

Detecting and Reporting Object-Relational Mapping Problems: An Industrial Report



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Rodrigo Bonifácio



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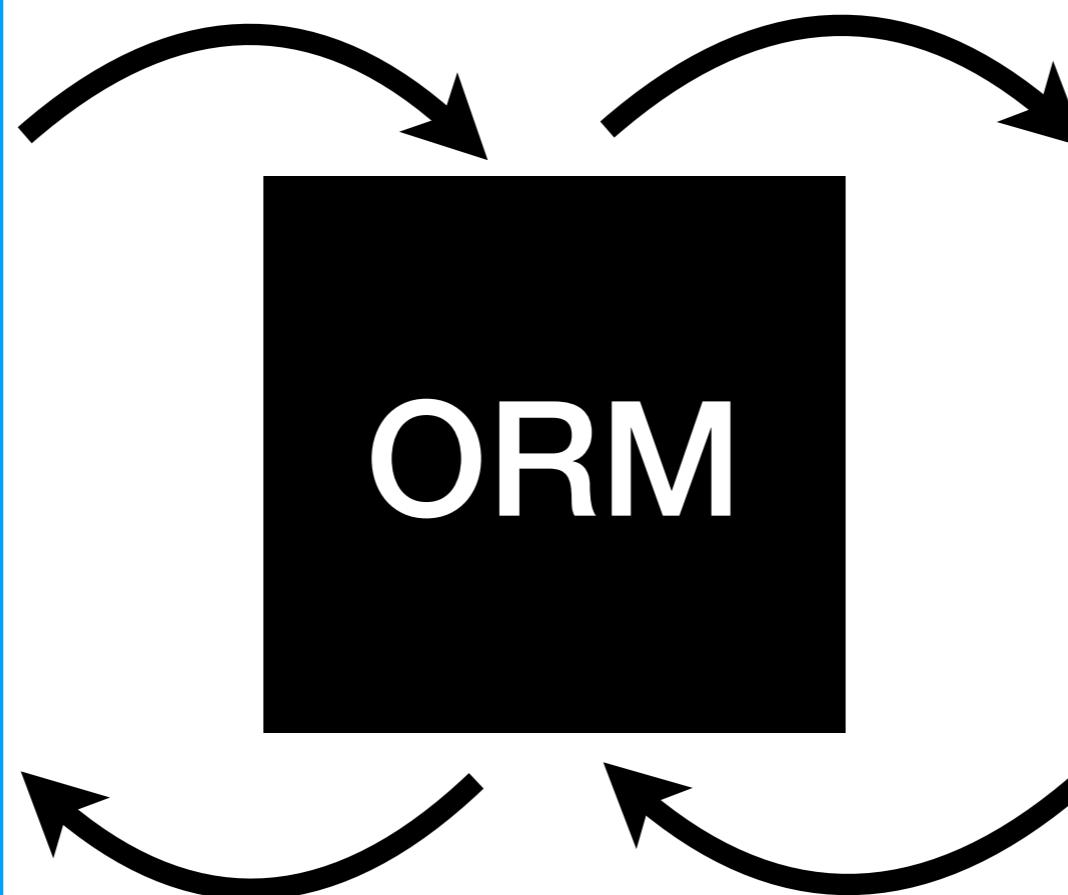


INSTITUTO
EVANDRO
CHAGAS



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**Application
Code**



Database



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```
@Entity
public class Color {

    private String code;

    private String name;

    private Boolean enable;
}
```

```
@Entity
@Table(schema = "public", name = "COLOR")
public class Color {

    private String code;

    private String name;

    private Boolean enable;
}
```

```
@Entity
@Table(schema = "public", name = "COLOR")
public class Color {

    @Column
    private String code;

    @Column
    private String name;

    @Column
    private Boolean enable;
}
```



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```
@Entity
@Table(schema = "public", name = "COLOR")
public class Color {

    @Column(name = "CODE", nullable = false)
    private String code;

    @Column(name = "NAME", length = 80, nullable = false)
    private String name;

    @Column(name = "ENABLE", nullable = false)
    private Boolean enable;
}
```

```
@Entity
@Table(schema = "public", name = "COLOR")
public class Color {

    @Column(name = "CODE", nullable = false)
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    private String name;

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    private Boolean enable;
}
```

Problem with id column and JPA

Asked 8 years, 4 months ago Active 6 years, 6 months ago Viewed 7k times

```
@Entity  
@Table(sche  
public clas  
  
@Column  
private  
  
@Column  
private  
  
@Column  
private  
}  
}
```

I'm trying JPA with a very simple class for the Play! framework and I'm having some problems with the id column.

4

My sql database has only two columns:

```
CREATE TABLE IF NOT EXISTS `auto` (  
    `id` int(11) NOT NULL AUTO_INCREMENT,  
    `name` varchar(255) DEFAULT NULL,  
    PRIMARY KEY (`id`)  
)
```

And my model is:

```
@Entity  
@Table(name = "auto")  
public class Auto extends Model{  
  
    @Column(insertable = false, updatable = false)  
    public int id;  
  
    public String name;  
  
    public Auto(String name){  
        this.name = name;  
    }  
}
```

Everything works fine without this part:



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```
@Entity
@Table(schema = "public", name = "COLOR")
public class Color {

    @Id
    @Column(name = "CODE", nullable = false)
    private String code;

    @Column(name = "NAME", length = 80, nullable = false)
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    private Boolean enable;
}
```



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Cannot be cast to java.io.Serializable

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@Entity  
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16 My Criteria Code;

3
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Both give me the ClassCastException. I know I can easily solve it by letting the User implement Serializable, but is there any other solution?

java hibernate criteria

share improve this question

asked Dec 24 '10 at 8:45



Thys

5,653 ● 25 ● 82 ● 130

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Have you checked this link: [stackoverflow.com/questions/2020904/...](http://stackoverflow.com/questions/2020904/) – craftsman Dec 24 '10 at 11:30



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@Entity
@Table(schema = "public", name = "COLOR")
public class Color implements Serializable {

    @Id
    @Column(name = "CODE", nullable = false)
    private String code;

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}
```

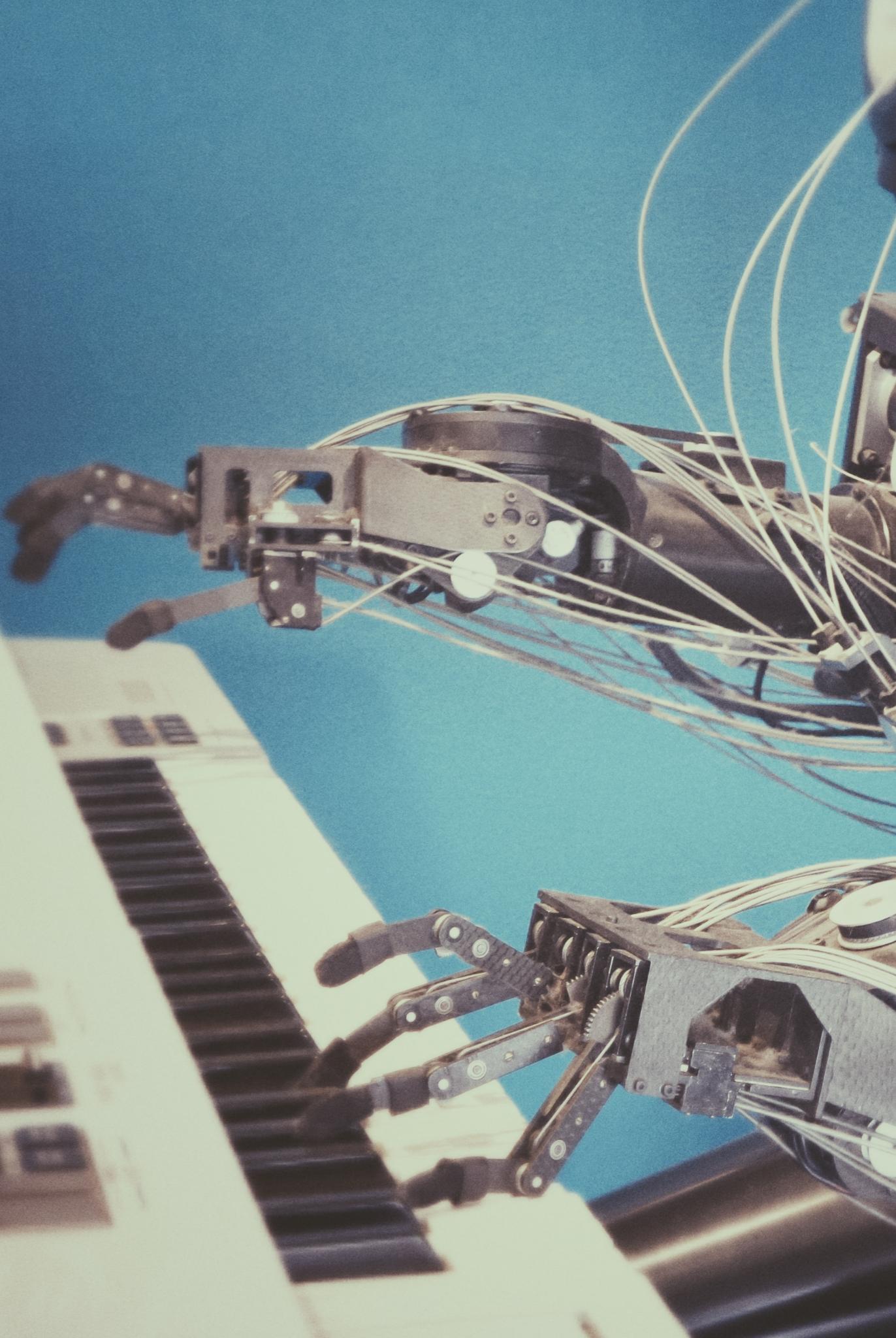




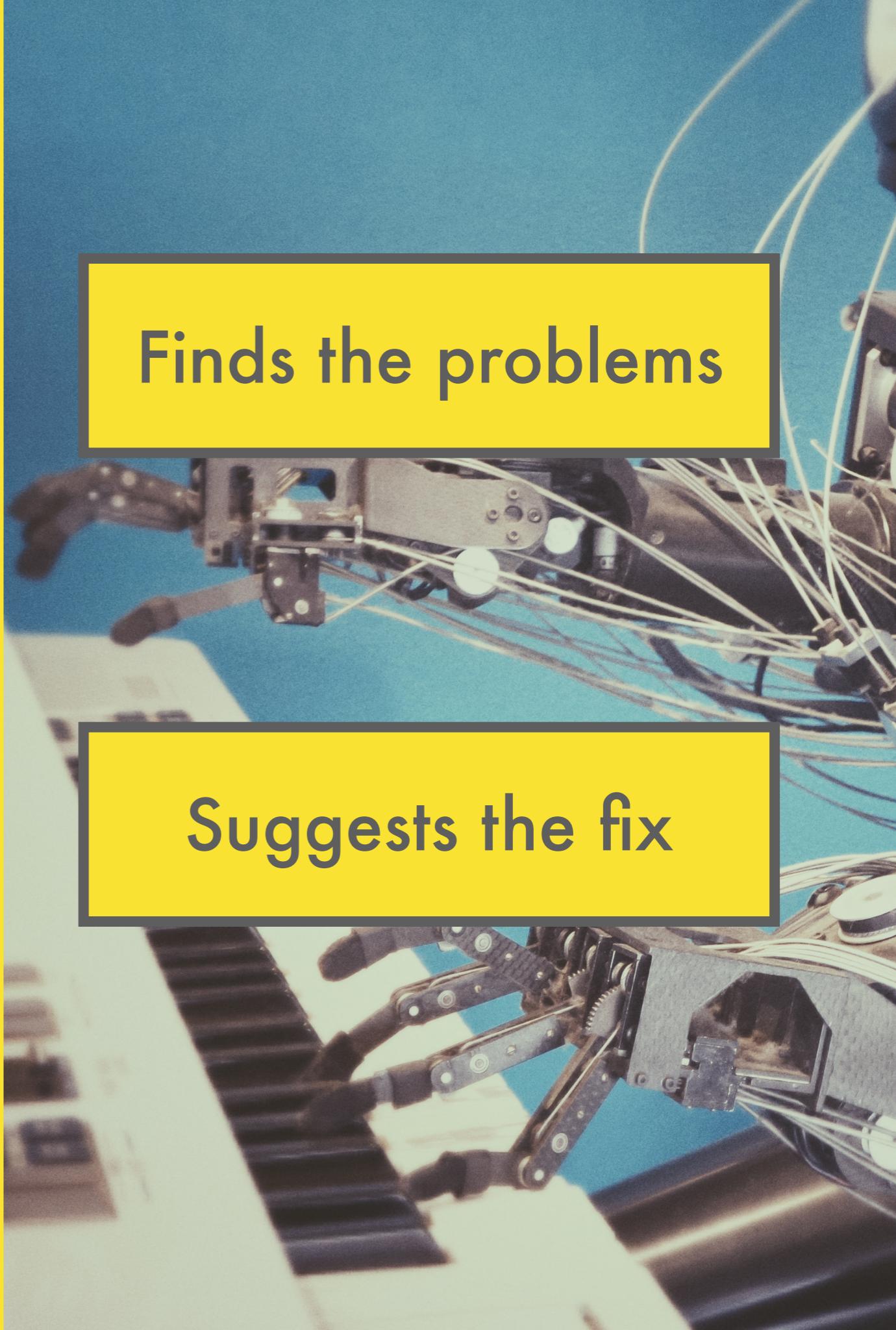
We catalogued
12
ORM-related
problems

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We implemented
this catalog in a
static analysis
tool



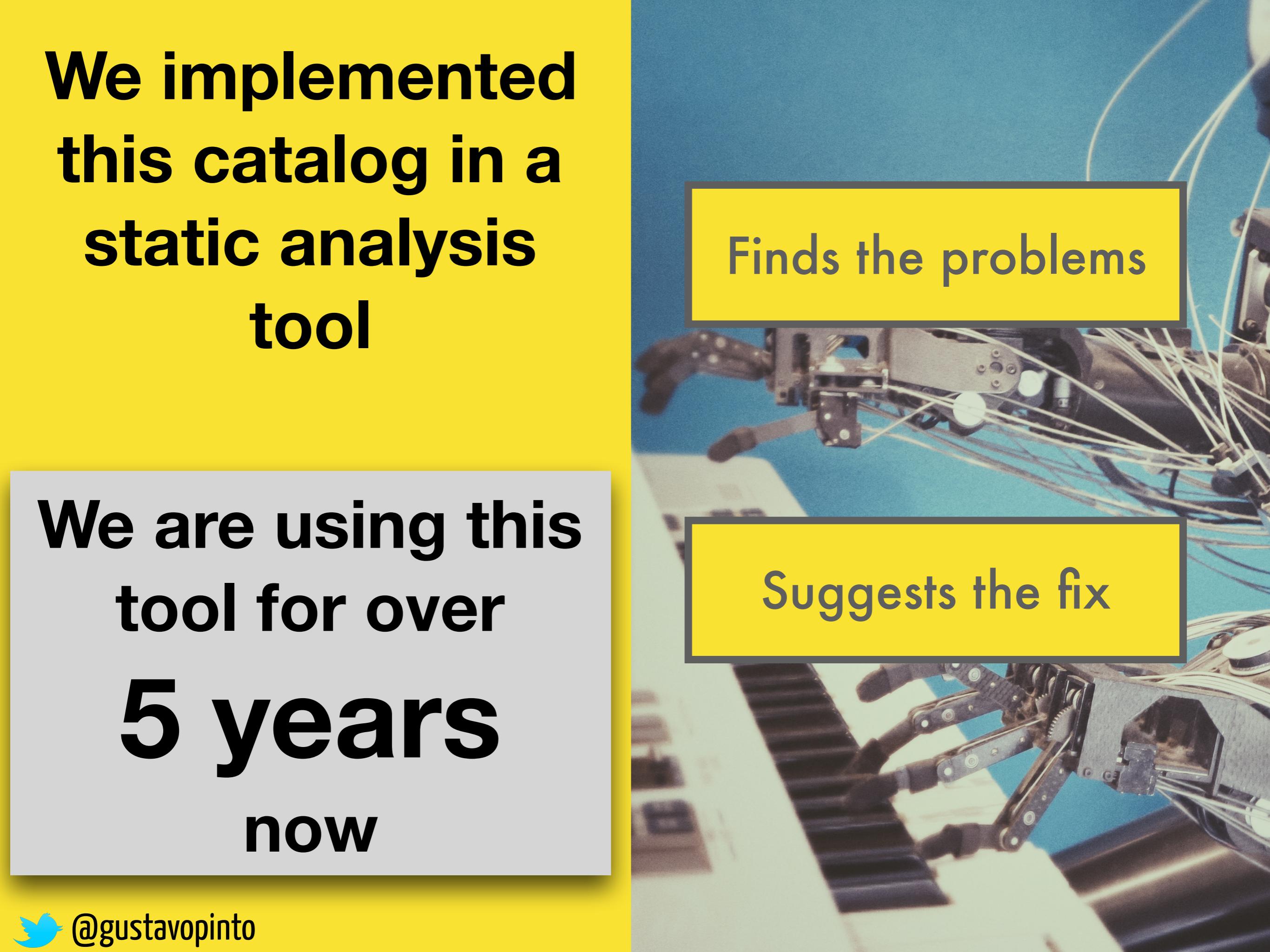
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Finds the problems

Suggests the fix





We implemented
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We are using this
tool for over
5 years
now

Finds the problems

Suggests the fix



**Could
others take
advantage
of our tool?**



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We conducted a developer experience (DX) study with 13 developers



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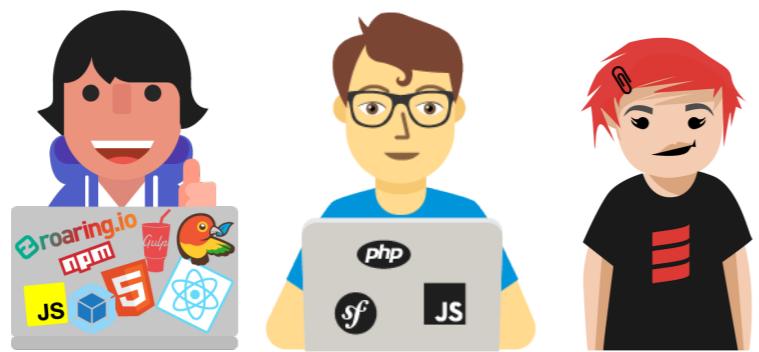


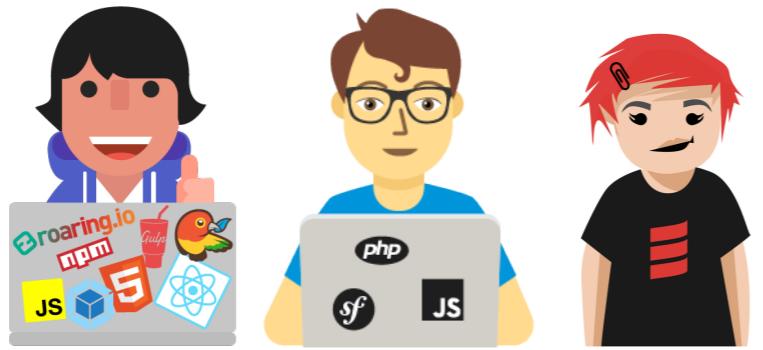
3 students,
10 from industry

6 with **7+ years** with ORM experience

2 with **no previous** ORM experience







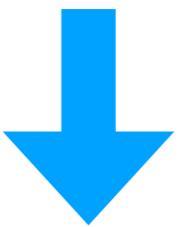
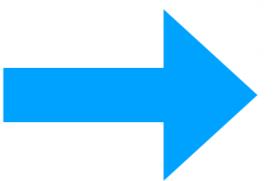
6 ORM tasks



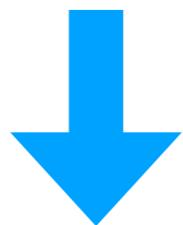
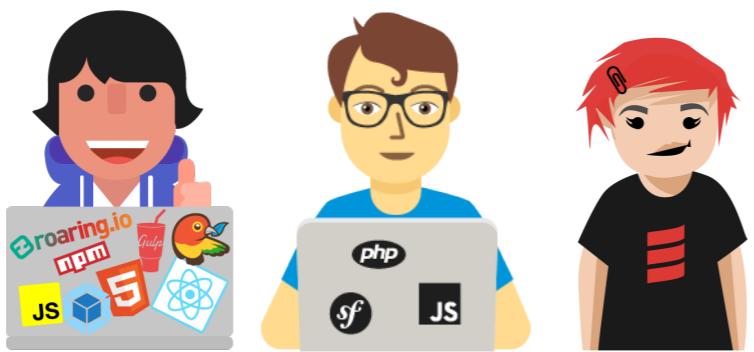
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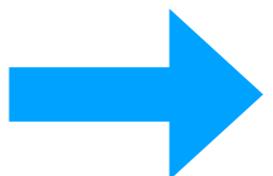
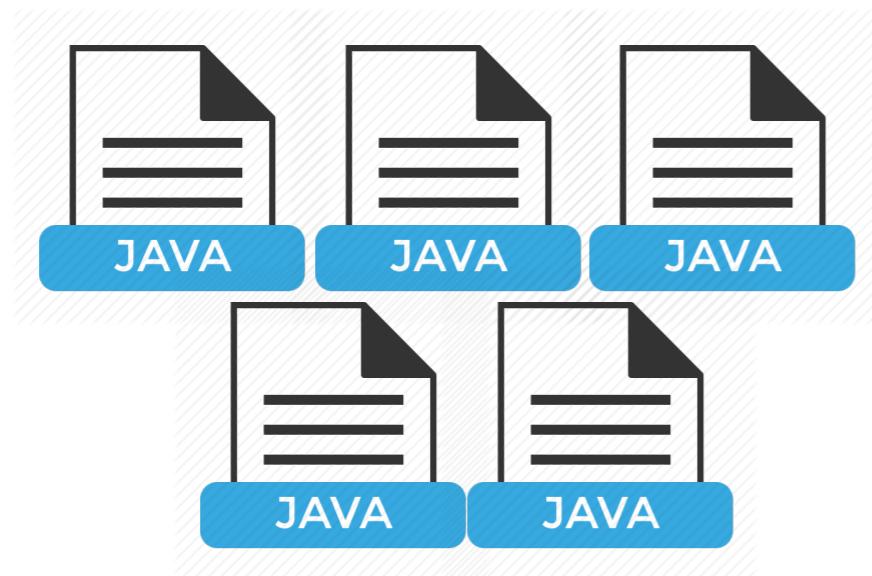
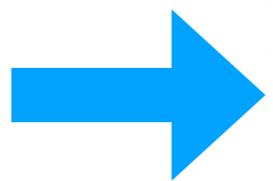
6 ORM tasks



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6 ORM tasks



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**All participants completed the
experiment**

eases ORM modeling

“ Every day I do object-relational mapping, and this tool could help me to remember what is missing ”



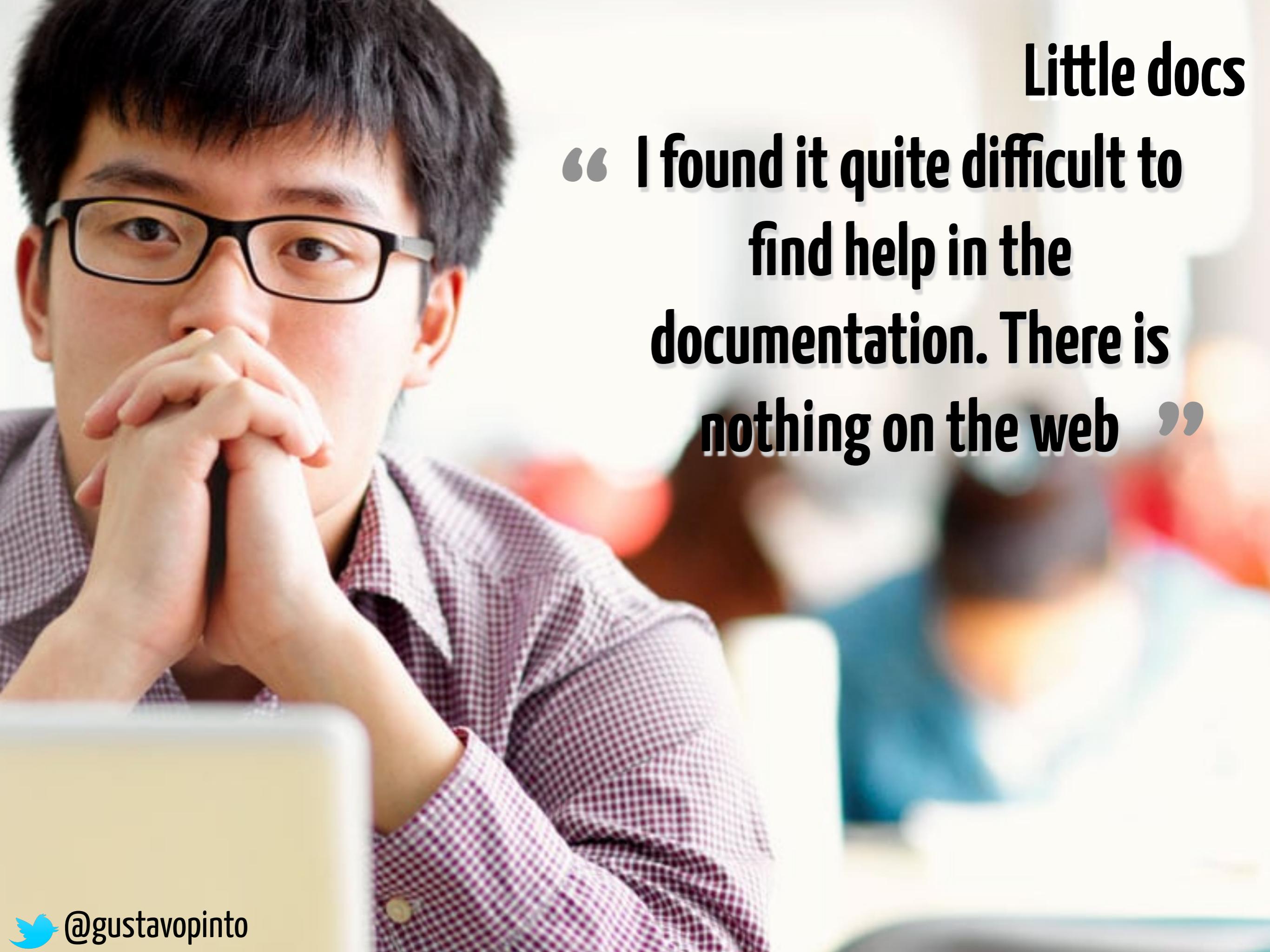
A photograph of a young woman with long brown hair, wearing a grey ribbed turtleneck sweater. She is looking down at a laptop screen with a surprised or shocked expression, her mouth slightly open. Her hands are raised above her head, palms facing up. In the foreground, the back of a laptop screen is visible, showing a presentation slide with three bullet points. The background is blurred, showing what appears to be a window with greenery outside.

eases ORM modeling

the tool is precise

forces best practices



A close-up photograph of a young man with dark hair and glasses. He is wearing a maroon and white checkered blazer over a white shirt. His hands are clasped near his chin, and he has a thoughtful expression. The background is blurred, showing what appears to be a classroom or office environment.

Little docs

**“ I found it quite difficult to
find help in the
documentation. There is
nothing on the web ”**



A close-up photograph of a young man with dark hair and glasses, wearing a maroon and white checkered blazer over a white shirt. He is resting his chin on his clasped hands, looking slightly off-camera with a thoughtful expression.

Little docs

**Custom annotations
were not intuitive**

**The tool poses many
constraints**



Cannot be cast to java.io.Serializable

Asked 8 years, 8 months ago Active 1 year, 4 months ago Viewed 30k times

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My Criteria Code:

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java hibernate criteria

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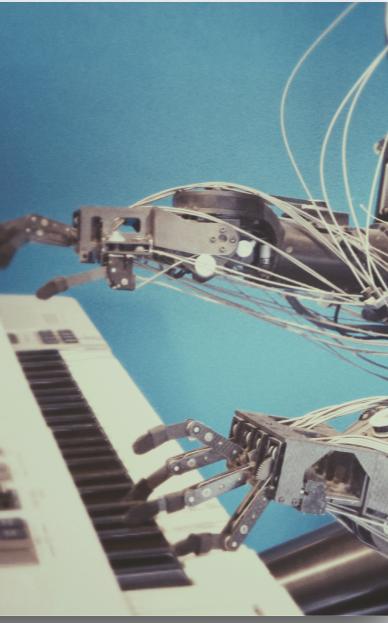
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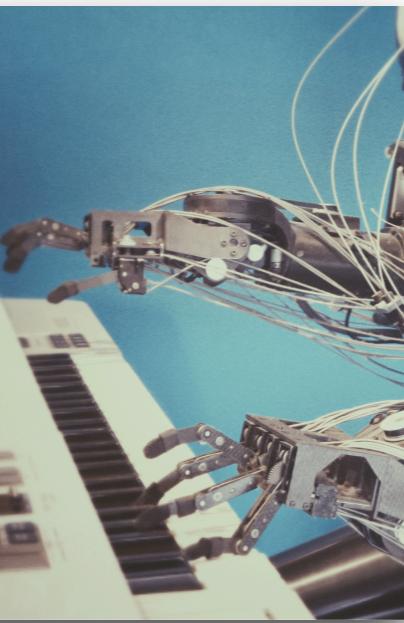
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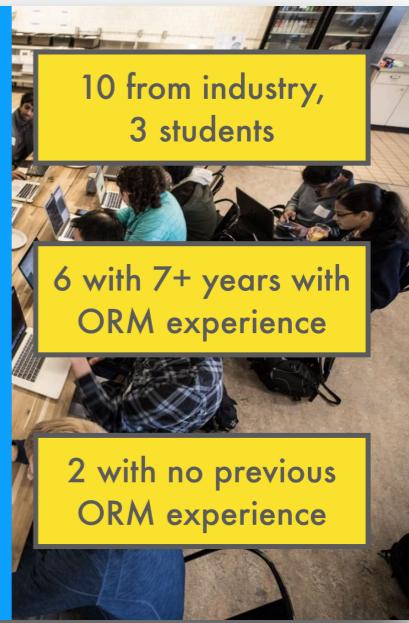
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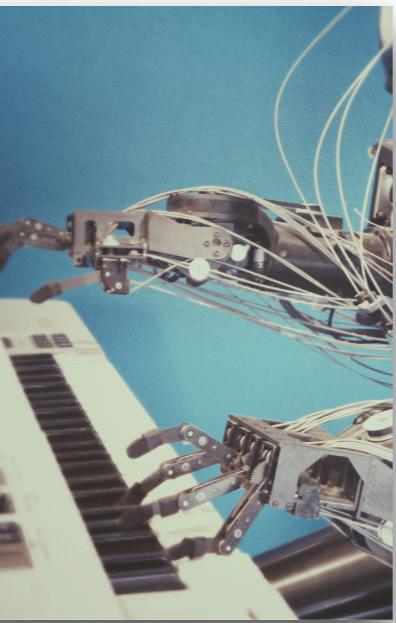
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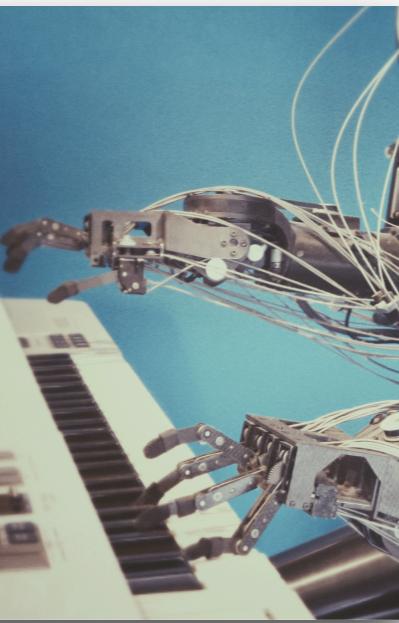
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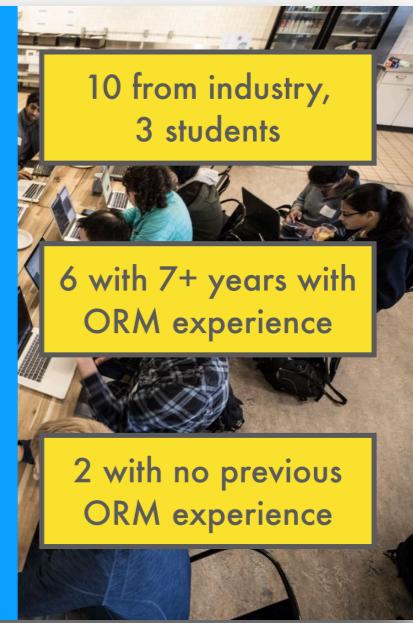
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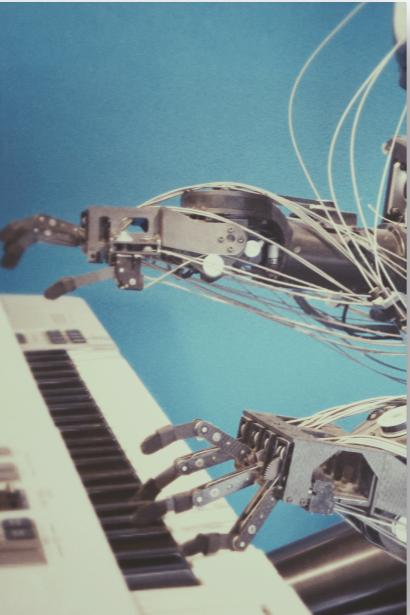
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