HCI/Design Jobs for New College Grads

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http://pgbovine.net/hci-design-jobs.htm
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The goal of this talk is to give college students an overview of Human-Computer Interaction (HCI) and Design, then show what jobs you can get with an HCI/Design degree.
We’re going to go very fast and there’s a lot of dense text packed into these slides.

This is NOT an example of good visual slide design :)

Don’t worry, you can find slides online: http://pgbovine.net/hci-design-jobs.htm
Lots of HCI/Design Faculty and Research Staff at UC San Diego:  Design Lab people page

+ 27 graduate students and 43 undergraduate students working on research in the lab (as of December 2017)
Human-Computer Interaction (HCI) and Design is a super diverse field, so everyone you meet will have their own take on it.

I’ll try to cover the very basics.
One starting point is to give an overview of COGS120/CSE170: Introduction to HCI/Design

(a course currently taught each year by Professor Scott Klemmer and me)
In COGS120/CSE170, you will learn about a human-centered design process by building a web/mobile application for a target user population.
What you learn in Intro. HCI course (COGS120/CSE170):

Needfinding
Storyboarding
Paper Prototyping
Mockups: Visual Design
Interactive Prototypes
User Testing
Online Experiments
Final Web/Mobile App

What should we even build?
How should we start to build it?
What should it look and feel like?
How can we measure how well it works for real users?
How can we ship a finished product?
Needfinding
Storyboarding
Paper Prototyping
Mockups: Visual Design
Interactive Prototypes
User Testing
Online Experiments
Final Web/Mobile App

Observe potential users in their natural habitats, interview them, find their actual problems/needs.

“Make something people need!!”
want -> need change by Alan Kay
Motto by Y Combinator, photo by Kai-Fu Lee
Needfinding
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Make low-fidelity sketches on paper and get early user feedback

Video: https://www.youtube.com/watch?v=GrV2SZuRPv0
Needfinding
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Final Web/Mobile App

Use computer tools to make higher quality prototypes. Write code to make it into a working app.
Do science! Test on real people in their natural habitats, get users into your lab, deploy experiments online & analyze collected data.

$60 million more in campaign donations

Interactive Prototypes
User Testing
Online Experiments
Final Web/Mobile App
Product is never “done”, just shipped!

Needfinding
Storyboarding
Paper Prototyping
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Steve Jobs was right: Real Artists Ship!
by Jim Connolly

Steve Jobs famously said; “Real artists ship”. He was referring to the fact that everyone has ideas, but real artists deliver on them or ship them, as he put it.

Source: https://www.creativethinkinghub.com/steve-jobs-was-right-real-artists-ship/
Outline for rest of talk:

Kinds of design jobs
How to get one out of college
What about grad school?
Needfinding

Storyboarding
Paper Prototyping
Mockups: Visual Design
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Observe potential users in their natural habitat, interview them, find their actual problems/needs.
Needfinding (find-needling?)
this time the need found me

Question I frequently get in office hours or after class:

“What kinds of jobs can I get if I’m an HCI/Design student?”
I’m not the best person to answer this question. But I’m here right now!

I graduated from college in 2005 with a degree in Electrical Engineering & Computer Science.

I’ve never worked as a designer.
The greatest thing about being a professor is having access to students and alumni who are experts on this topic …
My impromptu panel of HCI/Design job experts

Carolyn Zhang
MIT computer science 2014
Designer @ small-ish design agency

Emily Danchik
U. Rochester computer science & linguistics
Carnegie Mellon master’s in HCI 2014
UX Architect @ large I.T. consulting firm
Former UX/Interaction Designer @ Microsoft

Carrie Cai
Stanford human biology / education master’s
MIT Ph.D. in computer science (HCI) 2017
Research Scientist @ Google

Emy Lin
U. Rochester computer science & linguistics 2016
Software Developer @ Intel

Other contributors: Marcos Ojeda, Sean Kross, Don Norman, Thi Dang, Kandarp Khandwala, Christi Hagen, Anvisha Pai
All of the insights are theirs; all of the mistakes are mine.

I created this talk itself using a human-centered design process!

Hopefully in the future I can call on you to add your insights.
One-slide summary: if you want an HCI/Design job ...

Build up a design portfolio, lean hard on personal and alumni connections, and get a design internship while in college.

(This will maximize your chances of getting interviews. You still need to pass them!)
Many students & alumni wished they had learned what’s in this talk at the beginning of college. Because all of this takes lots of time to prepare. Start early!
What jobs are available?

Conveniently, jobs correspond to what you learn in a typical Intro. to HCI/Design class!
What you learn in Intro. HCI course (COGS120/CSE170):

**Needfinding**  
What should we even build?

**Storyboarding**  
How should we *start* to build it?

**Paper Prototyping**  
What should it look and feel like?

**Mockups: Visual Design**  
How can we measure how well it works for real users?

**Interactive Prototypes**  
How can we ship a finished product?

**User Testing**

**Online Experiments**

**Final Web/Mobile App**
What you learn in Intro. HCI course (COGS120/CSE170):

- Needfinding
- Storyboarding
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What jobs allow you to do this:

- UX (User eXperience) Researcher
- PM (Product/Project) Manager
- UX Designer
- Visual Designer
- Interaction Designer, UX Designer, UX Architect, UX Prototyper
- UX Researcher
- UX Researcher
- Data Scientist
- Front-end developer, Product engineer, Software engineer
A disclaimer on design *job titles*:

Can be confusing since different companies call similar jobs by different names; and these names change fast.

Read *job descriptions* and ask companies for what they really want from candidates.
Simplified overview of design job titles\textsuperscript{[1]}

- **UX Researcher:** needfinding, user testing/experiments
  - (often are master’s or Ph.D. grads)
- **Product Manager (PM):** needfinding, team coordination
- **UX/Interaction/Product Designer\textsuperscript{[2,3]}:** non-code prototypes
  - (**most common** type of job for new college grads)
- **UX Architect/UX Prototyper:** design + some coding
- **Visual Designer:** art/graphics
- **Data Scientist:** write code to analyze data; Ph.D.-focused
- **Front-end Developer:** write lots of production code

\textsuperscript{[1]} you may do multiple roles in one job and “wear many hats”
\textsuperscript{[2]} sometimes the term “product designer” refers to a person who takes on multiple design roles.
\textsuperscript{[3]} to learn more: [https://www.invisionapp.com/blog/building-an-enterprise-ux-team/](https://www.invisionapp.com/blog/building-an-enterprise-ux-team/)
How do you get an HCI/Design job out of college?

Build up a design portfolio, lean hard on personal and alumni connections, and get a design internship while in college.
Portfolio + connections -> internship -> full-time job
**Portfolio** (basics)

- Start by making a personal website as your portfolio
- Class projects with design components *(many at UCSD!)*
- Volunteer to help on-campus groups or friends with projects; be resourceful about finding work
  - Look beyond web/mobile apps *
  - e.g., posters, art pieces, event flyers, *
  - business/marketing slide decks for friends
Portfolio (basics)

- Work part-time as a freelance designer for local companies or friends’ startups while in school
- Once you get a design internship, put in portfolio
- Look at friends’ and alumni’s portfolios/resumes as examples of how to make yours
Portfolio (advanced)

- Have a compelling & fresh **point-of-view** that frames your work and makes you stand out\(^1,2\)
- Be able to justify and critique your own process
  - It’s all about **PROCESS PROCESS PROCESS PROCESS**!
  - Justify what you did, how you did it, & why it matters
  - Important for dispelling the myth that design is only about visual aesthetics or “making stuff look good”...
  - ... it’s about making stuff that benefits real users.

\[1\] avoid cliches like “I’m passionate about making innovative progress at scale.”
\[2\] employers have seen the same class projects over and over again, so go beyond those!
Portfolio (advanced)

- It’s OK to show how you *improved* an existing real product rather than creating your own entirely from scratch
  - More authentic and with real-world constraints
  - In fact, that’s a much, much, much more realistic approximation of what you will do in your future job
- Highlight the most relevant projects to your desired job roles
Portfolio + connections

- Cold-email alumni, especially recent alumni who put themselves on career advising lists
- Cold-email alumni regardless; people are nice!
- Friends, family, dormmates, instructors
- Your bosses from prior jobs/internships
- Most good jobs obtained via personal connections
- Also use personal connections to critique your portfolio, resume, and cover letters
Portfolio + connections -> **internships**

- Prepare for interviews: critique your portfolio
- Lots of interview prep resources\(^1\)
- Mainly target design-oriented internships\(^2\)
- Ideally put internship work in your portfolio\(^3\)
- If you can’t get internships, *spend your summers building your portfolio in any way you can*

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\(^1\) e.g.,: [A Guide to Interviewing for Product Design Internships](#)

\(^2\) maybe also front-end web/mobile developer (more on that later)

\(^3\) even if you can’t, then you can still talk through your design process at a high level during job interviews
Looking for a full-time job *is* a full-time job.

Apply broadly, and don’t worry if you don’t exactly match the job description. It’s free to apply!

Design job descriptions can be vague and not exactly what hiring managers are looking for, so it’s worthwhile to still apply in case someone is looking for your skills.
Looking for a full-time job *is* a full-time job.

Don’t have your heart set on any one specific place; successful applicants apply to dozens of jobs.

Keep track of applications using a spreadsheet, and take the time to customize your resumes/cover letters.
Company size:

*In general, smaller company -> more varied roles*[^1]

- N=1 (freelancer): ++flexibility, --uncertainty
- N=tiny (startup): +variety, +growth, -uncertainty
- Small-ish design agency: work directly with clients[^2]
- In-house designer, big company: more fixed roles[^3]

[^1]: e.g., a designer at a startup may do needfinding, front-end coding, and even marketing
[^2]: Your scope of work is still limited by agency rules. Not as much freedom as freelancing, but more stability.
[^3]: Except when they don’t have much experience with design roles. Then you’ll have to do a bit of everything.
Looking beyond the usual tech companies ...

Retail & logistics companies

Government I.T. agencies

Government contractors

Federal science labs

Nonprofits

(HCI/Design skills are in demand but these sectors can’t easily attract the most experienced designers. You can make a big impact as a new hire!)
Looking beyond pure design jobs ...

- In 2015, 93% of surveyed designers said coding was important (in 2005, ~5% would’ve said so)[1]
- Ideal ratio: 1 designer for every 5 programmers
- Reality: 1 designer every 10-30 programmers[2]
- A good adjacent role is front-end developer
  - Build up your design portfolio on the side while working and learn from designers on your team; transition to design later
  - Many places still don’t value design but do value programming; it’s your chance to sneak design thinking into your workplace!

[2] there are far more programming jobs than design jobs!
What if you can’t find a full-time job right away?

One idea: do freelance or contract design jobs …

- to make some money from part-time work
- to build up your **portfolio** and **connections**
  - which will improve your odds of landing a full-time job
  - Employers tend to value real-world work experiences more than class/school projects
- (find these via personal connections or online postings)
Should you go to graduate school ... 
... to get a master’s degree in HCI/Design?

- NO - if you already have good portfolio/internships
- NO - if you can already get a design job from college
- MAYBE - if your major is far away from HCI/Design
- MAYBE - if you want to be a design teacher
- YES - if you don’t have a strong portfolio yet
- YES - if you can afford the tuition and time
- YES - if you want to be a UX Researcher
Should you go to graduate school ...

... to get a Ph.D. degree in HCI/Design?

- **NO** - if you’re aiming for *most* design-related jobs
  - (hired at same or slightly-higher level than bachelors/masters)
- **MAYBE** - if you want to be a UX Researcher
- **YES** - if you want to be a university professor
- **YES** - if you want to be a research scientist
  - (despite the similar-sounding job title, research scientists do more open-ended and exploratory work than UX Researchers)
- **YES** - if you want to be a data scientist
Recap: how do you get an HCI/Design job out of college?

Build up a design *portfolio*, lean hard on personal and alumni *connections*, and get a design *internship* while in college.
Many students & alumni wished they had learned what’s in this talk at the beginning of college. Because all of this takes lots of time to prepare. Start early!
Summary of HCI/Design jobs

- Needfinding
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UX (User eXperience) Researcher
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UX Designer
Visual Designer
Interaction Designer, UX Designer, UX Architect, UX Prototyper
UX Researcher
UX Researcher
Data Scientist
Front-end developer, Product engineer, Software engineer
Appendix A: Suggested Job-Related Resources

How To Find a Job or Graduate School in Human-Computer Interaction, Interaction, or Industrial Design, by Don Norman

Use Human-Centered Design for your Resume, by Don Norman

Cracking the PM Interview: How to Land a Product Manager Job in Technology

College Students, Product Manager is the Best Job You Never Heard Of (blog post)

Christi’s suggestion: “I'd also suggest people set up passive job post search digests on Linked-In, Glassdoor, Indeed, etc. Once you set one up for your search terms, i.e. 'UX Designer,' then every day (or whatever frequency you set) a digest will land in your inbox so you can see what's out there.”
Appendix B: PM (Product Manager) jobs, from Anvisha Pai

- Most companies **don't** hire new grad PMs. The few that do tend to be larger - Google, Facebook, Uber, Dropbox & Yelp have Associate PM (APM) programs.
  - If you want to do PM at a smaller company, you probably need a personal connection with the company or to join a startup in an engineering/operations role and try to get promoted within 2-3 years.
  - IMO, the best route is to do the big company gig to start! Being a PM at a startup is very hit or miss as a first job.

- Similarly, there are very few PM internships. The notable one is Google APM, but it's very competitive so a software or design internship would be a good alternative.

- Given the lack of internships, good ways to tee up yourself for a PM role are...
  - Technical / coding skills. Bunch of places will have a technical / algorithm interview
  - Leadership roles or projects on campus that show initiative and creativity

- If you want to start a startup or be a CEO someday, PM is a good path to go down. Though by no means the only way!

Presentation history

2018-11-27: v5, given in UCSD COGS1

2018-05-29: v4, given in UCSD COGS1

2018-03-07: v3, given in UCSD COGS1

2017-12-05: v2, given in UCSD COGS1

2017-11-27: v1 - first prototype, given in UCSD COGS120/CSE170
Other suggestions

“Perhaps this is outside of the scope of this talk, but it might be interesting to see what an HCI/Design career path looks that so that students can get an idea of where their journey leads.” - Sean Kross

Add examples of successful student portfolios, and maybe what kinds of jobs they led to

Christi Hagen: “Slide Idea: I think it would be helpful to have a slide on how to go about looking for jobs and internships: where to look, what resources on campus are available, how to reach out to alums, where to find jobs online, etc.”