Tracking database changes using Ruby, YAML, and Git

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Say you have a nice database...

Student

- id
- name
- description
- department_id

Department

- id
- name

...then someone requests version history.

To use Git, export text files

- CSV, JSON, XML - unreadable, long lines

```
diff --git a/paul.txt b/paul.txt
index b9ce041..311b84c 100644
--- a/paul.txt
+++ b/paul.txt
@@ -1,2 +1,2 @@
-{"id":1,"name":"Paul Grayson","description":"Hello, my name is Paul
Grayson, and this is my personal page on the web. I am one of the founders
of Pololu, a manufacturer and online retailer of educational/hobby
electronics and robotics products located in Las Vegas, Nevada.\n\nI grew up
in Urbana, Illinois.","department_id":8}
+i{"id":1,"name":"Paul Grayson","description":"Hello, my name is Paul, and
this is my personal page on the web. I am one of the founders of Pololu, a
manufacturer and online retailer of educational/hobby electronics and
robotics products located in Las Vegas, Nevada.\n\nI grew up in Urbana,
Illinois.","department_id":8}
```

Using YAML for export

```yaml
---
id: 1
name: Paul Grayson
description: |-
  Hello, my name is Paul Grayson, and this is my personal page on the web. I
am one of the founders of Pololu, a manufacturer and online retailer of
educational/hobby electronics and robotics products located in Las Vegas,
Nevada.

  I grew up in Urbana, Illinois.
department_id: 8
```

Still uses long lines
(Rails default #to_yaml)

YAML + word wrap

```yaml
id: 1
name: Paul Grayson
description: |
  Hello, my name is Paul Grayson, and this is my
  personal page on the web. I am one of the
  founders of Pololu, a manufacturer and online
  retailer of educational/hobby electronics and
  robotics products located in Las Vegas, Nevada.

  I grew up in Urbana, Illinois.
department_id: 8
```

This is uninformative

Wrapped lines (format=flowed)

YAML + word wrap, recursive

```yaml
id: 1
name: Paul Grayson
description: |
  Hello, my name is Paul Grayson, and this is my␣
  personal page on the web. I am one of the␣
  founders of Pololu, a manufacturer and online␣
  retailer of educational/hobby electronics and␣
  robotics products located in Las Vegas, Nevada.

  I grew up in Urbana, Illinois.
department:
  id: 8
  name: Physics
```

Ruby implementation

```ruby
class StudentTracker < Tracker
  track :id
  track :name
  track :description
  track(:department) do |person|
    DepartmentTracker.new(person.department)
  end
end

class DepartmentTracker < Tracker
  track :id
  track :name
end
```

Further issues

- File names / directory structure

- When to commit?

- Push to DB