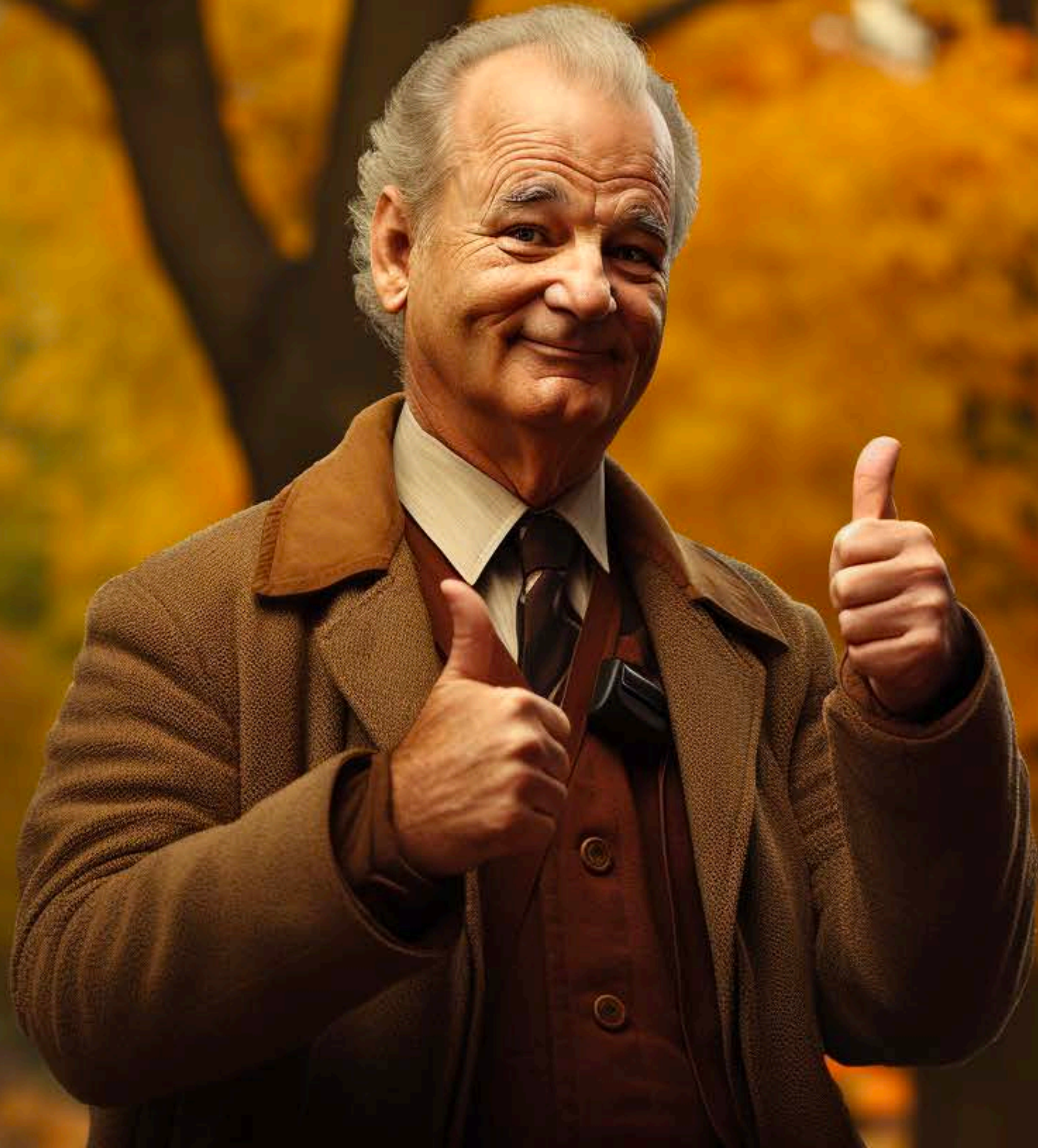
Developer: ...



OK

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



B2C

B2B

HOTELS

TRANSPORTATION

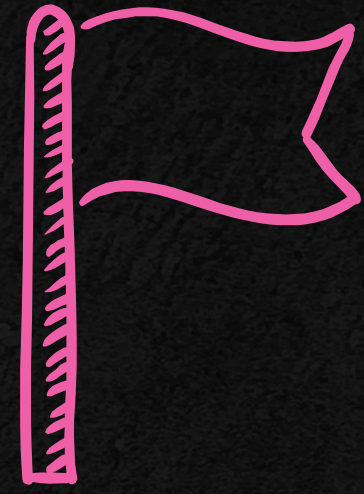
AVIA TICKETS

TRANSFERS

RAILWAY TICKETS

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



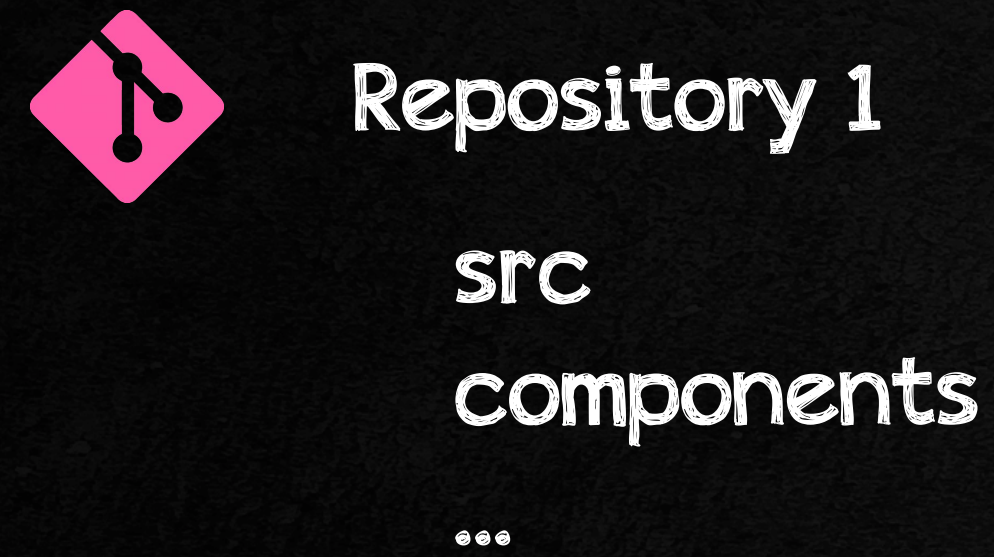


How to do it once and forget?



Monorepository

Polyrepository



Monorepository



Monorepository



Repository

Avia Tickets

src
components
...

Railway Tickets

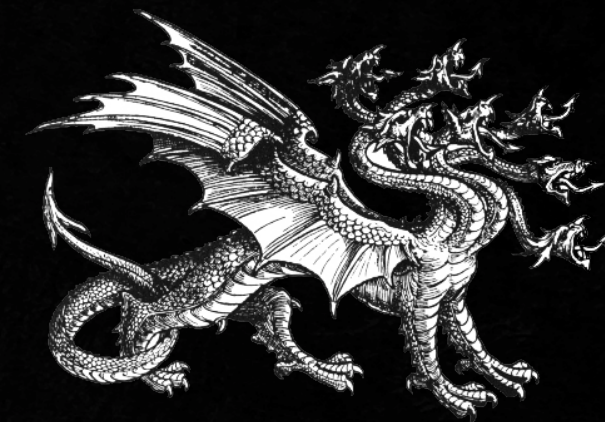
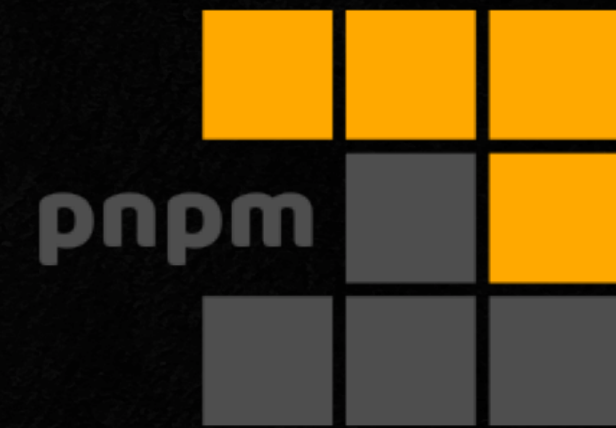
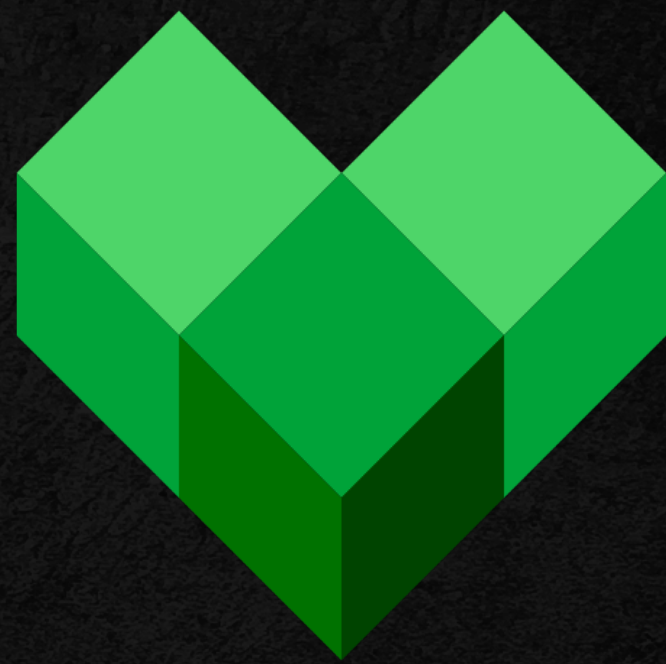
app
lib
...

Shared Tickets Core

configs
...

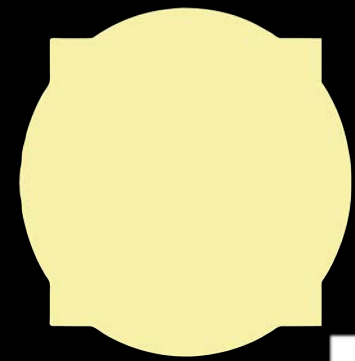


- ✗ Being similar doesn't mean identical
- ✗ Different backends, different languages
- ✗ Many edge cases
- ✗ Single git history is only confusing
- ✗ Different release cycles and versioning





Bus factor = 1



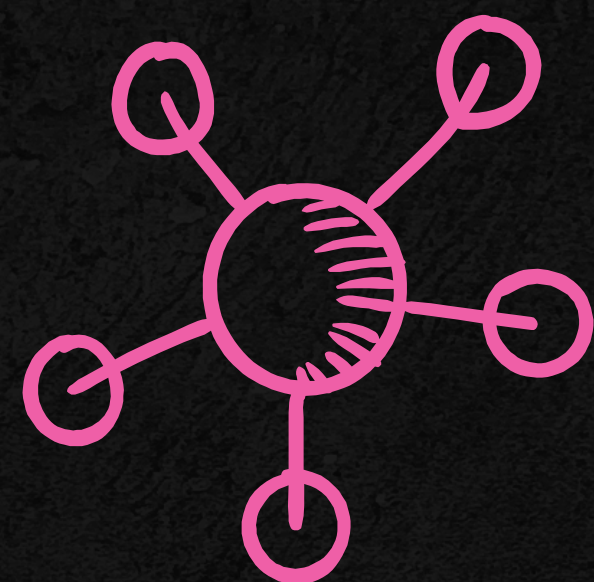
DAN ABRAMOV
THE WET CODEBASE

DECONSTRUCT 2019
DECONSTRUCTCONF.COM



6 00





Polyrepository and packages



UI components

lib

components

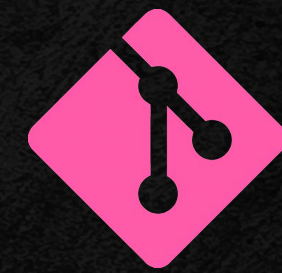
...



Validators

src

...

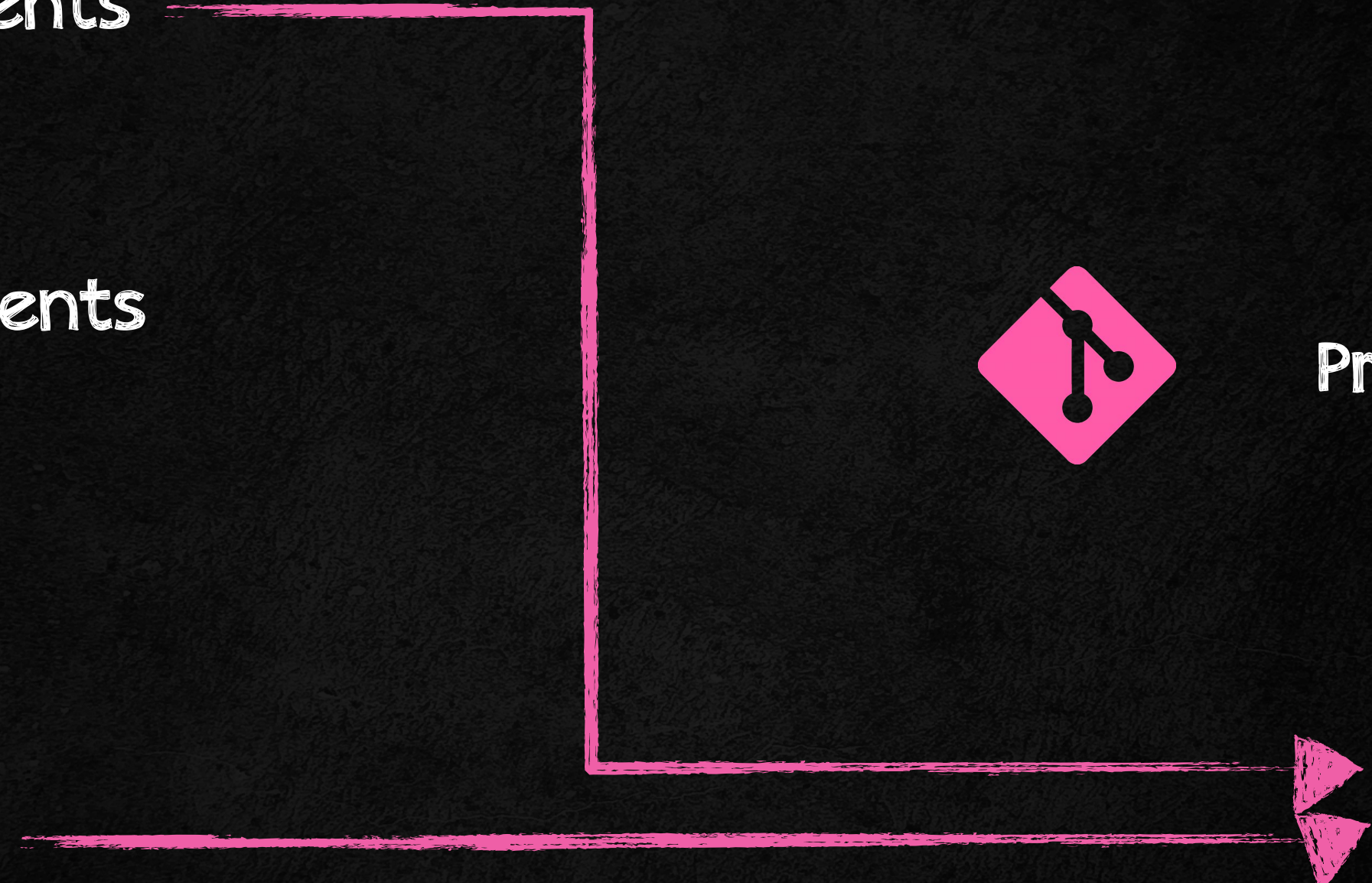


Project

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>
```




 **Storybook**




▼  Button

 Docs

 **Primary**

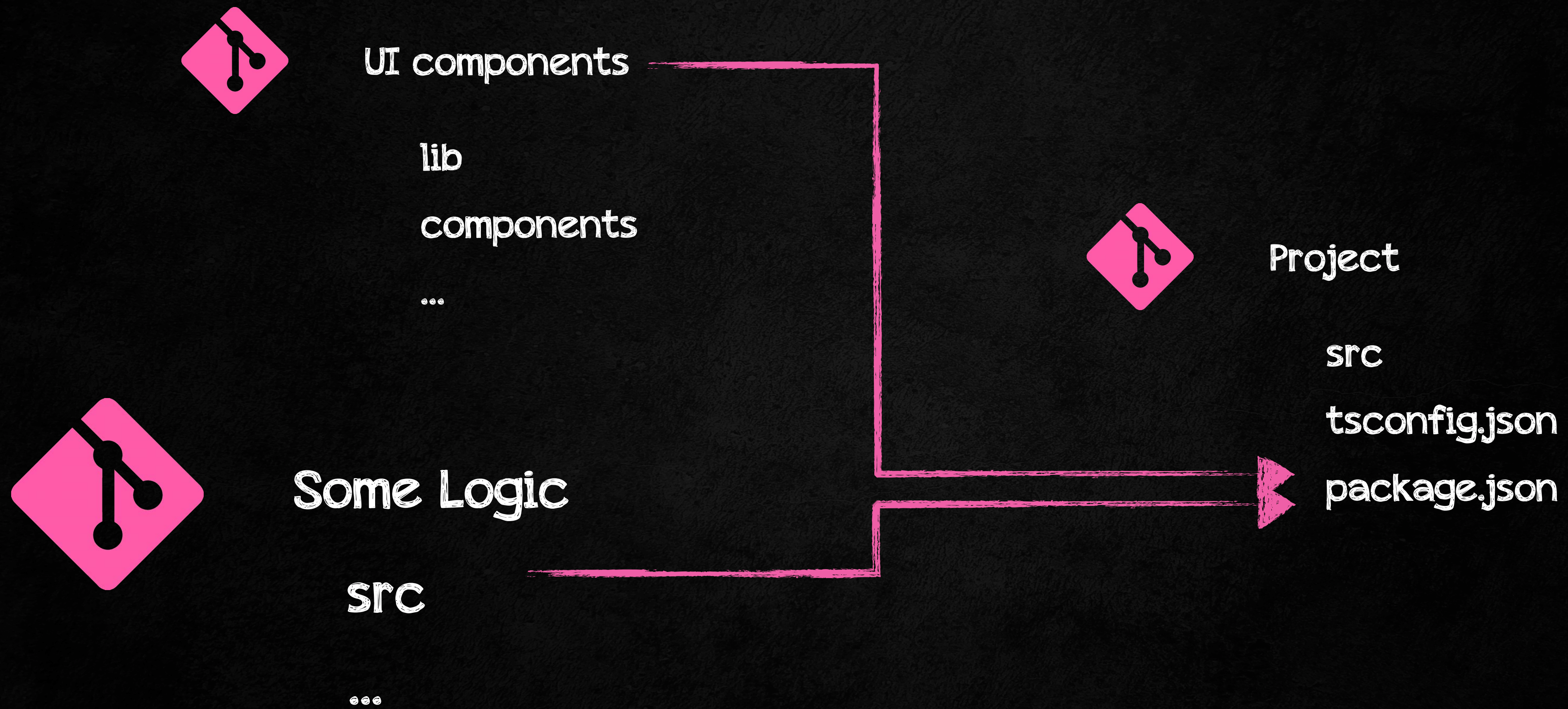
 Secondary

 Large

 Small



Button



-app
generic

yarn link

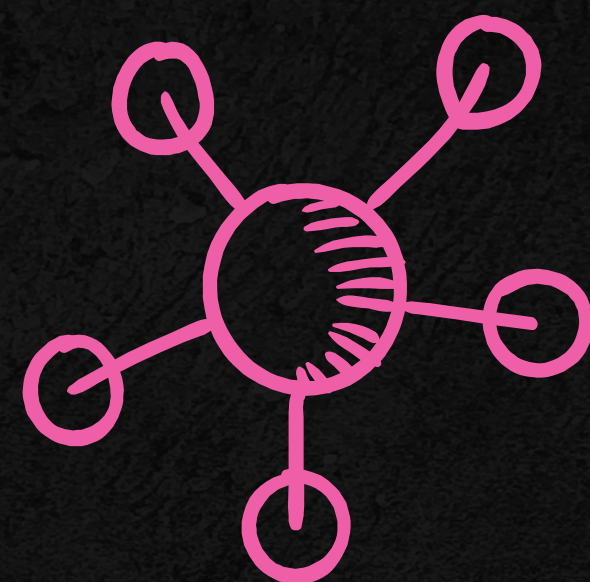
+



Monorepo
DX

Polyrepo
Independency





git submodules



Shared Submodule

...



70c4ac9f



475556d4



d7d3ad5d



125fa571



73760e26

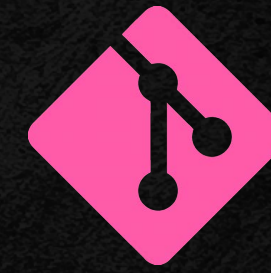


883hd373



dj224w11

...



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 0000000..c3f01dc
--- /dev/null
+++ b/submodule-path
@@ -0,0 +1 @@
+Subproject commit
c3f01dc8862123d317dd46284b05b6892c7b29bc
```




```
git submodule update --remote --init
```

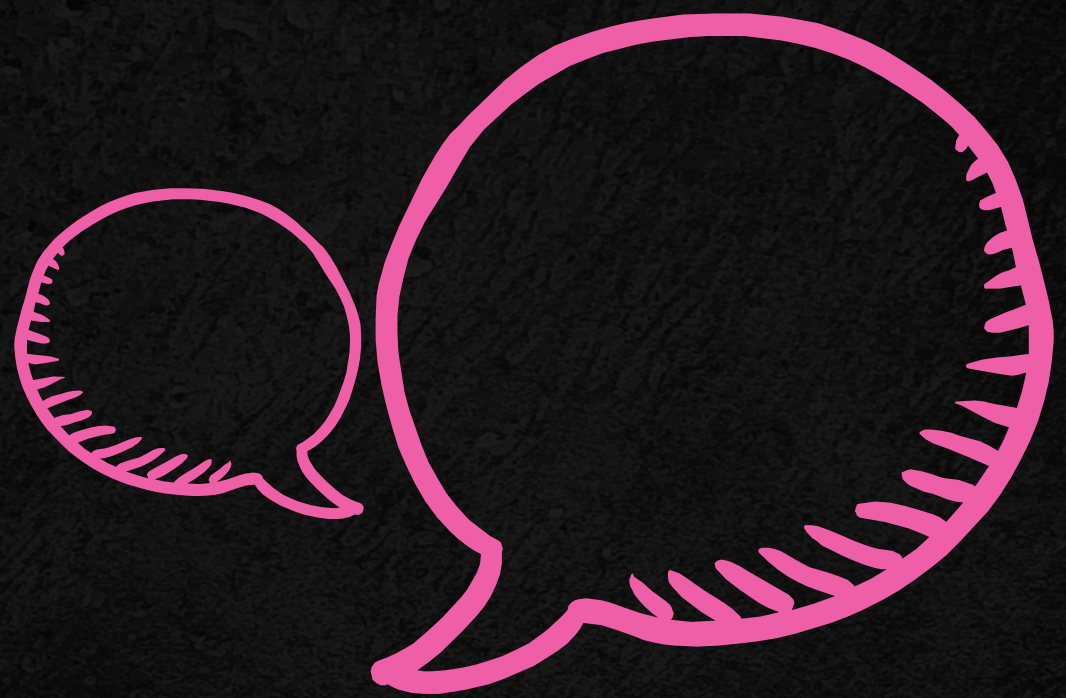


```
yarn update:gitsub
```




6 00





Teach me


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




Shared Submodule

...



475556d4



d7d3ad5d



70c4ac9f



125fa571



73760e26

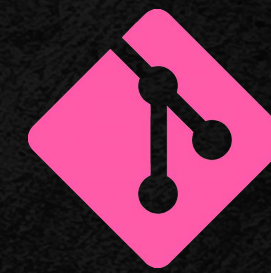


883hd373



dj224w11

...



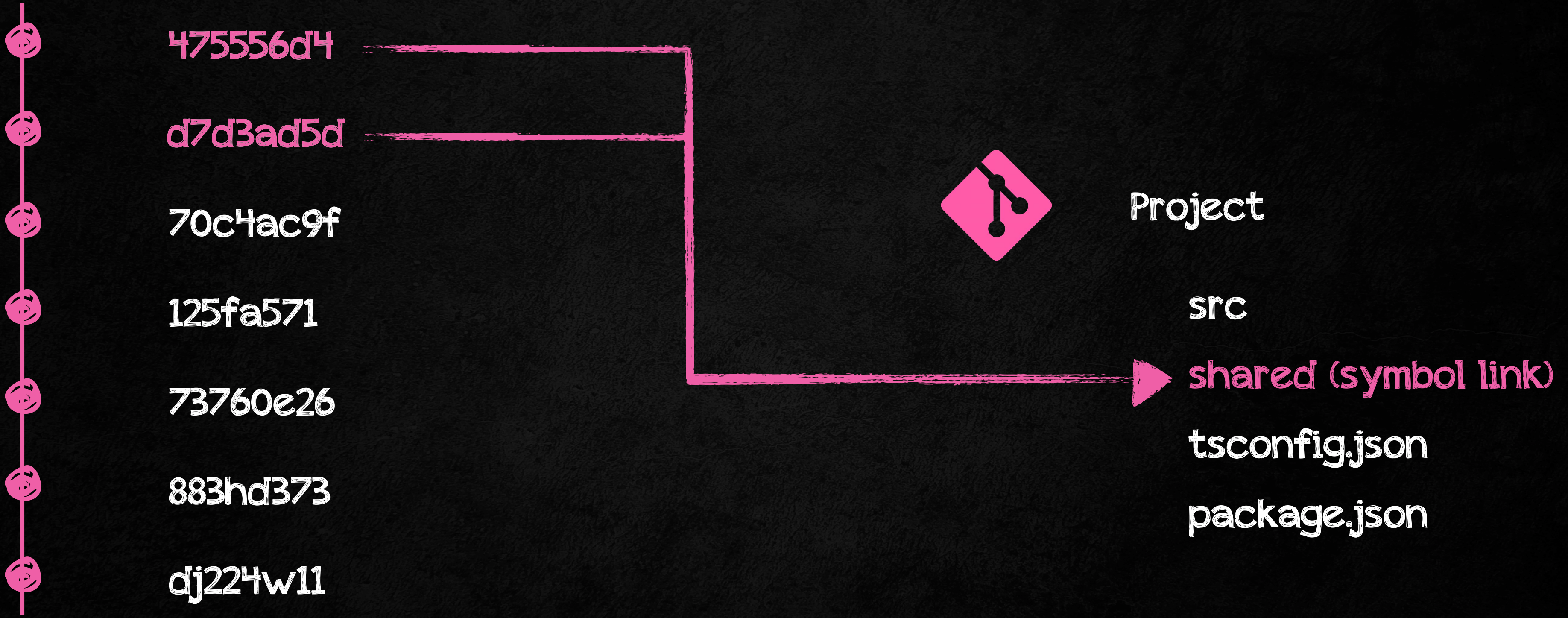
Project

src

shared (symbol link)

tsconfig.json

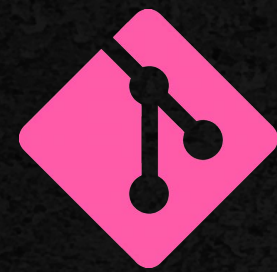
package.json




```
# commit changed submodule link
```

```
git commit
```

```
git push
```

Shared Submodule / **main default**

...



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d7d3ad5d



70c4ac9f



125fa571



73760e26

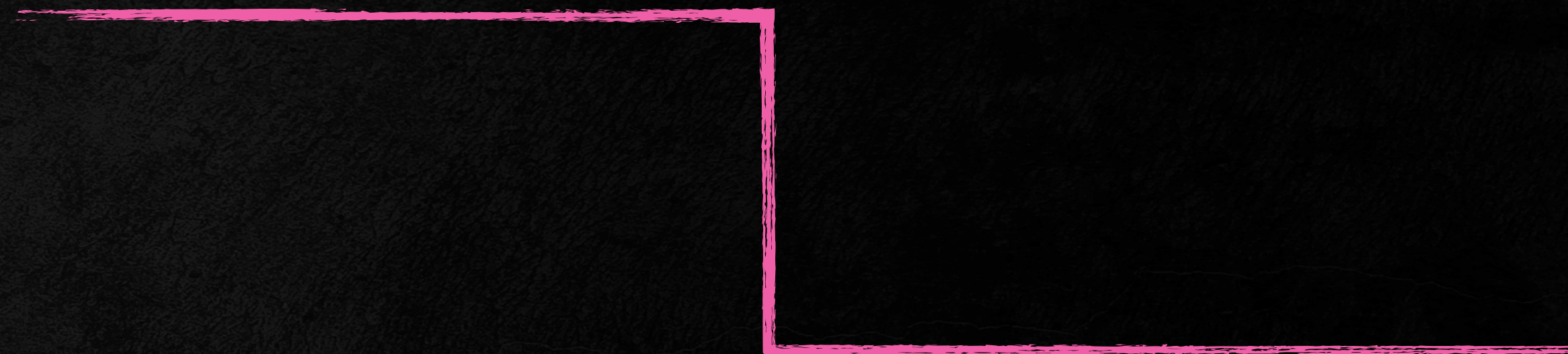


883hd373

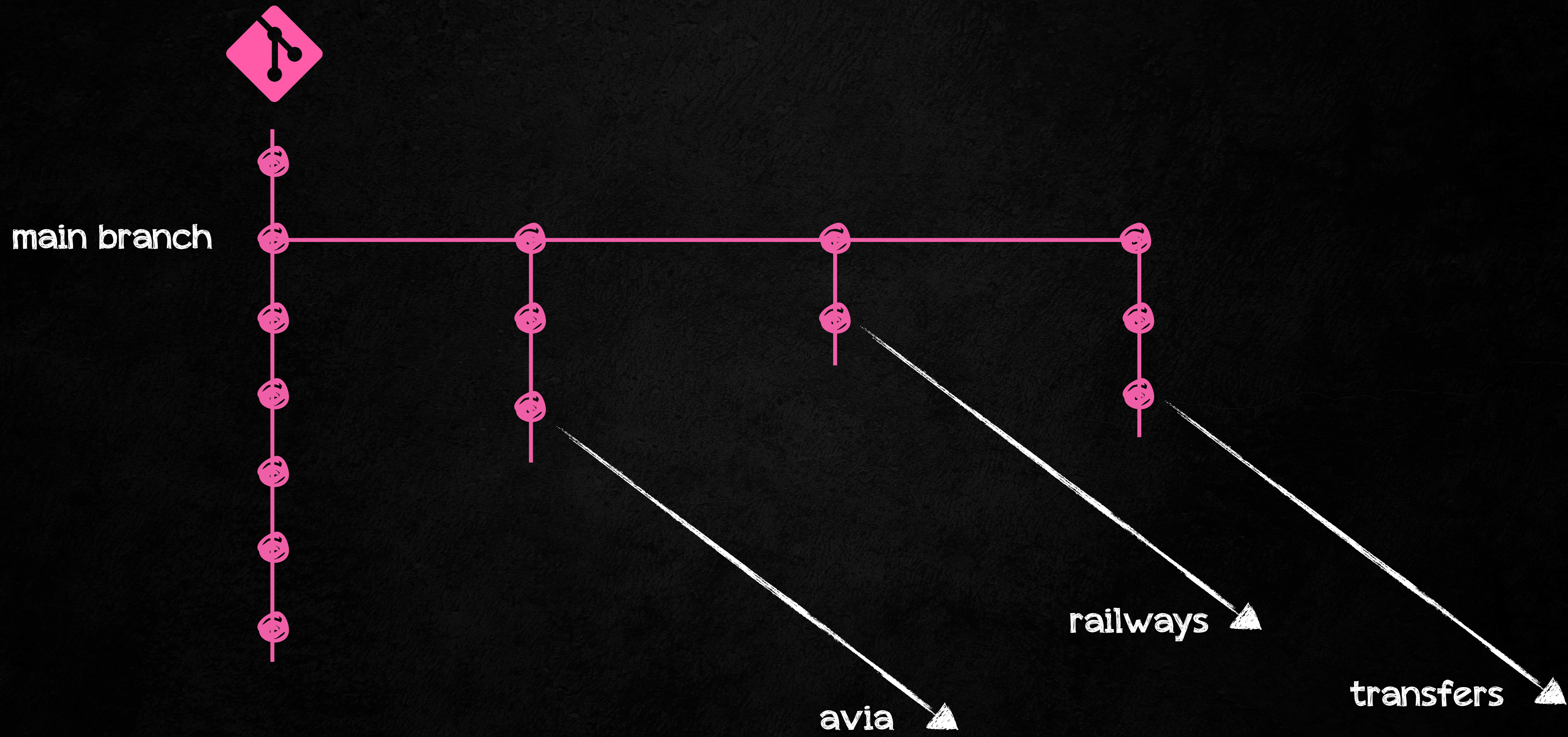


dj224w11

...




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

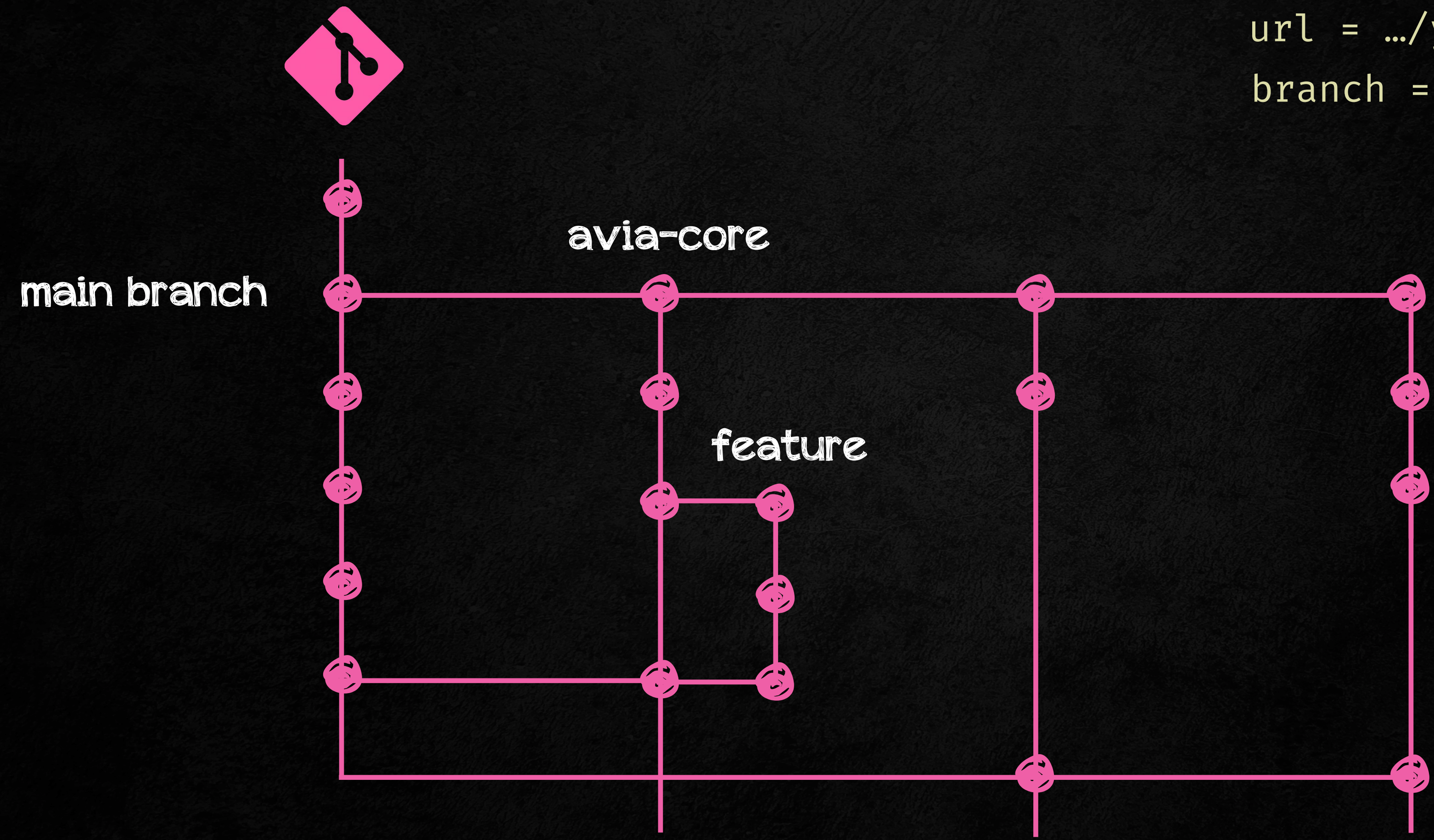



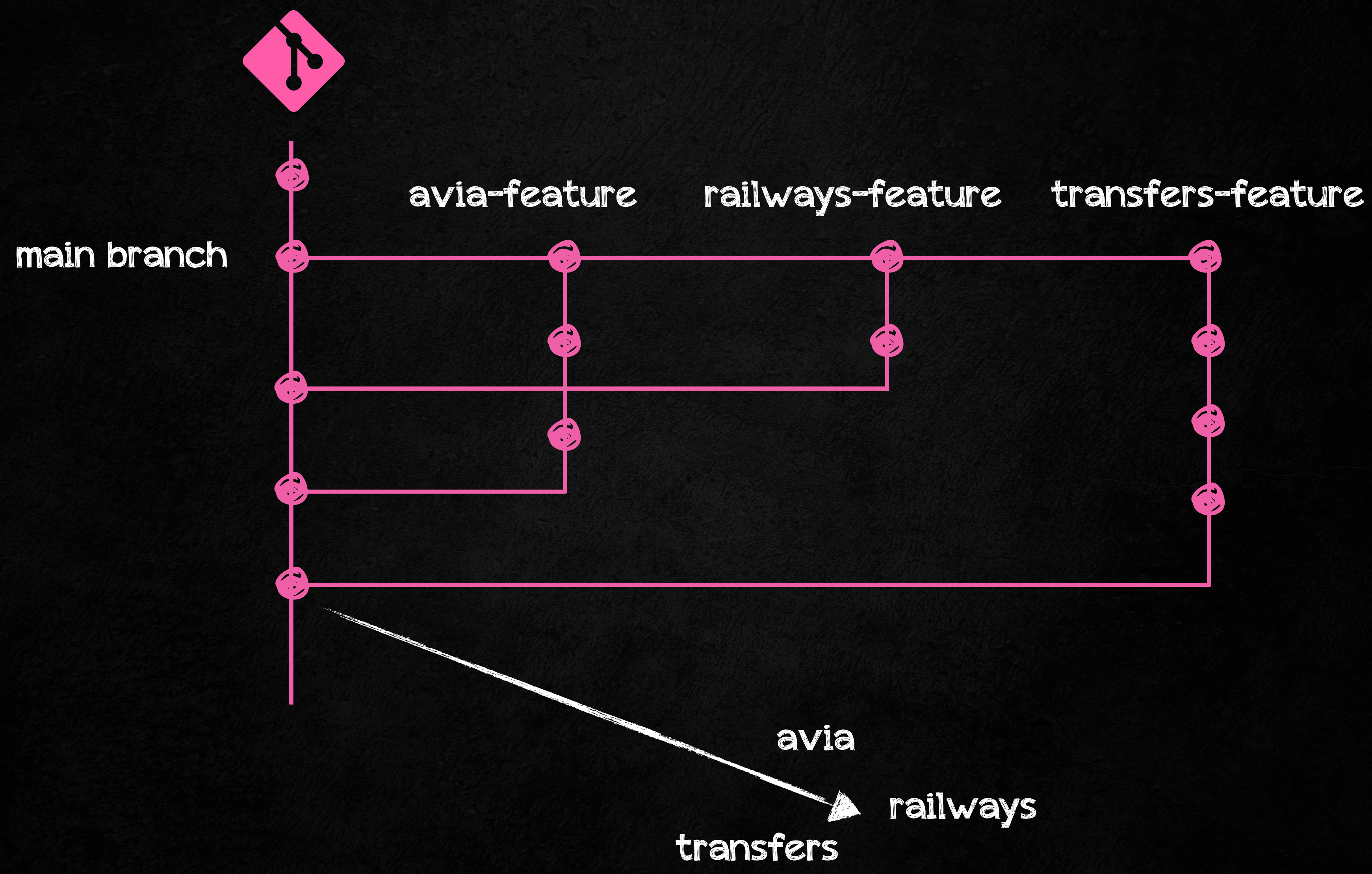

```
[submodule "submodule-path"]
```

```
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

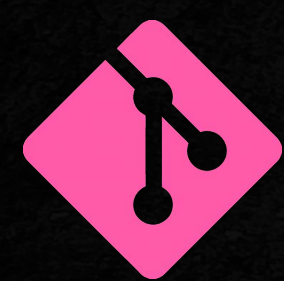

```
- initiator: Initiator.USER,
```

```
++ initiator: Initiator.USER,
```






Tips and tricks / trade off

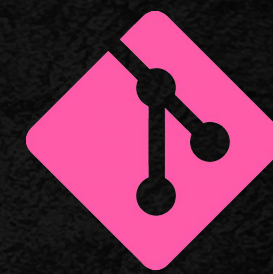


Shared Submodule

lib

components

...



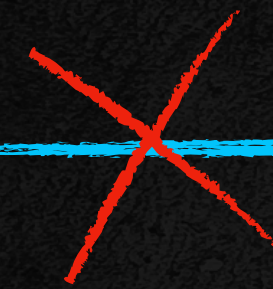
Project

src

shared (symbol link)

tsconfig.json

package.json



Apollo
React



Shared Submodule

lib

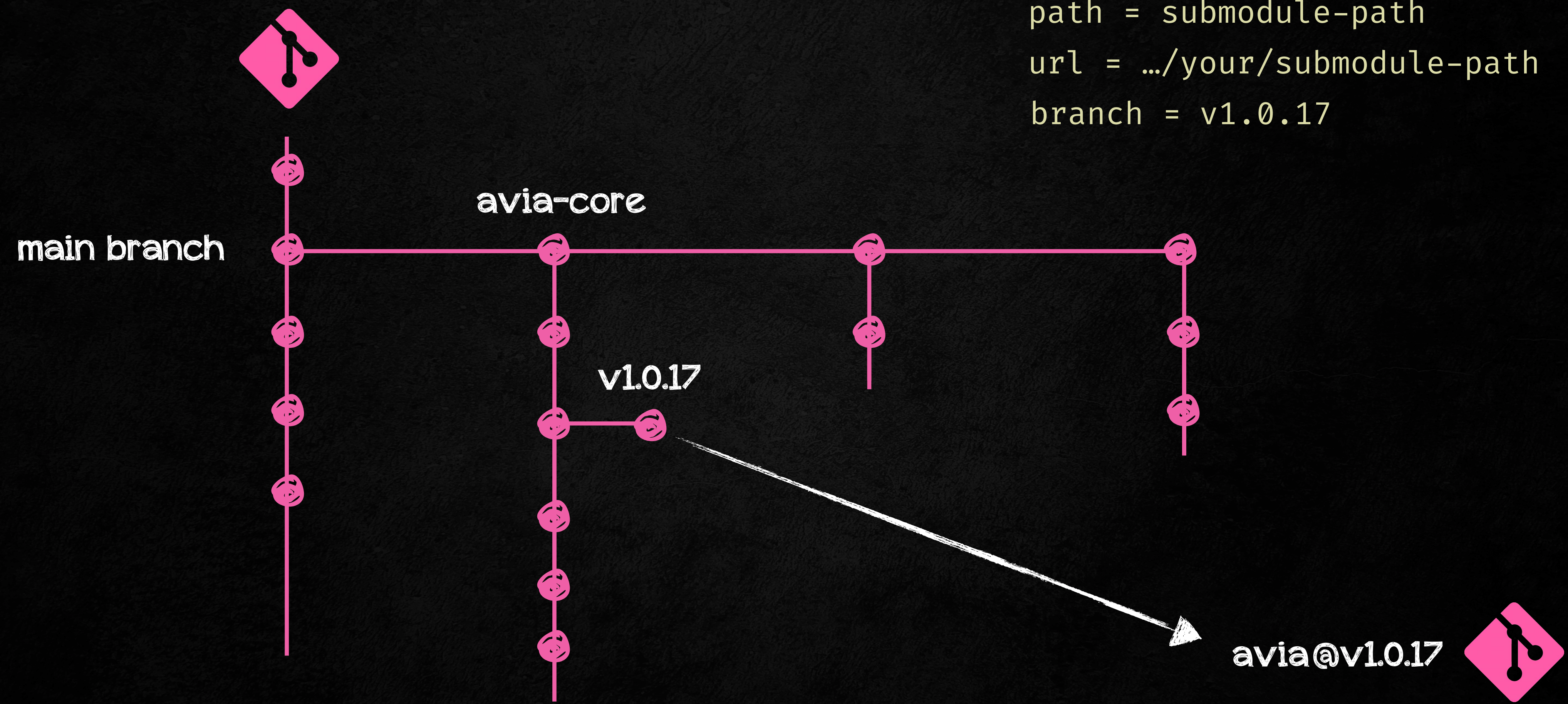
components

...



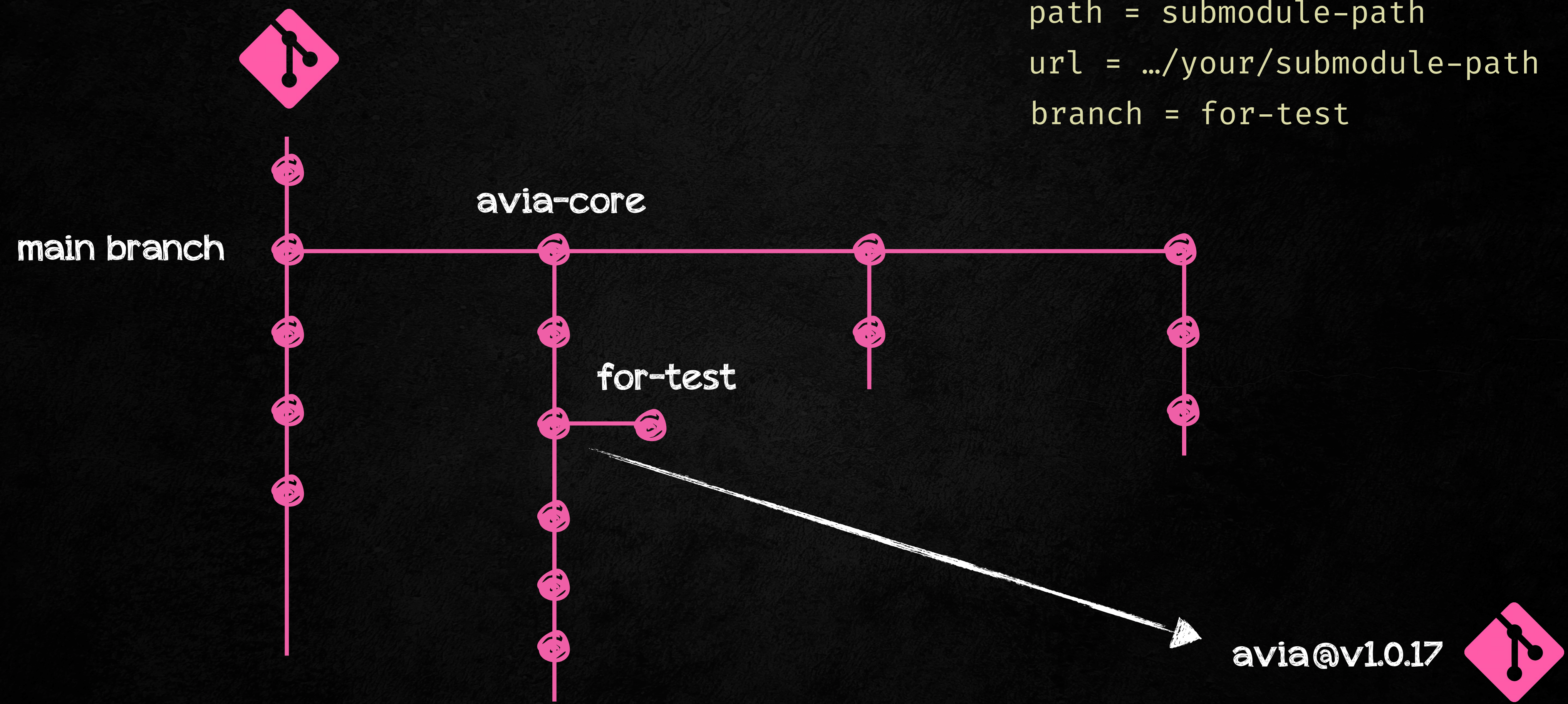
Common functionality should
have common text translations.

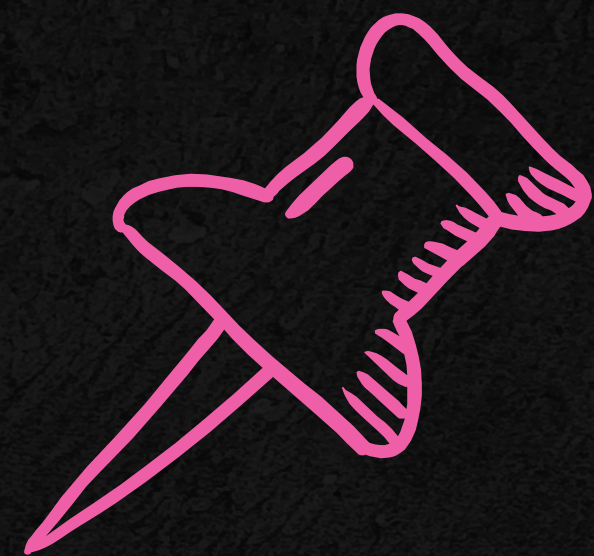

```
[submodule "submodule-path"]
  path = submodule-path
  url = ../your/submodule-path
  branch = v1.0.17
```



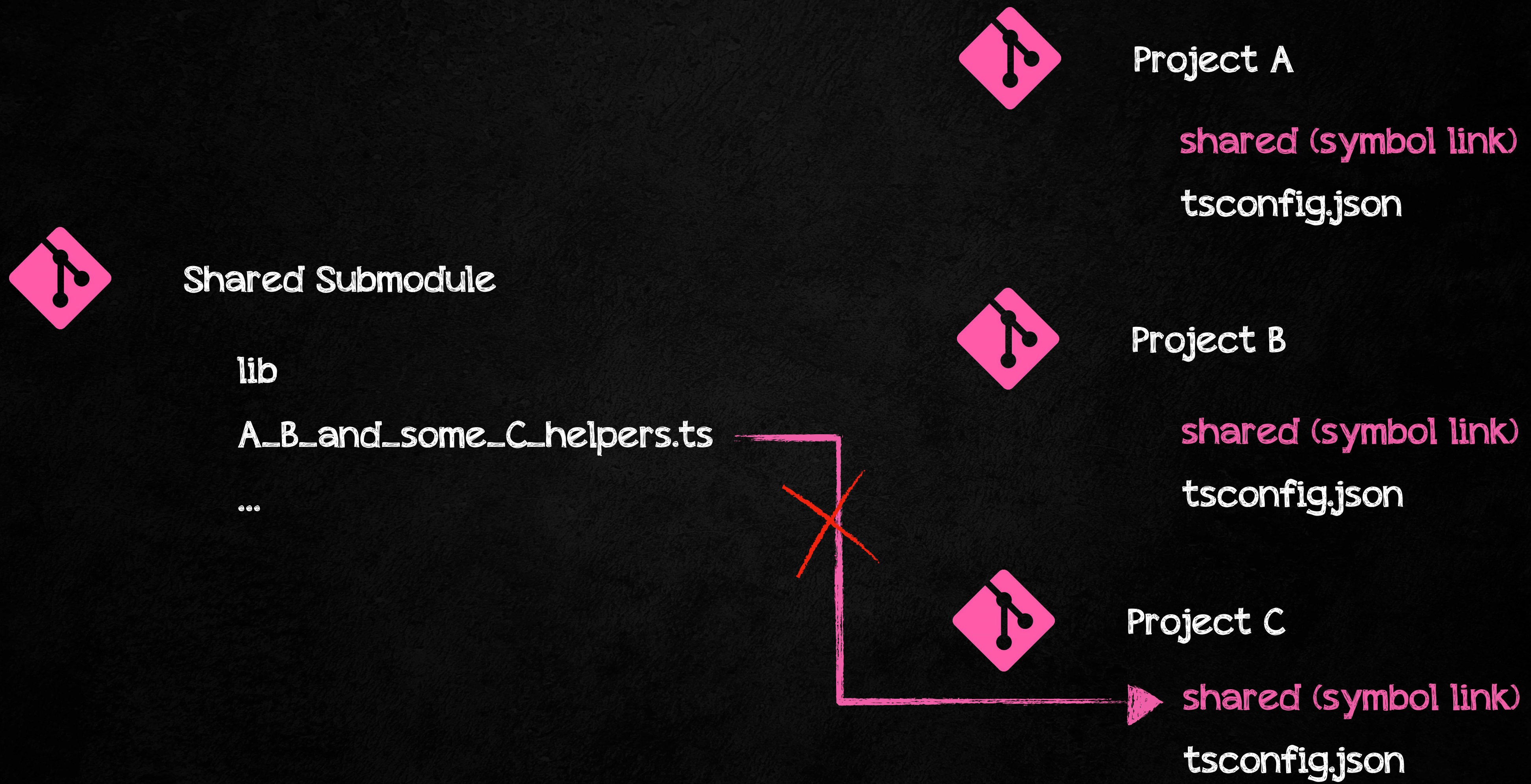
The current submodule commit is not compatible with avia@1.0.17, which is currently in production.


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



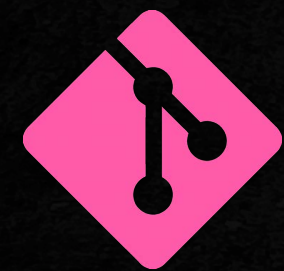


Abstract, parameterize, minimize.





Collaboration is good.



Shared Submodule

lib

common_feature.ts

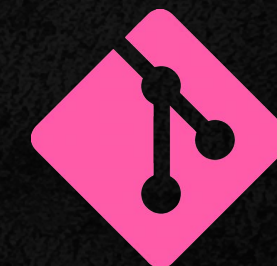
...



Project A

shared (symbol link)

tsconfig.json

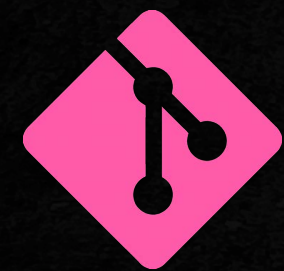


Project B

shared (symbol link)

tsconfig.json





Shared Submodule

lib

common_feature.ts

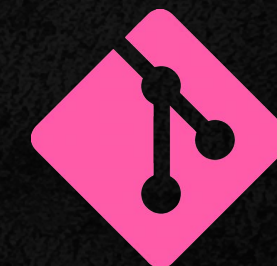
...



Project A

shared (symbol link)

tsconfig.json

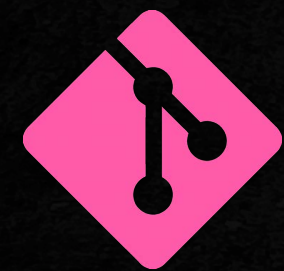


Project B

shared (symbol link)

tsconfig.json



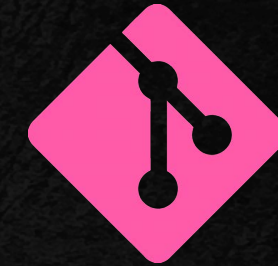


Shared Submodule

lib

common_feature.ts

...



Project A

shared (symbol link)

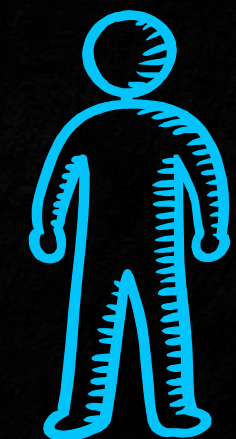
tsconfig.json



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
TRAVEL GROUP

Vadim Tsaregorodtsev



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