

# API Design

Sep 10, 2024

# Question Element

## ~~API~~ Design

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# The Rest of This Course

**Part 1:** Motivation, intro to PrairieLearn, how to use Git(hub) 

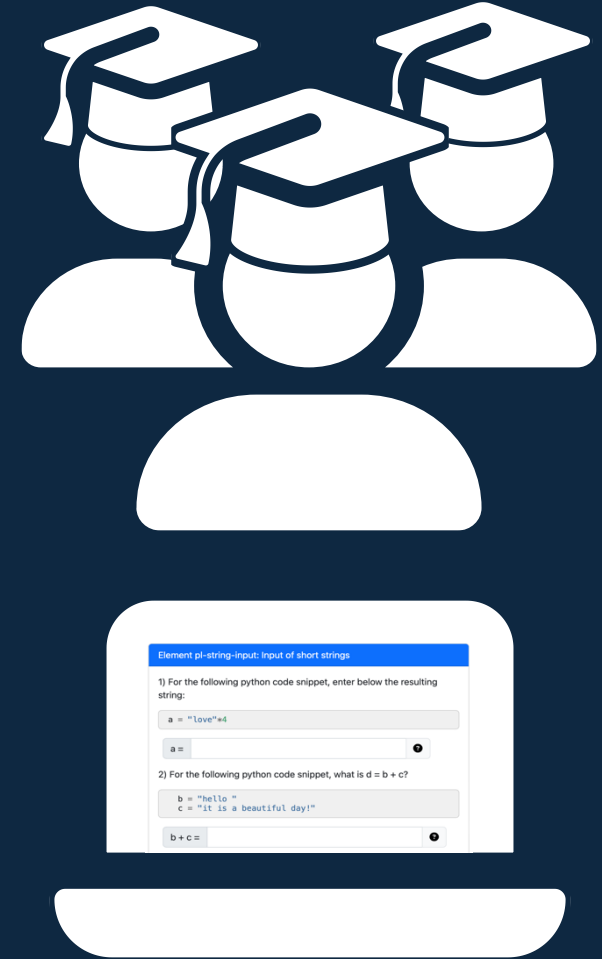
**Part 2:** Designing a realistic new question element

- We have picked a specific element for you: Truth Tables
- You form teams (of 2) and design/implement this element
- You get to interview your “client” Geoffrey and get feedback

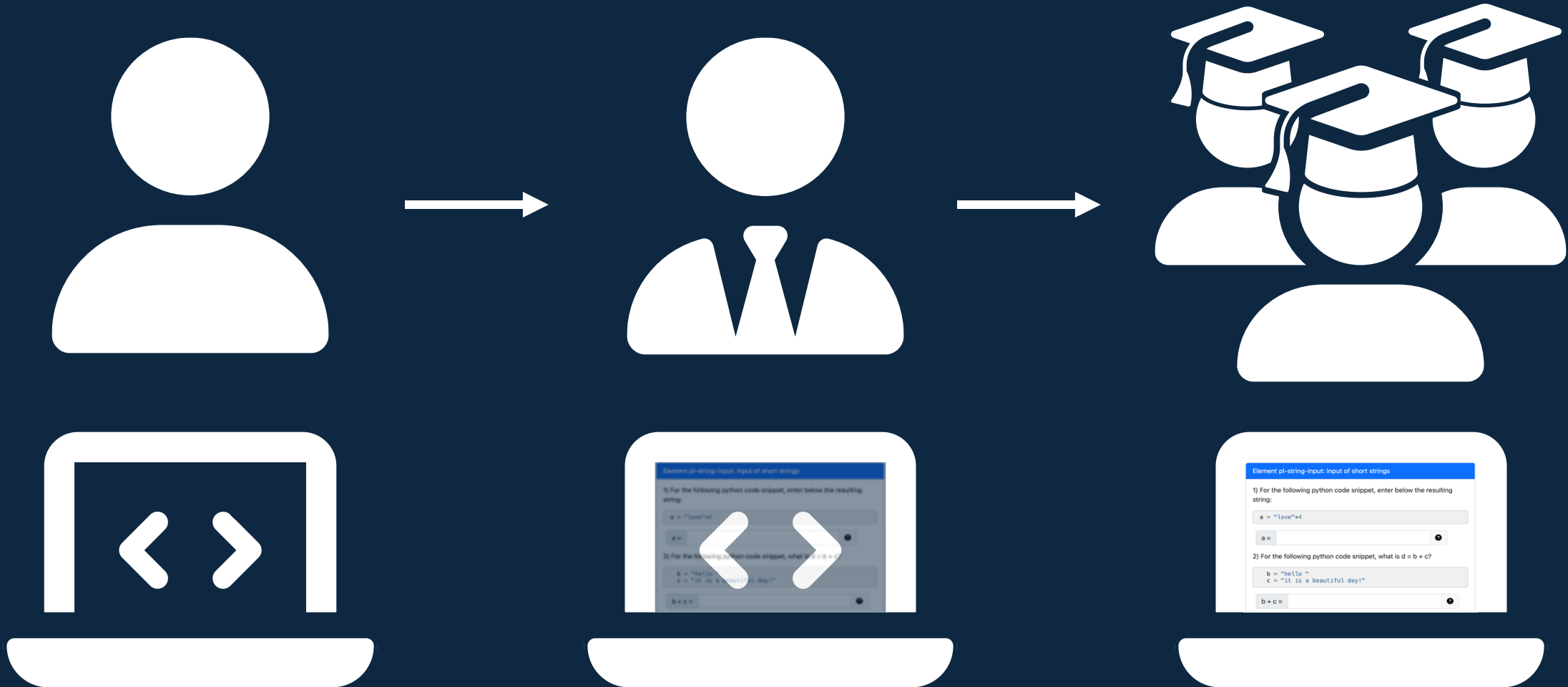
**Part 3:** Designing a *real* new question element

- You work with a real instructor on a real question element
- You interview them (at least twice) to understand what they want/need
- You deliver a prototype (and might even turn it into a real PL element)

# Question Element Design



# Question Element Design

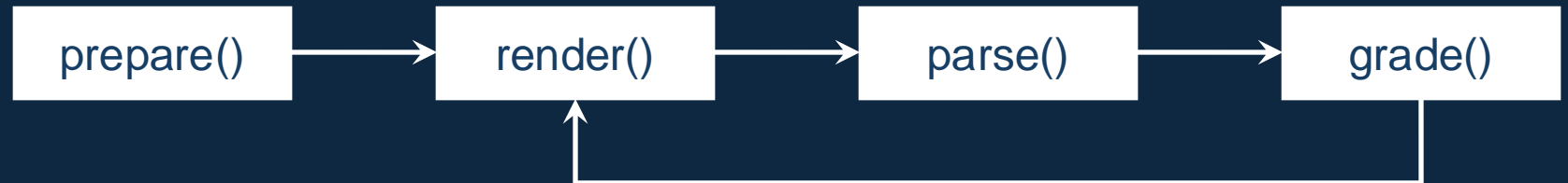


# Question Element Design



`pl-string-input(answers-name="ans3", remove-leading-trailing="true", show-score="false")`

`<pl-string-input answers-name="ans3" remove-leading-trailing="true" show-score="false"></pl-string-input>`



# “Good” Question Element Design

How do we know what is good design?

- Careful thinking about best practices (today)
- Observing/asking users of our code (Thursday)
- Looking into findings from psychology and cognitive science (next week)

# Reading Reactions

- How to balance ease of use and flexibility/extensibility?
  - Especially in the context of PL questions
- “Self-documenting code” vs. actual documentation/examples
- Is PL currently following best practices? Counter-examples?
  - How many people are involved in developing PL and its APIs?
  - Examples for difficult design decisions in the history of PL
- Is API design different from UI design?



# Real-world Example: Extending pl-file-upload

```
<pl-file-upload file-names="file.txt"></pl-file-upload>
```

Drop files here or click to upload.

Only the files listed below will be accepted—others will be ignored.

The combined size limit of all uploaded files is 5MB.

Files

☐ solution.txt

not uploaded

“File names should support wildcards, like \*.txt or solution.\* “

# Homework for Thursday (9/12)

1. Form a team with one other person
2. Watch the recorded interview with Geoffrey
3. Create a design sketch for truth tables
  1. A first draft of an API design (`<pl-truth-table ...></pl-truth-table>` )
  2. Some sketches (e.g., hand-drawn or using manual HTML) in the style of the existing example questions to support your API design