A Study of the Challenges of Nonlinear Career Changers and a New Service to Ease the Transition

by

Anna Maria Phan

B.A. American Studies
University of California, Berkeley, 2004

Submitted to the Integrated Design & Management Program
in partial fulfillment of the requirements for the degree of

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Signature redacted

Signature of Author: ___

Anna Maria Phan
Integrated Design & Management Program
May 11, 2018

Certified by: ________________

Signature redacted

Matthew S. Kressy
Executive Director
Integrated Design & Management Program

Accepted by: ________________

Signature redacted

Steven D. Eppinger
Faculty Co-Director
Integrated Design & Management Program
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Abstract

The days of having one single career path are no longer the norm. Today, it is far more common for people to change careers at least once in their lifetime. According to the Bureau of Labor Statistics, the average worker holds ten different jobs before the age of forty (BLS, 2017). This thesis explores the journeys of nonlinear career changers with diverse backgrounds to gain an understanding of the challenges encountered before, during, and after their career transitions. For the purposes of this study, a nonlinear career changer is defined as an individual who has changed his or her job function and industry.

The human-centered design process was used during this study to identify user needs, and design and develop solutions. The user interviews revealed that people had difficulty identifying jobs that their current skills could transfer over to, lacked knowledge of the training required to become a qualified candidate, and struggled to find mentors they could confide in during the process.

There is currently no well-known service in the market that addresses these pain points. The proposed solution is a service that provides recommendations for different careers, highlights transferrable skills, and provides detailed guidance on how to achieve a job in the new industry. The guidance includes skills the individual will need to acquire, courses that map to those skills, and mentors who have successfully switched careers and can provide an authentic perspective about a specific job and industry.

Thesis Supervisor: Matthew S. Kressy
Title: Executive Director, Integrated Design and Management Program
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I would first like to thank Matthew Kressy for having the vision and desire to make a bigger impact on the world by creating the Integrated Design and Management Program. You always encourage us to design with purpose, demonstrate integrity, and never stop learning. I am forever grateful for your mentorship and kindness.

To Andy Macinnis, for guiding me through my first, second, and certainly not my last physical product. I arrived at IDM as a designer, and am leaving as an inspired engineer.

To the IDM staff, especially Melissa Parrillo, thank you for all the hard work you do for us behind the scenes. You make it appear so effortless, but we all know you dedicate a tremendous amount of time and energy to ensure our success.

To my IDM 2018 classmates, before we all arrived at IDM I could feel the energy through our email introductions and knew that we were going to give 110% of ourselves to this program. There was no doubt in my mind that I was making the right choice. I feel very fortunate to have been surrounded by such an ambitious, inspiring, and mushy group of people.

To my siblings, The Phantastic Five, for supporting me along my career journey and trusting their little sister to find her own way.

To my husband, Lany Or, for being my partner in crime on this crazy ride (literally, we drove from CA to MA) and enduring the long Boston winters with me (#eastcoastproblems). Thank you for your support, love, and always reassuring me that "We’ll make it work”.

To my dog, Carlton OrPhan, for being my snuggle buddy (not by choice) and helping me get through those long school days.

Finally, this thesis is dedicated to my mom, Mary Phan, for giving me the freedom to choose what I want to do and who I want to be as long as I am happy. Making happiness my priority is what gave me the courage to explore different careers and live to work, not work to live. And, to the memory of my dad, Anthony Phan, who passed away in 1986. You both made sacrifices for our family to be here so that we could have a better life. I hope I have made you both proud.
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1 Motivation

At the age of 26, I decided to take a leap of faith and change my career. I went from working as a Program Manager at a small nonprofit to being a User Experience Designer at a large technology company. The transition took approximately one year, but it was a year full of uncertainties and self doubt. At that time, I did not know anyone who had switched careers and I wasn’t sure what my next career would be. I spent countless hours researching different career paths and debated if I should pursue another four-year degree. I finally decided to enroll in a Graphic Design course and Drawing course to see if I still enjoyed art like I did when I was younger. Turns out, I did.

One day, a friend of mine noticed on LinkedIn that I had added a Graphic Design course to my profile. She reached out and asked if I was interested in pursuing a career in Design. After informing her that I was, she told me there was an opening at her company, eBay, and she could submit my portfolio and resume to the hiring manager. She emailed me on a Friday and told me they wanted me to come in for an interview on Monday. I quickly put together an online portfolio over the weekend with the projects I completed from my Graphic Design course. The interview included a series questions about interaction design that I wasn’t familiar with. In the end, I did not get the position. It was offered to another candidate who was more qualified and required less training, but I remained hopeful. I continued to take Design and Web Development courses and kept in touch with the hiring manager to inform her of my progress. Three months later, I
received an email from her that they were able to create a position for me at eBay. That marked the beginning of my second career as a User Experience Designer.

Fast forward to today, I find myself wanting to switch careers again to Product Management and the services in the market are still very similar to what they were nine years ago; the landscape appears almost untouched. This led me to focus my thesis on studying other nonlinear career changers to determine if their struggles were similar to mine and if so, how I can design a solution to address their needs.

2 Introduction and Justification for the Study

Changing careers can be a daunting, intimidating, and time-consuming process, especially for career changers looking to make a dramatic leap to an entirely different job and industry. Switching careers involves multiple steps and requires sifting through a variety of disjointed resources that lack personalization to an individual’s needs. This led me to conduct research on individuals who have switched careers to gain a better understanding of their struggles during their career change and what they look for in their future career.

According to the Bureau of Labor Statistics, the average worker has ten different jobs before the age of forty [1]. The days of maintaining one job or career for life are no longer the norm. Today, working professionals continuously seek new opportunities for growth and professional development. According to a survey of over 10,000 people, the number one reason people change jobs is for career advancement. Fundamentally, job switchers are tend to be people who viewed their job as a dead end, so they left it for
one that offered a chance to grow [2]. Working professionals look to continue building upon their careers as though they were a series of projects (see Figure 1 below). Considering this trend, it is surprising that services in the market have not addressed the pain points associated with transitioning from one career to another.

Figure 1. Career Lifecycle [3]
My hypothesis theorized that individuals who change careers find it to be a daunting and lonely process. The user interviews conducted as part of this thesis revealed that career changers experienced significant difficulty during the research and evaluation stages of the career changing process. They were faced with too many options with insufficient tools to sort through them, and a disjointed path to reach their new career once they identified one. In addition, career changers indicated that a mentor would have been a helpful resource who could provide guidance and show them different career paths they could pursue based on their personality and professional background. Career changers wanted to connect with others who have also changed careers because they could empathize and provide guidance on how to achieve the new career.

The user interviews revealed that career changers desired a service that uses a combination of technology and a human connection to assist them in discovering new careers that match their professional and personal traits, highlights transferable skills across different jobs, and creates connections with someone who has switched careers so that they can feel confident about pursuing their next step. My research helps to identify opportunities for such a service that eases the process of changing careers.

3 Review of Related Work

There are a variety of services in the market that help working professionals assess their personality traits, search for jobs, and build community, but none of those
services focus on guiding working professionals through the process of successfully switching from one career to another. Each of these services focuses on one stage of the process and operate independently of one another. Career changers need one service that is a personalized experience and provides a clear path to obtaining their future career.

3.1 Job Search and Networking Tools

Job sites such as LinkedIn are helpful in connecting professionals to one another and finding jobs, but it doesn't offer any personalized and step-by-step guidance on how to evaluate or prepare for a future career. Job listings show skills that an individual has and does not have for the role but it fails to make connections between the skills from an individual's prior jobs to the new job. A skill in one industry could be similar to a skill in another industry but they are labeled differently. The job listing will only have the label for the industry in which the position is listed under.

3.2 Personality Assessments

"Personality testing is an industry the way astrology or dream analysis is an industry: slippery, often underground, hard to monitor or measure" [4]. They only tell an individual a surface layer of information to work with. Personality assessments such as the Myers Briggs still lack information about a pathway to obtain the next career and doesn't provide recommendations about specific jobs that match their personalities. It only addresses one stage of the career journey and the string of four letters doesn't come close to capturing the fascinating complexities of an individual [4].
3.3 Social Media

Facebook has created communities based on specific jobs. Members of the group will post questions about resources, interview help, resume help, and events. Once a group has been established for quite some time, the number of posts can become overwhelming and redundant. A person seeking resources would need to parse through hundreds of posts before finding the one that may be relevant to them. The information is not curated.

3.4 University Career Development Services

Universities have career development offices, but their services have mixed reviews. According to the newest data from an annual Gallup-Purdue University study of college graduates, only 17 percent of students who graduated from 2010 to 2016 said they found their college career centers to be "very helpful," with another 26 percent reporting that the career office was "helpful." Less than 40 percent said they found career centers to be "somewhat helpful," and 17 percent said the interactions were not helpful at all [5].

Career counselors provide high level feedback on resume structure and interviewing. They also tend to be generalists and cannot provide expert advice about a specific industry unless they've worked in them and continue to stay up-to-date with the shifts that occur in the industries. The American School Counselor Association (ASCA) recommends that schools strive to maintain a 250:1 student-to-counselor ratio. However, in certain states the counselor-to-student ratio could be as high as 482:1 [6]. This makes it very difficult for students to receive the personalized attention and
guidance they need to decide on a career. Also, depending on the university, access to these services ends once a student has graduated. Students will need to rely on alternate resources for career help.

Each of these resources combined are helpful but based on the research conducted in this study, there is a high need for a personalized and step-by-step service. Current services and online tools do not meet the needs of individuals looking to receive support with the entire journey from exploring new careers to the final stage of acquiring a new job.

4 Methodology

4.1 Recruitment

The research process began with sending out a survey to various groups using social channels such as Facebook and mailing lists. This survey served as a screener for selecting participants for the user interviews to ensure that each candidate had changed both their job function and industry. Both the job and industry were to be kept broad to determine if there were similarities in pain points regardless of the individual’s professional background. The following information was collected for each participant: gender, education level, ethnicity, marital status, occupation for first career, occupation for second career, number of times they switched careers, their age when they had their first career change, and their current employment status. Below is a visual representation of the survey data for the 20 participants.
Figure 2. Gender

Figure 3. Age
Figure 4. Education

Figure 5. Number of career changes
Figure 6. Age at first career change

Figure 7. Occupations for their first career
4.2 Qualitative Research and Interview Protocol

A qualitative approach was used for this research and 20 individuals were interviewed from the ages of 25 to 45 years old. Each interview was audio recorded and lasted approximately thirty minutes. The interview protocol included questions to validate the hypothesis and better understand the challenges the participants encountered as career changers. The participants were asked about:

- Different careers they've had
- Motivations for changing careers
- Biggest challenges during their journey
- Experience with the interview process
- Length of time it took to find a new career and job
- Resources they used along the way (e.g. websites, books, mentors)
- Current happiness level after changing careers

During the interviews, if a common theme occurred amongst the participants it was recorded on a spreadsheet. This would be useful for the research synthesis process. Also, the moments when participants expressed an intense level of emotion while describing their experience switching careers were also recorded on the spreadsheet. This helped to better understand which stage in their journey caused the most emotional stress.

4.3 Research and Synthesis Process

After the interviews were completed, a transcription service was used to transcribe the audio recordings to text. This allowed the written version of the conversation to be reviewed and cross-checked for the themes and pain points of each participant. Each of these themes and pain points were prioritized and organized into a User Needs List table to identify overlaps between participants. The User Needs List table also helped to determine if the hypothesis was validated, and to inform the concept generation phase.

5 Explanation of Important Results

5.1 Personas

Based on the 20 participants that were interviewed, there are initially two categories of career changers to consider:
1. **The Explorer:** This individual does not have a clear picture of what his or her next career will be and is open to exploring different paths. However, they have held several jobs in the past so they know themselves well enough to provide some attributes of a career that they want and do not want. Evaluating different careers and making sure they are making the right choice is their primary concern.

2. **The Targeted Searcher:** This individual knows exactly what their next career and job function will be and wants to know the necessary steps to achieve it. Their primary concerns are finding the skills necessary to make the transition in the quickest way possible and identifying a company that matches their values.

### 5.2 Career Journey Map

Each type of career changer experienced similar stages as they transitioned from one career to another. These steps have been broken down into 10 stages (see Figure nine):

1. **Trigger:** For most participants, it was a "slow burn" which included not being challenged in their current job to being overworked. Others experienced more dire circumstances where they were laid off and had no choice but to start looking for other options.

2. **Self Reflection:** For the participants who had time and money, they took time off to reset and clear their minds. Two participants mentioned reflecting on the last time they enjoyed doing something to help guide them to their next career.
3. **Research:** This was a time-consuming process where participants would use a combination of Google, reading books and articles, and talking to friends to gain a better understanding of different careers.

4. **Evaluation:** There are multiple factors that go into evaluating a career such as the salary, amount of travel, job outlook, stability of a company, etc. No participants mentioned using any tools to help them decide which career would be the best option to move forward with.

5. **Selection:** Once a career was selected, participants would begin researching different job listings and companies to determine what was needed to obtain the job.

6. **Plan:** Depending on the future career, the planning stage included the decision to either take courses, pursue further education, or find a lower level position to get into the new industry.

7. **Create Resume:** Depending on the different types of jobs that a participant wants to apply for, he or she needs to create a resume for each individual job.

8. **Network and Job Search:** Who you know is important to “get your foot in the door”. One participant was advised to reaching out to her affinity network such as people who identified with her ethnicity, cultural background, and/or gender. Another participant volunteered for conferences to ensure he was remembered by other volunteers who were a part of the industry the participant was trying to break into. These volunteers, because of the connection he fostered, were more willing to connect him to companies
because of his help. During the stage, participants also factored in looking for companies that matched their values.

9. **Interview**: Some participants needed help with telling their story, strengths, or having specific examples ready to speak about for behavioral questions. The participants learned by trial and error and improved with more experience.

10. **Obtain a Job**: The participant assessed different job offers and ultimately decided to join a company that fit their criteria.

Each of these stages along the career transition journey had a different level of stress (low, medium, or high). The research, evaluation, and interview stages are where the stress levels are the highest. Participants expressed that the research and evaluation stages were the most time-consuming. The length of time in each of these stages and the feeling of uncertainty as to which career to choose led to the high level of stress. The interview stage is the defining moment and determined if the participant was successful in making the career change.

Figure 9. Career journey stages and level of intensity for each stage
5.3 Themes

There were six themes that emerged from the interviews. They served as guides for the concepts and final design.

5.3.1 Repeat Career Changers Find Every Transition Daunting

Of the participants interviewed, three had been through more than one career change and stated that every single time is still a daunting process. They still require help with each transition whether it’s getting help with a resume or gaining insight into an industry. They expressed being more mentally prepared after having changed careers before and, as a result, recognized that changing careers is a process. However, each transition still felt like an exhausting experience which required multiple mental breaks so as to not get overwhelmed. This reveals that a service or tool that supports first-time career changers can also be helpful to individuals who have been through the process before.

5.3.2 Online Resources are Disconnected

The number of online resources such as search engines, websites, and blogs has grown to an extent where individuals looking to switch careers need to determine on their own which information is relevant versus irrelevant to their career search. Each source also has its own level of quality to consider. There is no centralized place for information that is curated to an individual’s needs. This creates a very time-consuming and manual process. One participant described searching for jobs as a “full-time job” because of the energy it requires to find relevant information and review it.
5.3.3 Human Connection is Important for Emotional Support

The participants who switched careers in their twenties expressed that they did not have anyone to lean on for emotional support. No one in their network had switched careers before. They wished they had a mentor whom they could speak with who had changed careers before and could provide guidance about the process. When exploring what participants wanted in a mentor, most placed little importance on whether or not the mentor was in the same industry as them. Rather, the participant was more interested in a mentor who successfully transitioned careers and could empathize with them. The participant was eager for affirmation that career changes are possible and that the feelings they are experiencing surrounding the hardship and challenges are normal and can be overcome. They could provide a sense of hope that they would reach their destination.

5.3.4 Changing Careers is Not About Starting Over

Although it may feel like they were starting over, their work history and educational background plays a role in their identity and personality. The participants were interested in finding careers that used their skills from previous jobs or applied their undergraduate major. They also viewed resumes as one-dimensional and ineffective when it came to representing their story and unique characteristics, which they felt could help them in obtaining a job. They expressed having trouble finding convincing ways to show transferable skills and traits about themselves that would make a recruiter not glaze over their resume. This informed the product in showing connections from the previous to the future career.
5.3.5 Career Changes are Seen as a Positive Trait

Once the participants are able to connect with a hiring manager, they were told that their career change was viewed as a positive characteristic rather than a negative one. It demonstrated that they were driven, adaptable, and eager to learn new things. The challenge here is that candidates still need to break through the first screening layer that recruiters use to funnel candidates to the hiring managers. According to study conducted by The Ladders, recruiters spend only six seconds reviewing an individual resume [7]. It’s crucial for candidates to have their resumes include the right key terms that will allow recruiters to easily go through their checklist and not consider their career change as something to pause on. For smaller companies such as startups where their workforce is smaller, career changers could be at an advantage since employees often perform more than one job function and the hiring manager is more involved in the screening process.

5.3.6 People Seek Companies that Align with Their Values

Finding and applying only to companies that aligned with their values was an important factor for the participants. An ideal job would be one where their individual skill sets were being utilized and personal values were met. Values included aspects such as the mission of the company, work environment, company culture, dynamics of the team, and the nature of the role. In the job search process and especially before accepting a job offer, they wanted to know that the job they were considering would set them up to be valued by the company and that the company was working towards a
greater mission. For a majority of interviewees, a mission-driven company was a factor in their decision making process.

These themes were helpful in developing the concepts and were used in conjunction with the user needs identified in the research.

5.4 User Needs List

Based on the interviews, the primary needs focused on providing authentic knowledge about an industry's culture, matches users to careers based on their skills and education, teaches users about industry-specific terminology, and connects people to individuals who work in the career and industry that they are interested in pursuing. The secondary needs were a combination of job requirements, connecting to career changers, resume building, and interviewing. The tertiary need was about knowing the stability of a company, especially for startup companies.

<table>
<thead>
<tr>
<th>Priority</th>
<th>Need</th>
<th>Participant(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The service has authentic knowledge about the industry's culture</td>
<td>P1, P5, P9, P10, P11, P12, P14, P16, P17</td>
</tr>
<tr>
<td>1</td>
<td>The service matches users to careers based on their skills and education</td>
<td>P1, P2, P4, P5, P8, P13, P17, P20</td>
</tr>
<tr>
<td>1</td>
<td>The service teaches industry-specific terminology</td>
<td>P5, P13, P14, P15, P19, P20</td>
</tr>
<tr>
<td>1</td>
<td>The service connects to people in the job and industry they are interested in pursuing</td>
<td>P5, P9, P10, P11</td>
</tr>
<tr>
<td></td>
<td>The service has requirements to obtain a specific job</td>
<td>P2, P8, P13</td>
</tr>
<tr>
<td>---</td>
<td>-----------------------------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>2</td>
<td>The service connects to people who have been through a career change successfully</td>
<td>P1, P14</td>
</tr>
<tr>
<td>2</td>
<td>The service helps with interview preparation</td>
<td>P8, P19</td>
</tr>
<tr>
<td>2</td>
<td>The service helps tell an individual’s story</td>
<td>P3, P6, P15, P19</td>
</tr>
<tr>
<td>3</td>
<td>The service tells stability of companies</td>
<td>P2, P4, P5</td>
</tr>
</tbody>
</table>

Table 1. User Needs List based on participant interviews

The hypothesis was partially validated in that participants wanted to connect with individuals who have successfully changed careers because they understand the emotional tolls associated with this endeavor and can provide the most relevant support and guidance. The participants also wanted to connect with individuals who are in the job and industry that they are interested in pursuing. It was not a priority for the participants to connect with individuals who had the exact same career path as them, rather, the ideal individual was someone who currently has the future career they want and successfully changed careers.

5.5 Ideation and Concept Evaluation

The DFV method was applied to evaluate the concepts. This method is taught in the Integrated Design and Management (IDM) Program at the Massachusetts Institute of Technology (MIT). Each concept is given a score from 1 to 5 (1 = lowest, 5 = highest) based on its desirability (D), feasibility (F), and viability (V).
Table 2

*Concept Evaluation Using the DFV Method*

<table>
<thead>
<tr>
<th>#</th>
<th>Concept Name</th>
<th>D</th>
<th>F</th>
<th>V</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Career comparison tool</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>2</td>
<td>Career exploration tool showing closely related careers and skills that are transferable</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>3</td>
<td>Using LinkedIn profile for career matches and Facebook for personality matches</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>4</td>
<td>Career tool showing length of time and training required to obtain new career</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>5</td>
<td>Matching to a career coach who has changed careers and has a senior role in the same industry</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>6</td>
<td>Match to an individual in the same industry and job</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>7</td>
<td>Users are given different archetypes to choose from which will match them to different careers</td>
<td>4</td>
<td>5</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>8</td>
<td>Personality quiz to find career matches and strengths</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>9</td>
<td>Resume generator using old job and new job</td>
<td>5</td>
<td>1</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td>Career videos to show &quot;A Day in the Life of a [career]&quot;</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 2. Concept Evaluation Using the DVF Method

5.6 Prototyping and Testing

InVision, an online tool for prototyping, was used to develop the prototypes for this study. The concepts were shared with five of the 20 participants who were interviewed were randomized for each individual session.
5.6.1 Concept 1: Comparison Tool

In this concept, the participants entered in careers they already have in mind and are able to compare them side-by-side based on different attributes (e.g. salary, job outlook, skills, estimated time for transition). They were also able to reach out to a mentor in each of those careers for advice. The participants found this helpful, but some stated that they still needed help finding which career to pursue. Once they have made that decision, then they would use this tool to evaluate the different options.

5.6.2 Concept 2: Archetypes

In this concept, the participants selected different archetypes they related to the most and would be given job recommendations based on their selection. The experience also had a way for them to reach out to a mentor in the career that the archetype belonged to. This concept was the least favorable one as it made an assumption that they already fit into a specific archetype. They appreciated individual aspects of multiple archetypes.

5.6.3 Concept 3: Branching Out

In this concept, the participants logged in with their LinkedIn account and took a short quiz to answer questions about their personal preferences and work preferences. Based on this information, they were able to see their career matches, details about a specific career, and were able to connect with a mentor in the same job and/or industry.

The “Branching Out” concept resonated the most with them because provided a quick visual to gauge how close or far their current career is to future careers. The larger the leap, the longer it would take to achieve that career but there is still some
crossover with the current career. On the Career Profile page, the user could see the parallels between his or her current skills and the skills required for the new career. One participant wanted the courses to be ranked in order of importance for the job. This would help the participant decide which course to invest his time in first.

5.7 Final Design: Branching Out

This final design incorporates feedback from the research. The proposed solution is a service that provides recommendations for different careers, highlights transferrable skills, and provides detailed guidance on how to achieve a job in the new industry. The guidance includes skills the individual will need to acquire, courses that map to those skills, and mentors who have successfully switched careers and can provide an authentic perspective about a specific job and industry. Below are screens showing the flow of the experience from the moment the user creates an account to the last step where the user finds a mentor.

![Branching Out](image)

Figure 10. Screen 1: Registration
Users log into their LinkedIn account which provides access to the user's profile data (e.g. companies, jobs, skills, causes, etc.).
Based on your LinkedIn profile, we’ve learned that you’ve had 2 jobs.

Tell us more about your experience at those jobs.

**Teacher**
- The job fit my personality
- The work environment suited me
- The work was interesting
- The work used my skills
- The work was meaningful

**Teaching Assistant**
- The job fit my personality
- The work environment suited me
- The work was interesting
- The work used my skills
- The work was meaningful

Figure 11. Screen 2: Previous jobs
The user rates past jobs. This data helps to determine what characteristics that the user liked/disliked about the previous career.
What type of company would you like to work for?

- Nonprofit
- Social enterprise
- Startup
- Government
- Corporation

Figure 12. Screen 3: Company Type
The user selects his or her preferred company type. This is a filter in the result set.

What are your top 3 industries?

1. Tech
2. Education
3. Healthcare

Figure 13. Screen 4: Industries
The user ranks his or her top three industries.
Where would you like to work?

How often would you want to travel in your job?
- 2 times a year
- 5 times a year
- More than 10 times a year

Figure 14. Screen 5: Location
The user selects state(s) and travel frequency. Each of these selections is a filter for the result set.

Prioritize these based on their level of importance to you

1. Location
2. Salary
3. Job availability

Figure 15. Screen 6: Priorities
The user ranks these three job aspects. The ranking determines the careers that appear first in the result set.
Are you open to taking classes to boost your skills?

- Yes  
- No

Figure 16. Screen 7: Coursework
The user selects if he or she is open to taking classes. This will be used as a variable to create career matches.

What are 3 things you like to do for fun?

- Traveling
- Photography
- Running

Figure 17. Screen 8: Hobbies
The user adds three hobbies which could be used as a filter for career matching.

Hang tight.
We’re finding you some career matches...

Figure 18. Screen 9: Loading screen
Figure 19. Screen 10: Career Matches
User will be able to see how their current career maps to other careers. The length of the line represents how close or far away the previous career is to the future career.
Jamie Lee
Product Manager
70% match

Product Manager Description

Digital product management has emerged as a new function in the past 15 years with the growth of tech companies and transformation of non-tech companies into tech companies, all delivering digital products. In the digital product world of tremendous consumer choice, low switching costs, social sharing, ratings, reviews, and recommendations, making great products matters more than ever to keep a user’s attention. Product management is a key function in delivering high quality digital products; at a 10,000 foot view, product management can support figuring out what products to make, ensuring that those products get made (usually involving digital design and software engineering), and reporting back on how users respond to products—in short, Strategy, Execution, and User Understanding.

Strengths

Personal
Social
Creative

Workplace
Team player
Adaptable

Hard Skills

Curriculum Development
Roadmaps
MS Office
HTML
CSS
Writing
Data Analytics
MySQL
User experience
JIRA

Soft Skills

Communication
Problem Solving
Time Management
Leadership
Managing stakeholders
Collaboration
Relationship management
Emotional Intelligence

Academics

Degrees
Bachelors
Masters

Subjects
Psychology
Education
Computer Science

Business

Figure 20. Screen 11: Career Profile (top half)
The filled skills are what the user has to qualify for this job. The skills connected by a line represent a relationship between the user’s current and future career. The skills in an outline represent ones that the user will need to acquire for this job.
Industries

- Education
- Tech

Non-negotiables

Minimum salary: $120k

Travel frequency: 2 times a year

Location: San Francisco, CA

Job listings

- Product Manager, Google
- Product Manager, Facebook
- Product Manager, LinkedIn

Estimated transition time: 6 months

Here are some classes to build more hard skills

- Data Analytics
- JIRA
- MySQL
- Front-end web development
- User experience

Job outlook

There is currently a demand for this job title in the market.

![Graph showing the number of job openings over time]

Figure 21. Screen 11: Career Profile (bottom half)
Connect to a mentor in Product Management

All of our mentors have been through a career change just like you.

Choose your preferences

Gender:
- Male
- Female
- Doesn’t matter

Industry:

I need help with:
- Advice on the culture of that industry
- Advice on how to get into that industry
- Negotiating salary

Connect me

Figure 22. Screen 12: Connect to a mentor
User connects to a mentor that has been through a career change and can provide an authentic perspective on a career and/or industry.

6 Conclusions

The purpose of this thesis was to explore the journeys of nonlinear career changers with diverse backgrounds to gain an understanding of the challenges they encountered during the process of transitioning to a new career. The audience was purposely kept broad to determine if there were commonalities across career changers regardless of their jobs and industries. The research allowed me to generate ideas that laid the foundation for an initial concept of a product. This concept would need to be further developed and tested with a larger set of individuals.
The user interviews revealed that career changers had difficulty in identifying jobs that their current skills could transfer over to and were worried about missing out on a career that they weren’t as familiar with. For example, one of the participants studied Psychology for his undergraduate degree and did not find out until much later that he could have applied to be a user experience designer. The discovery and matching process for the individual who is more of an explorer found value in this feature. Participants also lacked knowledge of the training required to become a qualified candidate and wanted to know which skill(s) they should prioritize. Lastly, the participants struggled to find mentors they could confide in during the process who had successfully changed careers.

6.1 Future Work

This study included individuals with diverse backgrounds to determine if there were commonalities in their experiences. For future work, I recommend exploring a specific group of individuals from the same profession who are looking to pursue the same job and industry. For example, high school teachers who are interested in becoming user experience designers for a technology company. Because the needs of each career, job, and industry are very specific this could potentially lead to an entirely different solution, and the feasibility could be dramatically reduced if it were implemented as a product. Testing the feasibility of the concept will require some machine learning to build and train a model. The model will need to be able to find relationships between different skills across a variety of industries. This is why focusing on one group of individuals with the same background who are looking to pursue the
same career will be easier to test because it is a smaller dataset to work with. This is
the next step required to move this from a concept to reality.

My hope is that this solution will give career changers, especially first-time career
changers, the confidence to make the leap, an authentic view of the job and industry
they are about to enter, and a clear path on how to achieve their desired future career.
For recruiters, I hope the product helps them discover parallels between two seemingly
different careers and influences them to shift their screening processes so as to not
dismiss great candidates. Every career should not feel like starting from the beginning.
Rather, it is a series of projects that should be viewed as an expression of one’s agility
and ability to adapt.
7 References


