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YOUR TASKLIST



## Write Short Units of Code



## Guideline

- Small units are easier to understand, reuse, and test.
- When writing new units, don't let them grow above 15 lines of code.
- When a unit grows beyond 15 lines of code, you need to shorten it by splitting it in smaller units of no longer than 15 lines of code.
- The list on the right side contains a sorted by severity selection of units that violate this guideline and the colors indicate the severity of the violation: ■ more than 60 lines of code, ■ more than 30 lines of code, ■ more than 15 lines of code.

## Refactoring candidates

- material.js:DefaultUnit
- gulpfile.js:DefaultUnit
- project.state.js:stateConfig
- player.state.js:stateConfig
- camera.state.js:stateConfig
- map.state.js:stateConfig
- camera-action.state.js:stateConfig
- cue.state.js:stateConfig
- script.state.js:stateConfig



## Write Simple Units of Code



## Guideline

- Keeping the number of branch points (if, for, while, etc.) low makes units easier to modify and test.
- Try to keep the number of branch points in a unit below 5.
- You can reduce complexity by extracting sub-branches to separate units of no more than 5 branch points.
- The list on the right side contains a sorted by severity selection of units that violate this guideline and the colors indicate the severity of the violation: ■ more than 25 branch points, ■ more than 10 branch points, ■ more than 5 branch points.

## Refactoring candidates

- material.js:DefaultUnit
- mapview.controller.js:MapviewController.drawCamera...
- alert-error.directive.js:jhiAlertErrorController
- auth.service.js:Auth.authorize.authThen
- material.js:\_isChar
- ripples.js:Ripples.init
- state.handler.js:stateHandler.initialize
- AngularCookieLocaleResolver.parseLocaleCookieIfNec...
- JSR310LocalDateDeserializer.deserialize(JsonParser...



## Write Code Once

[SIGN OUT](#)

### Guideline

- When code is copied, bugs need to be fixed in multiple places. This is both inefficient and error-prone.
- Avoid duplication by never copy/pasting blocks of code.
- Reduce duplication by extracting shared code, either to a new unit or to a superclass.
- The list on the right side contains sets of modules (grouped by highlighting) which contain the same duplicated code block.

### Refactoring candidates

- ☐ mapview.controller.js
- ☐ timeline.controller.js
- ☐ time-point.state.js
- ☐ camera.state.js
- ☐ camera-action.state.js
- ☐ script.state.js
- ☐ cue.state.js
- ☐ project.state.js
- ☐ player.state.js



## Keep Unit Interfaces Small



### Guideline

- Keeping the number of parameters low makes units easier to understand and reuse.
- Limit the number of parameters per unit to at most 4.
- The number of parameters can be reduced by grouping related parameters into objects.
- The list on the right side contains a sorted by severity selection of units that violate this guideline and the colors indicate the severity of the violation: ■ more than 7 parameters, ■ more than 4 parameters, ■ more than 2 parameters.

### Refactoring candidates

- ☐ cue-dialog.controller.js:CueDialogController
- ☐ project-dialog.controller.js:ProjectDialogControll...
- ☐ createproject-dialog.controller.js:CreateProjectDi...
- ☐ timeline.controller.js:TimelineController
- ☐ auth.service.js:Auth
- ☐ UserDTO.\$constructor(String,String,String,String,b...
- ☐ ManagedUserDTO.\$constructor(Long,String,String,Str...
- ☐ project-detail.controller.js:ProjectDetailControll...
- ☐ cue-detail.controller.js:CueDetailController



## Separate Concerns in Modules



## Couple Architecture Components Loosely



## Keep Architecture Components Balanced



## Keep Your Codebase Small



## Automate Tests



### Guideline

- Automating tests for your codebase makes development more predictable

### Testing overview

and less risky.

- > Write unit tests that amount to at least 80% coverage.
- > Add tests for existing code every time you change it.
- > To update the status on the right, regularly send coverage information to Coveralls.io

72 %

Test coverage



Write Clean Code

