Atelier: repurposing expert crowdsourcing tasks as micro-internships

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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.

[Kitttur 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
Job

work

feedback

MENTOR

INTERN

REQUESETER
Earn extra income
Spend less time
Intrinsic motivations

Practice while paid
Ratings for future tasks
A. Mentor 27 minutes ago
Have you used Devise before? It’s an authentication solution for Ruby on Rails.
⭐ Pinned

Joe 20 minutes ago
No, I haven’t used Devise before - let me try that. Thanks!
⭐ Pin Message

A. Mentor 16 minutes ago
Ok, great. I highly recommend using Devise since it simplifies the authentication process quite a bit. I use it frequently on my own projects. Let me know if you encounter any issues.
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Joe 15 minutes ago
Q: I’m having an issue with Devise. I’ve added it to the Gemfile and ran the generator, but it’s not working properly. Can you help?

A. Mentor 11 minutes ago
Did you run bundle install before running the generator?

Joe 10 minutes ago
Oh no, I forgot to do that. Now it’s working!

A. Mentor 9 minutes ago
Nice! It’s important to run bundle install because it installs the dependencies that you specified in your Gemfile.

Joe
Alright, my sign up and sign in pages are now functional. Here’s how it looks now.
1. Mentors helped interns get unstuck
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
Workers wish to stay on Upwork for the rest of their career

- 33% (Green)
- 67% (Blue)
Workers describe the current Upwork careers as short-term, unstable, or lacking in career growth.

Upwork survey
Workers describe the current Upwork careers as short-term, unstable, or lacking in career growth.

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

Upwork survey
Workers describe the current Upwork careers as short-term, unstable, or lacking in career growth.

Workers want to grow their careers, but face instability due to heavy competition.
Workers could not learn a new skill within the next 6 months

Upwork survey
Upwork survey

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

“**I need more money to support my family, I take all the time I have for work.**"
Workers don’t have time or financial resources to learn new skills.

Workers could not learn a new skill within the next 6 months.
Workers found it difficult to convince clients when they first joined Upwork.
Upwork survey

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

“I have to bid against more experienced, higher rated freelancers”
It is difficult to break into the new market due to the lack of ratings or prior reputation.

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

1. The requester posts a job.

2. The job is granted to a mentor, who breaks down the job into milestones.

3. The mentor and intern work together, with the mentor providing feedback and the intern submitting work.

4. The intern submits the final product to the mentor, who reviews it and submits it to the requester.
1. REQUESTER posts a JOB.

2. JOB is granted to MENTOR, who breaks down the JOB into MILESTONES.

3. MENTOR mentors an INTERN, providing feedback and guidance as they work on the project.

4. The INTERN submits the final product to the MENTOR, who reviews it. If approved, the MENTOR submits the final product to the REQUESTER.
1. guide interns with concrete achievable goals
Milestone

1. guide interns with concrete achievable goals

2. keep mentors updated on intern progress
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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Questions and Answers

help interns get unstack

[Furnas et al. 1987, Schwartz et al. 1998]
Office Hours

coordinating distributed workers

[Hinds 2002]
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

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

Here's a good resource:
LearnLogoDesign.com

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

How do you usually approach these initial design sketches?
SOLVED

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!

Hmm.. Let me try that out right now.
challenges
atelier
evaluation
conclusion
We used an actual job posted on Upwork.

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

$I\text{ Fixed Price}$
Delivery by July 24, 2015

$300\text{ Budget}$

$I\text{ Intermediate Level}$
I am looking for a mix of experience and value

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
4) contact us page that allows users to post comments and questions
5) I want users to sign up and create profile and 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**

**assessment of the quality**

Control
- 6 interns
- $300 (original)

Mentored
- 5 mentors + 8 interns
- split $300 ($150 for each)

Assess the quality of work
1. score (10-point)
2. rank (1 to 14)

external evaluator
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

Control

score: 5.5/10 (median)
Q1: 5.0   Q3: 6.0

Mentored

score: 6.0/10 (median)
Q1: 5.0   Q3: 6.3

no significant results

score: $t=0.22$, $p>0.05$  ranks: $t=0.25$, $p>0.05$
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.”
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”
3. Mentors shared **best practice** and industry convention

Mentor 3: “make a seed file as it is more appropriate and according to Rails conventions.”
Heavier use of Atelier was associated with higher quality

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

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