

Atelier: repurposing expert crowdsourcing tasks as micro-internships



Ryo Suzuki¹, Niloufar Salehi², Michelle S. Lam²,
Juan C. Marroquin², Michael S. Bernstein²

¹ University of Colorado Boulder
² Stanford HCI Group



FLASH TEAMS

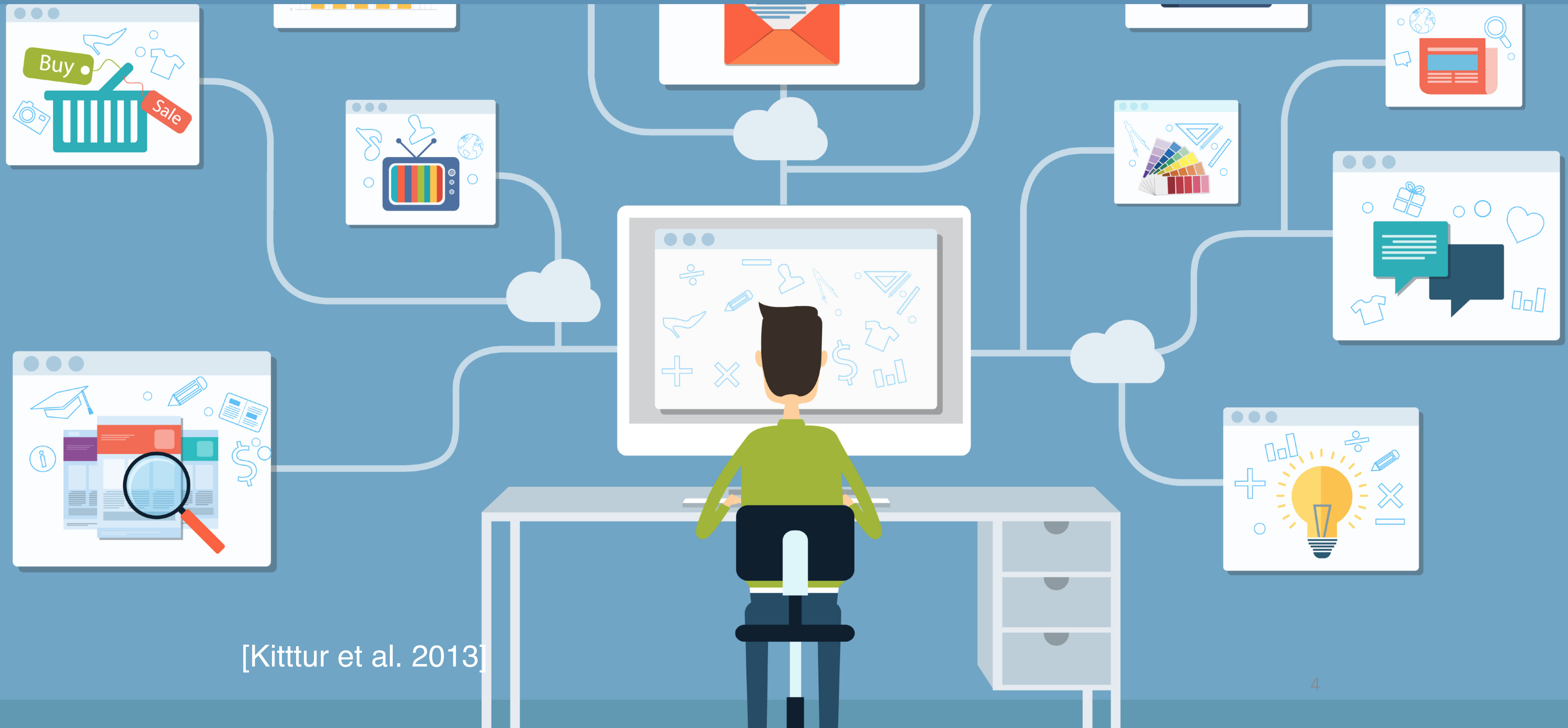


[Retelny et al. 2014]

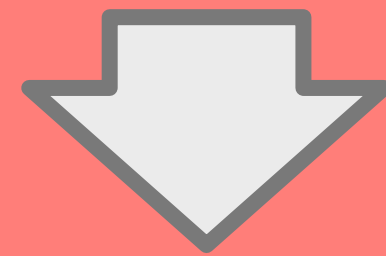
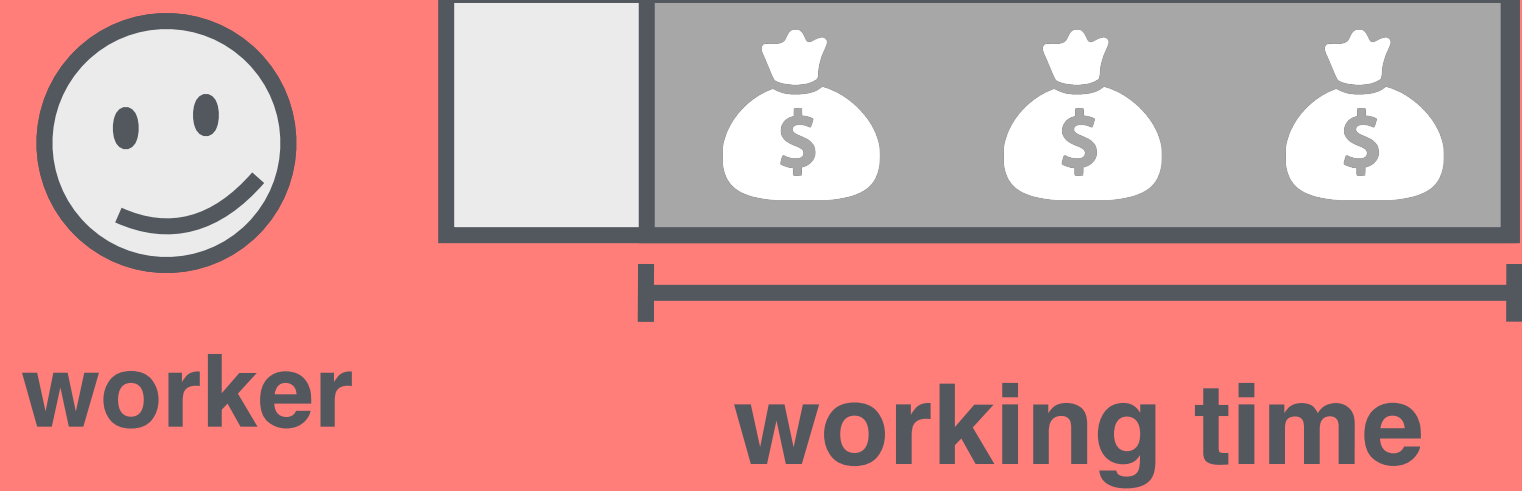
*Crowd work today is largely a dead-end job,
offering few opportunities for career
advancement and economic mobility.*

The Future of Crowd Work [Kittur et al. 2013]

Crowd experts must be able to grow their skills.



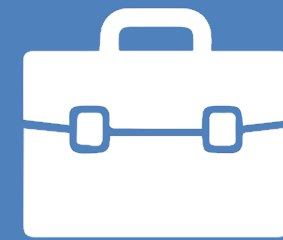
[Kittur et al. 2013]



Time spent learning
is time spent
not working.

They need to
sacrifice
their earnings
to learn new skills

Internship



Micro-internships:

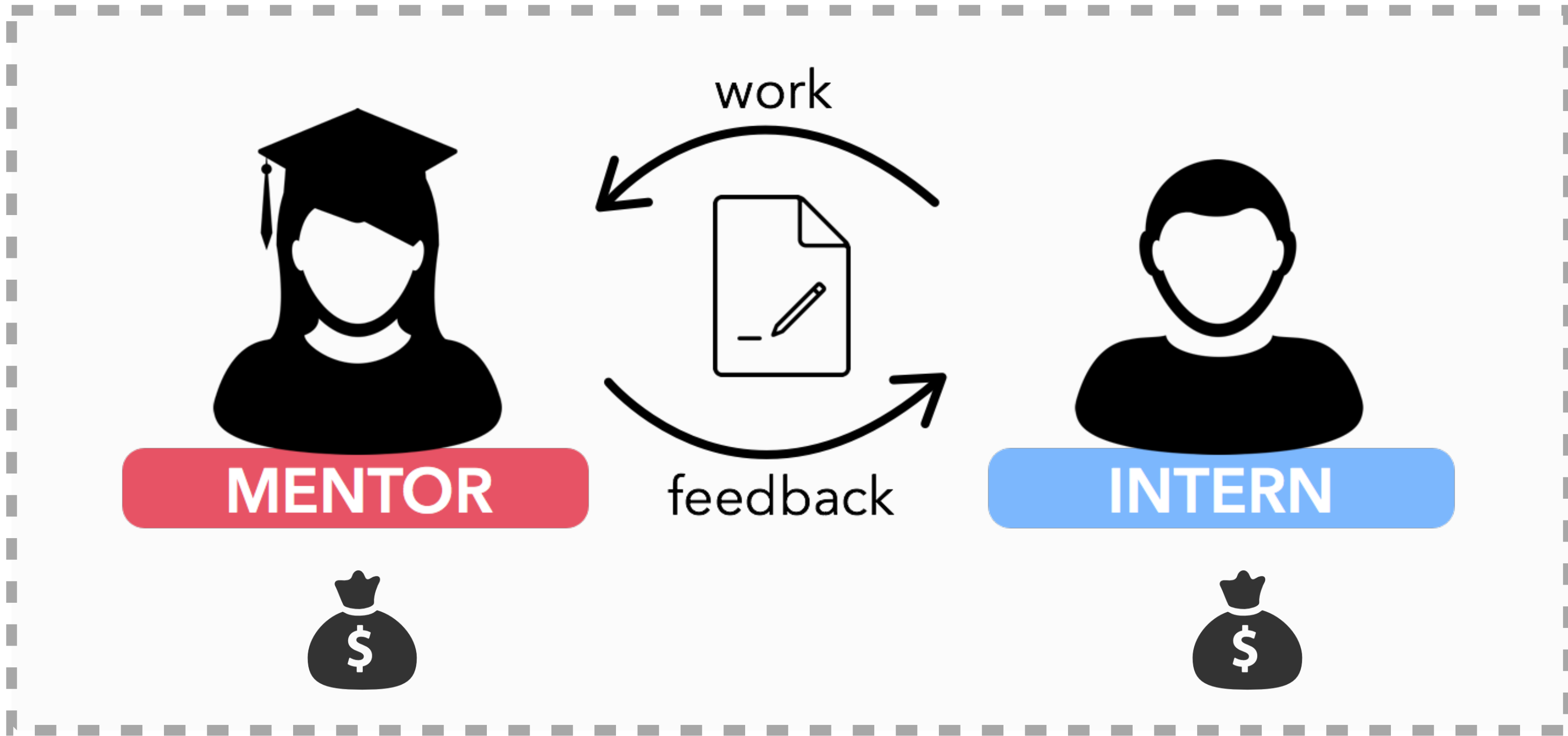
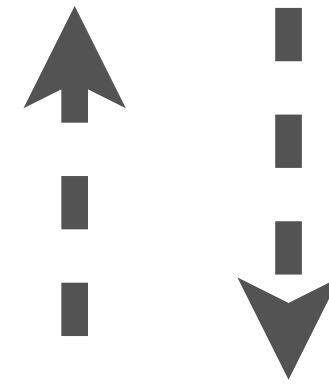
paid, mentored, real-world work experiences





REQUESTER

Job

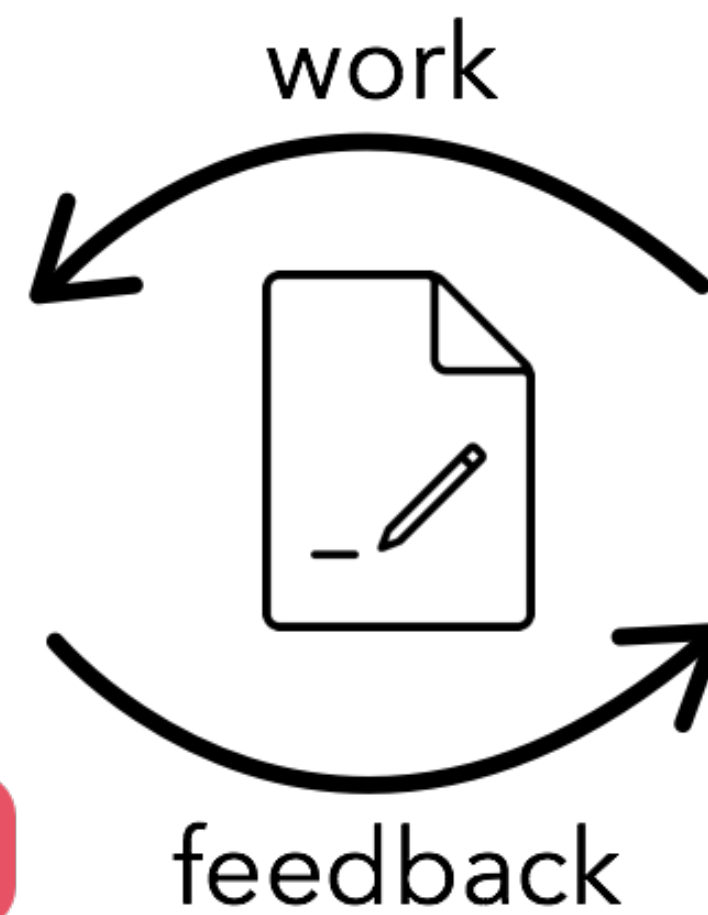





work



MENTOR

feedback

INTERN



-  Earn extra income
-  Spend less time
-  Intrinsic motivations

-  Practice while paid
-  Ratings for future tasks

← MILESTONE 3

1 Develop use cases & static content ✓ ▶

2 Plan models and their relationships ✓ ▶

3 Create authentication and static pages ○ ▼


A Make the sign up and sign in processes ✓


B Fill the static pages with content ○


C Customize these pages with CSS. You may choose to use a front-end framework like Twitter's Bootstrap. ○


4 Create the store and product gallery ○ ▶


5 Integrate payment methods and the contact page ○ ▶


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Have you used Devise before? It's an authentication solution for Ruby on Rails.
★ Pinned


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Send Message File Upload Call



1. Mentors helped interns **get unstuck**

Atelier



2. Mentors introduced **helpful resources**



3. Mentors shared **best practice**



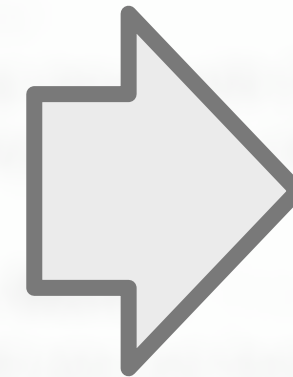
1. get unstuck



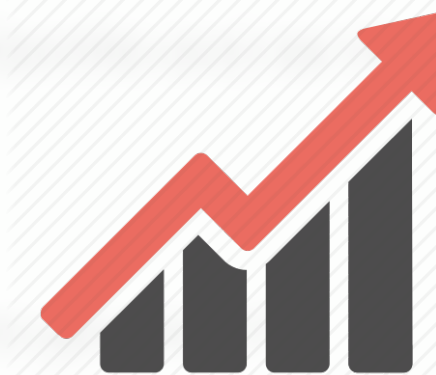
2. helpful resources



3. best practice



heavier use of Atelier



higher quality outcomes

- micro-internships
- atelier
- evaluation
- conclusion

- micro-internships
- atelier
- evaluation
- conclusion

● Upwork survey



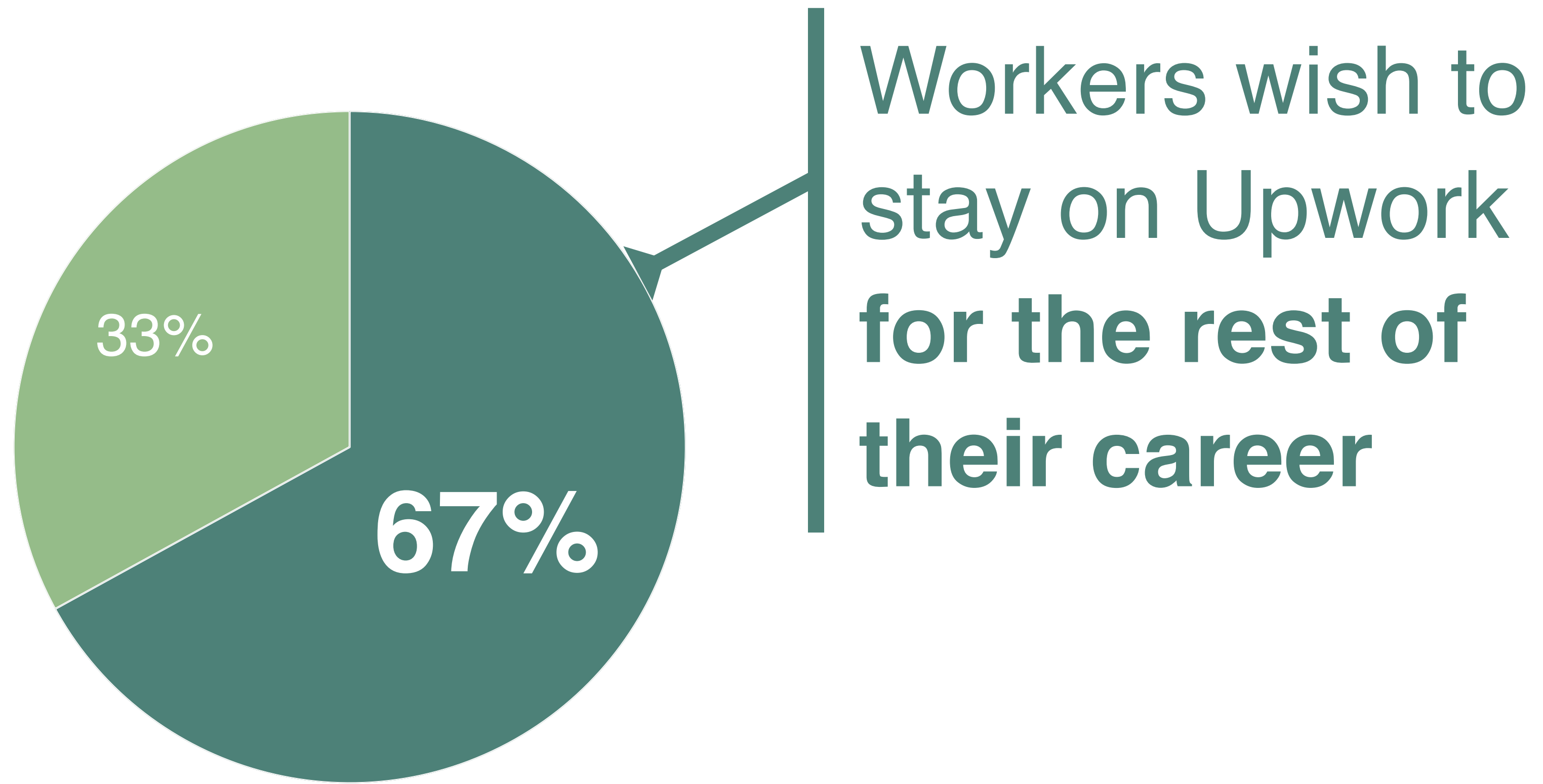
96 responses

male: 71, female: 25

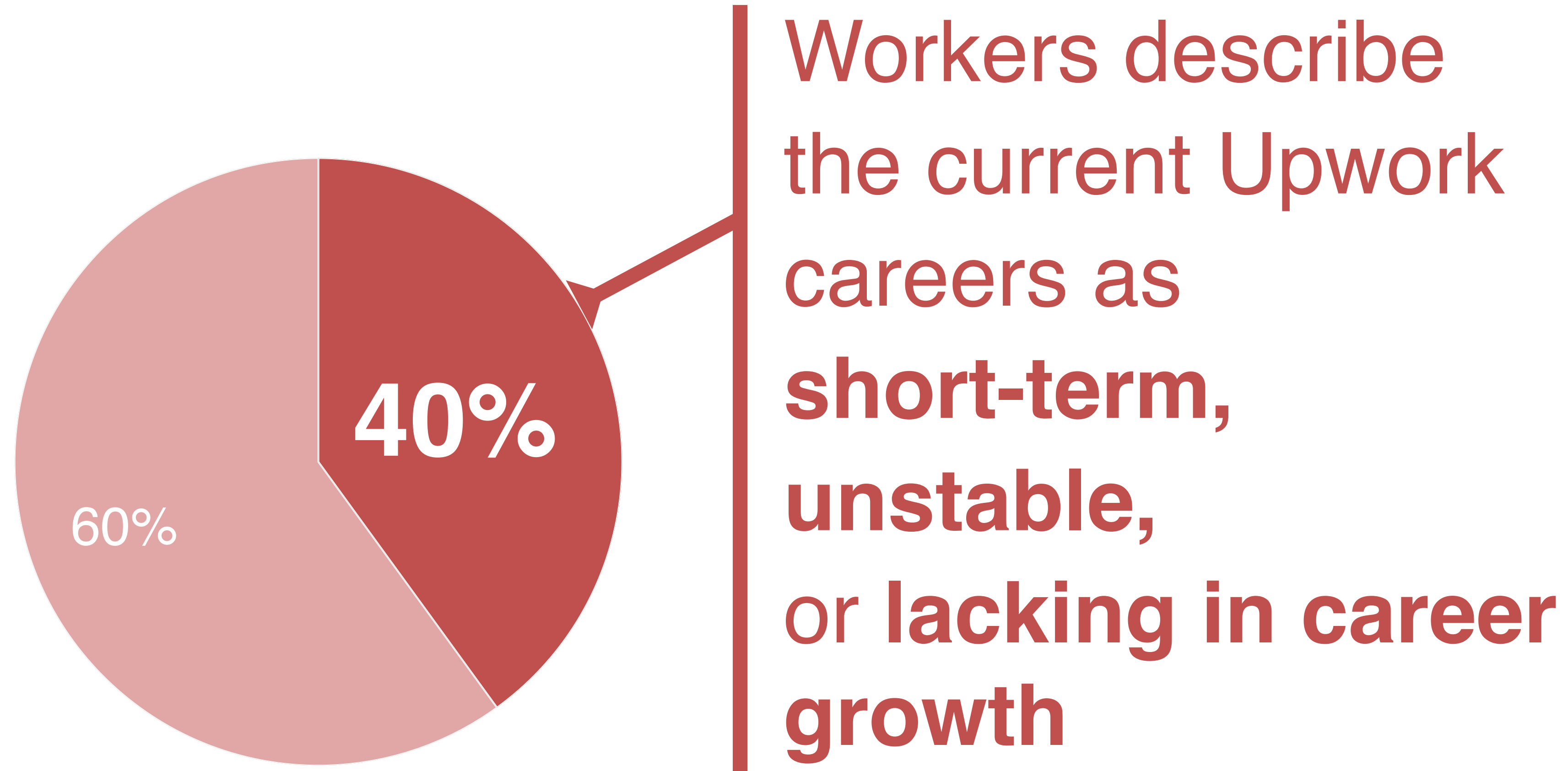
age: 18–66

categories: 9

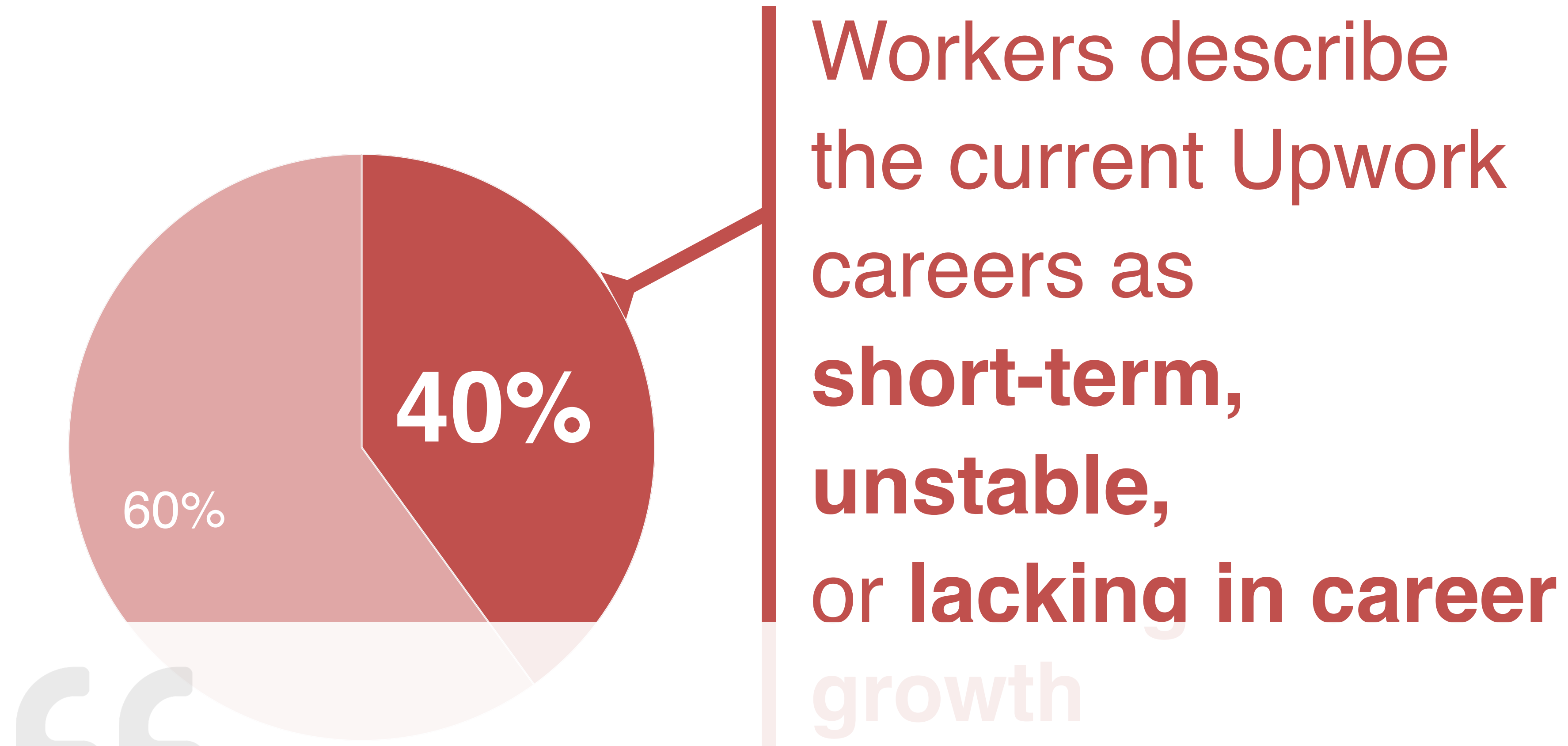
● Upwork survey



Upwork survey

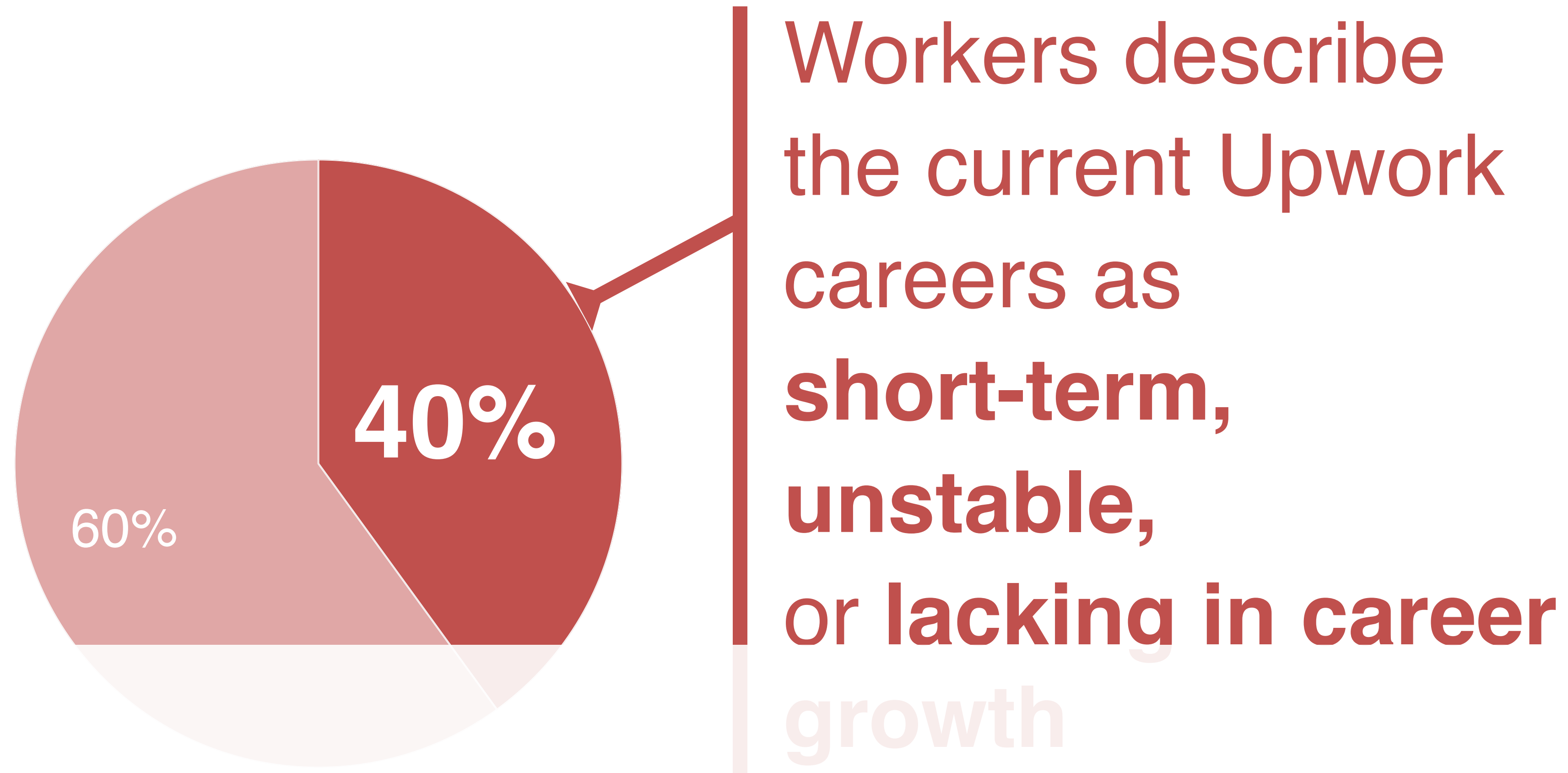


Upwork survey



“there’s nothing with trajectory into the field I really want to pursue.”

Upwork survey



Workers want to grow their careers, but face instability due to **heavy competition**

Upwork survey



Workers **could not learn a new skill** within the next 6 months

Upwork survey



"I need more money to support my family, I take all the time I have for work."

Upwork survey



Workers don't have **time** or financial resources to learn new skills

Upwork survey



Upwork survey



Workers found it difficult to convince clients when they **first joined Upwork**

*“I have to bid against more experienced, **higher rated freelancers**”*

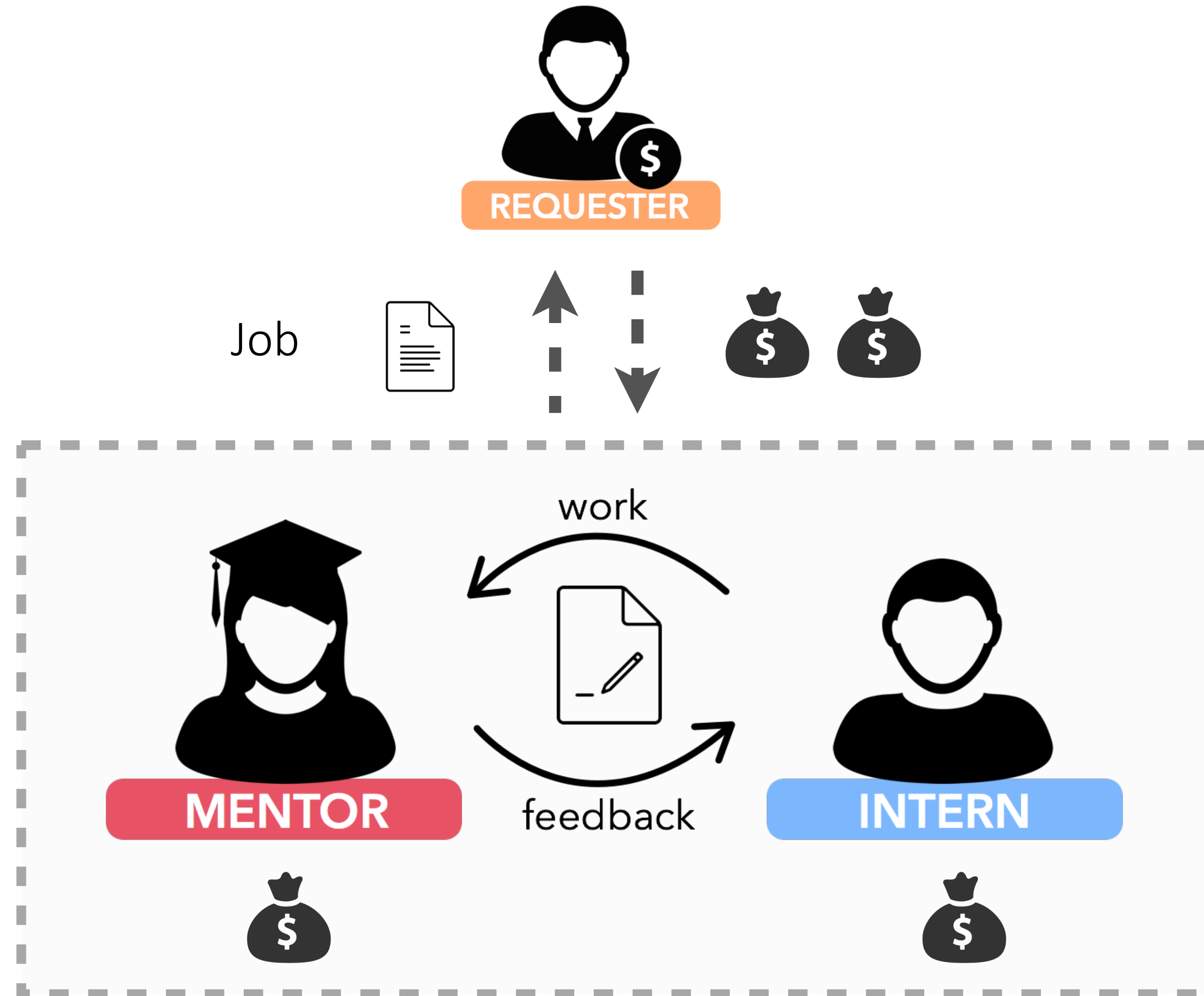
Upwork survey



It is difficult to break into the new market due to the **lack of ratings** or prior reputation

- challenges
- atelier
- evaluation
- conclusion

● Atelier: a platform for micro-internship



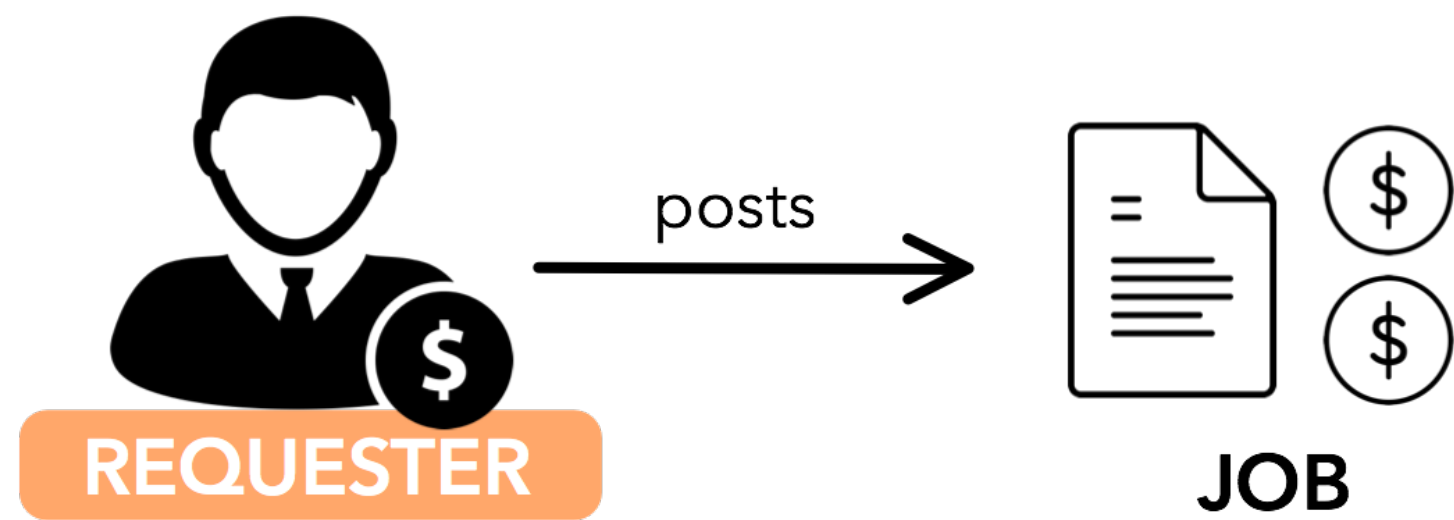
one on one training and mentorship
real world jobs



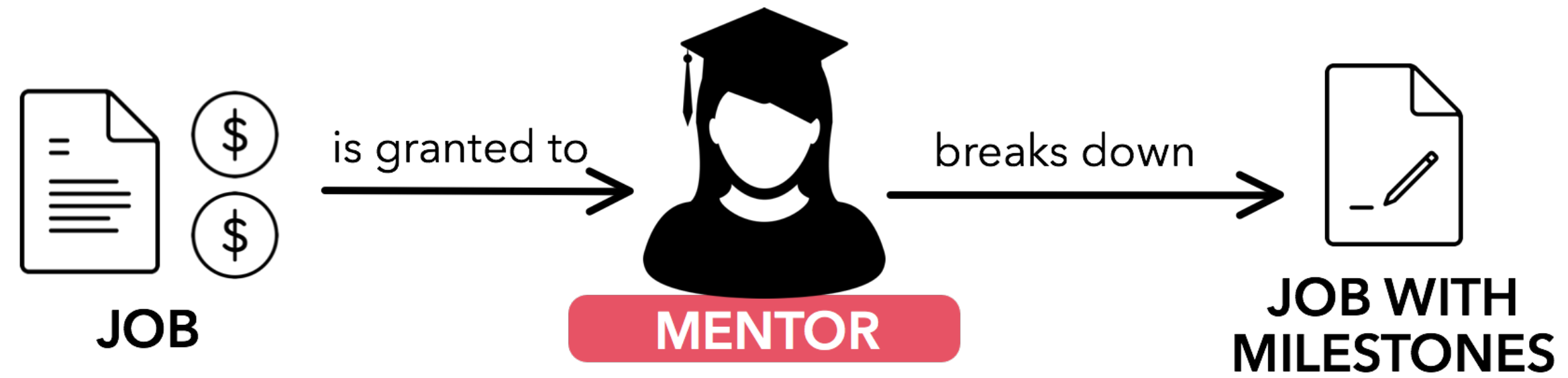
cognitive apprenticeship:
apprentice learns by observing and practicing with
an expert mentor

[Brown et al. 1989, Collins et al. 1989]

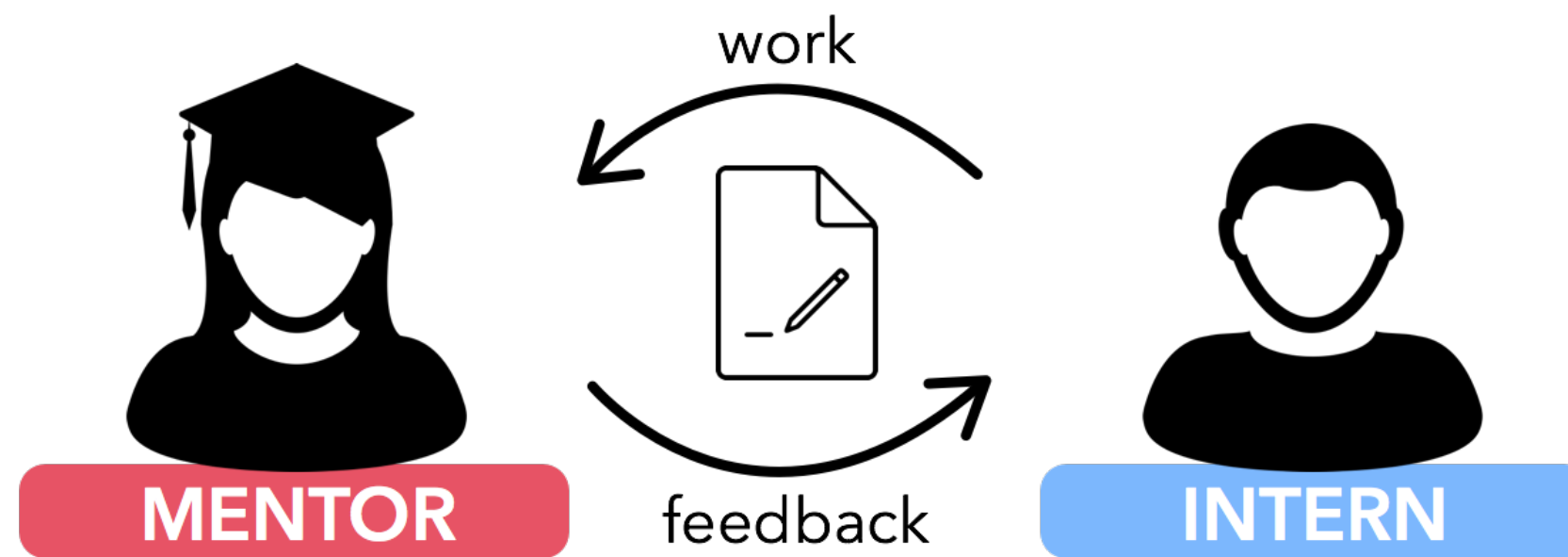
1



2



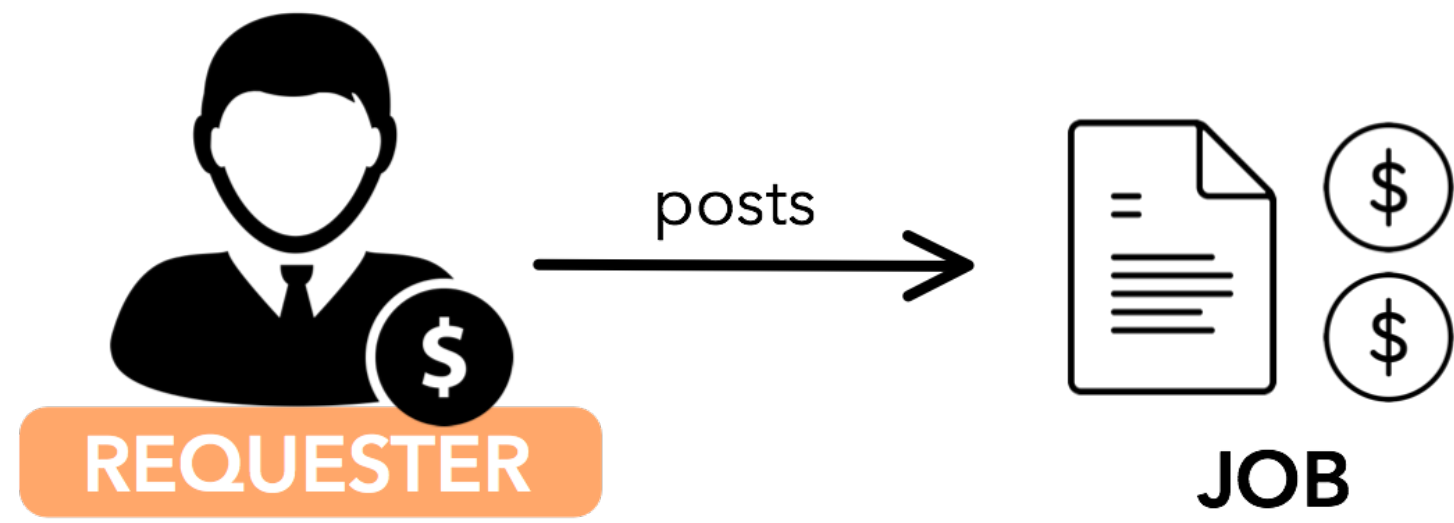
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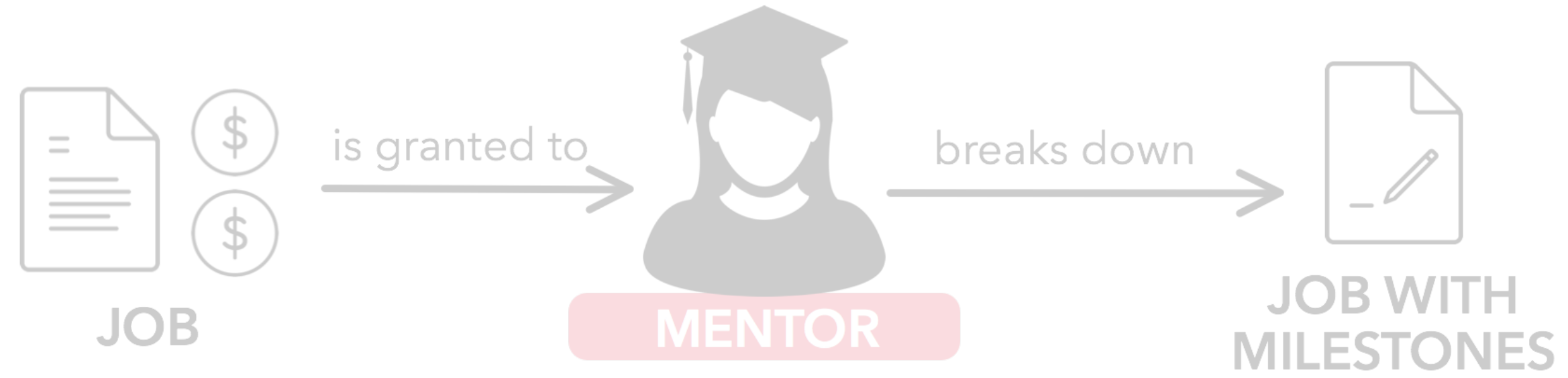
4



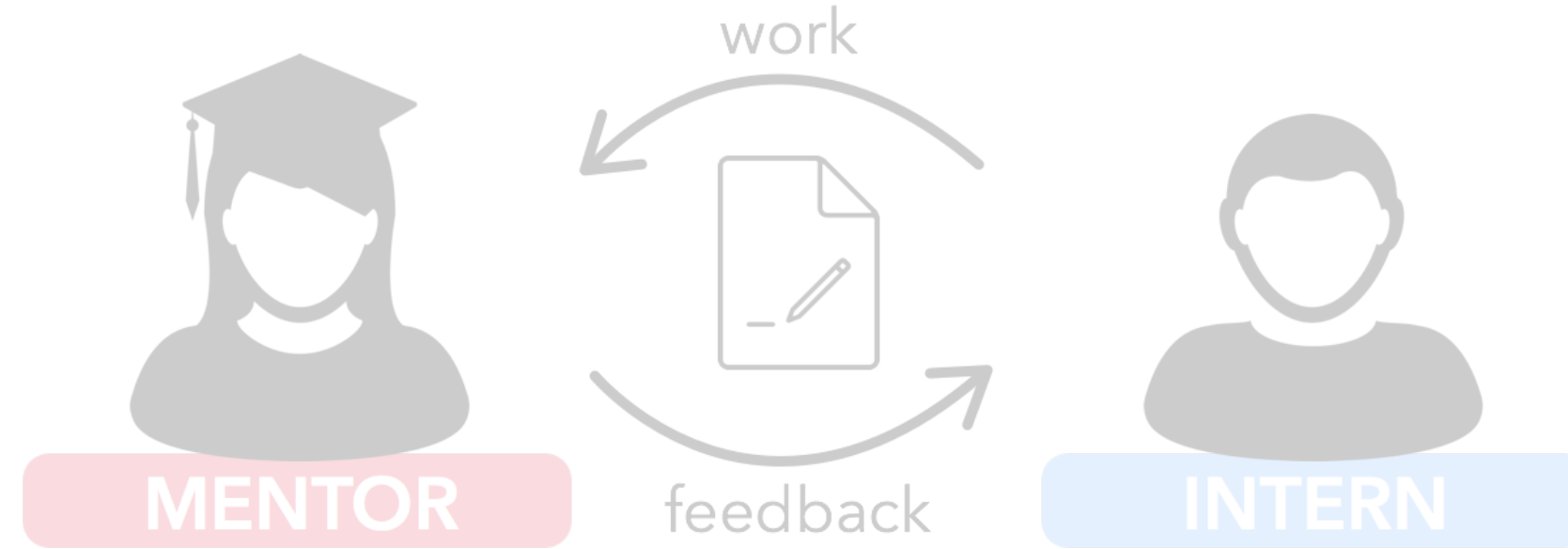
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2



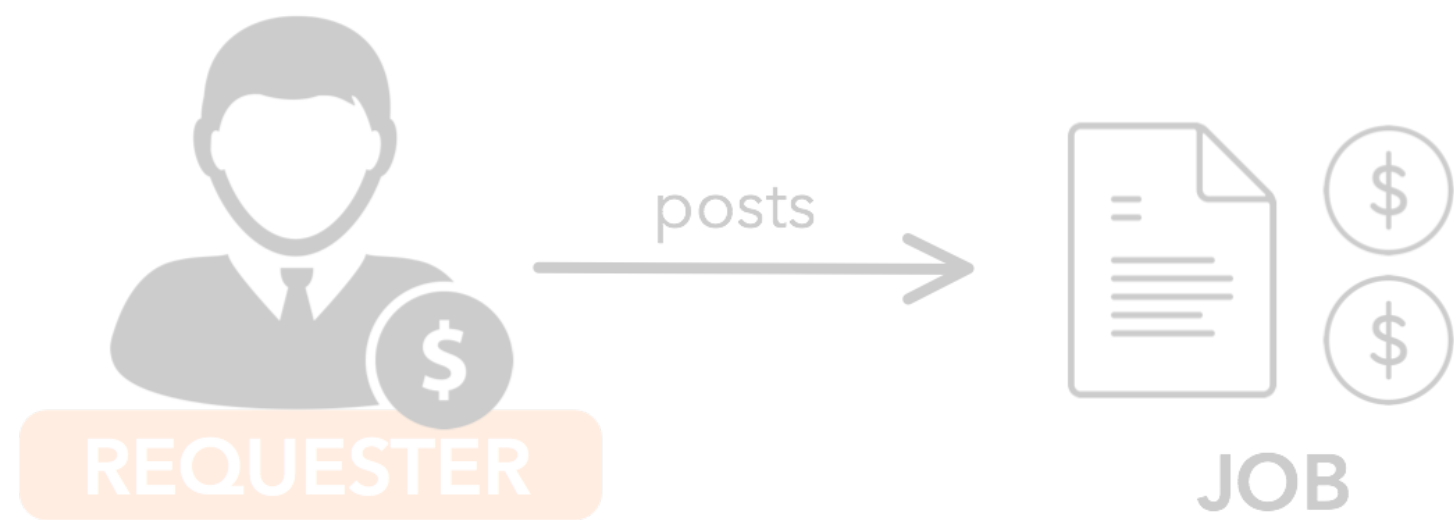
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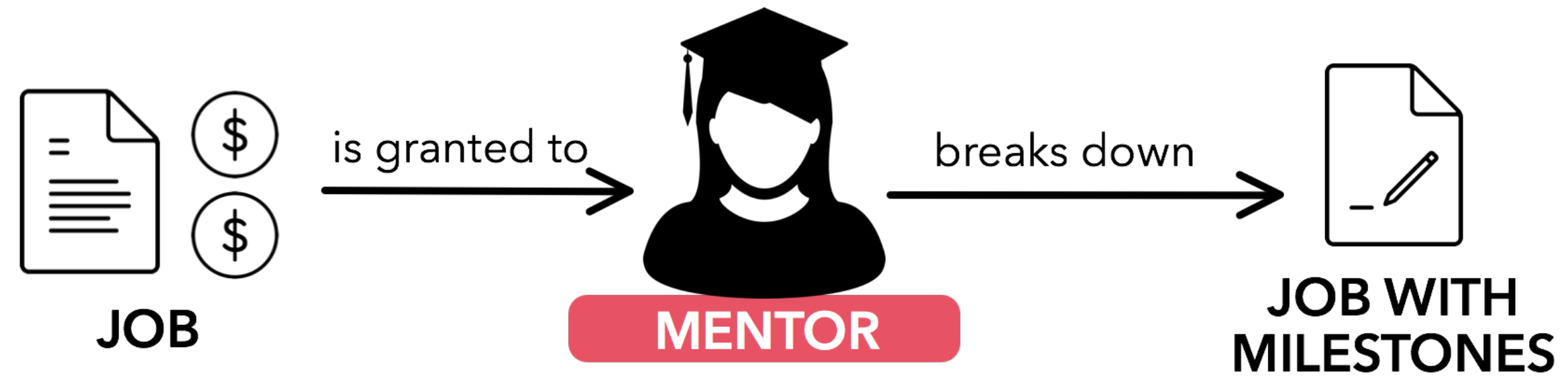
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- 5 Integrate payment methods and the contact page ○ ▶

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Milestone

1. guide interns with concrete achievable goals



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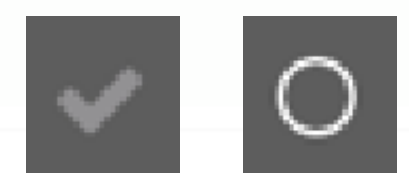
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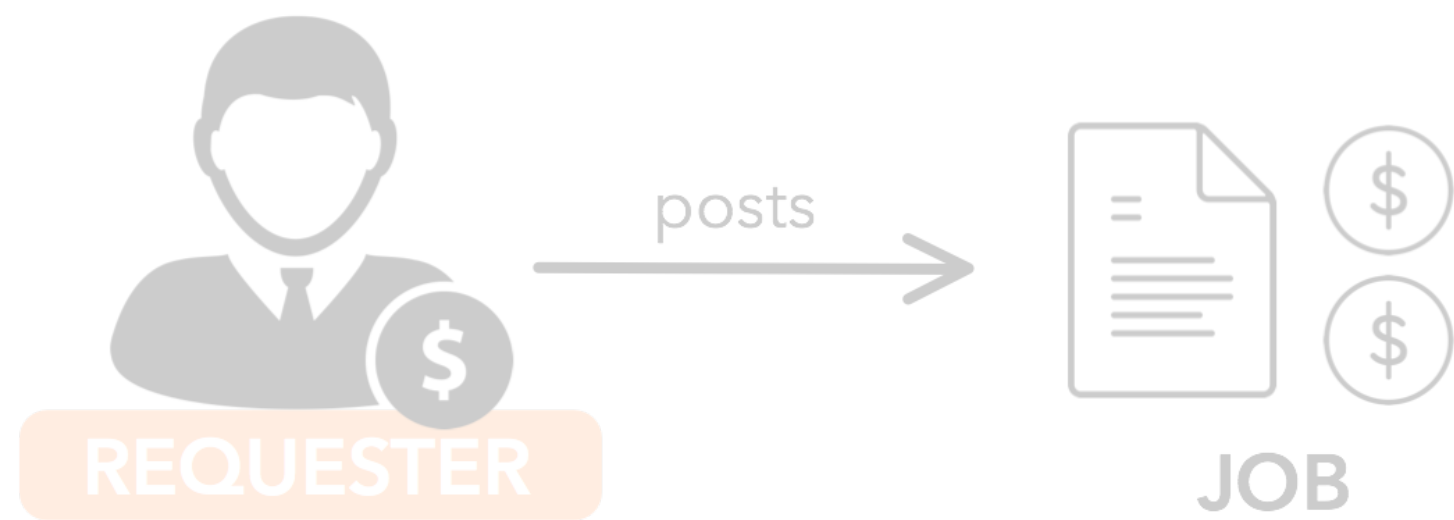
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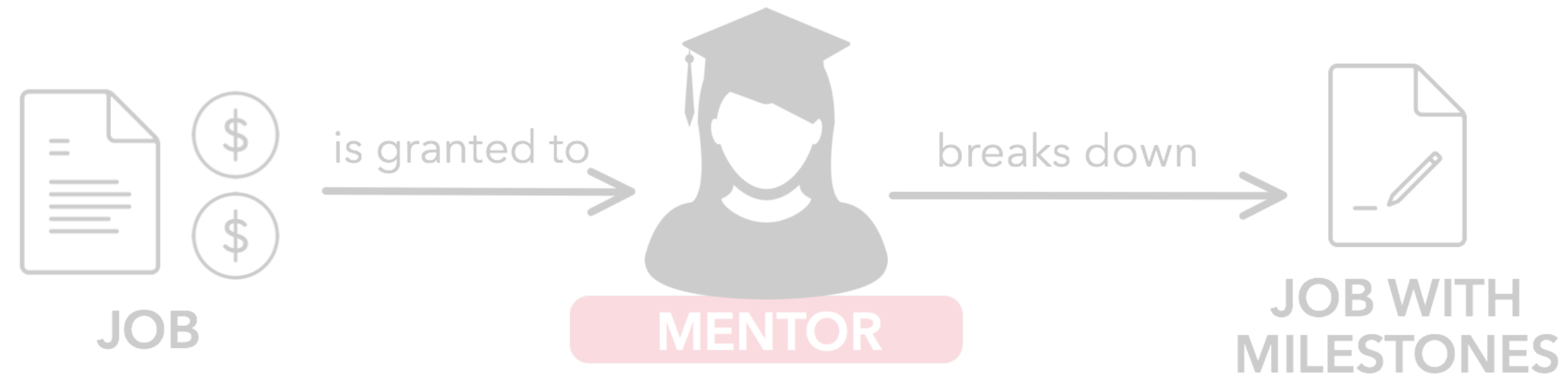
2. keep mentors updated on intern progress



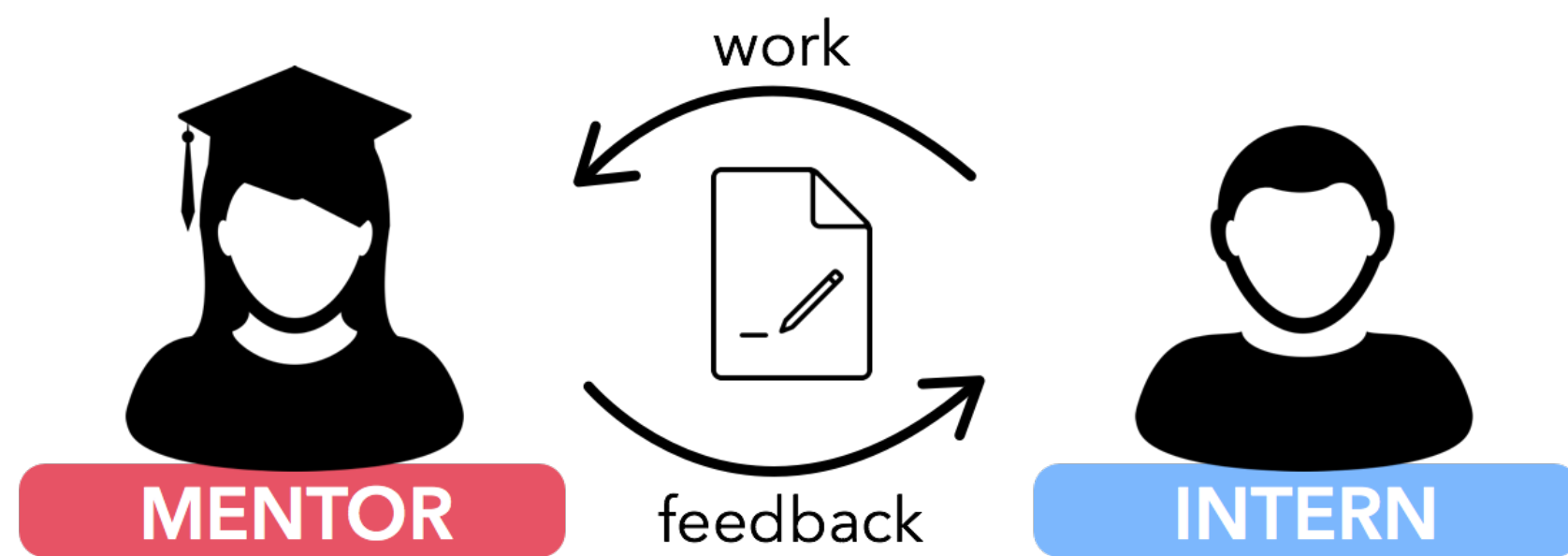
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Questions and Answers help interns get unstack

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Office Hours Calendar

⬅ Today ➡
  Mentor
  Intern
  Office Hours (BOTH)

Wed 9/9	Thu 9/10	Fri 9/11	Sat 9/12	Sun 9/13	Mon 9/14	Tue 9/15
07:00	07:00	07:00	07:00	07:00	07:00	07:00
08:00	08:00	08:00	08:00	08:00	08:00	08:00
09:00	09:00	09:00	09:00	09:00	09:00	09:00
10:00	10:00	10:00	10:00	10:00	10:00	10:00
11:00	11:00	11:00	11:00	11:00	11:00	11:00
12:00	12:00	12:00	12:00	12:00	12:00	12:00
13:00	13:00	13:00	13:00	13:00	13:00	13:00
14:00	14:00	14:00	14:00	14:00	14:00	14:00
15:00	15:00	15:00	15:00	15:00	15:00	15:00
16:00	16:00	16:00	16:00	16:00	16:00	16:00
17:00	17:00	17:00	17:00	17:00	17:00	17:00
18:00	18:00	18:00	18:00	18:00	18:00	18:00
19:00	19:00	19:00	19:00	19:00	19:00	19:00
20:00	20:00	20:00	20:00	20:00	20:00	20:00

Solved

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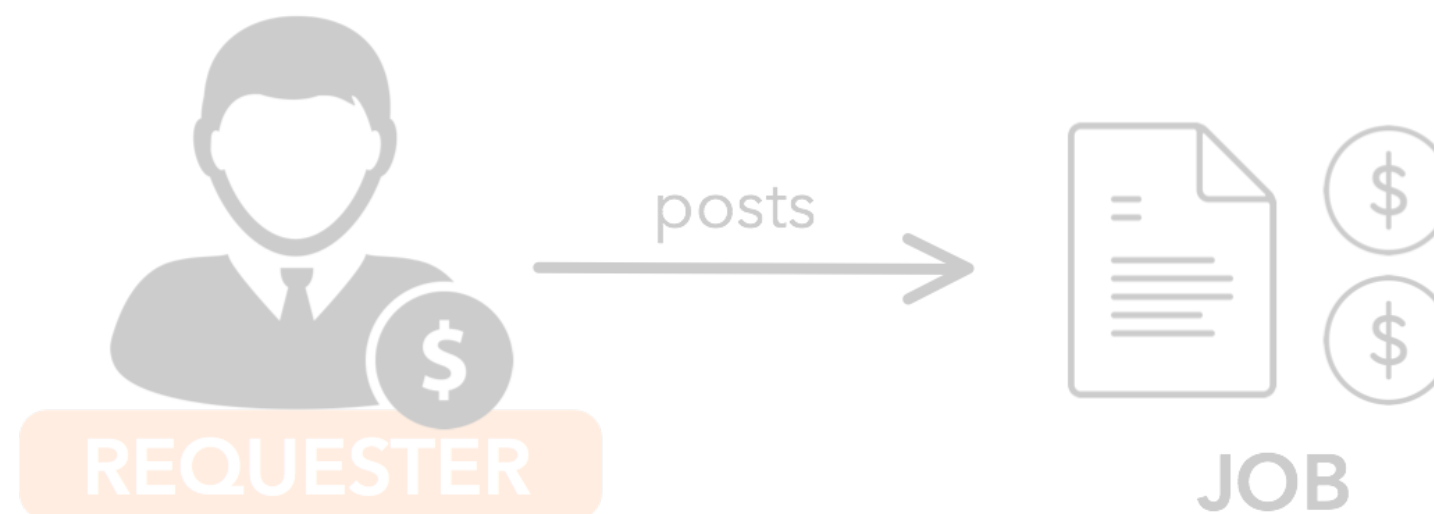
Office Hours

coordinating distributed workers

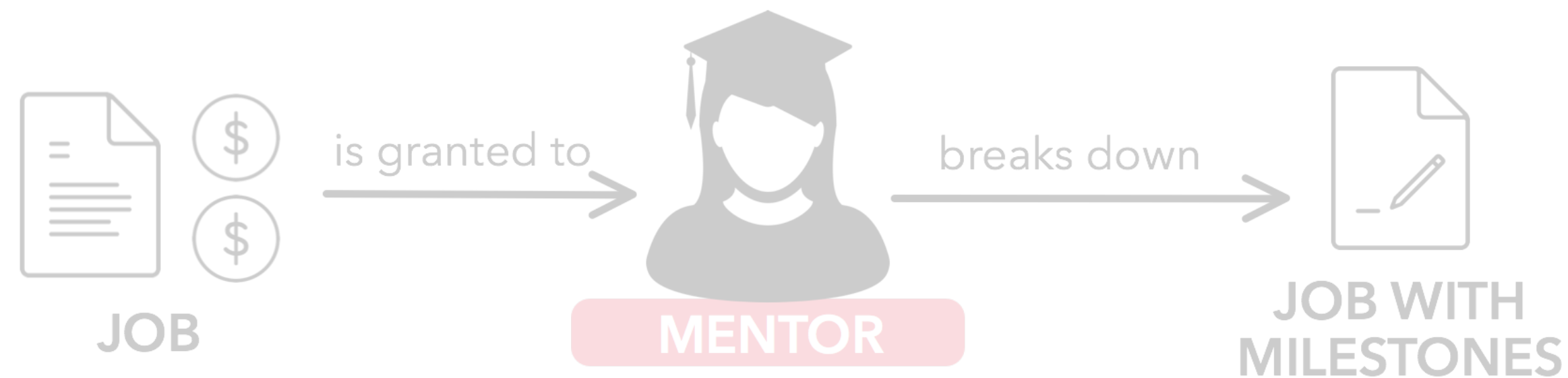
⌨️

Send Message
 File Upload
 Call

1



2



3



4

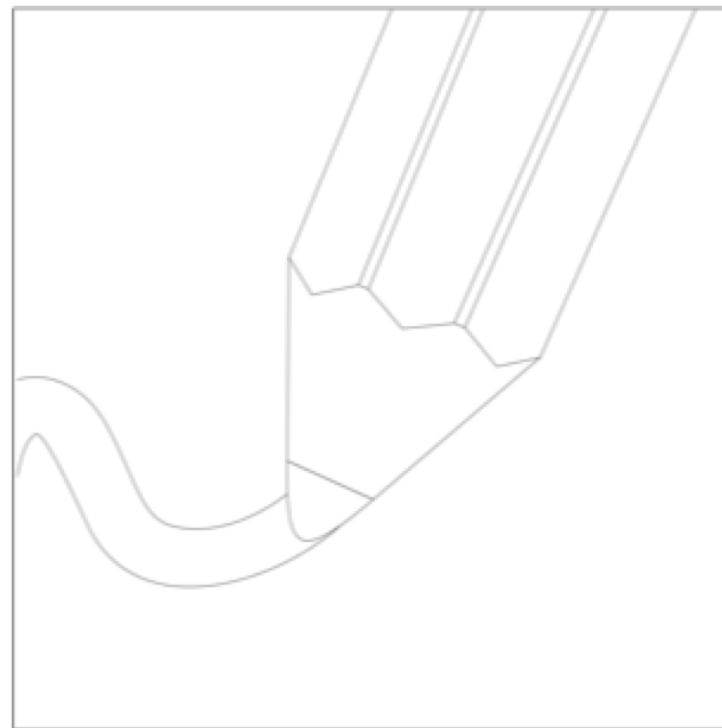


Tutorial: Company logo design with Illustrator

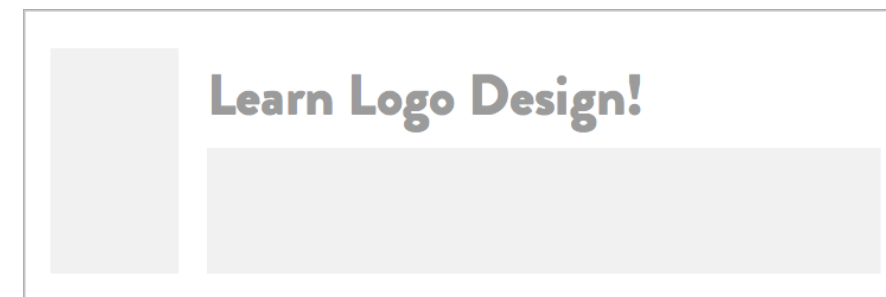
STEP 1

Brainstorm the goals of the company and associated icons/symbols

- A Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor
- B Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia



M Here's a good resource:
LearnLogoDesign.com



SOLVED



Do you have any resources I could use to learn how to complete this step?



Ok, thanks!
(question marked as solved)



STEP 2

Create sketches integrating these icons

- A Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor
- B Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia
- C Sint occaecat cupidatat non proident, sunt in culpa qui officia



M I usually create rough designs involving a few of my brainstormed ideas, and then after sketching a few, I refine the ones that seem more promising!

SOLVED



How do you usually approach these initial design sketches?



Hmm.. Let me try that out right now



- challenges
- atelier
- **evaluation**
- conclusion

evaluation



FIND WORK MY JOBS REPORTS MESSAGES



Find Jobs Saved Jobs Proposals Profile My Stats Tests

Create a Ruby on Rails web application for a company's e-commerce store.

Flag as inappropriate

Scripts & Utilities Posted 20 days ago

Fixed Price
Delivery by July 24, 2015

\$300
Budget

Intermediate Level
I am looking for a mix of experience and value

About the Client

(5.00) 10 reviews

United States
Washington 01:34 AM

33 Jobs Posted
46% Hire Rate, 1 Open Job

\$3,860 Total Spent
18 Hires, 1 Active

\$33/hr Avg Hourly Rate Paid
60 Hours

Member Since Aug 14, 2015

Details

I'm looking for a worker who has an experience in Ruby on Rails. I want to create a company's e-commerce website that has the following features:

- 1) a store and a gallery to show products with pictures and prices
- 2) shopping cart function that can save products
- 3) checkout function that allows payment via Paypal, Google Wallet, and major credit cards
- 4) contact us page that allows users to post comments and feedback
- 5) i want users to sign up and create profile upload a profile pic

We used an actual job posted on Upwork

● method

randomized **two conditions**

Control

6 interns

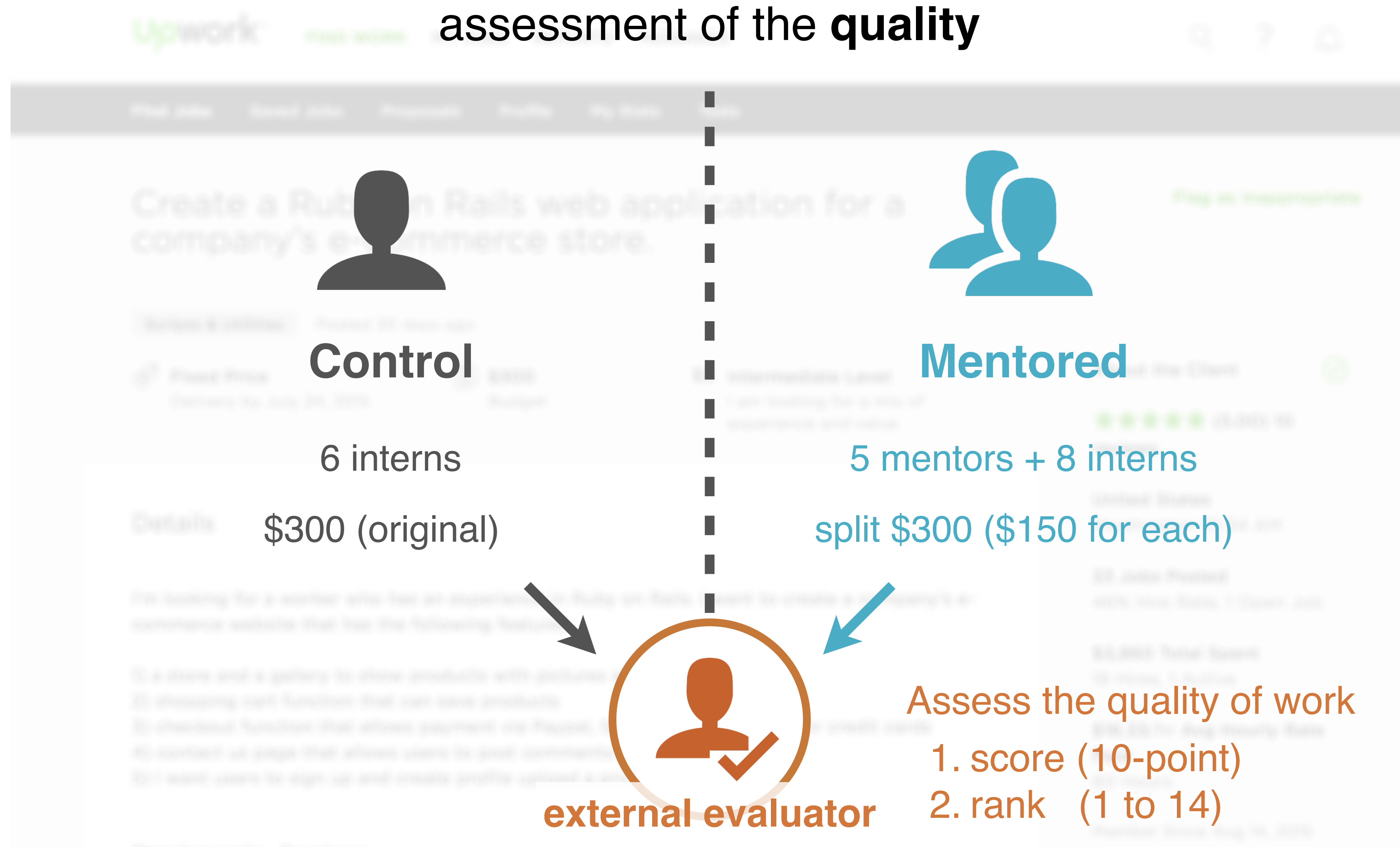
\$300 (original)

Mentored

5 mentors + 8 interns

split \$300 (\$150 for each)

● method





results

● results

task completion time



Control



37.4 hours (SD=21.4)



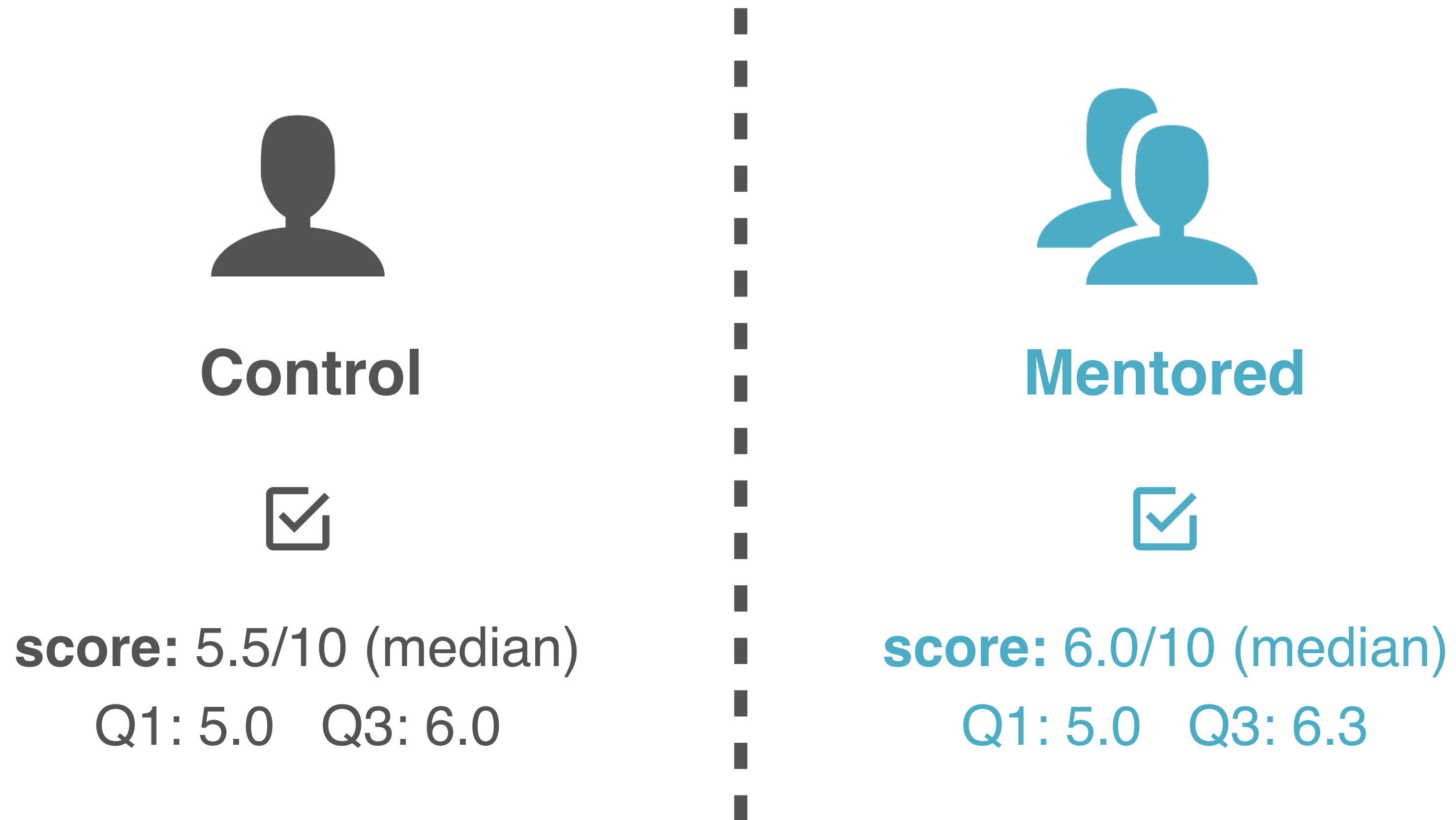
Mentored



mentor: 5.3 hours (SD=1.8)
intern: 40.8 hours (SD=21.0)

● results

quality of the outcomes



no significant results

score: $t=0.22, p>0.05$ ranks: $t=0.25, p>0.05$

● results



1. Mentors helped interns **get unstuck** by providing conceptual guidance

Intern 6: *“I got great advice on how to think in an OOP way, and I was able to ask someone for advice **when I couldn’t find any searching the internet.**”*

● results



2. Mentors suggest **helpful resources** and new technologies

Intern 4: “My mentor **introduced me to a lovely templating language** — Slim — that I’ve now used and will keep on using”

● results



3. Mentors shared **best practice** and industry convention



Mentor 3: *“make a seed file as it is more appropriate and **according to Rails conventions.**”*



● results



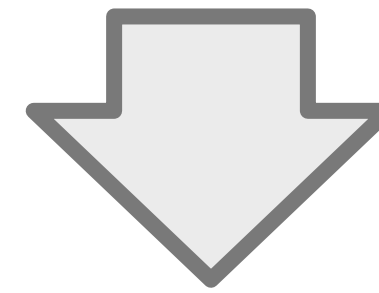
1. get unstuck



2. helpful resources



3. best practice



Heavier use of Atelier was associated with **higher quality**

of questions: $\text{corr}(x, y)=0.84, t=3.84, p<0.01$

of messages: $\text{corr}(x, y)=0.89, t=4.68, p<0.01$

- challenges
- atelier
- evaluation
- **conclusion**

● conclusion

1. concept of repurposing existing crowdsourcing tasks as **micro-internship**
2. **a survey** of crowd workers' career development opportunities
3. quantitative and qualitative **evaluation** with the field deployment of Atelier

micro-internships

paid, mentored, real-world work experiences



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