Tidy Coding

Writing Readable & Maintainable Software

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Tidy?

Writing and maintaining tidy code makes your team happier and more efficient.

WHAT

Predictable & Obvious

Extendable

Neat

WHY

Defaulting

Readability

Flexibility

HOW

Set guidelines, follow them,* and enforce them

*most of the time

WHY

Convention over configuration

http://rubyonrails.org/doctrine/#convention-over-configuration

id
pid
postId
posts_id
post_id

Model / Class	Table / Schema
Article	articles
LineItem	line_items
Deer	deers
Mouse	mice
Person	people

http://guides.rubyonrails.org/active_record_basics.html

HTTP Verb	Path	Controller#Action	Used for
GET	/photos	photos#index	display a list of all photos
GET	/photos/new	photos#new	return an HTML form for creating a new photo
POST	/photos	photos#create	create a new photo
GET	/photos/:id	photos#show	display a specific photo
GET	/photos/:id/edit	photos#edit	return an HTML form for editing a photo
PATCH/PUT	/photos/:id	photos#update	update a specific photo
DELETE	/photos/:id	photos#destroy	delete a specific photo

http://guides.rubyonrails.org/routing.html

HOW

Set guidelines

HOW

1. Simplify

2. Write self-documenting code

3. Be consistent

WHO

You & your team

1. Simplify

Sandi Metz's "*Rules for [Ruby] Developers*"

100 lines per **class**

5 lines per **method**

4 params passed per **method**

1 object instantiated per **controller**

15 files per **directory***

* My rule

collect	map
detect	find
find_all	select
inject	reduce
length	size

You
Ain’t
Gonna
Need
It

https://martinfowler.com/bliki/Yagni.html

```
let quizData = [
  { // 1. Video games aren't actually bad for kids
    activity_id_prod: "fa00e75f-8245-46d4-9ba8-ac724e0d1610", // Prod grade 7
    activity_id: "66cb353a-599a-46b6-b24a-9fc6f7186a38", // Staging grade K
    quiz_prompt: "The video opens with Anthony saying, "A new study says video games are totally harmless! ...kind of...in a wa
    correctAnswer: "a",
    answers: {
      a: "I think anthony is kidding at the beginning of the video because he doesn't really mean that they are all the way har
      b: "Anthony is talking about how video games don't really hurt anyone but then they talk about how the study kind of was"
      c: "Anthony says that video games are harmless because scientists have done research that proves that video games are goo
    },
    explanation: "This response points out that Anthony was mostly kidding when he said "totally harmless" and also explains ho
  },
  { // 2. How can video games be good for you?
    activity_id_prod: "e96f6cc8-a4d4-44ea-832a-12bfeecad239", // Prod grade 7
    activity_id: "2a19c8c5-1983-4662-8578-366a47ad9164", // Staging grade K
    quiz_prompt: "Find a quote from the article that best supports the idea that videogames can be good for you. Explain why yo
    correctAnswer: "c",
    answers: {
      a: ""Do you like to play video games? If you're like many kids, your answer was probably a loud "Yes!" And why not? Today
      b: ""Playing video games doesn't have to be just a sedentary activity, though." I think this tells me that you can play v
      c: ""Thanks to exergaming (that's a term for games that combine EXERcise and GAMING), you can now play video games and ge
    },
    explanation: "This response uses a quote about a type of video game (exergames) that helps you stay healthy and the explana
  },
  { // 3. Can video games make you smarter?
    activity_id_prod: "a481cdf5-4958-4c55-8083-48663ebf233c", // Prod grade 7
    activity_id: "ad1b89e0-8f56-475c-bd78-8db78739f3b5", // Staging grade K
    quiz_prompt: "The narrator mentions that too much broccoli can be toxic. How is that related to the theme of this video abo
    correctAnswer: "b",
    answers: {
      a: "the narrator says that about broccoli because video games are kind of like broccoli, there good for you but too much
      b: "The guy in the video says that too much broccoli can be toxic because he wants you to know that too much of ANYTHING
      c: "he says that because he doesn't think you should eat too much broccoli and too much water becyas they can make u siii
    },
    explanation: "This response makes the connection between having too much broccoli and playing video games too much both bei
  },
  { // 4. Brown researchers believe gamers are able to learn visual tasks faster than non-gamers
    activity_id_prod: "1e3a48bb-dd01-4461-bf42-9d874a4f9862", // Prod grade 7
    activity_id: "9691f3bd-25f4-46df-86e8-109ad72cd442", // Staging grade K
    quiz_prompt: "Give your best summary of this article about gamers vs. non-gamers.",
    correctAnswer: "c",
    answers: {
      a: "kids who play video games r more creative and can do things faster than kids who arent gamers. They think there are a
      b: "gamers are better at most things than old people because they know how tecnoligy works better and can pass tests fast
      c: "this article talks about a bunch of different studies that look at gamers and non-gamers. Some of the studies show th
    },
    explanation: "This response gives clear examples of the possible benefits to gaming (creativity and visual memory improveme
  },
  { // 5. Game on
```

simple
=
tidy

2. Write self-documenting code

Avoid comments

“There are only two hard things in Computer Science:
cache invalidation and naming things.”

- Phil Karlton

I, J, K, L, M, N

https://en.wikipedia.org/wiki/Fortran#FORTRAN_77

LOAN === LOSS

SCORE -> SC OR E

https://en.wikipedia.org/wiki/BASIC#Data_types_and_variables

Heathkit H89

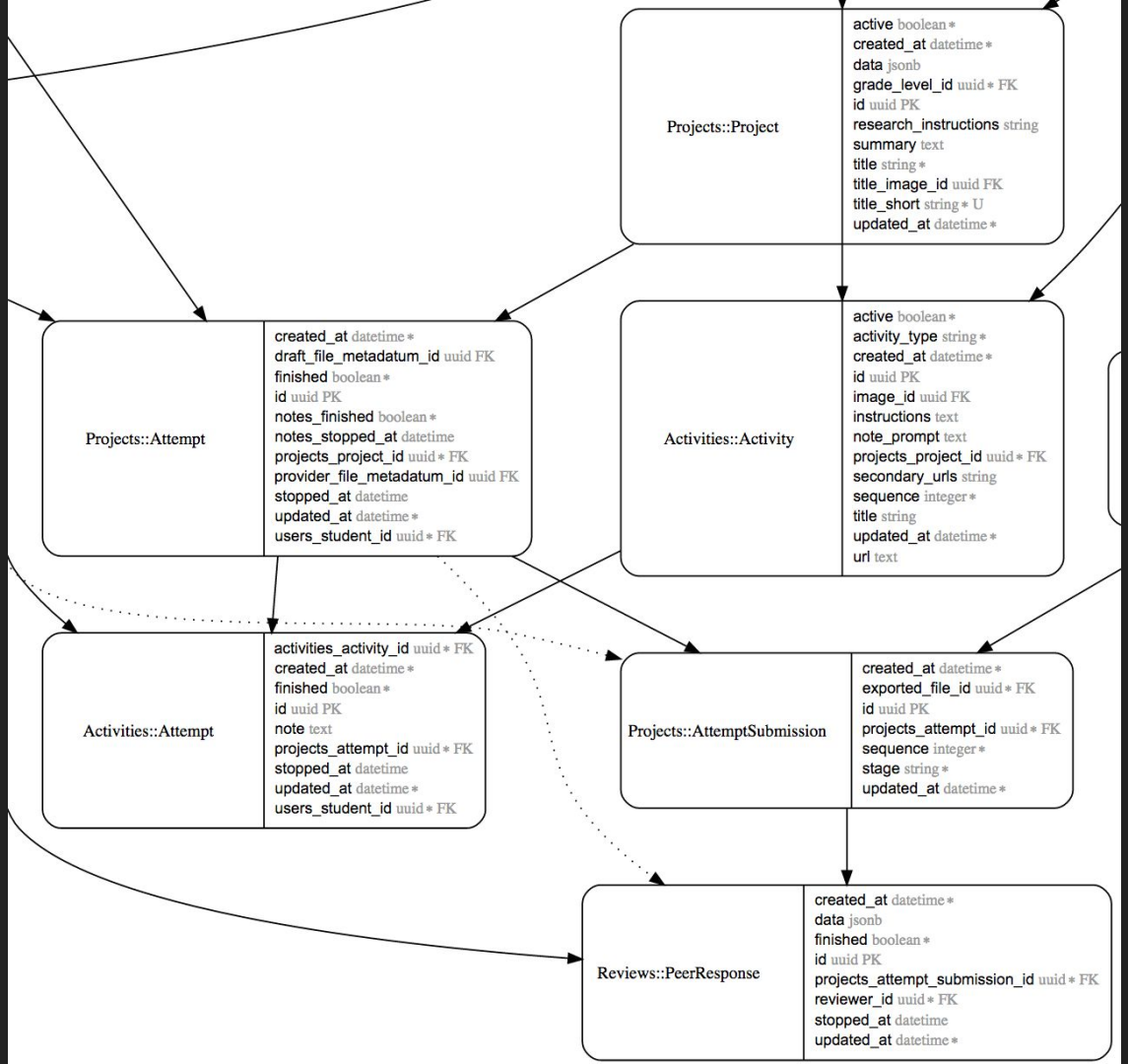
Be concisely verbose with naming

```ruby
def make_person_an_outside_subscriber_if_all_accesses_revoked
  person.update_attribute(:outside_subscriber, true) if person.reload.accesses.blank?
end

def shift_records_upward_starting_at(position)
  positioned_records.update_all "position = position - 1",
    ["position >= ?", position]
end

def someone_else_just_finished_writing?(document)
  if event = document.current_version_event
    !event.by_current_creator? and event.updated_at > 1.minute.ago
  end
end
```

https://signalvnoise.com/posts/3250-clarity-over-brevity-in-variable-and-method-names


Projects::Project
active boolean ∗
created_at datetime ∗
data jsonb
grade_level_id uuid ∗ FK
id uuid PK
research_instructions string
summary text
title string ∗
title_image_id uuid FK
title_short string ∗ U
updated_at datetime ∗
Projects::Attempt
created_at datetime ∗
draft_file_metadatum_id uuid FK
finished boolean ∗
id uuid PK
notes_finished boolean ∗
notes_stopped_at datetime
projects_project_id uuid ∗ FK
provider_file_metadatum_id uuid FK
stopped_at datetime
updated_at datetime ∗
users_student_id uuid ∗ FK
Activities::Activity
active boolean ∗
activity_type string ∗
created_at datetime ∗
id uuid PK
image_id uuid FK
instructions text
note_prompt text
projects_project_id uuid ∗ FK
secondary_urls string
sequence integer ∗
title string
updated_at datetime ∗
url text
Activities::Attempt
activities_activity_id uuid ∗ FK
created_at datetime ∗
finished boolean ∗
id uuid PK
note text
projects_attempt_id uuid ∗ FK
stopped_at datetime
updated_at datetime ∗
users_student_id uuid ∗ FK
Projects::AttemptSubmission
created_at datetime ∗
exported_file_id uuid ∗ FK
id uuid PK
projects_attempt_id uuid ∗ FK
sequence integer ∗
stage string ∗
updated_at datetime ∗
Reviews::PeerResponse
created_at datetime ∗
data jsonb
finished boolean ∗
id uuid PK
projects_attempt_submission_id uuid ∗ FK
reviewer_id uuid ∗ FK
stopped_at datetime
updated_at datetime ∗

VerbNoun

CreateDraftFile

SelectStudentProject

EnrollUser

DraftFileCreator

StudentProjectSelector

UserEnroller

https://xkcd.com/1296/

Developers Swearing
@gitlost

TWEETS 35.3K | FOLLOWING 5 | FOLLOWERS 2,430

Follow

Developers Swearing @gitlost · Jan 5
deleted some shit
3

Developers Swearing @gitlost · Jan 5
Initialized Adin class with sprite class Fuck XML
1

Developers Swearing @gitlost · Jan 5
damn semicolon
1

Developers Swearing @gitlost · Jan 5
Fjernede bullshit

Developers Swearing @gitlost · Jan 5
...the issue is trying to get the hands to start from the exact center vertically and horizontally like the cap but shit is not working

Developers Swearing @gitlost · Jan 5
holy shit
1
2

Commit Messages

Add

Allow

Enforce

Enable

Release

Ignore

Update

Fix

Refactor

Simplify

Abstract

Rename

Convert

Remove

Delete

Exclude

The seven rules of a great git commit message

> *Keep in mind: This has all been said before.*

1. Separate subject from body with a blank line
2. Limit the subject line to 50 characters
3. Capitalize the subject line
4. Do not end the subject line with a period
5. Use the imperative mood in the subject line
6. Wrap the body at 72 characters
7. Use the body to explain *what* and *why* vs. *how*

http://chris.beams.io/posts/git-commit/

```
$ git reset prev-sha

$ git add -p
$ git commit -m “Add this important feature”

$ git push origin this-branch -f
```

```
$ git rebase -i prev-sha

$ git push origin this-branch -f
```

well-labeled

=

tidy

3. Be consistent

Community best practices

Ruby

- https://github.com/bbatsov/ruby-style-guide
- https://github.com/styleguide/ruby

JavaScript

- https://github.com/airbnb/javascript
- https://google.github.io/styleguide/jsguide.html
- http://www.w3schools.com/js/js_conventions.asp

Community best practices

Ruby

- https://github.com/bbatsov/ruby-style-guide#naming

JavaScript

- https://github.com/airbnb/javascript#naming-conventions

Consistent class structure

Ruby

- https://github.com/bbatsov/ruby-style-guide#classes--modules

Consistent component structure

Function Order

```
let ComponentName = React.createClass({
  propTypes: { },
  getDefaultProps() { },
  getInitialState() { },
  functionsThatInitialize() { }, // in a nested order of appearance
  componentWillMount() { },
  componentWillReceiveProps(nextProps) { },
  componentDidMount() { },
  fetchData() { },
  functionsThatRender() { },     // in a reverse nested order of appearance
  render() { }                   // always last
})

module.exports = ComponentName
```

Consistent & straightforward conditionals

```ruby
# bad
if some_condition
  do_something
end

# good
do_something if some_condition

# another good option
some_condition && do_something
```

Consistent & straightforward conditionals

```
# bad
do_something if other_condition if some_condition

# good
do_something if some_condition && other_condition
```

Consistent & straightforward conditionals

```ruby
# bad
unless success?
  puts 'failure'
else
  puts 'success'
end

# good
if success?
  puts 'success'
else
  puts 'failure'
end
```

consistent & neat

=

tidy

Consistent formatting

- https://github.com/bbatsov/ruby-style-guide#source-code-layout
- Spacing
- Lines
- Indenting
- Quotes

HOW

Set guidelines

1. Simplify
2. Write self-documenting code
3. Be consistent

HOW

Set guidelines,
follow them,
and enforce them:
easiest first,
all at once

RuboCop
CHEF

Reek

ESLint
ESLint
The pluggable linting utility for
JavaScript and JSX

WHEN

Set aside time
during weekly sprints

Resources

Sandi Metz - Rules for Developers (talk)

- https://www.youtube.com/watch?v=npOGOmkxuio

Marie Kondo - The Life Changing Magic of Tidying Up (book, non-technical)

Rails Doctrine - Convention over Configuration

- http://rubyonrails.org/doctrine/#convention-over-configuration

DHH - “Clarity over Brevity”

- https://signalvnoise.com/posts/3250-clarity-over-brevity-in-variable-and-method-names