HCI/UX/Design Jobs for New College Grads

Philip Guo
http://pqbovine.net/hci-design-jobs.htm
Assistant Professor of Cognitive Science
UC San Diego
2019-11-26, Prototype 6
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.
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!
Warning: we’re gonna go fast and there’s a lot of dense text packed into slides.

This is NOT an example of good visual slide design!

It's actually very very very bad visual design :)

But you can find slides and videos online: http://pgbovine.net/hci-design-jobs.htm
Lots of HCI/Design Faculty and Research Staff at UC San Diego across many departments

Design Lab people page

+ ~30 grad and ~60 undergrad students working on research (Nov 2019)
Human-Computer Interaction (HCI) / Design is a super diverse and interdisciplinary field of study, so everyone you meet will have their own take on it.

I’ll try to cover the very basics.
HCI often used in academia

UX (User eXperience) or design job titles often used in industry
What do you typically learn in intro. Human-Computer Interaction (HCI) and Design courses?
What you learn in HCI/Design courses:

User Research  
Personas/Storyboards  
Paper Prototyping  
Digital Mock-Ups  
Interactive Prototypes  
User Testing  
Online Experiments  
Final Web/Mobile App

What do people really need?  
What should we consider building?  
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?
What you learn in HCI/Design courses:

**User Research**

**Personas/Storyboards**

**Paper Prototyping**

**Digital Mock-Ups**

**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
What you learn in HCI/Design courses:

User Research
Personas/Storyboards
Paper Prototyping
Digital Mock-Ups
Interactive Prototypes
User Testing
Online Experiments
Final Web/Mobile App

Make low-fidelity sketches on paper and get early user feedback

Video: https://www.youtube.com/watch?v=GrV2SZuRPv0
What you learn in HCI/Design courses:

User Research
Personas/Storyboards
Paper Prototyping
Digital Mock-Ups
Interactive Prototypes
User Testing
Online Experiments
Final Web/Mobile App

Use computer tools to make higher quality prototypes. Write code to make it into a working app.
What you learn in HCI/Design courses:

- User Research
- Personas/Storyboards
- Paper Prototyping
- Digital Mock-Ups
- Interactive Prototypes
- User Testing
- Online Experiments
- Final Web/Mobile 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

What you learn in HCI/Design courses:

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Online Experiments  
Final Web/Mobile App

Product is never “done”, just shipped!

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 HCI/UX/design jobs
How to get one out of college
What about grad school?
Kinds of HCI/UX/design jobs
How to get one out of college
What about grad school?
I made this talk by consulting with people (many UCSD alum) who have recently worked in top design jobs.
Contributors: Carrie Cai, Emily Danchik, Emy Lin, Carolyn Zhang, Marcos Ojeda, Judy Chun, Sean Kross, Don Norman, Thi Dang, Kandarp Khandwala, Christi Hagen, Anvisha Pai, Rajiv Sancheti, David Wu

All of the insights are theirs; all of the mistakes are mine.

Hopefully in the future I can call on you to add your insights.
One-slide summary: if you want an HCI/UX/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!)
What jobs are available?

Jobs match what you learn in intro. HCI/Design courses!
What you learn in HCI/Design courses:

User Research
Personas/Storyboards
Paper Prototyping
Digital Mock-Ups
Interactive Prototypes
User Testing
Online Experiments
Final Web/Mobile App

What do people really need?
What should we consider building?
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?
<table>
<thead>
<tr>
<th>What you learn in HCI/Design courses:</th>
<th>What jobs allow you to do this:</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Research</td>
<td>UX (User eXperience) Researcher</td>
</tr>
<tr>
<td>Personas/Storyboards</td>
<td>PM (Product/Project) Manager</td>
</tr>
<tr>
<td>Paper Prototyping</td>
<td>UX/Product Designer</td>
</tr>
<tr>
<td>Digital Mock-Ups</td>
<td>Visual Designer</td>
</tr>
<tr>
<td>Interactive Prototypes</td>
<td>UX/Product Designer, UX Architect, UX Prototyper, Interaction Designer</td>
</tr>
<tr>
<td>User Testing</td>
<td>UX Researcher</td>
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<tr>
<td>Online Experiments</td>
<td>UX Researcher</td>
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<tr>
<td>Final Web/Mobile App</td>
<td>Data Scientist</td>
</tr>
<tr>
<td></td>
<td>Front-end Developer, Product Engineer, Software Engineer</td>
</tr>
</tbody>
</table>
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.
The purpose of this list is to:
- Show how UX jobs often hide under non-UX names
- Provide example titles that will help you search for UX positions
- Help you justify adding UX activities to your current position

| 3D Artist | Analyst / Programmer | Analytics Product Manager | Application Usability Designer | Architect: UX / UI | Art Director – Print and Interactive | Assistant Webmaster | Associate Director – Digital Marketing | Business Analyst | Business Leader | Business Systems Analyst | Business Unit Director | Chief Design Officer | Chief of Product | Chief Research Officer | Client Website Platform Supervisor | Communications Consultant | Communications Manager Consultant | Content Manager | Content Strategist | Content Strategy Manager | Conversion Consultant | Coordinator Digital Media | Creative Director | Creative Usability Lead | Customer Engagement Manager | Customer Experience Design Team Lead | Customer Experience Manager | Design Director | Design Manager |
|-----------|----------------------|---------------------------|-------------------------------|-------------------|---------------------------------|-------------------|---------------------------------|-----------------|----------------|-------------------------|-----------------------------|-----------------|----------------|------------------------|-------------------------------|----------------------|-----------------------|----------------|----------------|-----------------|----------------|----------------|----------------|----------------|----------------|-----------------|----------------|----------------|----------------|----------------|
| Information Architect | Information Architect and Front End Developer | Information Architect and Interaction Designer | Information Architect, Ontology Engineer | Information Developer | Information Resource Manager | Information Systems Associate | Insight And Planning Director | Instructional Designer | Interaction Architect | Interaction Design Director | Interaction Designer | Interactive Designer | Interactive Designer and UX | Interactive Marketing and Usability Consultant | Interactive Marketing Manager | International Manager for Training Development | Internet Marketing Manager | Intranet Employee | Intranet Project Manager | IT Usability Consultant | Knowledge Manager | Lead Experience Strategist | Lead Interaction Design | Lead UX / Creative Designer | Lead UX / UI Designer | Lead UX Analyst | Lead UX Designer | Manager, Applications - Web | UX / Project Manager | UX / UI Architect | UX / UI Designer | UX / UI Designer, Information Architect | UX / UI Developer | UX / Usability Consultant | UX / Usability Specialist | UX / Visual Designer | UX Analyst | UX Architect | UX Architect and Strategist | UX / UI Designer | UX / UI Specialist | UX Consultant | UX Designer | UX Designer and UX Specialist | UX Designer Engineer | UX Engineer | UX Specialist | Usability Analyst | Usability Consultant | Usability Consultant / IT Teams | Coach | Usability Coordinator | Usability Designer | Usability Engineer | Usability Engineer, Information Systems | Usability Expert | Usability Manager | Usability Specialist | User Analyst | User Centered Design Practice Lead |

2013 survey of ~1000 HCI professionals: [https://www.nngroup.com/reports/user-experience-careers/](https://www.nngroup.com/reports/user-experience-careers/) (Pages 97-99 in PDF)
The purpose of this list is to:
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Simplified overview of design job titles[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**[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

[1] you may do multiple roles in one job and “wear many hats”
[2] sometimes the term “product designer” refers to a person who takes on multiple design roles.
[3] to learn more: [https://www.invisionapp.com/blog/building-an-enterprise-ux-team/](https://www.invisionapp.com/blog/building-an-enterprise-ux-team/)
Outline for rest of talk:

Kinds of HCI/UX/design jobs

How to get one out of college

What about grad school?
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)

- Design sprints, hackathons, or challenges/contests
- Work part-time as a freelance designer for local companies or friends’ startups while in school
  - UCSD: The Basement or Rady Startup accelerator
- Once you get a design internship, put in portfolio
- Look at friends’/alumnis’ portfolios, resumes, and LinkedIn pages as examples of how to make yours
Hey there – I’m David!

I’m a Product Designer with a strong lens for mission-driven products that drive user experience. I’ve designed pay & financial services products at lyft, B2B healthcare (Health), and CRM design systems at SAP.

Design Portfolio =

Website with short intro +
series of **case studies**

One of my undergrad courses (COGS127) shows you how to make good case studies.

Rajiv Sancheti's advice on design portfolios, case studies, and resumes (Nov 2019)
Case study = single webpage of process & rationale

Project Overview

At an internal Workshop on UC San Diego, I worked with a group of 8+ people on defining, designing, and defending a single page for our current project, which was to design an interactive page for an existing event registration form. The goal was to balance information architecture with usability and aesthetics.

The Problem

"My最大限度 scores change at the point after they touch their screen. I would like to keep that in mind, and I don’t know what it is."

Many college students and staff struggle with common or frequent user experiences on websites. They are often overwhelmed by too much information, too many buttons, or confusing navigation. This causes them to abandon their pages, leading to frustration and lower satisfaction. We aim to design a page that is easy to use, efficient to navigate, and visually appealing.

Research and Development

The first step of our design process was to conduct user research to understand the needs and expectations of our target audience. By analyzing user data and conducting surveys, we gained insight into the user's behavior and preferences. This helped us to create a more intuitive and engaging user experience.

Testing and Evaluation

In addition to the user experience evaluations conducted, we also wanted to understand the impact of our design changes. We used a combination of qualitative and quantitative methods to measure the effectiveness of our design. This allowed us to identify areas for improvement and refine our design to better meet the needs of our users.
Class project case study -> product design intern at Lyft

Project Overview

In collaboration with Interaction Design courses at UC San Diego, I worked with a team of students to gather qualitative and quantitative methods on student feedback for developing, product design, and web development.

Our objective, called Common Ground, was to disentangle college students and faculty with similar experiences around social networking. We observed and interviewed students, created a dataset of over 200 responses from coffee chats, and, through a combination of qualitative and quantitative methods, we were able to pinpoint a need for a common ground.

A major goal of the course was to present our application in an industry forum. Our work was featured at the annual Student Design Show.

The Problem

"My roommate always changes the wifi, after they shower, they’re in a mood, and I don’t know what to say." Witty college students and young adults living with roommates or housemates are a notorious group of people who constantly change the wifi’s password and uproot chairs at night. These actions hinder productivity, increase frustration, and make it more difficult to build an effective workspace or roommates.

Need-Finding and Research

The first step of our design process was to conduct user research to determine the needs and behaviors of our users. To achieve this, we conducted in-depth interviews, card sorting, and a user survey. The purpose was to understand our users’ current needs and behaviors to better understand their pain points.

We interviewed 10 students and faculty members and collected data on their current needs and behaviors. The data was then analyzed to identify common themes and pain points. We also conducted a user survey with 100 students and faculty members to gather additional data on their current needs and behaviors.

We found that our users face several challenges, including:

1. Difficulty connecting to the wifi
2. Frequent password changes
3. Lack of communication with roommates
4. Inefficient use of space
5. Difficulty establishing a routine

To solve these problems, we designed a common ground prototype that offers a shared environment for all users.

Design Solutions

Our solution involves a common ground tool that utilizes algorithms and higher-order thinking.

In our current prototype, we envisioned our application to be a simple form where we looked at “in-person scenarios” and implemented multiple feedback mechanisms to gather qualitative feedback from our users.

Testing Design

We designed and implemented a series of qualitative feedback evaluations, including a beta test and user interviews, to test Common Ground in real-life scenarios and determine if this tool could fulfill both students and teachers’ needs.

In addition to these beta tests, we conducted a user-centered evaluation to gather feedback from our users. We also conducted user interviews and surveys to gather quantitative data on the effectiveness of our tool.

We hope to continue testing and refining our application to better meet the needs of our users.
Only show final app from class project -> NO INTERNSHIP :( 

Final Designs and Results
Ultimately, our team was able to design and fully develop our app. We presented our completed app to an industry panel and an audience of 500 people. Against nearly 100 other teams, our team won 1st Place in the category of “Most Innovative App.”
Portfolio (advanced)

- Be able to justify and critique your own process
  - Justify what you did, how you did it, why you made each design decision, why it matters in the end
  - 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.
- Have a compelling personal point-of-view that frames your work and makes you stand out[1]
  - One of my undergrad courses (COGS127) shows you how to make portfolios and case studies: http://courses.pgbovine.net/cogs127/

[1] employers have seen the same class projects over and over again, so go beyond those!
Portfolio (advanced)

- It’s often better to show how you *improved* an existing real-world 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
- In your portfolio, highlight the most relevant projects for your desired job roles
- Example portfolios: [Cofolios](https://cofolios.com) and [Bestfolios](https://bestfolios.com)
Companies don't really care *what* exactly you made for your portfolio projects; they just want to see that you've been engaging in a thoughtful and user-centered design process so you can do the same for them if they hire you!
Portfolio + connections

- Cold-email alumni, especially recent alumni
  - Look them up on LinkedIn and cold-email them
    - (you can search and filter by UCSD alum)
- Talk to friends, family, dormmates, instructors
- ... and your bosses from prior jobs/internships
- Most jobs obtained via referrals from connections
- Take advantage of your .edu student email address!
- Also use your personal connections to critique your portfolio, resume, LinkedIn page, and cover letters
Portfolio + connections -> **internships**

- Basic interview prep: walk thru portfolio w/ friends
- Lots of interview prep resources\(^1\)
- Ideally put internship work in your portfolio\(^2\)
- If you can’t get internships, *spend your summers building your portfolio in any way you can*
  - One of my TAs (Rajiv) spent a summer as a DoorDash food delivery driver and then wrote a case study redesigning the DoorDash driver app; brilliant user research on himself!

\(^1\) e.g.,: [A Guide to Interviewing for Product Design Internships](#)
\(^2\) 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 spreadsheet, take time to customize your resumes/cover letters
Looking for a full-time job *is* a full-time job.

Do EVERYTHING YOU CAN to get an employee at each company to give you a referral or to send your name and resume to recruiters.

*Most job openings prioritize referrals!*
Company size:

*In general, smaller company -> more varied roles*\(^1\)

- \(N=1\) (freelancer): ++flexibility, --uncertainty
- \(N=\text{tiny}\) (startup): +variety, +growth, -uncertainty
- Small-ish design agency: work directly with clients\(^2\)
- In-house designer at 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

Healthcare I.T.

Government I.T. agencies

Government contractors

Federal science labs

Nonprofits / design for social good

(HCI/UX/Design skills are in demand but these sectors can’t 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)
Outline for rest of talk:

Kinds of HCI/UX/design jobs
How to get one out of college
What about grad school?
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/UX/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!
Parting Thoughts:

BUILD YOUR OWN TIME MACHINE

(my youtube video)
To travel into your possible future, proactively seek out people who are 3, 5, or up to 10 years ahead of you in life. Learn what they've done so far and what they think they should've done differently.
Talking to these people will give you the superpower to make decisions today that will create your best possible future. If you wait until you're their age, it will be much, much harder to alter your path.
Summary of HCI/UX/Design jobs

User Research
Personas/Storyboards
Paper Prototyping
Digital Mock-Ups
Interactive Prototypes
User Testing
Online Experiments
Final Web/Mobile App

UX (User eXperience) Researcher
PM (Product/Project) Manager
UX/Product Designer
Visual Designer
UX/Product Designer, UX Architect, UX Prototyper, Interaction Designer
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 LinkedIn, 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.”

Very detailed 2013 survey of 1000 HCI/UX professionals by Nielsen Norman Group
Appendix A: Suggested Job-Related Resources

Rajiv Sancheti's advice on design portfolios, resumes, and job hunting (Nov 2019)

The spectrum of design roles in 2018

Design Better by InVision

Example design portfolios: Cofolios and Bestfolios

From David:

- Another book I found useful for design interviews (in particular, whiteboard challenges): Solving Product Design Exercises (by Artiom Dashinsky)

- Books related to Product Manager jobs (see next slide): Inspired (by Marty Cagan), Value Proposition Design (Strategyzer)
Appendix B: PM (Product Manager) jobs, from Anvisha Pai in 2018

- 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

2019-11-26: v6, given in UCSD COGS1
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

Sean: “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.”

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

Christi: “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.”