

# Product Workbook

## CareerCraft - A Career Advising Solution

19-676 Product Management Studio

Team 1

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Career Advising

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## Customer Problem Narrative

As career advisors in universities and colleges, their main objective is to help students develop their professionalism and prepare them for future careers. Career advisors believe that students should have the opportunity to find employment that they consider fulfilling, enjoyable, and impactful on the world around them. Because of this belief, career advisors seek to help students discover and pursue their passions in the workforce and everyday life. There are several ways career advisors can help students achieve their goals. They conduct one-on-one advising sessions, help with salary negotiations, provide mock interviews, and much more. Their main mission is to equip students with all the resources and knowledge they have so that students are prepared to pursue better career opportunities and make better decisions when facing lives' crosswalks.

Even though career services provide help for improving students' career outcomes, not all students are engaged in the activities that the career center provides. The student engagement rate, currently measured as "engaging with any type of career services at least once", is used to evaluate how many students are involved in activities provided by the career center. What is concerning to career advisors is that the student engagement rate is around 80%-90%. This means there is a gap of about 10%-20% of students who are never engaged with career advisors through any channel. This number is as low as 40% for non-STEM advisors. Many reasons can be used to explain why this gap exists. For example, some students might have other sources to connect with employers and pursue career opportunities, and some students might have no intention of going to the industry shortly. Thus, the assumptions we used for this problem are that all students want to pursue career opportunities and career advisors can provide the best services in preparing students for better career outcomes. From the perspective of career advisors, the students who are on the edge of dropping out of college and who are desperately seeking help also exist in those 10% - 20% of students. Since career advisors do not want any students to miss out on these opportunities to develop themselves, they need to send out frequent emails to advertise career activities and ensure all students are aware of the services that career advisors provide. The time spent on "chasing students" is estimated to be 5 hours in total per week based on interviews with career advisors. These 5 hours could be spent in a much more meaningful way, such as connecting with more employers/recruiters, scheduling career events, and providing more one-on-one appointments for students.

Career advisors expect the student engagement rate to be as high as possible, even reaching 100%. They are hoping to bridge the 10% - 20% gap by taking advantage of better data, better tools, and better engagement methods. Improving student engagement helps career advisors make sure that the vast majority of their students access key career services and have a better chance at finding their dream jobs.

# Customer Value Space

## Customer Value Proposition

Solving the student engagement problem will provide value for all the stakeholders: students, career advisors, as well as colleges and universities. For students, higher engagement will lead to a higher level of career readiness because they will complete the core tasks and master the key skills of job search. The “career readiness” level is defined by a quantitative career readiness score, reflected by the completion of key tasks in career advising. The more tasks a student completes, the more knowledge the student has, the better decision a student can make, and the more “ready” that a student is for his/her career. The links have been validated by all career advisors that we interviewed. Since career advisors also provide the service of salary negotiation workshops, if more students attend such events, the better salary students will get for their first job after graduation as well.

After interviewing multiple career advisors, we found out that most of them are complaining about the shortage of time. Solving the student engagement problem will save their time by 4 hours per week, which they would otherwise spend on reaching out to students and advertising career services’ activities. This accounts for about 12% of their total work time and is significant time-saving for them. The time saved can be used directly towards employer networking, student advising, and other core tasks, which can bring more opportunities and better services to students.

For organizations like universities and colleges, a higher student engagement level will lead to higher student satisfaction with career services. This is a key marketing point for schools and can improve the school’s reputation and help attract more students, which can be measured by seeing the number of applications each year.

## Purchasing Justification for Buyers

There are several purchasing criteria for buyers (mainly career service directors) of the solution. At the top of the list is efficiency, whether the solution can provide good service for students and improve the productivity of career advisors. Second, how much the product will cost. According to the information we have so far, our main competitor, Handshake, is an expensive solution that some small institutions are unable to afford. Third, the number of users for the solution. One of the reasons why Handshake is so popular is that there are so many companies and institutions using it, and higher users will lead to more opportunities and wider networking. Last, some customers we interviewed said that they cannot see the bigger picture from Handshake since it is more student-based. A solution that is comprehensive, customizable, and more advisor-based can also attract more potential users. Based on the positioning map in

Appendix B, there are huge opportunities in developing our solution to be customizable, comprehensive, and more advisor-based. We believe the benefits of solving the student engagement problem match very well with the needs of buyers - it will increase students' career readiness, save career advisors' time, and improve the institutions' reputation and attractiveness.

Even though career advisors are not the final buyer, the purchasing process for a new solution is based on their research and feedback since they are the direct users. When facing a new solution, career advisors will first do comprehensive research and bring up the ideas to discuss with the advising team. Then, career advisors will propose to their supervisors to make the final call. From our research, the career advising market is attractive, with 322,000 career advisors in the United States and about 4000 colleges and universities. The budget allocated for purchasing a career advising-related software service is approximately \$10,000 per year per school. This sums up to a maximum of \$40,000,000 per year in total revenue across all the schools in the US.

## Market Segmentation

As for the market segmentation, we observed that the working pace and environments are completely different between career advisors serving STEM majored students and career advisors serving Non-STEM majored students. We divide the career advisor market into those two segments based on the majors of the students that career advisors serve. Due to the rapidly changing career market and high competition, career advisors serving STEM majored students need to update the information with employers more frequently and provide more comprehensive services for students to win in the resume or interview competition. Thus, different market segments might require different designs of solutions.

## Competition & Differentiation

Existing solutions in today's market do not address the student engagement problem to some degree. For instance, Handshake is a popular platform used by schools to manage students' career profiles, arrange to advise appointments, and post job applications. However, some students just ignore the tons of system emails they sent out. In addition, some career advisors only use it for scheduling appointments since they believe this is a more student-based tool. Even though there are some useful overview features in Handshake, they still choose to use their own spreadsheets to do the documentations. An emerging product is called UpperCampus that attempts to make the career search process more "TikTok-like." It is hard to say whether watching the social media-like career-related videos will translate directly into career readiness for students, since we never remember anything from TikTok videos.

In summary, there is a big blank in the student engagement problem space to be filled. Solving the student engagement problem will bring direct, quantifiable benefits to students, career

advisors, and educational institutions. There is no direct competition in the marketplace today, and our solution will bring unique value for the buyer to justify the ultimate purchasing decision.

## Pricing

When determining the price, instead of calculating how much we can get, we calculated the benefit first in order to have a better understanding of how many benefits we can bring to our customers. Based on our research, there are approximately around 5,300 universities and close to 300,000 career advisors in the USA. Assuming that not all universities are interested in such a product, we are estimating a rough number of 1,200 universities as our target. This number is based on the universities involved with products in the same domain, like handshake and simplicity. Assuming that higher-ranking universities have larger career services units and would be more willing to invest in products like this, we are considering 30 career advisors per institution, which gives the market size to be 36,000 career advisors. The biggest hard benefit our product can provide to career advisors is to save each 4 hours per week of unproductive work. Assuming there are 40 weeks per year, that each career advisor needs to address those unproductive works, our product can save  $4 * 40 = 160$  hours per year per advisor. For each institution, we can save  $160 * 30 = 4800$  hours. To quantify this benefit in financial term, assuming each career advisor is paid approximately \$25 (fully loaded rate is approximately \$32), CareerCraft can save a total of  $4 * 40 * 36,000 * \$32 = \$184,320,000$ . This results in  $\$184,320,000 / 1200 = \$153,600$  per institution per year. The rule of thumb for pricing the product is that the benefit to the customer must be at least 3-4 times the cost of the product. We have priced our product at  $\frac{1}{5}$  times the benefit instead of  $\frac{1}{3}$  or  $\frac{1}{4}$  to attract more customers. Therefore, the total cost of the product per institution would be up to  $\$153,600 * \frac{1}{5} = \$30,720$  per institution per year. Thus, by providing a product that can provide the benefits to be five times the price, we set our onboarding price for CareerCraft to be \$30,000. In addition, there is also an annual subscription fee of \$2,000 to help the company to provide sufficient support and maintenance to our customers.

## Evidence from Solution Concept Testing

From our initial analysis, we knew that the majority of the career advisors were facing student engagement as one of the pressing issues. So to work on that, we interviewed career advisors and got their inputs on our analysis. Post our interviews, we were able to identify student engagement as the most relevant issue. Keeping the problem statement in mind, we had designed CareerCraft, a one-stop solution that met our customers' needs. We had then gone back to the same set of customers and showed them a small demo of our solution. We had prepared a set of questions that we thought would add some value to our thought process.

Firstly, we had asked them about their first impressions of our product design and if they could describe certain elements of the feature to us to make sure our language was industry standard and easy to understand. Secondly, we had asked questions about usability and the navigation around the feature as well. Thirdly, since we were introducing a career readiness score as one of the important metrics for the students in our product, we had asked them to explain the metrics devised back to us, so we could see if they understood the system. Then, we had asked questions around our visual elements to make sure it was beneficial there, and it was providing an easier way to interpret the data. Lastly, to get a better understanding of the value of the feature as we went, we asked how users would include it in their workflow. Using concept testing helped us to narrow down core values and narrow down on areas where we could make things a little easier for customers. We were also able to identify a couple of opportunities as well to come back to at a later stage. With the feedback from the interviews, we were set about eliminating certain areas of friction and identifying opportunities we could iterate on. These were just small positive feedback that were identified by users during those calls. They were bigger elements that we could iterate on. Some of the ideas suggested by the customers were, firstly, “there should be a dropdown menu that allows the advisor to see an overview of different metrics by the program. This breakdown by the program will give the advisor a better idea of which programs are doing better, and which are doing worse.” Secondly, “to modularize the design of the dashboard so that the advisor can choose which metrics to see and which metrics to hide from the dashboard.” Lastly, “the solution should have a feature where it recommends potentially actionable items to the student based on things some students in a similar career trajectory have done. This will serve as an incentive for students to complete more activities if they see that their peers are achieving results by completing these activities.” In the end, using concept testing we were able to incorporate all the suggestions provided to us by our customers making the solution more intuitive.



# Product Solution Statement

## Solution Idea

Our solution idea of CareerCraft is aiming to increase student engagement rate by making the job search process more social, fun and personalized. As the problem narrative section said, the student engagement rate currently is measured as “students who engage with any type of career services at least once.” Though this baseline metric helps career advisors understand student behavior, it does not carry much weight since attending merely a single event does not help students much with their career outcomes. Through our interviews, we have identified a minimum set of crucial tasks that career advisors think students should complete to maximize their chances of getting desired jobs. This list represents the “golden standard” for meaningful engagement with career advisors. All the career advisors that we interviewed agreed on the fact that completing this list will significantly boost students’ career outcomes. We believe student engagement rate should be defined based on completion of these “core tasks,” which include interactions with career advisors and job application portals. The opportunity for improvement of student engagement is even greater in light of the new definition.

CareerCraft, as our product solution, has two views that serve the needs of two different user groups: students and career advisors. Students will engage with the career advisors, their peers, and alumni in a gamified virtual environment through either mobile app or webpage; they will complete a set of personalized career challenges based on their career profiles to increase their career readiness and maximize their career outcomes. On the other hand, career advisors can better visualize students’ progress in their job search process, identify those who need the most help, and more effectively create and channel career service resources, especially their time.

## Solution for Students

The journey for students starts with an onboarding process that shows a welcome screen. They can input their career profiles and choose an avatar for themselves in the virtual gaming environment. In the first-person virtual “career world”, students attend career events, have career round-table discussions with peers and alumni, and complete fun challenges to increase their awareness and preparedness. After the completion of each event, there is a summary of what the student has accomplished and by how much the student has increased the career readiness score. This is a metric that defines a student’s progress towards completing all the “golden standard” activities. We believe by completing these high-impact activities, students will take full advantage of the resources the career service has to offer. Students have a personalized dashboard that shows their readiness scores, their ranking with regard to their peers, the badges they have earned, the progress bar that visualizes their progress, the events

or appointments that are coming up, and the recommended career resources customized for them. After the student has accepted an offer, the system prompts for information about the job offer so that career advisors can collect student career outcome information more promptly and conveniently. The system also prompts feedback forms based on the student activities. Students will get reward points every time they fill out these forms; universities can make these points redeemable at the university café or coffee shops to give students an incentive to fill them out.

## Solution for Advisors

The career advisor can view rich data visualizations on student progress, student interests, and student outcomes through CareerCraft. The product aims to provide all the information that the career advisor needs at their fingertips. For student progress, the career advisor can view the student readiness spectrum and where students are in their job search journeys. If the student has low career readiness and/or still in the early stages of job search, the career advisor can target these students to offer more time to help and assistance. For student interests, the career advisor can view the top areas of interest, top activities, event participation rates, and top accepted positions. This helps the career advisor identify what type of resources to create and how they can network more effectively with employers to match student interests and job market demands. For student outcomes, the career advisor can view the average salary, the placement rate, placement status, and top destinations. This information helps the career advisor gauge whether students are achieving their career goals and determine whether they are doing a good job helping students. By understanding the metrics for student progress, student interests, and student outcomes, career advisors can make data-driven decisions on how to use their time and create resources that can most effectively serve students.

## Solution Justification

In CareerCraft, students can craft their careers without looking for the events that suit them. All the to-do lists are customized based on the students' information. With gaming features, badges, and a ranking system, CareerCraft can maximize students' interest in increasing career readiness, using the provided resources, and interacting with career advisors as well as their peers. By introducing a healthy degree of peer pressure, students would be motivated by their peers to improve their career readiness scores, and further, pursue their desired careers. We believe that the engagement rate will improve dramatically, even based on our new definition of student engagement rate.

Since all data from students are integrated into CareerCraft, career advisors don't need to pull out their spreadsheets and manually input information anymore. The career advisor view in CareerCraft can show all the real-time information of students visually and straightforwardly.

Through our interviews, most career advisors are complaining about the shortage of time. Except for the 5 hours that we can help to save per week, the productivity and efficiency can also be improved for career advisors. Thus, the career advisor will save time for transitioning between tools, organizing, searching, and inputting students' information, which can be used for more appointments with students or network expansion. In addition, for the institution, if students can enjoy learning and developing their professionalism, the satisfaction, and rating for the whole institution will be elevated, which can lead to a positive rating and benefit the buyers.

### Solution Differentiation from Main Competitor

CareerCraft is significantly different from its competitors in terms of user interactions and goal of the application. Handshake, our direct competitor, does not focus on improving the career readiness of students, its main focus is to connect students with employers and alumni. CareerCraft aims to be a fun platform that students use to build their professional skills. By providing a list of "golden standard" activities, this platform allows students to be informed of all the resources available to them and gives them the power of deciding what they want to utilize. From a Career Advisor's perspective, Handshake doesn't provide a fully immersive "career journey" experience with any actionable recommendations based on student activity, and it isn't customizable; these concerns are handled by the Student Dashboard visible to the Career Advisor and the customizable "golden standard" activities on CareerCraft platform. To address the university's concern of reputation, salary and placement targets and cost of Service, CareerCraft is a relatively low cost platform that provides an aggregated view allowing universities to revise their short-term and long-term plans based on current student trends and market their university better with real-time data.


### Solution Vision

Our vision is to increase the student employment rate by engaging every student with career advisors. We aim to use advanced and integrated analytics to provide a unified platform where the advisors could view the real-time correlation between career outcomes and career readiness of a student. We will be building a strong community of students, alumni, and career advisors that would help the students in the job search process as well as in the review process. Furthermore, we will be scaling up our gaming solution by implementing virtual reality that would help the students to have close-to-real-life social experiences (e.g., conducting mock interviews, career events, networking sessions, etc.). Finally, we will be expanding our horizon to appeal to an international customer base - career advisors and educational institutions apart from the US market.

## Appendix A

## Customer Persona

### Customer Persona Profile Career Advisor

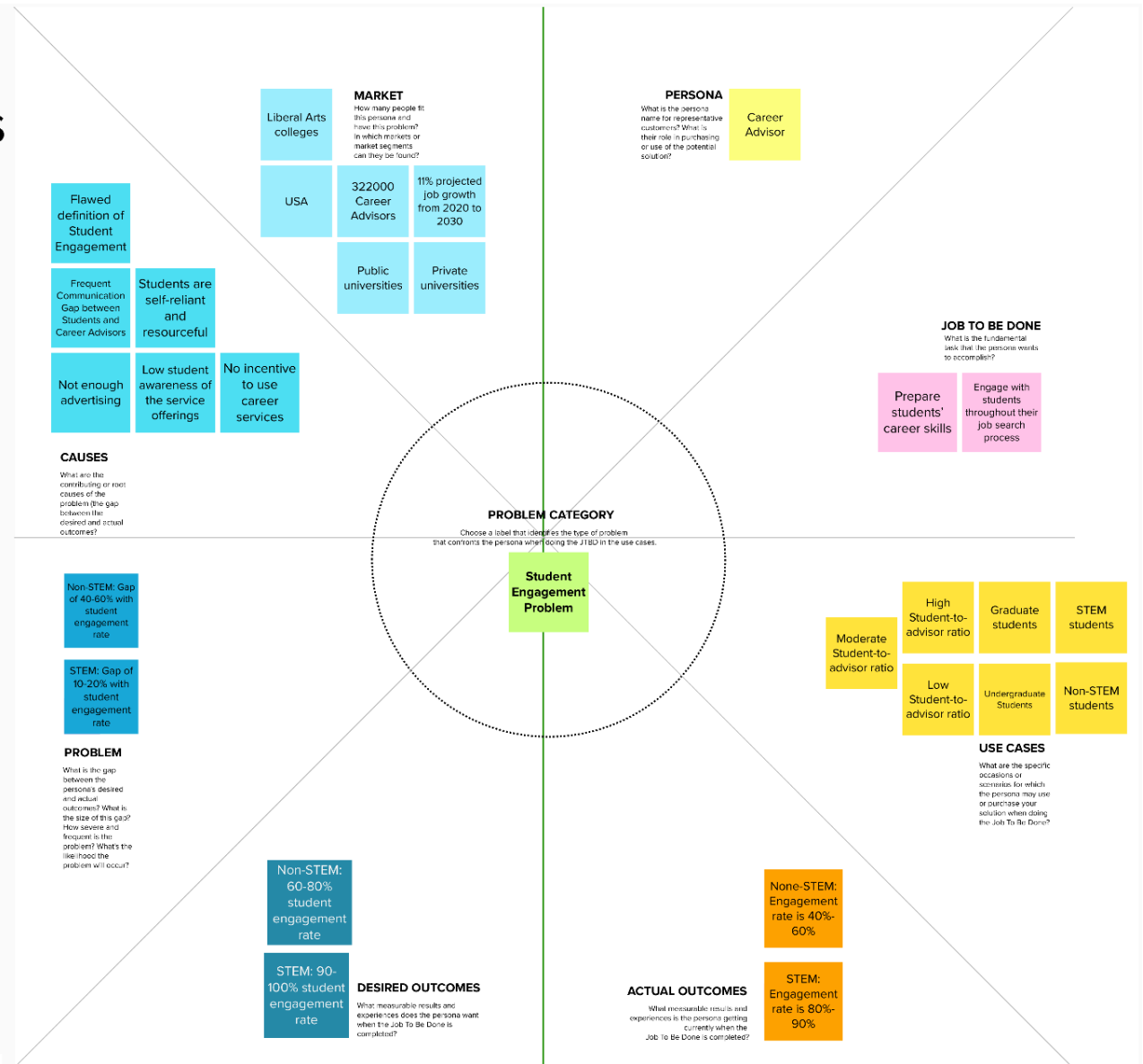
Identity																									
<p>Persona name</p> <p><b>Olivia Brown</b></p>	<p>Picture</p>  <p>Hi! I'm Olivia Brown. You can come to me for career advise.</p>																								
Characteristics																									
<p>Traits</p> <table border="1"><tbody><tr><td>Empathetic</td><td>Bachelor's degree minimum</td><td rowspan="4">Role: User</td></tr><tr><td>Patient</td><td>large networks</td></tr><tr><td>Articulate</td><td>Age: 35 - 45</td></tr><tr><td>Insightful</td><td>Use LinkedIn, Facebook</td></tr></tbody></table>	Empathetic	Bachelor's degree minimum	Role: User	Patient	large networks	Articulate	Age: 35 - 45	Insightful	Use LinkedIn, Facebook	<p>Goals</p> <table border="1"><tbody><tr><td>Help students locate resources of career information</td><td>Help students prepare for interviews</td></tr><tr><td>Advise students in course selection and scheduling with regard to career tracks</td><td>Teach students effective ways of networking</td></tr><tr><td>Help students figure out their educational and career goals</td><td>Connect students to employment opportunities</td></tr><tr><td>Help students polish their resumes and other application materials</td><td>Develop long-term relationships with employers</td></tr></tbody></table>	Help students locate resources of career information	Help students prepare for interviews	Advise students in course selection and scheduling with regard to career tracks	Teach students effective ways of networking	Help students figure out their educational and career goals	Connect students to employment opportunities	Help students polish their resumes and other application materials	Develop long-term relationships with employers							
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## Whole Problem

# Whole Problem Canvas

Use this template to capture the 9 elements of well-defined customer problems.

- 1 Start with the persona.** It's best to start with the persona as you want to put the focus on creating solutions that people have and want.
- 2 One canvas per persona.** In most cases, it is best to create one canvas per persona. If you want to clearly define problems that each persona faces. With two personas on a canvas, it can be difficult to know which information applies for each persona.
- 3 Conceptual Relatedness.** Make sure each of the 9 ingredients are conceptually related to each other. For example, the actual and desired outcomes should represent results for the use cases identified on this canvas.
- 4 Evidence.** Try annotating the items on the canvas for which you have evidence to support your work. You could use a check-mark to indicate that you do have evidence. Or, red-yellow-green icons to represent the quality of evidence you have. You could even try adding a statement of evidence (e.g. a quotation from a customer.)



## Customer Problem Analysis

### Jobs to be Done

Engage with students throughout their job search process – This is the main job that has been done by the Career Advisor where they have to engage with the students and organize sessions (such as resume and LinkedIn profile review sessions) and activities to increase the student engagement. It is also one of the challenges that the interviewee is facing. The same was highlighted by the interviewee on multiple instances.

### Use Cases

We have divided the use cases into four general categories, as shown below.

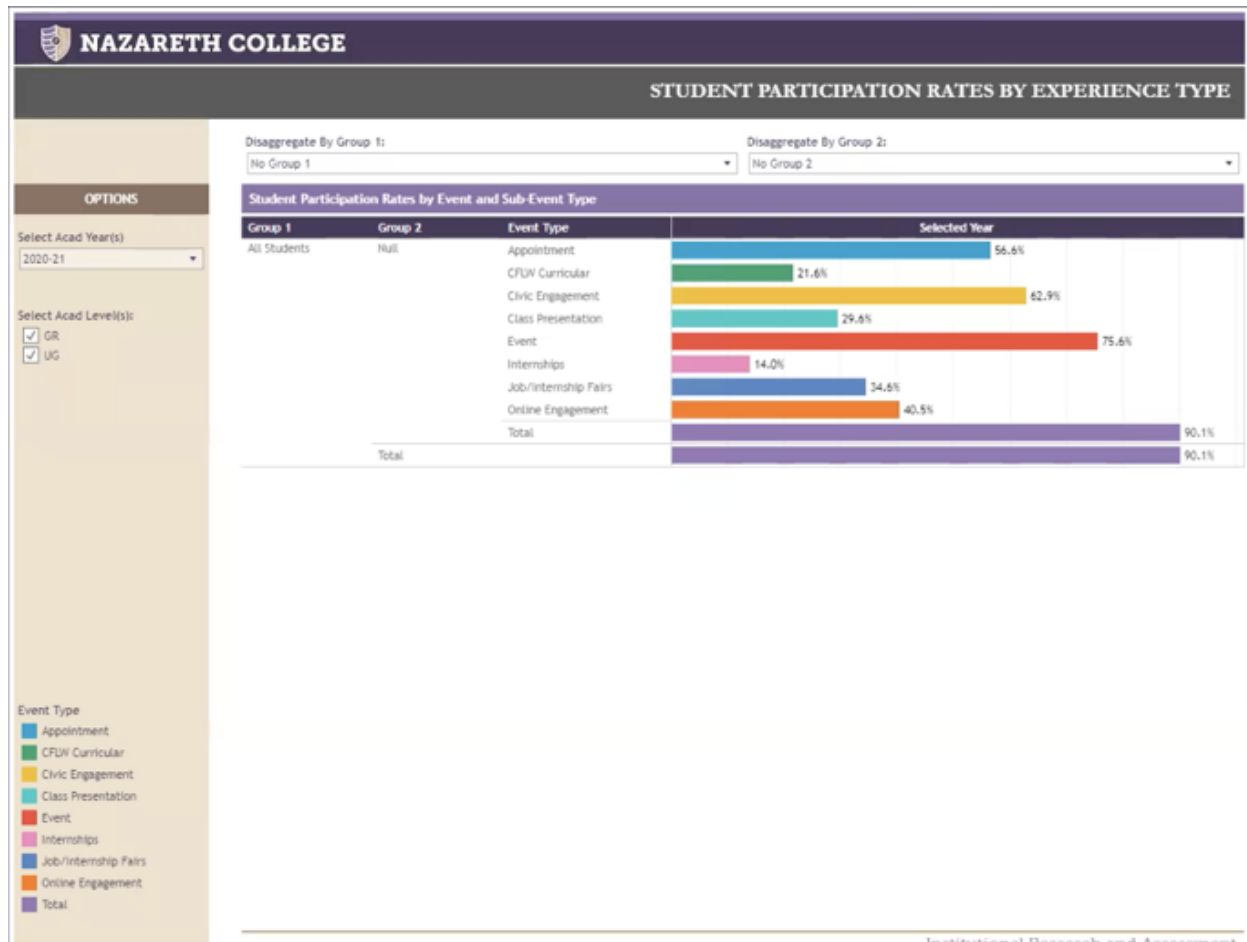
- a. Student types - different characteristics of students will affect which engagement methods will be used and most effective
  - i. STEM students vs. Non-STEM students
  - ii. Graduate vs Undergraduate students
- b. Employment types - the processes for seeking internships and full-time jobs are different
  - i. Internships vs. Full-time
- c. Stages in the process - there are different stages within the job seeking process, and each scenario can be counted as a separate use case
  - i. Career planning
  - ii. Back on campus
  - iii. Interviewing process
  - iv. Job negotiation
  - v. After graduation
  - vi. Reporting destination/salary information
- d. Low vs high student-to-advisor ratio - there are some state schools that have lots of students and few advisors; some have a more personalized career advising experience. The use cases will be different for colleges with different student-to-advisor ratios.

### Problem Category

Student Engagement Problem – Post our interview, we understood that career advisors face student engagement as a challenge. In our case, we assume that all students need to find a desired career path or pursue further education to be considered as successful. In addition, we also assume that career advisors can provide the best solution in finding a desired career with desired salary. Given this situation, students who don't attend any career services will lose their best opportunities to be trained and coached, which may lead to the problem that they cannot find their desired career or desired salary.

### Evidence to support

1. The screenshots below show the student engagement data in Nazareth College, as an example. Currently, the overall engagement rate is at 80% to 90%, which means there is a 10% to 20% gap in between, and those students never reply to emails or attend any services. Given this situation, the customers see this as a loss for students pursuing their desired career opportunities. If the engagement can achieve 100%, career advisors can save the time of chasing students and try to maintain a larger network and bring more opportunities to students.







Evidence (Zoom Transcript) that talks about the above-mentioned graphs -

10:38:50 You know, so you bring up a good point about 10%, who aren't engaged, and I don't think we've pulled that data out yet to actually reach out to those students.

10:39:01 You know, we do identify higher risk students, and try to connect with them.

10:39:10 But that might be separate than those who aren't using us, and sometimes there are students who are just go getters and kind of do their own thing, and they don't necessarily need us.

10:39:24 So, it's hard to figure out who that 10% is you know.

- This evidence (Zoom Transcript) talks about the fact that career service isn't mandatory.

10:08:53 So for the Career Service that's you guys do.

10:08:57 Is that a **mandatory** service or, it's a voluntary service for those students, it's **voluntary**. Mm hmm. Yeah, we have some incentives, which are kind of neat.

10:09:09 So this is kind of a small tangent, but we have what's called the spark grant.

10:09:14 It stands for students pursuing academic real world knowledge, and it's a 1500 dollar grant to do an unpaid summer internship or a summer research experience, or to study abroad.

3. This evidence (Zoom Transcript) talks about the **limitations** of the **current infrastructure** and what can be done to make it more **efficient**

10:40:17 like, let's just, if you, if you have a magic wand and you can get rid of the stuff you don't like about scowling of the service, like the matching the network between alumni and.

10:40:42 day will be like thinking if I had a magical one that could create a magical database of being able to.

10:40:50 It's almost like it was more integrated with AI, to figure out like, because you know, we track our student appointments right and these students turned to alumni, you know, but it's like after they turn to alumni.

10:41:04 That's kind of like the end interaction they have with Handshake.

10:41:08 But like, if we can integrate that with LinkedIn or other sources, you know, to try to figure out where do these people go, so like when I'm working with a first year student, if there's a way for me to connect them with someone that I talked to three

10:41:20 years ago who is now doing the thing that the student wants. Like, that's what I would love to be able to do is, you know, and I have, you know, we take notes on appointments.

10:41:32 So it would be so nice to be able to figure out, How we can recall the information a lot easier.

10:41:39 And handshake does have some reporting features where you can search your coach notes but it's hard to figure out like a tagging system or something like that, to try to figure out how you can pull that information that you need.

10:41:53 I feel like we're all swimming in data, but it's just like we don't know how to make sense of it all.

## Market

Source: <https://www.gradleaders.com/career-services-challenges>

Data:

- 67% of career centers struggle with student engagement

Source: <https://www.bls.gov/ooh/community-and-social-service/school-and-career-counselors.htm>

Data:

- 322,000 University and school career advisors in USA
- 11% Growth rate in 2020
- A total of 215,740 career advisors face this problem in USA

## Summary of Customer Interview (Jenny)

**Project Team**                      **Team 1**

### **Part 1. Interviewing Team**

Interview Facilitator      *Tianyi Zhu*

Interview Recorder        *Oliver Su*

### **Part 2. Customer Interview**

Customer                      Jenny Hurst, CMU, Associate Director of Career Service in ETIM and EPP

Interview Date/Time      *Sep 15, 2021 10am – 11am*

Interview Location        <https://cmu.zoom.us/j/6567057922>

Interview Record

- Recording  
[https://cmu.zoom.us/rec/share/RX5g2rSzleUB9\\_G-54mxD113sn4OlvMlkTGIZ3A6XzhlHEknvkfGGAOobYa5SAh1.tWSRez\\_laRqYquHw](https://cmu.zoom.us/rec/share/RX5g2rSzleUB9_G-54mxD113sn4OlvMlkTGIZ3A6XzhlHEknvkfGGAOobYa5SAh1.tWSRez_laRqYquHw)  
Passcode: A2a\*Eq^f
- artifacts: none

### **Part 3. Key Findings**

Here's what we discovered from our interview:

#### **1. The most challenging step in her journey to do the job is getting students engaged with all services and activities she provided.**

Sometimes, students are not willing to engage with career service and not even know the existence of all types of career services she provides. For example, she needs to create a resume book to share with her networks to bring more opportunities to students in finding internships and full-time jobs. Some students didn't cooperate by not sharing their resume through Handshake or emails. Since she only serves 50 to 80 students each semester, she can send reminder emails to those students. Even so, there are still some students keeping silent. If the students she serves doubled, it will be hard to manage the engagement issues.

#### **2. She wishes to have more time to expand her networks with recruiters, industry staff.**

During recruiting seasons, she will be busy with students' appointments, communications, resume / cv reviews, sometimes she will have twenty appointments in a week. It's hard for her to keep a regular routine for building networks with outside sources, and seasonality is affecting her schedule planning. She wishes to build up more connections and bring more opportunities to her students on a more regular basis.

#### **3. She wishes to have more time to build mid- or long-term goals for the program**

Since she is employed by the ETIM program, she doesn't have much information about the CPDC career center. Until recently, she knew that CPDC is requiring students to attend certain career workshops, sessions or even classes to ensure the engagement of students. She is also trying to develop similar sessions or classes for ETIM students to improve the engagement rate. Thus, she hopes to have more time to think about the long-term goals for the development of the program.

#### **Part 4. Improvement Opportunities**

Here's where we could improve our interviews

1. Since both me and Tianyi are from the ETIM program, we are familiar with her, with the topics and routine works that Jenny talked about. Thus, our interview went smoothly and relatively quick. We finished everything up with not even fifty minutes. I guess we should be aware of this situation before our interview and prepare some more deep questions.
2. On the other hand, Jenny seems to be really happy about her current position and work since she was recruited only two years ago, so it's also hard for her to come up with a lot of disappointments about her jobs, not to mention improvements. We should try to use more different ways to dig out more problems.

## Summary of Customer Interview (Jordan)

**Project Team**                      **Team 1**

### Part 1. Interviewing Team

Interview Facilitator      Sherya Sheelvant  
Interview Recorder        Tianyi Zhu

### Part 2. Customer Interview

Customer                      Jordan Bell, Columbus College of Art & Design  
Assistant Director of Career Services (in Columbus, Ohio)

Interview Date/Time      Sep 21, 2021 10am – 11am

Interview Location        <https://cmu.zoom.us/j/92156796880>

Interview Record

- Recording  
[https://cmu.zoom.us/rec/share/FAnPB5WQOhkaUzHYq1EVg-WRFJsO3ZFm1o\\_QnKgY7\\_jwYCjxoMmhuHYch0PU5k1h.YlzlPNxwsNDWDXQ3](https://cmu.zoom.us/rec/share/FAnPB5WQOhkaUzHYq1EVg-WRFJsO3ZFm1o_QnKgY7_jwYCjxoMmhuHYch0PU5k1h.YlzlPNxwsNDWDXQ3)  
Password: F#5g34.h
- Artifacts: none

### Part 3. Key Findings

Here's what we discovered from our interview:

#### 1. Low student engagement rate is a core area of concern

According to Jordan, he is only able to engage with about 40% of the student population. Additionally, 20% of the students never engage with the career services in any way. The low rates are a combination of two factors. One factor is that the career services' office is under-staffed. It is practically impossible for Jordan to personally meet with 100% of the students. Secondly, students usually come to an arts college for non-career reasons. They do not have the sense of urgency to convert their interests and skills into careers.

#### 2. It's difficult to motivate students to be proactive in the job search and career building process

Jordan wished his students could have a better understanding of what it means to do creative work and *also* have a creative career. He stated that there is an industry demand for creative talent, but students are interested in “having/doing their own thing” and expressing their artistic freedom instead of matching their skills with what employers want. Jordan said it's important to ingrain the career mentality early in students' college lives.

#### 3. Low response rate on the post-graduation destination survey

The post-graduation survey response rate is only 20%-30%, which means students are not reporting on their career destinations and/or salaries. Surprisingly, there is not an incentive for the career service to

improve on the response rate. Jordan attributed it to the fact that the career center at arts colleges does not have a quantitative or result-driven focus. Instead, they look at things more qualitatively.

#### **4. Technology/tools for students are not personalized/customized enough to be useful**

Jordan used to serve as the Technology Chair for the Liberal Arts Colleges Consortium. Based on his observations and interactions with vendors of different software, he said the tools and software they provided just provide generic information and are not tailored to students' individual needs. He found them not useful or not convincing enough for him to make a purchasing request/recommendation for the college he's working for.

#### **5. Alumni engagement is not important for arts colleges**

Jordan mentioned that the alumni engagement rate at his current college is around 2-4%, which is very low compared with some liberal arts colleges (around 40%-50%). He explained that this is because alumni looking to employ creative talents do not have specific place(s) in mind when they look for new hires. They just want to see if a person is a good fit with the company and do not attach school loyalty at all to their hiring decisions.

#### **6. The career center is looking for ways to increase student engagement**

Jordan said there are several initiatives that he wished he could spend more time on to increase student engagement. For example, he mentioned that he was creating podcasts and videos for students to watch; he was also putting together PDF guides for students to read. He also worked on bringing employers to the classroom so that students can have a "reverse internship" experience and work on projects from companies. He also suggested that the career center can move the office space closer to students' lounge space so that students can "drift" into the career center.

### **Part 4. Improvement Opportunities**

Here's where we could improve our interviews

1. During the interview, the interviewer had difficulties with Zoom on her computer, so it caused some disruption to the flow of the interview process. However, the impact was minimized because the note taker took over temporarily and followed up with questions. We could have avoided this problem by testing out the device with Zoom beforehand.
2. The interviewee has a tendency to digress from our main conversation and talk about high-level problems/experiences instead of capturing details from his day-to-day activities. We could have steered him into more focused areas and dug deeper into the details.

## Summary of Customer Interview (Zac)

**Project Team**                      **Team 1**

### **Part 1. Interviewing Team**

Interview Facilitator    *Oliver Su*

Interview Recorder        *Mohil Jain*

### **Part 2. Customer Interview**

Customer                      Zachary (Zac) Saeva, Nazareth College, Assistant Director of Career Operations  
(in Rochester, New York)

Interview Date/Time    *Sep 16, 2021, and 10am – 11am*

Interview Location

<https://cmu.zoom.us/j/93107690832?pwd=dFltWmpCenlORVNURDY2ZlE0ZVhKZz09>

Interview Record

- Recording  
[https://cmu.zoom.us/rec/share/P-B0Rjh3ieQHSL9PS86C0tYloedEe6ili0Q8Ni88\\_UOvbsVRkN9f5wzH1fwrucr.L9Crmi9uMWY9GKC8](https://cmu.zoom.us/rec/share/P-B0Rjh3ieQHSL9PS86C0tYloedEe6ili0Q8Ni88_UOvbsVRkN9f5wzH1fwrucr.L9Crmi9uMWY9GKC8)  
Passcode: 5?N0m96x
- Artifacts: none

### **Part 3. Key Findings**

Here's what we discovered from our interview:

#### **1. Student Engagement:**

As per Zachary, opting for career services isn't a mandatory requirement, so it gets difficult for him and his department to engage with the students as they are not willing to engage with career service. Currently, they have a student participation rate of 90%, which they would want to increase.

#### **2. Integrated System:**

Zachary wants to have an integrated system to match and connect current students with Alumni. Currently, they are using multiple systems such as Handshake, PeopleGrove, LinkedIn, Spreadsheets, however as per Zac, this is a time-consuming process, and he wishes to have a single system that is a combination of all the above-mentioned platforms.

#### **3. Use of Data:**

The career services team at Nazareth have a pretty good dataset in Tableau, that informs them about the student participation rate in career fairs and events, however they are not able to use the dataset better, due to which they fail to connect with the students.

#### **4. Operational/Administrative Work is his least favorite part of the job:**

Administrative work is the least favorite part of Zac's job, as he needs to administer handshake maintenance issues as well as send emails to students/faculties back and forth related to career events and provide them knowledge on various portals. He suggests if there can be a knowledge management system that can be implemented to reduce the redundant work.

#### **Part 4. Improvement Opportunities**

Here's where we could improve our interviews

1. The interview went smoothly. We were able to finish everything up within 45 minutes. However, we felt we should have identified this situation before our interview and should have prepared a few more questions to utilize the time properly.
2. We understood Zac's problems superficially, however, I feel we should have done a deep dive on the main problem and talked more about it.



## Summary of Customer Interview (Lynn)

**Project Team**    *Team 1*

### Part 1. Interviewing Team

Interview Facilitator    *Mohil Jain, Product Manager, TartanWorks Inc.*

Interview Recorder    *Shreya Sheelvant, Product Manager, TartanWorks Inc.*

### Part 2. Customer Interview

Customer    Lynn Rosen, Assistant Director-Career Management Center, MBA, University of Pittsburgh-Joseph M. Katz Graduate School of Business

Interview Date/Time    September 17, 2021, 11:30 A.M.

Interview Location    <https://cmu.zoom.us/j/95124039842?pwd=WThZYXR1ZmdBNlUg2b3Npem9MODRVdz09>

Interview Records

- Recording:

[https://cmu.zoom.us/rec/share/vft\\_471\\_hFKHZBiSUXOKXWApJs-SKxgQvm2l3i\\_L2RuNC-peoXaChPdsB\\_lxpKz.7PHKGNMfngVOrhyq](https://cmu.zoom.us/rec/share/vft_471_hFKHZBiSUXOKXWApJs-SKxgQvm2l3i_L2RuNC-peoXaChPdsB_lxpKz.7PHKGNMfngVOrhyq)

Passcode: Y4+bg2#y

- Artifacts: none

### Part 3. Key Findings

Here's what we discovered from our interview:

**1. Most “challenging” part of her job is student engagement.** She doesn't want to chase students to get information from them about their career updates. She believes that her students are adults, and they are accountable. They do not need to be forced into doing anything, so she gives them the choice of interacting with her when they want to. Since career advising is not mandatory for students, it gets tricky as to where the line needs to be drawn. They can also help students with negotiations or signing bonus. The university has targets to reach (like 92% placements, average salary of 94k), so it becomes important for her and her team to keep track of placements and job offers. This is where the 'gap' lies. Currently, their interactions are transactional, but she wants it to be more strategic.

**2. She doesn't find time for developing her skills.** There is no platform where she and her team can learn about what they can do better to prepare students for today's industry. Maybe a platform which has courses they can take or skills they can learn would help them be more up to date about industry trends and requirements and assess if they are lacking in any means.

**3. They don't do a good job of collecting relevant data.** The final goal is to show how much career counselling can help students with job search. To achieve this goal, they first need metrics about student engagement, placements, involvement in case study competitions, career fair enrollments etc. Currently, they do not have any means of getting this data to convert it into marketable information.

**4. Introduce “Automation” of some form.** She and her team send out emails to follow up with students. This makes it hard to keep track of what each student is doing. A system which could prompt next steps depending on which stage the student is in would save them sometime to focus on their own career development.

#### **Part 4. Improvement Opportunities**

Here’s where we could improve our interviews

1. The interview was a little transactional. Although we tried to naturally flow into the next topic, more often than not, it was like asking a list of questions we needed to get answers to.
2. Our introductions were not as professional as we expected it to be. We were nervous when we started off the interview, but we were at ease within a few minutes.
3. We interviewed her for the most part of the hour, which didn't give us any time to summarize our notes and confirm the key takeaways with her. If we had done this, it would have helped us understand if what seems important to us is equally important to them.

## Customer Interview Files

### Jenny -

[https://cmu.zoom.us/rec/share/RX5g2rSzleUB9\\_G-54mxD113sn4OlvMlkTGIZ3A6XzhHEknvkfGGAOobYa5SAh1.tWSRez\\_laRqYquHw](https://cmu.zoom.us/rec/share/RX5g2rSzleUB9_G-54mxD113sn4OlvMlkTGIZ3A6XzhHEknvkfGGAOobYa5SAh1.tWSRez_laRqYquHw)

Passcode: A2a\*Eq^f

### Jordan -

[https://cmu.zoom.us/rec/share/FAnPB5WQOhkaUzHYq1EVg-WRFJsO3ZFm1o\\_QnKgY7\\_jwYCjxoMmhuHYch0PU5k1h.YlzIPNxwsNDWDXQ3](https://cmu.zoom.us/rec/share/FAnPB5WQOhkaUzHYq1EVg-WRFJsO3ZFm1o_QnKgY7_jwYCjxoMmhuHYch0PU5k1h.YlzIPNxwsNDWDXQ3)

Passcode: F#5g34.h

### Lynn -

[https://cmu.zoom.us/rec/share/vft\\_471\\_hFKHZBiSUXOKXWApJs-SKxgQvm2I3i\\_L2RuNC-peoXaChPdsB\\_lixpkz.7PHKGNMfngVOrhyq](https://cmu.zoom.us/rec/share/vft_471_hFKHZBiSUXOKXWApJs-SKxgQvm2I3i_L2RuNC-peoXaChPdsB_lixpkz.7PHKGNMfngVOrhyq)

Passcode: Y4+bg2#y

### Zac -

[https://cmu.zoom.us/rec/share/P-B0Rjh3ieQHskL9PS86C0tYloedEe6ili0Q8Ni88\\_UOvbsVRkN9f5wzH1fwrucr.L9Crmi9uMWY9GKC8](https://cmu.zoom.us/rec/share/P-B0Rjh3ieQHskL9PS86C0tYloedEe6ili0Q8Ni88_UOvbsVRkN9f5wzH1fwrucr.L9Crmi9uMWY9GKC8)

Passcode: 5?N0m96x

# Fertile Land research

## Study 1 (Oliver)

### Summary:

- Use aptitude and achievement assessments to help students or clients evaluate their interests, skills, and abilities
- Evaluate students' or clients' background, education, and training, to help them develop realistic goals
- Guide students in making decisions about careers, such as choosing an occupation and the type of degree to pursue
- Help students select and apply for educational programs to obtain the necessary degrees, credentials, and skills
- Teach students or clients job-search skills, such as interviewing and networking
- Assist clients in locating and applying for jobs, by teaching them strategies that will be helpful in finding openings and writing a résumé
- Maintain network with students, alumni, industry recruiters

### Market:

College, Universities, public & private schools

### Requirement:

Need a state-issued credential

### Outlook:

Employment of school and career counselors and advisors is projected to grow 8 percent from 2019 to 2029, much faster than the average for all occupations. Increasing student enrollment at all education levels is expected to lead to employment growth of these workers.

### Skills:

Analytical, compassion, interpersonal, listening, speaking

### Employment:

90,500

The most recent estimate of market size in this field is \$14 billion, with annual growth projected to be 0.6%. There appears to be an increased demand in this field for the use of technology.

### Computer-assisted career guidance system:

Advisor loads vary between the size of the institution. Technology is the most substantial trend to consider in the field of academic advising and career counseling. Counselors find that advising and

counseling services can be communicated to students remotely through podcasts, webinars, degree audit systems, career guidance programs, testing and other programs. “E-advising field” evolves and is increasingly implemented at colleges and universities.

Graduates who visited career centers at least once were more likely to be employed full time after college than those who did not visit (67 percent compared to 59 percent).

“The most heavily indebted college graduates require more support in navigating the transition from college to career, as they enter the workforce at a financial disadvantage relative to those with less or no undergraduate debt

#### **Challenge:**

- Only 17% of recent graduates say career centers are “very helpful”.
- 35% of students went to career consulting 50 years ago; 55% twenty years ago; 61 percent ten years ago. Public and private schools were equally likely to visit career centers.
- “One of the challenges is helping students understand that going to the career office is a multi occasion, multi-year experience, not just going ‘at least once’. Sometimes students think they’ll go one time for 30 minutes and get everything they need, but it’s not that simple.”
- Career centers may sometimes do a poor job of advertising what services they provide, leaving students with the impression they aren’t receiving as much help from them.
- Some graduates said it was likely they just didn’t take full advantage of the resources being offered. Others said career centers were helpful when it came to preparing for job interviews and creating resumes, but that they did little to prepare students for other aspects of having a successful career, such as salary negotiation.
- Difficulty keeping staff skills and knowledge up-to-date
- Some students’ unrealistic expectations that you should do most of the work and place them in jobs
- 9% of schools are no longer hosting career fairs on campus
- 74% of career centers are utilizing online assessments as part of the career development process
- 44% of career centers struggle with students’ unrealistic expectations
- 48% need help collecting employment outcomes data from graduates
- 19% of career centers report issues managing co-op and experiential learning workflow processes
- Sometimes family members can open up a student's professional network better to help them land a job. For first-generation students, a career center might be the first source of job advice.
- The scope and quality of a given school’s career services largely depends on the resources it has available and its advisor-student ratio.

#### **Reference:**

<https://www.bls.gov/ooh/community-and-social-service/school-and-career-counselors.htm#tab-6>

<https://askwonder.com/research/demographics-firmographics-academic-advisers-career-counselors-college-f0eufutl4>

<https://www.insidehighered.com/news/2016/12/13/only-17-percent-recent-graduates-say-career-centers-are-very-helpful>

<https://www.gmac.com/why-gmac/gmac-news/gmnews/2003/september-october/tackling-the-top-10-challenges-in-career-services>

<https://www.theatlantic.com/education/archive/2018/01/why-arent-college-students-using-career-services/551051/>

<https://www.insala.com/blog/how-to-overcome-career-development-challenges>

[https://hrmars.com/papers\\_submitted/8047/technology-assisted-career-counselling-application-advantages-and-challenges-as-career-counselling-services-and-resources.pdf](https://hrmars.com/papers_submitted/8047/technology-assisted-career-counselling-application-advantages-and-challenges-as-career-counselling-services-and-resources.pdf)

## Study 2 (Shreya)

### **What is Career Advising?**

Source:

<https://www.indeed.com/career-advice/finding-a-job/what-is-career-counseling>

Data:

Career counseling is a service designed to help people find the right professional path. Career counselors, also referred to as "career coaches" or "job coaches," provide guidance to professionals from varying fields, backgrounds and experience levels. Clients of a career counselor may seek advice on their ongoing job search, perspective on a mid-career industry change, or guidance on general professional development. It is the career counselor's role to help you understand your options and evaluate challenging professional decisions. Career counselors also support professionals by providing resources, administering tests and recommending tactics for securing a great job.

Source:

<https://nacada.ksu.edu/Resources/Clearinghouse/Career-Advising.aspx>

Data:

Career advising is an important activity for advisors because such a high percentage of students do not have clear career goals. Due to the nature of their relationship with students, advisors can help students clarify their goals and lead them to essential career resources. Capitalizing on such a unique position, the following resources provide insight into the nuances and practices of career advising.

### **What is the job of a Career Advisor?**

Source:

<https://www.indeed.com/career-advice/finding-a-job/what-is-career-counseling>

Data:

#### **Responsibilities**

- Administering and evaluating tests for aptitude and character traits
- Collaborating on developing actionable career goals
- Teaching job search techniques such as utilizing search platforms and building a professional network
- Demonstrating effective interview techniques and tips
- Assessing and improving resumes, cover letters, portfolios and professional networking profiles
- Assisting in applying for professional development programs such as certifications, higher education and professional associations

#### **How can a career advisor help students?**

- Resume writing
- Interview advice
- Salary negotiation tips
- Job change counseling

Source:

<https://www.greatsampleresume.com/job-responsibilities/education/career-counselor>

Data:

- Provide career counseling and career development sessions for graduates and alumni.
- Develop career services programs that will help student in exploring and planning career options.
- Work with students on their needs for career development.
- Conduct trainings, workshops, lectures, presentations, and other events to develop career planning and employability skills for students.
- Develop positive working relationship with faculty, administrative and co-workers to achieve desired goals.
- Coordinate with academic advisors to help students in making career choices based on their academic majors.
- Research and analyze current employment trends in various industries.
- Maintain regular contacts with potential employers for new job opportunities.
- Educate students on resume building, interview skills, and professionalism.
- Conduct mock interviews and job search workshops for students.
- Conduct career awareness events and job fairs for students
- Execute outreach programs to promote career services among students.
- Maintain a database of student academic and employment records.

#### Job Description:

<https://www.verywellmind.com/career-counselor-2795645>

[https://www.indeed.com/hire/how-to-write-a-job-description?gclid=Cj0KCQjwm9yJBhDTARIsABKlcGZnmm8ukpj43RXK8w2eBa89uhK0Aj3ioUAvgdWEmq50jkhM\\_yi9VAaAj9IEALw\\_wcB&aceid=](https://www.indeed.com/hire/how-to-write-a-job-description?gclid=Cj0KCQjwm9yJBhDTARIsABKlcGZnmm8ukpj43RXK8w2eBa89uhK0Aj3ioUAvgdWEmq50jkhM_yi9VAaAj9IEALw_wcB&aceid=)

<https://www.mightyrecruiter.com/job-descriptions/career-counselor/>

<https://www.bls.gov/ooh/community-and-social-service/school-and-career-counselors.htm>

<https://www.onetonline.org/link/summary/21-1012.00>

[https://www.indeed.com/jobs?q=College%20Career%20Counselor&mna=5&aceid&gclid=Cj0KCQjwm9yJBhDTARIsABKlcGYe2d-8LI3uhsTcTjokpBxaE6yRbhkFvSTUMTGX5G8iYgMH0S06-kgAAuXJEALw\\_wcB&vj=19cf3be8e94d8333](https://www.indeed.com/jobs?q=College%20Career%20Counselor&mna=5&aceid&gclid=Cj0KCQjwm9yJBhDTARIsABKlcGYe2d-8LI3uhsTcTjokpBxaE6yRbhkFvSTUMTGX5G8iYgMH0S06-kgAAuXJEALw_wcB&vj=19cf3be8e94d8333)

#### Career Advising Statistics?

Source:

<https://www.bls.gov/ooh/community-and-social-service/school-and-career-counselors.htm>

Data:

Quick Facts: School and Career Counselors and Advisors	
2020 Median Pay	\$58,120 per year \$27.94 per hour
Typical Entry-Level Education	Master's degree



<b>Work Experience in a Related Occupation</b>	None
<b>On-the-job Training</b>	None
<b>Number of Jobs, 2019</b>	333,500
<b>Job Outlook, 2019-29</b>	8% (Much faster than average)
<b>Employment Change, 2019-29</b>	26,800

### **Career Advisor Outlook:**

Source:

<https://careersinpsychology.org/employment-outlook-guidance-career-counselors/>

Data:

At the university-level, the role of the career counselor varies greatly from that of counselors working at the primary and secondary levels. Career counselors who deal with the student in the earlier years of their development have the responsibility of both academic counseling and career counseling. At the university-level, the two are divided. Dr. Jennifer Bloom (University of Illinois) compiled a series of seven articles regarding university-level career counseling entitled; "Developmental Academic Advising in Higher Education." The gravamen of the compilation was the need for further clarification as to how the career counseling paradigm differs from that which is present in the academic counseling sphere. The working definition they utilized was:

"Career counselors help students find careers that fit their values and goals."

Although quite simple; a similar definition was purported in a recent statement published by the National Association of Colleges and Employers.

### **Career Advisor Challenges**

Source:

<https://www.gmac.com/why-gmac/gmac-news/gmnews/2003/september-october/tackling-the-top-10-challenges-in-career-services>

Data:

- Student anxiety about not being able to find a job
- Some students' unrealistic expectations that you should do most of the work and place them in jobs
- Students who don't take advantage of what you have to offer
- Not enough recruiters or jobs
- Late offers, rescinded offers, delayed start dates
- Difficulty keeping staff skills and knowledge up-to-date
- A handful of students who may be alienating recruiters or hurting the school's reputation
- Staff burnout or lowered morale
- Not enough time, money, or resources

- Lack of support for you or your team

Source:

<https://careerwise.ceric.ca/2019/10/23/big-problems-in-career-counselling-and-a-possible-way-out/#.YTddHJ1KjZQ>

Data:

- The self-concept or career identity is the basis for career choices, but people believe all kinds of things about themselves and the world that don't have to be true at all. Many clients have prejudices. They exclude all kinds of areas of interest in advance. Without having any experience, they are convinced that something is not for them. Thus, they will never gain any experience in those areas. Large parts of the world remain closed to them.
- Especially with young people, self-concept and career identity are strongly influenced by family and friends. Their choices are not really their own choices, even when they think they are.
- In many countries, schools try to teach career competencies to students and try to develop their career identities. But these students are not yet ready for that, because they do not yet have the necessary brain structures and experiences.
- Career counselors do not always succeed in adequately answering their clients' questions. The guidance offered is often not sufficient to adequately solve clients' problems.
- The career profession holds a crucial position in helping solve the huge problems that the future world of work will bring. But we are insufficiently equipped to cope with many current and future career problems.

Source:

<https://www.mindler.com/blog/5-professional-challenges-faced-by-career-counsellors/>

Data:

- Broken education system
- Imbalance in Demand/Supply
- Access to Substantial Resources and Reach
- Challenging Stigmas and prejudices
- Fighting the "Quick-Fix" Psyche

### **Best Practices of Career Advisors:**

Source:

<https://www.linkedin.com/pulse/5-best-practices-career-counselling-margaret-orina/>

Data:

- Career Counselors need to be cautious about giving advice also known as using the "Advice - Centered" approach
- Allow clients to dream
- Career Counselling helps people to discover and build on the skills they like using most
- The Counselor's role is to listen to the client's issues without being judgmental and without making assumptions. This should then be followed by helping the client develop strategies for

overcoming the problems/issues they have stated or shared and to help them find ways to manage the negative emotions

- Guide clients to determine the steps to a career goal

### **Technologies used by Career Advisors:**

Source:

<http://career.iresearchnet.com/career-development/technology-and-careers/>

Data:

As noted, a number of different tools are used by career counselors today. These include computer-assisted career guidance systems (e.g., DISCOVER, SIGI (or the System of Interactive and Guidance Information), CHOICES, CDSS (or Career Decisions Software Solutions) and online information systems (Internet).

## Study 3 (Mohil)

### **Career Advising**

Career advising may be viewed as helping students understand how their academic and personal interests, abilities and values might relate to the career fields they are considering and how to form their academic and career goals accordingly. Although the title of “academic counselor” is used by some institutions, a clear distinction must be made between career counseling and career advising. Career counselors provide more traditional counseling functions such as helping students with career self-assessment, job search and job placement activities, or counseling students who are experiencing more stressful personal situations relating to career decision-making and maintenance.

### **Job/Responsibilities**

The Academic/Career Advisor is responsible for providing sound academic advising support to assist students in planning their educational career, learning skills necessary for academic success. Connecting students to campus resources and services in support of goal attainment.

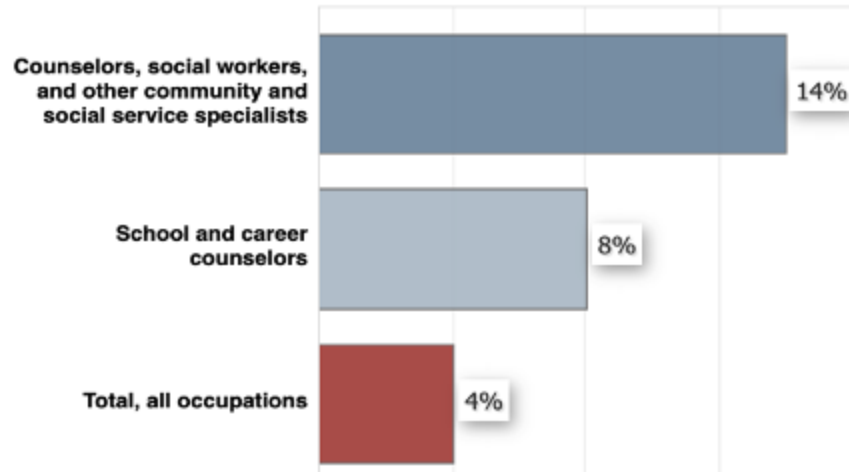
They provide comprehensive academic and career planning services to students using effective communication techniques with various modes of technology and encouraging and guiding students to define and develop realistic goals.

### **Job Outlook and Statistics**

Employment of school and career counselors and advisors is projected to grow 8 percent from 2019 to 2029, much faster than the average for all occupations. Rising student enrollment in elementary, middle, and high schools is expected to increase demand for school counselors. As enrollments grow, schools will require more counselors to respond to the developmental and academic needs of their students. Colleges will need to hire additional counselors and advisors to meet the demand for career counseling services from their students. Demand for career counseling is projected to increase in universities as an increasing number of campuses open onsite career centers to help students develop skills and prepare for transition to the workforce. Career counselors and advisors also will be needed to assist those who change careers, to help laid-off workers find employment, and to help military personnel transition into the civilian job market.

## School and Career Counselors and Advisors

Percent change in employment, projected 2019-29



Note: All Occupations includes all occupations in the U.S. Economy.

Source: U.S. Bureau of Labor Statistics, Employment Projections program

### Quick Facts: School and Career Counselors and Advisors

<b>2020 Median Pay</b> ?	\$58,120 per year \$27.94 per hour
<b>Typical Entry-Level Education</b> ?	Master's degree
<b>Work Experience in a Related Occupation</b> ?	None
<b>On-the-job Training</b> ?	None
<b>Number of Jobs, 2019</b> ?	333,500
<b>Job Outlook, 2019-29</b> ?	8% (Much faster than average)
<b>Employment Change, 2019-29</b> ?	26,800

## Technology

### 1. Use data to drive (and continually improve) your strategy.

How do you know what signs to look for in the data? The best way is to look back at your historical data and look for trends among students that fell behind (delayed graduation dates) or dropped out. If your institution doesn't currently have the ability to access the data, you can also use research and best practices from other institutions that have used their historical data to identify trends, such as:

- Students who haven't registered for the next term
- Students who are behind on a bill or payment
- Students who have past-due forms for federal financial aid
- Students whose grades have fallen below departmental thresholds

- Students who are close to graduation and have outstanding requirements
- Students who need to register for a major requirement

Once these trends are identified, advisors can reach out – whether that’s for an in-person meeting, or a video chat online. And as VCU noted, the use of technology makes it much easier to track a larger number of students and ensure outreach campaigns are initiated.

## **2. Work with the financial services department to utilize financial data to assist in your academic advising strategy.**

Poor academic performance isn’t the only warning sign of a student in danger of dropping out or falling behind in school. Financial troubles play a large role in affecting retention rates, so recognizing warning signs in this area can make a huge difference.

Georgia State developed their own Financial Management Center that uses technology to identify students that are at a financial risk of dropping out. The system utilizes signs like late payments or past due dates on financial aid paperwork to alert advisors so that they can reach out to provide support. Arizona State University’s advising system not only captures financial aid data, but it also captures data from residency halls and campus police to look for behavior problems that a student may be having.

With low-income students and underserved populations, this data is crucial, as financial troubles are often the number one reason why low-income students drop out. With these types of warning signs, a simple text may not be the best option to support students. In these cases, a more effective strategy would be setting up on video chat or in-person appointment to get to the root of the problem and offering solutions like additional aid opportunities or on-campus job openings.

## **3. Develop an outreach plan that utilizes automatic communication software.**

Email isn’t the only way to reach out to students. Texting campaigns have become increasingly popular among many institutions. A study by Dr. Benjamin Castlemen, an Assistant Professor at UVA and the Founder of Nudge Solutions Lab at UVA, found that 86% of students reported that a text message prompted them to complete a task they hadn’t done yet. Furthermore, less than 3% of students opted out of receiving regular text messages during a summer melt campaign.

In addition to proving the effectiveness of texting campaigns, Dr. Castlemen’s research also showed that texting had the biggest effects for students in the middle of the GPA distribution, which could refer to students that are in the “murky middle”. Studies have identified the “murky middle” as a group of students who complete their first year with a GPA between 2.0 and 3.0, but still stand a chance of dropping out before they graduate. According to the Education Advisory Board, this is the group that advisors should be focusing on the most.

By utilizing communication software that allows for texting based off triggers, advisors can reinforce their messaging and reach out to set up one-on-one meetings if needed.

## **4. Utilizing videos to make advising accessible to all types of students.**

As online courses continue to grow in popularity, advisors need to find ways to provide the same quality of support to students that aren’t able to meet in person. The use of video for advising, whether that’s through an institution-supported video software or a free video-chat software like Zoom, is crucial to providing the same level of support to online students.

In an article by George Steele, an Academic Advising professional, he outlines the strategy of taking a “flipped advising approach” and utilizing technology to support that approach. By creating videos that students can access 24/7, students are able to explore various career paths on their own time, while still being able to have different paths explained to them through video.

Using this strategy, students would complete modules ahead of advising appointments, which might include pre-recorded videos (Loom is a great free tool for this), reading materials, or online exercises/quizzes that will help guide the advising appointment, making it more useful and effective. For some, video chatting can be somewhat awkward at first, so having a set of goals for the appointment and context into the student’s needs can help ease nervous feelings.

### **5. Establish consistency to support students’ questions and needs.**

As many know, the bureaucracy of higher education institutions can be difficult to navigate. There are a wide array of departments and staff members that are responsible for assisting with various issues, and it can be hard for students to nail down the correct person to contact in a timely manner.

By establishing a “hub” that students can come to for all advising-related questions (including resources for career planning and financial aid deadlines), you can develop a trusting relationship with students where they feel supported.

Making all of these resources available online for instant download is important for today’s generation, as they are accustomed to instant gratification when it comes to looking for answers online. In addition to digital resources, establishing a consistent time where students can speak with an advisor online in real-time can help students if they feel lost or need advice on a certain issue. Maria Lanza-Gladney, an Academic Advisor and Program Coordinator at Drexel University, developed “Mondays with Maria”, where she would designate specific times where students could chat with their advisor through an instant messenger tool for instant answers to questions. She found that this offering was very effective, and it allowed students to mark down a time in their calendar where they knew they could ask questions. Additionally, students were reminded of this time through emails and their portal in case they forgot.

Many institutions vary in what types of resources they have available for their academic advising program, including funding, staffing, access to data, and available software. While some universities may have the ability to build a custom predictive analytics software, others may need to rely on less-advanced tools. In either case, all institutions can utilize at least one of the strategies above to take steps to improving their academic advising program, and in turn improving the overall success of students.

### **Challenges**

- Student anxiety about not being able to find a job.
- Some students’ unrealistic expectations that you should do most of the work and place them in jobs.
- Students who don’t take advantage of what you have to offer.
- Not enough recruiters or jobs.
- Late offers, rescinded offers, delayed start dates.
- Difficulty keeping staff skills and knowledge up-to-date.

- A handful of students who may be alienating recruiters or hurting the school's reputation.
- Staff burnout or lowered morale.
- Not enough time, money, or resources.
- Lack of support for you or your team.

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## Study 4 (Tianyi)

### **Responsibilities of a career advisor<sup>[1]</sup>:**

- Educate students on job search skills and industry trends in order to get them prepared for employment
- Assessing personal characteristics, skills and interests via individual interviews and/or group work
- Providing appropriate help and advice
- Liaising with schools, employers and professional organizations
- Develop employment opportunities for clients via the Internet and cold calling
- Promoting and marketing services
- Assist in organizing job fairs, career awareness programs, and other career specific workshops and events.
- Writing careers literature, action plans and reports
- Using specialist computer applications/platforms
- Providing advice on CVs, applications and interview techniques
- Keeping up to date with information about the jobs market

### **Top 10 challenges in career services<sup>[2]</sup>:**

- Student anxiety about not being able to find a job
- Some students' unrealistic expectations that you should do most of the work and place them in jobs
- Students who don't take advantage of what you have to offer
- Not enough recruiters or jobs
- Late offers, rescinded offers, delayed start dates
- Difficulty keeping staff skills and knowledge up-to-date
- A handful of students who may be alienating recruiters or hurting the school's reputation
- Staff burnout or lowered morale
- Not enough time, money, or resources
- Lack of support for you or your team

### **Career Services statistics<sup>[3]</sup>:**

- Use of Career Services on the Rise, Approval Remains Stagnant
- First-Generation and Transfer Students Need More Access to Career Services
- Some Students of Color More Likely to Visit Career Services and Find It Helpful
- Positive Career Services Experiences Improve Students' Perceptions of College
- Faculty and Staff a Valuable Source of Mentorships and Internships
- Experiences with Diversity on Campus Heighten Perceptions of Diversity

### **Why aren't college students using career services<sup>[4]</sup>?**

- College students' failure to fully capitalize on their career center's services in their pursuit of a job is not a new problem
- Students will go to their trusted network to get information—that may be a faculty member—before they develop a relationship with someone in student affairs or the career office
- Ultimately, the scope and quality of a given school's career services largely depends on the resources it has available and its advisor-student ratio

#### **Computer-Assisted Career Counseling<sup>[5]</sup>:**

- Computerized Career Assessment
- Online Source of Education and Career Information
- Computer-Assisted Career Guidance Systems
- Online Career Counseling

#### **Technology-Infused Career and Life Planning Education<sup>[6]</sup>:**

- Using technology to disseminate career information

#### **AI in Guidance and Career Counseling<sup>[7]</sup>:**

- AI-led interviews are growing in popularity
- Resume and CV optimization are more important than ever
- Social media presence matters

#### **AI career advisor<sup>[8]</sup>:**

- Data-driven vocational compass
- Analyzed tweets and created Personality Insights map
- Created “vocation compass map”

#### **vmock.com<sup>[9]</sup>:**

- Smart parsing: benchmarking and scoring for targeted guidance
- Computer vision: audio-video analysis on body language, speech, and content
- Smart skills engine: skill detection through advanced ML algorithms

#### **Career guidance based on machine learning: social networks in professional identity construction<sup>[10]</sup>:**

- Use machine learning to analyze tweets to construct professional identity

#### **Career Counselling Chatbot Using Cognitive Science and Artificial Intelligence<sup>[11]</sup>:**

- Use chatbot to automate the counselling process

#### **Career services need to be upskilled. Here's how<sup>[12]</sup>:**

- Data fluency and data analytics
- Understand the role of online presence, i.e., LinkedIn, personal sites
- Understand the role of machine learning in the recruiting process

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## Appendix B

## The Buyer and Purchasing

All the four users we interviewed shared the same opinion about the purchasing decision. The career services unit consists of a few career advisors. If there is a new product or software that they think would be beneficial, they discuss the product with the team and their supervisors, like the Head of Operations and Head of Career Services. One of them would do extensive research about the product and discuss the pros and cons of it with the team. The team reaches a consensus and the supervisors make the final purchasing decision. Career advisors may not be the buyer, but they are actively involved in the decision-making process.

All the interviewees seemed to unanimously agree that efficiency was the most important attribute they are looking for in a product. They are invested in their students and want to provide them with the best platform and resources out there. Some of the interviewees expressed the need for an integrated system. They believe that such a product could benefit both the Career Advisors and Students.

Lynn, Zac, and Jenny mentioned that the price of the product is an important factor they consider while making the purchasing decision. They expressed their concern about the high prices of Handshake, which is our direct competitor. If a product of a considerably lower price was made available, they would contemplate buying the product. Jordan advises Arts students; he mentioned that the reason he would switch over from Handshake would be for a product that made it fun for students to engage with, for example, a game. In Jordan's opinion, Arts students, in particular, don't see the benefit of getting a job. Most of his students enter college without much thought about their prospective careers. He believes that they need a product that isn't as mundane as Handshake.

Lynn and Jordan said they recently moved to Handshake. One of the reasons for this, as mentioned by Jordan, is that most employers use Handshake. The exponential growth of the product can primarily be attributed to its ease of use and its growing market share. Using a platform like Handshake provides students with a high number of opportunities and access to larger networks. Therefore, they wouldn't easily switch over to another product.

Zac was the only interviewee to provide us with numbers. They have 10,000 USD allocated to a yearly subscription of Big Interview, Career Shift, and PeopleGrove. Handshake subscription is funded from the university technology budget. Columbus College of Art & Design, Jordan's university, does not have specific budgets for such products. Other interviews weren't aware of the exact budget allocations.

## Customer Benefit Analysis

There are three aspects of customer benefits that we need to assess for our Student Engagement problem: Students, Career Advisors, and Universities.

Since our problem revolves around students, we need to understand the benefits they will have if this problem is solved. Based on the multiple interviews we've had and our supporting research, we can say that students have two major benefits; an increase in their students' career readiness, interview success rate and salary. Though we cannot prove causality between student engagement and student placement, we can observe a correlation between them. This is a result of the skills students gain because of these engagements. As they polish their skills, they become more valuable assets and increase their chances of securing jobs/internships. This can be measured by introducing "career readiness levels", and segregating students into these levels by scoring them on different activities they take part in and their skills like coding skills, management skills, communication skills, etc based on the career advisor's observation of them. Lynn mentioned that many students come to her for salary and bonus negotiations. Students who do not consult with career advisors before they sign their offer letters might miss out on increased pay. If the student engagement problem is resolved, we expect more students to have these discussions, which will lead to an increase in salary.

For most Career Advisors, including Zack, Lynn, and Jenny, we concluded that eliminating this problem would save them time. According to our interviews, career advisors spend about 5 hours per week sending out emails, catching up with students to get their job search information, and advertising career services, aggregating information into Excel sheets. This would save them about 12% of their work-time, which could be used more efficiently by gaining relevant industry knowledge that can help their students or networking with employers or focusing on their career growth. All of the interviewees agreed that this 12% time would make a positive difference in their lives.

Since the university heads and leaders are the ultimate decision-makers, we also have to assess how this would affect the university. From online research and our own experiences, we observed that many students look for information about the career outcomes of courses and the average salary of past students who took these courses. This influences their final university selection decision. By eliminating the student engagement problem, and increasing the average salary of students, we will be able to increase student satisfaction with career services. This would be beneficial for universities as this would increase the university's reputation, which in turn would increase applications by students with better academic backgrounds, leading to better projects, research publications, patents, etc.

## Market Analysis

Market Segment Profile 1		
Segment Name	Career Advisors for STEM Students	Career Advisors for Non - STEM Students
Segmentation Variables and Values	Variable : Academic Discipline Values : <ul style="list-style-type: none"> <li>- Personalized tasks</li> <li>- Resource Recommendation</li> </ul>	Variable : Academic Discipline Values : <ul style="list-style-type: none"> <li>- Gaming experience</li> <li>- Connection to peers</li> </ul>
Segment Size	220,000 advisors	100,000 advisors
Segment Trends	Technological Resources & Millennial-Friendly Services for Students - With increase in technological demands, there is high demand for students taking up specialized courses.	Increase rate of growth of the market size. There is a shift in the employment rates where students are opting for Non STEM jobs over STEM jobs.
Segment Entry Barriers	<ul style="list-style-type: none"> <li>- Patent and Licenses</li> <li>- High set up cost</li> <li>- Educating the career advisors about the gap in the current solution.</li> </ul>	<ul style="list-style-type: none"> <li>- Patent and Licenses</li> <li>- High set up cost</li> <li>- Educating the career advisors about the gap in the current solution.</li> </ul>



## Competition Analysis

Competition Profile		
Name of the Alternative	Handshake	Uppercampus
Vendor (who makes it ?)	Handshake	Uppercampus
Main reason(s) people buy it	<ul style="list-style-type: none"> <li>- Integrated System</li> <li>- Easily available</li> <li>- Connects students and advisors</li> </ul>	<ul style="list-style-type: none"> <li>- Connects students and alumni</li> <li>- Student friendly video content which is similar to a social media app (e.g. TikTok)</li> <li>- Connects students and advisors</li> </ul>
Target Markets	Universities (Undergraduate and Graduate), Employers	Universities (Undergraduate and Graduate), Employers
Pricing	\$25,000 USD	\$20,000 USD

## Positioning Map

	CareerCraft	Handshake	UpperCampus
Gaming Platform	✓		
Student Dashboard	✓	✓	✓
Career Advisor Dashboard	✓	✓	✓
University Dashboard	✓		
Career Advisor Friendly	✓		
Fully Immersive Journey	✓		
Comprehensive	✓	✓	

## Summary of Customer Interview (Jenny)

**Project Team**                      **Team 1**

### **Part 1. Interviewing Team**

Interview Facilitator      *Tianyi Zhu*

Interview Recorder        *Oliver Su*

### **Part 2. Customer Interview**

Customer                      Jenny Hurst, CMU, Associate Director of Career Service in ETIM and EPP

Interview Date/Time      *Oct 6, 2021 10am – 11am*

Interview Location        <https://cmu.zoom.us/j/6567057922>

Interview Record

- Recording  
[https://cmu.zoom.us/rec/share/GoklkdXuPAcdImeyzK5RNt\\_cLlI7gbfPxy5xBmrhWFy8xDsDk8BiNrwpavEUM0S.IMWG1DtAfFS9t-J](https://cmu.zoom.us/rec/share/GoklkdXuPAcdImeyzK5RNt_cLlI7gbfPxy5xBmrhWFy8xDsDk8BiNrwpavEUM0S.IMWG1DtAfFS9t-J)  
Passcode: b&NN645q
- Artifacts: none

### **Part 3. Key Findings**

Here's what we discovered from our interview:

#### **1. Any new insights about the customer problem your team selected to solve. Discuss how they could change your team's selected problem definition.**

It seems that Jenny is more concerned about the engagement rate of CMU alumni. Since the ETIM program is a small program with only thirty to forty students, the number of students that never reply or never engage is only one or two. However, for example, when she sent out emails to invite alumni to come back to share their experiences, with over 300 alumni, the number of replies she received is not even ten. Thus, I think we can make our definition of student engagement problems broader and include alumni engagement in our consideration as well.

In addition, I asked a question about whether she prefers a solution that can increase engagement across all events or a solution that can bring more students to engage. She chose the first one since that solution can help more students, compared with a solution to bring one or two more students to engage. Before the second round of interviews, I thought our focus is the 10 - 20% of students who never reply or show up. But now, we might need to consider both situations.

#### **2. Any validation or invalidation of the customer problem your team selected to solve. If the problem was invalidated by the customer, then discuss why.**

Jenny also validates the current student engagement problem and believes this is a good problem to solve. First, the biggest beneficiary is still the student. With more engagement and involvement, students can practice their professional skills, explore more opportunities, and learn more information about the

career they are seeking. All this information will lead students to make better and wiser decisions during their careers.

Second, Jenny can also save a lot of time and effort when collecting data from current students and alumni. Since this process is not weekly based and the work will mainly be done during December and April, it's hard to give a quantified number about how much time it can save. Roughly estimating about 20 - 30%. The goal for her is to collect 100% of students' data before they graduate or immediately when they sign up with companies after graduation.

### **3. The alternative solutions (competitors) the customer believes could solve the problem in whole or partially.**

Due to the scale of the ETIM program, Jenny has her own system and notes in recording and keeping track of the student information with multiple spreadsheets and folders instead of using some general software like Handshake. On the one hand, she has been keeping her own notes for a long time. On the other hand, she thinks Handshake is more student based, and she cannot see the bigger picture of the overall situation of all students in her program. There are also some special use cases like dual-degree students whose information is hard to be aligned. From my observation, personalization is the top priority for choosing systems or solutions.

### **4. The purchasing criteria the customer may use to choose one of the alternative solutions.**

When making a purchasing decision, she and her director, Jimmy, will be the main group of people to make the call. She will do a decent amount of research and investigation for the pros and cons of the solution and communication with her director. The main focus for her is to check whether the solution will make a difference and whether the solution can solve the problem or a replacement for part of her job. She wants to make sure that the product can actually do some better work than her. She also gave us a golden standard which she believes can help students most in satisfying the minimum requirement to become professional. In addition, she personally doesn't have any budget allocated for solving problems. The software they are currently using, like Handshake, is sponsored by CMU as a whole, so they don't know any detailed information about the buyer or buying process for such software.

## **Part 4. Improvement Opportunities**

Here's where we could improve our interviews

1. We should be able to anticipate the special situation about Jenny since the program is so small. A lot of questions we prepared in the question guide are not really useful. We need to go off script and ask more deep questions that come out of our mind at that moment. Next time, we might try to prepare some off script questions when we are preparing the general question guide.

## Summary of Customer Interview (Zac)

**Project Team**                      **Team 1 - Career Advising**

### **Part 1. Interviewing Team**

Interview Facilitator      *Oliver Su*  
Interview Recorder        *Tianyi Zhu*

### **Part 2. Customer Interview**

Customer                      *Zachary Saeva,*  
   *Assistant Director of Career Operations, Nazareth College*  
Interview Date/Time        *Oct 6, 2021 1pm – 2pm*  
Interview Location         <https://cmu.zoom.us/j/93857355923>  
Interview Record

- Recording:  
[https://cmu.zoom.us/rec/share/IVf5R0GQby\\_89O96KwsUCWWo68hxNnv6M1nARbPxB\\_o41z7K4grvhLLDawsb6Os.yoCn35qVyhHZhpVQ](https://cmu.zoom.us/rec/share/IVf5R0GQby_89O96KwsUCWWo68hxNnv6M1nARbPxB_o41z7K4grvhLLDawsb6Os.yoCn35qVyhHZhpVQ)  
Passcode: %DBs2jZV
- Artifacts: none

### **Part 3. Key Findings**

Here's what we discovered from our interview:

#### **1. There are significant benefits to solving the student engagement problem, but they are not easily quantifiable.**

Zac validated the benefits of solving the student engagement problem in our interview with him. He specifically mentioned that better student engagement rates would lead to better career outcomes for students, better return on investment on students' education, and can show the importance of the work that career advisors do. Zac also thinks people who engage with career services more often have better career outcomes than those who never engage. However, he's not able to provide statistical evidence on his claims, and he could only speak from an anecdotal experience. He also had a hard time quantifying exactly how much benefit an improved student engagement rate would bring to students.

#### **2. The purchasing decision-making process at Nazareth College is a 3-person collective process.**

Zac mentioned that there is a three-person committee that collectively makes purchasing decisions for career services. It consists of the Assistant Director of Education, the Executive Director of Career Services, and himself, who is mainly in charge of setup and operations. There is an annual budget of 10,000 dollars for purchasing software solutions, currently split between four software subscriptions.

#### **3. Zac thinks there is a set of "golden standards" for students to follow when it comes to maximizing students' career outcomes.**

Zac thinks that there are certain career activities that students should definitely consider doing to improve their chances of getting jobs. More specifically, he thinks that students should do interview prep, refine their job search strategies, build network and relationships, prepare resumes, and send out a certain number of job applications. Some of them are easily quantifiable, such as the number of applications sent, the number of appointments scheduled for interview and resume preparation, while others are harder to track. For example, it's hard to quantify the quality of relationships and the effectiveness of networking.

**4. Zac can see the value of an automated tutor; however, he is not sure if it solves the student engagement problem since students will not sign up for the automated tutor if they don't want to engage with career services.**

Zac thinks it is great to have little nudges over the course of students' job search process to keep them engaged. He also likes the idea of creating peer pressure to motivate students to engage more with career services. Nevertheless, he cast doubt on whether it is realistic to achieve a high registration rate for this tutoring service. His argument was that if some students are not interested in career services to begin with, then they have no reasons to register for the automated tutor. His recommendation for the automated tutor is that it should be customizable for each type of program; for example, the service for theater and design students should significantly differ from that for accounting students.

**Part 4. Improvement Opportunities**

Here's where we could improve our interviews:

1. It's 30 minutes into the interview, and we already exhausted all of our questions from the list; we should be better prepared for going off script and asking additional questions.
2. It's hard to get an accurate measurement of benefits. For most of the time, Zac just circumvents the "benefits" questions. We should have come up with better questions to tease that out.

## Summary of Customer Interview (Lynn)

**Project Team**                      **Team 1 - Career Advising**

### **Part 1. Interviewing Team**

Interview Facilitator    *Mohil Jain*  
Interview Recorder      *Shreya Sheelvant*

### **Part 2. Customer Interview**

Customer                      *Lynn Rosen,*  
Assistant Director-Career Management Center, MBA, University of  
Pittsburgh-Joseph M. Katz Graduate School of Business

Interview Date/Time      *Oct 7, 2021 2.30pm – 3.30pm*

Interview Location        <https://cmu.zoom.us/j/93857355923>

Interview Record

- Recording:  
<https://cmu.zoom.us/rec/share/RPpcQqd6LQwePtBfp89PNpuRrwqvrguSwfnvJGpLNBvZKda-Bopwz2TnBwYFwB3R.kx-iSNq5LXCniLed>  
Passcode: 22.yv&9v
- Artifacts: none

### **Part 3. Key Findings**

Here's what we discovered from our interview:

#### **1. Customer Benefits exist mostly for Career advisors than students.**

Career advisors will be able to collect more accurate information about students on which phase of job search they are in. This will enable them to focus on the small section of students who actually need help but aren't getting it. If students proactively engaged with career advisors, it would help them save time spent on repeated email broadcasting and constant follow-ups, which could be invested elsewhere. We cannot directly measure the benefits of student engagement for students.

#### **2. Currently, they use canvas for engagement.**

They have learning modules that the students are recommended to go through. Students complete assessments after going through the learning modules, and Canvas sends the results to advisors. The rate of completing these assessments is 76% with domestic students and around 50% for international students.

#### **3. Previous system developed for tracking student engagement had a weighted score system for students.**

Lynn mentioned a software that they used for a while to track student engagement. Based on the kinds of interaction a student had with career services, and frequency of engagement, they were assigned a weighted score based on which they were categorized.

#### **4. Purchase decision is made by the team.**

Lynn mentioned that they don't have a set budget for such software or investments. If they find value in something the team will discuss it and decide if they want to go ahead with the product. The final decision is still dependent on her boss.

**5. She believes that an integrated system which has levels to indicate student's engagement would help.** Lynn believes that such a system would help students get access to build healthy competition and would make it interesting. She wants an integrated system because currently they use platforms like Handshake, Canvas and Simplicity for different tasks. She wants to be able to do all her work from one platform.

#### **Part 4. Improvement Opportunities**

The second interview was much more relaxed than the first. We were able to get more relevant information out of the interviewee because we had already built a rapport and understood her way of answering questions. The interview went on easily and the interviewee was comfortable and shared valuable information. One improvement opportunity is our communication. We use a considerable amount of filler words. We could try to reduce during the next interview. This will help the interviewee understand us better.



## Summary of Customer Interview (Jordan)

**Project Team**                      **Team 1**

### **Part 1. Interviewing Team**

Interview Facilitator      *Shreya Vijaykumar Sheelvant*  
Interview Recorder        *Mohil Jain*

### **Part 2. Customer Interview**

Customer                      Jordan Bell, Columbus College of Art & Design  
   Assistant Director of Career Services (in Columbus, Ohio)

Interview Date/Time      *Oct 8, 2021 2pm – 3pm*

Interview Location

<https://cmu.zoom.us/j/97234374696?pwd=ZVZiYnQ4RHFXS1hqZ1lhMGx0NkpGOT09>

Interview Record

- Recording  
[https://cmu.zoom.us/rec/share/qJ-93CzDsglDTN1jIWaT-vqFbfuXctj\\_L\\_e-z9GemyQbELsFykQE2bB5RV3SjC6p.aKIO751VzWz-GHEX](https://cmu.zoom.us/rec/share/qJ-93CzDsglDTN1jIWaT-vqFbfuXctj_L_e-z9GemyQbELsFykQE2bB5RV3SjC6p.aKIO751VzWz-GHEX)  
Passcode: .U\*amv\$8
- Artifacts: none

### **Part 3. Key Findings**

Here's what we discovered from our interview:

#### **1. Any new insights about the customer problem your team selected to solve. Discuss how they could change your team's selected problem definition.**

After our interview, we got to know that our solution definition should include modules that are open for both STEM and Non- STEM Students (for example : Liberal Arts). Also, we need to broaden our scope and look for Student - Alumni connections as well. Thus, I think we need to consider these insights as well.

#### **2. Any validation or invalidation of the customer problem your team selected to solve. If the problem was invalidated by the customer, then discuss why.**

The customer believes that student engagement is a good problem to be solved. He believes this would help to bridge the gap between the career advisors and the students. He specifically mentions with better engagement, the customer would be able to help the students to understand what they need to do to pursue their career. Further, he added, this would simplify the networking process, as the student would understand the professional qualities they need to inhibit in order to achieve their goals. He also mentioned that with better student engagement rate, there would be a significant improvement in career outcomes for students, and also a better return on investment on students' education.

**3. The alternative solutions (competitors) the customer believes could solve the problem in whole or partially.**

Customers use Handshake to track student engagement. The solution that they are using solves the engagement problem partially.

**4. The purchasing criteria the customer may use to choose one of the alternative solutions.**

- When making a purchasing decision, he, his director and counterpart, will be the main group of people to make the call. He will do a decent amount of research and investigation for the pros and cons of the solution and communication with his director.
- The main focus for his research is to check whether the solution will make a difference and whether the solution can solve the problem or a replacement for part of his job.
- He will also do market research and compare the solution budget wise.
- He wants to make sure that the product can actually do some better work. The software they are currently using, like Handshake, is sponsored by the college as a whole, so he isn't aware about any detailed information about the buyer or buying process for such software.

**Part 4. Improvement Opportunities**

Here's where we could improve our interviews

1. We should be able to anticipate the special situation about Jordan since the program is something that is not a STEM Degree.
2. A lot of questions we prepared in the question guide were not really useful. So, we had to go off script and had to ask more deep questions that came out of our mind at that moment.

## Customer Interview Files

### Jenny -

[https://cmu.zoom.us/rec/share/GoklkdXuPAcdImeyzK5RNt\\_cLIl7gbfPxy5xBmrhWFy8xDsDk8BiNrwpavEUM0S.IMWG1DtIAfFS9t-J](https://cmu.zoom.us/rec/share/GoklkdXuPAcdImeyzK5RNt_cLIl7gbfPxy5xBmrhWFy8xDsDk8BiNrwpavEUM0S.IMWG1DtIAfFS9t-J)

Passcode: b&NN645q

### Jordan -

[https://cmu.zoom.us/rec/share/qJ-93CzDsgIDTN1jIWaT-vqFbfuXctj\\_L\\_e-z9GemyQbELsFykQE2bB5RV3SjC6p.aKIO751VzWz-GHEX](https://cmu.zoom.us/rec/share/qJ-93CzDsgIDTN1jIWaT-vqFbfuXctj_L_e-z9GemyQbELsFykQE2bB5RV3SjC6p.aKIO751VzWz-GHEX)

Passcode: .U\*amv\$8

### Lynn -

<https://cmu.zoom.us/rec/share/RPpcQqd6LQwePtBfp89PNpuRrwqvrguSwfnvJGpLNBvZKda-Bopwz2TnBwYFwB3R.kx-jSNq5LXCniLed>

Passcode: 22.yv&9v

### Zac -


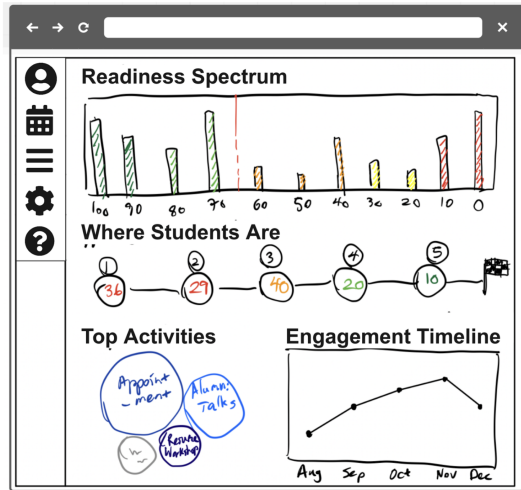
[https://cmu.zoom.us/rec/share/IVf5R0GQby\\_89O96KwsUCWWo68hxNnv6M1nARbPxB\\_o41z7K4grvhLLDawsb6Os.yoCn35qVyHHzhpVQ](https://cmu.zoom.us/rec/share/IVf5R0GQby_89O96KwsUCWWo68hxNnv6M1nARbPxB_o41z7K4grvhLLDawsb6Os.yoCn35qVyHHzhpVQ)

Passcode: %DBs2jZV

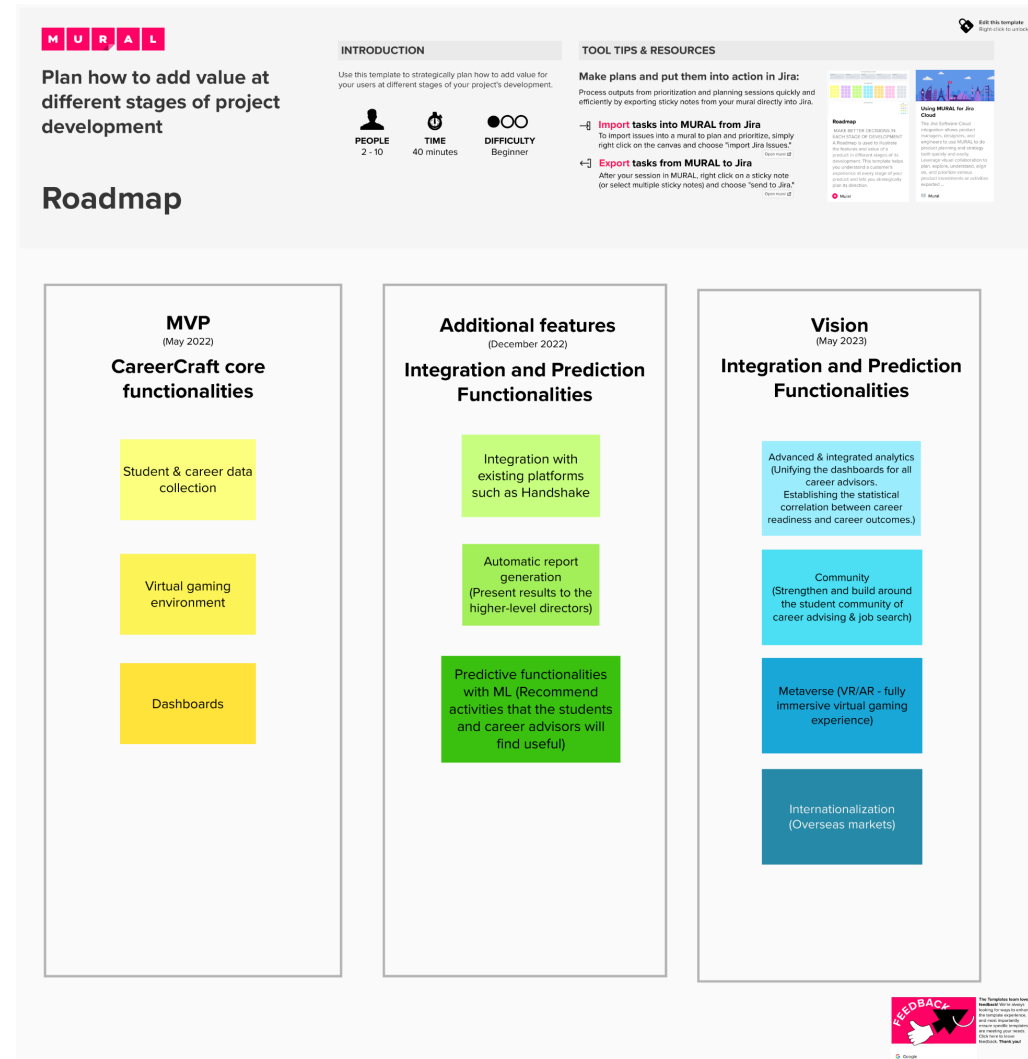
## Appendix C

## Solution Idea

Name	<b>CareerCraft</b> - <i>"Craft your own career"</i>	
Goal	Student	Career Advisor
	Increase student's career readiness by making the job search process more social, fun and personalized	Increase student engagement with career services
Purpose	Help students make full use of career resources to better achieve their career outcomes	Improve career advisors' productivity
Type	Mobile & Web Application	Web Application
Main Function	<ul style="list-style-type: none"> <li>● Gamify students' experience with career services and its resources</li> <li>● Socialize students' job search process</li> <li>● Personalize students' job search process by providing them with the resources that are most useful to them</li> </ul>	<ul style="list-style-type: none"> <li>● Access, aggregate, and visualize students data</li> <li>● Automate the surveying and data gathering process</li> <li>● Automate the promotion of career services activities and event</li> </ul>
Positioning	<ul style="list-style-type: none"> <li>● High customization</li> <li>● Different view for different end-users (Career advisor, students, University)</li> <li>● Fully immersive journey experience</li> <li>● Comprehensiveness</li> </ul>	
Platform	iOS, Android OS, Browsers, Windows	

Visual		
Features	<ul style="list-style-type: none"> <li>● Gamification <ul style="list-style-type: none"> <li>○ Avatar - a character you play in the virtual environment with all of your peers</li> <li>○ milestones, badges</li> <li>○ career readiness scores</li> <li>○ positioning (percentile)</li> <li>○ score board</li> </ul> </li> <li>● Personalization <ul style="list-style-type: none"> <li>○ Curated “golden standard” activities</li> <li>○ Career resources recommendation</li> <li>○ Auto-reminders based on the timeline and urgency</li> <li>○ Into the future: predictive based on how good the data source is</li> </ul> </li> <li>● Socialization <ul style="list-style-type: none"> <li>○ Career discussion forum</li> <li>○ Short videos (example: “reels” on instagram, “short” on YouTube)</li> <li>○ See <i>Facebook Gather</i> as an example</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Dashboard (360 view) <ul style="list-style-type: none"> <li>○ “Readiness” Visualization</li> <li>○ “Where Students are in their Process” Visualization</li> <li>○ Real-time statistics on student engagement and career results</li> </ul> </li> <li>● Engagement Platform</li> </ul>

## Roadmap



See Mural for Visualization of Product Roadmap:

<https://app.mural.co/t/testspace4292/m/testspace4292/1636221724538/3e17505c4c351ba6148bf79db602869a07353464?sender=u5ee042fe9749146520e57245>

## Benefits

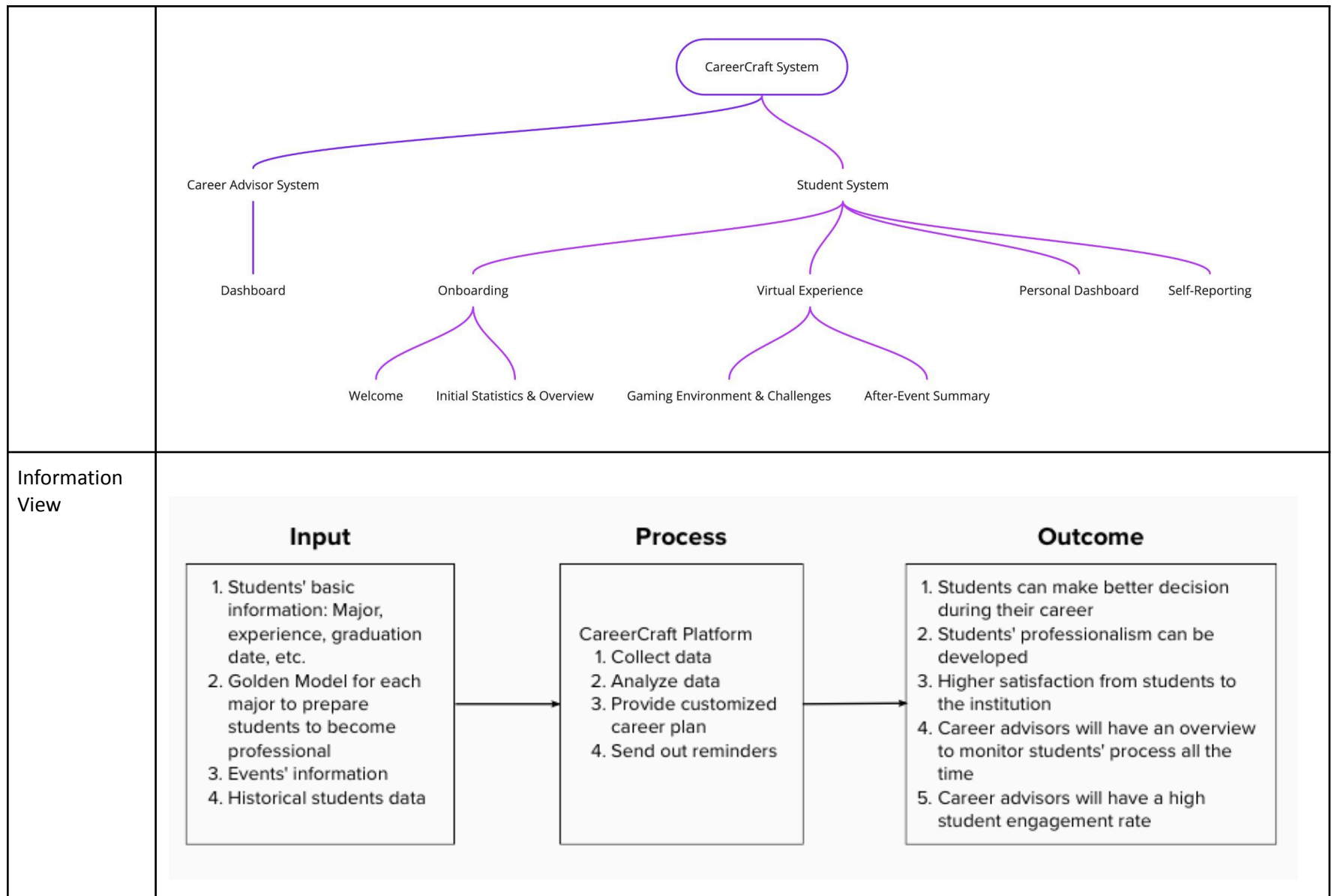
- Increase students' career readiness

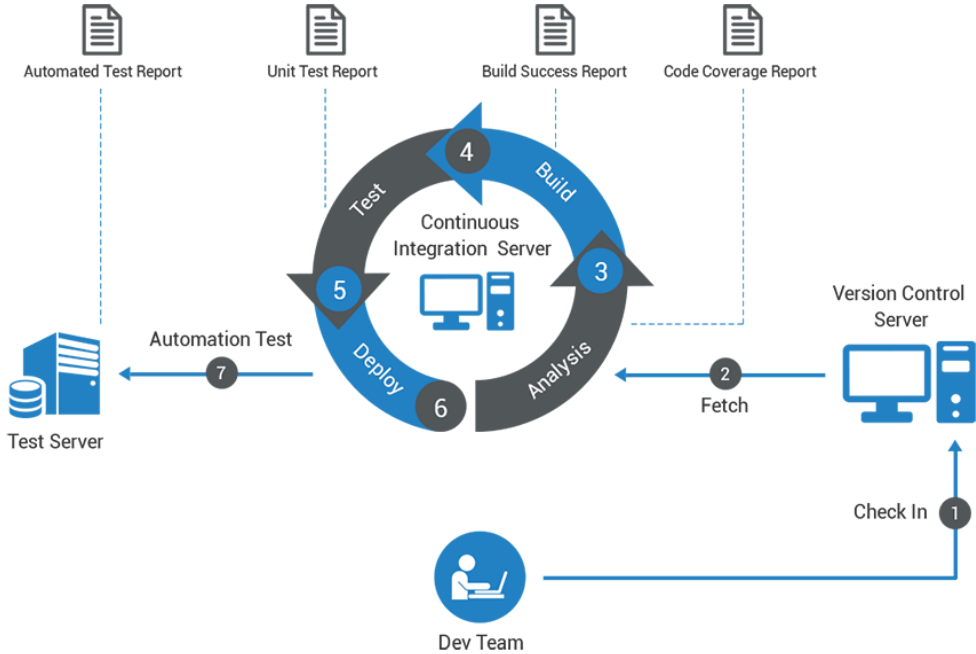
## Career Advisors

	<ul style="list-style-type: none"> <li>• Average salary</li> </ul>	<ul style="list-style-type: none"> <li>• Save career advisors' time by 5 hours per week on reaching students and advertising events (12%)</li> </ul> <p>Organization</p> <ul style="list-style-type: none"> <li>• Higher Student Career Satisfaction -&gt; Reputation -&gt; more students (measured by number of application)</li> </ul>
Technology	Machine learning algorithms for content recommendation; social games; multi-user video chat	Machine learning algorithms for content recommendation
Data	<p>The student's career profile (major, place in the job search process, interested career areas, etc.)</p> <p>The completion status of students' key tasks</p>	The information on the levels the students are at and generate different sets of environments, challenges, and other gaming simulations
Mental Model	Students log into a job board platform, view resources they need, search for events that can help them.	One-stop-shop for student data
Total solution	<p>Core Product + Complement:</p> <p>Core Product</p> <ul style="list-style-type: none"> <li>• CareerCraft platform</li> <li>• Different OS &amp; browser support</li> </ul>	
Complement	<ul style="list-style-type: none"> <li>• The "Golden Model" for each major</li> <li>• Information Input <ul style="list-style-type: none"> <li>○ Students' information</li> <li>○ Corresponding events' information</li> <li>○ Historical student data</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Information Input <ul style="list-style-type: none"> <li>○ Career advisors' information</li> </ul> </li> </ul>



MVP	<ul style="list-style-type: none"> <li>• Student data collection</li> <li>• Virtual gaming environment</li> </ul>	<ul style="list-style-type: none"> <li>• Dashboards</li> </ul>
Roadmap	<ul style="list-style-type: none"> <li>• Integration with existing student platforms such as Handshake</li> <li>• Predictive functionalities with ML <ul style="list-style-type: none"> <li>○ Recommend activities that the students will find useful</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Integration with existing advisor platforms such as Handshake</li> <li>• Automatic report generation <ul style="list-style-type: none"> <li>○ Present results to the higher-level directors</li> </ul> </li> </ul>
Product Vision	<ul style="list-style-type: none"> <li>• Community <ul style="list-style-type: none"> <li>○ Strengthen and build around the student community of career advising &amp; job search</li> </ul> </li> <li>• Metaverse <ul style="list-style-type: none"> <li>○ VR/AR - fully immersive virtual gaming experience</li> </ul> </li> <li>• Internationalization <ul style="list-style-type: none"> <li>○ Overseas markets</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Advanced &amp; integrated analytics <ul style="list-style-type: none"> <li>○ Unifying the dashboards for all career advisors</li> <li>○ Establishing the statistical correlation between career readiness and career outcomes.</li> </ul> </li> <li>• Predictive functionalities with ML <ul style="list-style-type: none"> <li>○ Recommend actions that career advisors can take to best help students</li> </ul> </li> </ul>
User View	See Mural for Student View and Career Advisor View: <a href="https://app.mural.co/t/testspace4292/m/testspace4292/1635888892098/6a8bae05bc28ffe3e5b8ef3fd54899c792588c?sender=u6aff59bb03b6f52cb2cf9982">https://app.mural.co/t/testspace4292/m/testspace4292/1635888892098/6a8bae05bc28ffe3e5b8ef3fd54899c792588c?sender=u6aff59bb03b6f52cb2cf9982</a>	
System View		



<p>Deployment View</p>	 <p>Image link: <a href="https://www.credencys.com/blog/ultimate-guide-development-evolve-dynamic-web-applications-proven-practices/">https://www.credencys.com/blog/ultimate-guide-development-evolve-dynamic-web-applications-proven-practices/</a></p>	
<p>Fulfillment View</p>	<p><b>Digital Copy (DC) hosted, downloaded</b>  The product is a digital application which can be directly accessed on the browser or digitally distributed as client software (desktop app or mobile app). The service is hosted on the cloud.  (Example: Slack, Handshake, Simplicity)</p>	
<p>Critical Requirements</p>	<p><b>Functional Requirements:</b></p> <ol style="list-style-type: none"> <li>1. As a student, I should be able to view my career readiness score so that I can know how much my professional skills have improved.</li> </ol>	<p><b>Functional Requirements:</b></p> <ol style="list-style-type: none"> <li>1. As a career advisor, I should be able to view individual students' current position in the career development phase so that I can suggest modules accordingly.</li> </ol>

	<ol style="list-style-type: none"> <li>As a student, I should be able to have a profile and view the scoreboard so that I can look at my position about my professionalism on the board.</li> <li>As a student, I should be able to view the list of courses that I have been assigned so that I can increase my career readiness score.</li> <li>As a student, I need to know what type of events I need to attend to be prepared for career opportunities so that I can find a job</li> <li>As a student, I want recommended personalized career services resources so that I get the tailored help that I need.</li> <li>As a student I want to have a virtual first-person game environment that allows me to interact with career challenges, resources, and their peers so that I am not bored by the mundane application.</li> <li>As a student, I want to be automatically reminded about my next appointments/ events/ milestones so that I am always updated about my schedule.</li> <li>As a student, I want a curated set of “golden standard” activities based on the career path I want to pursue so that I don't have to meet with the career advisor multiple times.</li> </ol> <p><b>Non-Functional Requirements:</b></p> <ol style="list-style-type: none"> <li>The application should be compatible with Handshake, LinkedIn and Zoom.</li> <li>The application should be compatible with Windows, iOS, Android platforms.</li> <li>The application should have a quick response time and should be user-friendly.</li> </ol>	<ol style="list-style-type: none"> <li>As a Career Advisor, I want to get information about the student average salary so that I know where I stand with my yearly targets</li> <li>As a Career Advisor, I want to be able to view meeting statistics so that I can better prepare for the upcoming weeks</li> <li>As a Career Advisor, I want to be able to view student engagement with different events so that I can host more events that interest students</li> <li>As a Career Advisor, I want to be able to view progress in Placement offers in comparison with previous years so that I can identify any industry trends to help students</li> <li>As a Career Advisor, I want to be able to statistics of different career outcomes so that I know where I should invest more time to help students</li> <li>As a Career Advisor, I want to be able to identify students who need the most help so that I can focus on them more.</li> </ol> <p><b>Non-Functional Requirements:</b></p> <ol style="list-style-type: none"> <li>The application should be compatible with Windows, iOS, Android platforms.</li> <li>The application should have a quick response time and should be user-friendly.</li> <li>The application must adhere to all the legal and regulatory requirements.</li> </ol>
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	<ul style="list-style-type: none"><li>4. The application must adhere to all the legal and regulatory requirements.</li><li>5. The push notifications generated should not be affected by the latency issues.</li><li>6. It should improve students' satisfaction with career services</li></ul>	<ul style="list-style-type: none"><li>4. The push notifications generated should not be affected by the latency issues.</li><li>5. It should improve the productivity of the career advisor</li></ul>
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## Experiment Card

Team Name: Team 1

Experiment Number: 1

### TESTING

This section helps you to design an experiment that will allow you to validate your assumptions.

#### Step 1: Assumption

Our solution will help career advisors save 15% of their time.

#### Step 2: Hypothesis

We believe that if our product is offered to the career advisors, then they would be able to reduce the unproductive time spent on promoting activities offered by career services.

#### Step 3: Test Method

To verify that, we will attempt to conduct further interviews. If we find a larger sample of career advisors, we could attempt to do A/B testing to incorporate the most useful features to help them reduce unproductive time.

#### Step 4: Test Metric

Average number of hours saved per career advisor per week.

#### Step 5: Test Criteria

We are right if the career advisors' need to spend time promoting career service activities is reduced by at least 6 hours per week.

### LEARNING

This section helps you to learn from your experiment and take corrective action.

#### Step 1: Observation

We noticed career advisors we interviewed were all agreed with saving at least 4 hours per week and improve the efficiency of working

#### Step 2: Learning

From that we learned that our solution does improve the efficiency of career advisors since our system is fully integrated, so they don't need to do redundant email exchange

#### Step 3: Decisions and Actions

Therefore, we will seek to survey more career advisors to further validate the benefits for career advisors.

## Experiment Card

Team Name: Team 1  
Experiment Number: 2

### TESTING

This section helps you to design an experiment that will allow you to validate your assumptions.

#### Step 1: Assumption

Making the job search experience more social, fun, and personalized will increase student engagement and the completion rate of the “golden standard” career activities.

#### Step 2: Hypothesis

We believe that if our product is offered to the students, then they would engage more in the activities provided by the career service and complete more “golden standard” career activities.

#### Step 3: Test Method

To verify that, we will attempt to conduct further interviews with students. If time/resource permits, we can create a landing page and see how many students will sign up as beta/trial users.

#### Step 4: Test Metric

Students’ level of willingness to sign up/use this solution.

#### Step 5: Test Criteria

We are right if students show high willingness to sign up/use this solution.

### LEARNING

This section helps you to learn from your experiment and take corrective action.

#### Step 1: Observation

Since we cannot interview students directly, we noticed, from the career advisors side, they believe our solution can encourage students to get more engagement with career services. Some career advisors are concerned about whether students will update their status actively and accept the round table discussion.

#### Step 2: Learning

From that we learned that a more social, fun and personalized solution is the direction we should pursue for developing. Such a solution can help students to incentive students and get more engaged. We didn’t think through whether all our features can be accepted by students.

#### Step 3: Decisions and Actions

Therefore, we will try to interview more students and career advisors to validate this benefit as well as acceptance of the features with students.

## Experiment Card

Team Name: Team 1  
Experiment Number: 3

### TESTING

This section helps you to design an experiment that will allow you to validate your assumptions.

#### Step 1: Assumption

Increasing student engagement and completion of the “golden standard” activities will increase students’ satisfaction level with career services.

#### Step 2: Hypothesis

We believe that students will be more satisfied with the service that the career center provides if they benefit significantly by engaging in more activities provided by the career service and completing more “golden standard” activities.

#### Step 3: Test Method

To verify that, we will conduct further interviews with career advisors. They will use their experience or statistics to assess the linkages between higher engagement/completion rates of activities and the satisfaction level of students.

#### Step 4: Test Metric

The confidence level of career advisors in the linkages between higher engagement/completion rates of activities and the satisfaction rate of students

#### Step 5: Test Criteria

We are right if career advisors are highly confident in their assessment that increasing student engagement and completion of the “golden standard” activities will increase students’ satisfaction level with career services.

### LEARNING

This section helps you to learn from your experiment and take corrective action.

#### Step 1: Observation

We noticed that all career advisors agreed on golden standard tasks that can help students to have better career outcomes, which can lead to higher satisfaction from students. In addition, most career advisors care about how students think about the career services they provide

#### Step 2: Learning

From that, we learned that students’ satisfaction is important to the career advisors and institution. Better career outcomes can improve the satisfaction of students.

#### Step 3: Decisions and Actions

Therefore, we will try to interview more career advisors and even students to further validate the relationship between career outcome and satisfaction.



## Summary of Customer Interview (Jenny)

**Project Team**                      **Team 1**

### **Part 1. Interviewing Team**

Interview Facilitator      Tianyi Zhu  
Interview Recorder        Oliver Su

### **Part 2. Customer Interview**

Customer                      Jenny Hurst, CMU, Associate Director of Career Service in ETIM and EPP

Interview Date/Time      *Nov 23, 2021 1pm – 2pm*

Interview Location        <https://cmu.zoom.us/j/6567057922>

Interview Record

- Recording  
[https://cmu.zoom.us/rec/share/xrCr8pgaH5O\\_QDVOG-MNb3bNUsNNdiofx99IJ2rNNGpl6zeYRfRLU8Qdo6KHec-U.pP0xnZ37QAC2n6Jn](https://cmu.zoom.us/rec/share/xrCr8pgaH5O_QDVOG-MNb3bNUsNNdiofx99IJ2rNNGpl6zeYRfRLU8Qdo6KHec-U.pP0xnZ37QAC2n6Jn)  
Passcode: 7!3FLU6K
- Artifacts: none

### **Part 3. Key Findings**

#### **1. Which part(s) of your solution idea was validated by this customer? Explain why you believe it was validated.**

The gamified virtual environment was validated by this interviewee. She believed the students would love to have interaction through gamified environments, which can improve the engagement rate and self-report rate. She also used an example of fitness challenge to prove her point.

She did validate all the benefits we came up with, especially the improvement of efficiency. After understanding our solution idea, she agreed with us about saving four hours per week.

In addition, she also validated our future plan about going towards VR/AR technology, Community building, and overseas market etc. She thought these directions are appealing and will provide better experience in the future.

#### **2. Which part(s) of your solution idea was invalidated by the customer? Explain why you believe it was invalidated.**

She had some doubts about how exactly to connect gaming avatar to career services or events. Currently, our solution is not clear about how to utilize gaming features into specific activities.

She doesn't against using real-world incentives to encourage students to report about their status, but she did have some doubts in finding the suitable incentives that can cover as many students as possible.

**3. Discuss any new learnings or ideas for improving the solution from the interview that were not discussed above.**

Jenny suggested to have filters in the advisor view for all different program and departments, so they can easily get information. There are also some data in the career advisor view that are not really realizable, like negotiation data. She also asked specifically about how to integrate with Handshake. So far, we only think our solution as a complementary product with Handshake, there are still details need to be addressed.

**4. Discuss any new information or insight you gained about the customer's problem, benefits, competition, or buying.**

She also had some consideration about the acceptance of students about the round table virtual discussion features. What if students don't like to talk with strangers in that platform? They might never log in to it. We never think this problem through yet. In addition, we didn't think about the problem that the workload for students might be heavy, and students don't have enough time to commit to such platform. If the solution is time-consuming, then it might not be welcomed. For example, some students might forget to update their status about seeking jobs and then suddenly their status changed from 2 to 5, which makes the real-time status less referenceable.

**Part 4. Improvement Opportunities**

**1. Discuss any improvements made by you and/or your team member's customer interviewing skills or approach as compared to previous interviews.**

Didn't go with scenario story-telling technique when presenting our solution, caused some confusion for Jenny to fully understand our product.

**2. Discuss at least one opportunity for improving the results of this customer interview and how you might improve the next time.**

I believe this is a successful interview overall. I definitely believe using slides can help interviewees to better understand our ideas.

## Summary of Customer Interview (Jordan)

**Project Team**                      **Team 1**

### Part 1. Interviewing Team

Interview Facilitator      *Shreya Vijaykumar Sheelvant*

Interview Recorder      *Tianyi Zhu*

### Part 2. Customer Interview

Customer                      Jordan Bell, Columbus College of Art & Design  
Assistant Director of Career Services (in Columbus, Ohio)

Interview Date/Time      *Nov 19, 2021 1pm – 2pm*

Interview Location      <https://cmu.zoom.us/j/92978355016>

Interview Record

- Recording  
[https://drive.google.com/file/d/10L6\\_vExdKf0rgD\\_BGHTN\\_o5ygp0IUfEP/view?usp=sharing](https://drive.google.com/file/d/10L6_vExdKf0rgD_BGHTN_o5ygp0IUfEP/view?usp=sharing)
- Artifacts: none

### Part 3. Key Findings

#### 1. Which part(s) of your solution idea was validated by this customer? Explain why you believe it was validated.

The gamified virtual environment was validated by this interviewee. He said that students would certainly be interested in the gamification of their career preparation experience. He added by saying that this aspect of the solution hit the right trend - with Gen Z and Gen Alpha students expecting the virtual experience to be fun and engaging. This led us to believe that our assumption that the gamified experience will increase the student engagement should hold true.

In addition, the interviewee also validated the plugin approach. He said it would be great if our solution could complement Handshake, since one criticism against Handshake is its low customizability. However, this is dependent on the assumption that Handshake will open up the space and build an ecosystem that incorporates third-party developer and plugins.

#### 2. Which part(s) of your solution idea was invalidated by the customer? Explain why you believe it was invalidated.

There was nothing in the solution idea that was invalidated by the interviewee, even when he was specifically asked about it.

#### 3. Discuss any new learnings or ideas for improving the solution from the interview that were not discussed above.

The interviewee suggested that in the advisor view, there should be a dropdown menu that allows the advisor to see an overview of different metrics by program. This breakdown by program will give the advisor a better idea of which programs are doing better and which are doing worse. Another suggestion

for improvement was to modularize the design of the dashboard so that the advisor can choose which metrics to see and which metrics to hide from the dashboard.

For the student view, the interviewee proposed that the solution should have a feature where it recommends potential actionable items to the student based on things some students in a similar career trajectory have done. This will serve as an incentive for students to complete more activities if they see that their peers are achieving results by completing these activities.

**4. Discuss any new information or insight you gained about the customer's problem, benefits, competition, or buying.**

To increase student adoption of the solution, the interviewee recommended that we map the virtual rewards to real-world rewards, which is a program that we considered.

Another interesting point brought up by the interviewee is about competition, especially our main competitor Handshake. He claimed that Handshake mainly serves large, elite institutions and their policies favor these schools at the expense of small colleges. He thought that there is a white space when it comes to better servicing small and regional colleges.

**Part 4. Improvement Opportunities**

**1. Discuss any improvements made by you and/or your team member's customer interviewing skills or approach as compared to previous interviews.**

The presentation is more structured thanks to the use of slides. It gave the interviewee a comprehensive and clear view of our solution idea as well as its benefits.

**2. Discuss at least one opportunity for improving the results of this customer interview and how you might improve the next time.**

The interviewer did not really hit hard enough on the parts of the solutions that could be potentially invalidated. The next time, we can ask the interviewer to identify our weakest feature and why it is considered a low-priority feature.

## Summary of Customer Interview (Lynn)

**Project Team**                      *Team 1*

### **Part 1. Interviewing Team**

Interview Facilitator      *Mohil Jain*

Interview Recorder        *Shreya Sheelvant*

### **Part 2. Customer Interview**

Customer                      *Lynn Rosen, Assistant Director-Career Management Center, MBA, University of Pittsburgh-Joseph M. Katz Graduate School of Business*

Interview Date/Time      *November 19, 2021, 10:00 A.M.*

Interview Location

<https://cmu.zoom.us/j/95124039842?pwd=WThZYXR1ZmdBNUG2b3Npem9MODRVdz09>

Research Goal                *Solution Interview*

Interview Record

- Recording  
[https://drive.google.com/file/d/10L6\\_vExdKf0rgD\\_BGHTN\\_o5ygp0IUfEP/view?usp=sharing](https://drive.google.com/file/d/10L6_vExdKf0rgD_BGHTN_o5ygp0IUfEP/view?usp=sharing)
- Artifacts: none

### **Part 3. Key Findings**

#### **1. Which part(s) of your solution idea was validated by this customer? Explain why you believe it was validated.**

Our assumption that creating a game as a platform will increase engagement was validated by the customer. She said most of her undergrad students would be interested in this product. Our claim that this platform will save about 4 hours per career advisor was validated by the customer. She said this will definitely save her time, which she can use elsewhere. The customer also agreed that the ML-based recommendations will help students utilize their resources well and that such a platform would increase student satisfaction with the career services unit. The customer validated our assumption that increased satisfaction leads to an increase in the reputation of the university.

#### **2. Which part(s) of your solution idea was invalidated by the customer? Explain why you believe it was invalidated.**

The customer invalidated our assumption that completing the golden tasks will improve career readiness score, at least not in the initial stages.

#### **3. Discuss any new learnings or ideas for improving the solution from the interview that was not discussed above.**

How to incorporate Canvas into the platform as it is used by many universities. The user should be able to navigate from aggregated view to department-specific view.

**4. Discuss any new information or insight you gained about the customer's problem, benefits, competition, or buying.**

None

#### **Part 4. Improvement Opportunities**

**1. Discuss any improvements made by you and/or your team member's customer interviewing skills or approach as compared to previous interviews.**

The interviewer was able to easily build on the interviewee's responses. Both the interviewer and the recorder were more confident because they had a rapport with the interviewee.

**2. Discuss at least one opportunity for improving the results of this customer interview and how you might improve the next time.**

None I can think of.

## Summary of Customer Interview (Zachary)

**Project Team** Team 1

### Part 1. Interviewing Team

Interview Facilitator Oliver Su

Interview Recorder Mohil Jain

### Part 2. Customer Interview

Customer Zachary Saeva

Interview Date/Time Nov 18, 2021, 11am – 12pm

Interview Location <https://cmu.zoom.us/j/97508218862>

Interview Record

- Recording  
[https://cmu.zoom.us/rec/share/ELxSDSPNzxzdmhuLYKfJ6sztHjJJpltvLF6ggex5x\\_4hf15Hsm5JmhpFS6GZ65pi.G2VouoFndWkfZrLZ](https://cmu.zoom.us/rec/share/ELxSDSPNzxzdmhuLYKfJ6sztHjJJpltvLF6ggex5x_4hf15Hsm5JmhpFS6GZ65pi.G2VouoFndWkfZrLZ) Passcode: HMU@k6gW
- Artifacts: none

### Part 3. Key Findings

#### 1. Which part(s) of your solution idea was validated by this customer? Explain why you believe it was validated.

The gamification idea was validated by the interviewee. He loved all in one solution, where the solution connects career readiness with career outcomes. Furthermore, he validated all the mentioned benefits of the solution. Additionally, he loved the idea of adding a bit of competition amongst the students. This will help the universities and the career advisors become aware about which student is ranked top. He did validate all the benefits we came up with, especially the automated part of it, as it will reduce manual work and improve efficiency. He validated our future goals and would love to see how we are going to help the students find the suitable jobs and build the community.

#### 2. Which part(s) of your solution idea was invalidated by the customer? Explain why you believe it was invalidated.

He felt that when we talked about our solution saving 5 hours / day for the career advisors, it had not incorporated the maintenance part of it. For instance, who is going to update and maintain the solution and when the solution maintenance will take place.

#### 3. Discuss any new learnings or ideas for improving the solution from the interview that were not discussed above.

Zac suggested adding filters on the Career Advisor View. For example, if the career advisor wants to view the statistics for a particular major or a particular college in the entire university, he/she should be able

to view the same. He also suggested adding a demographics view in the dashboard, so that the career advisor can compare or contrast students' demographics. He suggested integrating the solution with certain tools, for instance Big Interview or Handshake, so that the solution can act as a hub and students can take the advantage of the same. He suggested if we could add a survey form in the solution, so that the students can feel that they are heard.

**4. Discuss any new information or insight you gained about the customer's problem, benefits, competition, or buying.**

- After the discussion, we understood that instead of seeing Handshake as our competitor, we should look at Handshake as a tool that will complement our solution.
- We could incorporate a career preparedness score (something like Career Leadership Collective) in our solution, as this would help the students and alums to rate the college as to how the college helped the students 5 years down the line or 10 years down the line.
- We need to have certain standard and customized fields as per the university requirements. For example: there can be certain fields that an arts college student needs to fill up, whereas a technical school student does not have to.

**Part 4. Improvement Opportunities**

**1. Discuss any improvements made by you and/or your team member's customer interviewing skills or approach as compared to previous interviews.**

Using the slides was one of the major improvements that we did. It helped the customer understand our solution and the thought process that we have behind it.

**2. Discuss at least one opportunity for improving the results of this customer interview and how you might improve the next time.**

We should have talked more about the weaknesses of our solution, I felt we missed touching that aspect in the discussion.



## Customer Interview Files

**Jenny -**

[https://cmu.zoom.us/rec/share/xrCr8pgaH5O\\_QDVOG-MNb3bNUsNNdiofx99IJ2rNNGpl6zeYRfRLU8Qdo6KHec-U.pP0xnZ37QAC2n6Jn](https://cmu.zoom.us/rec/share/xrCr8pgaH5O_QDVOG-MNb3bNUsNNdiofx99IJ2rNNGpl6zeYRfRLU8Qdo6KHec-U.pP0xnZ37QAC2n6Jn) Passcode: 7!3FLU6K

**Jordan -** [https://drive.google.com/file/d/10L6\\_vExdKf0rgD\\_BGHTN\\_o5ygp0lUfEP/view?usp=sharing](https://drive.google.com/file/d/10L6_vExdKf0rgD_BGHTN_o5ygp0lUfEP/view?usp=sharing)

**Lynn -**

[https://cmu.zoom.us/rec/share/fR4z-Nnc7gKEEKQesxE0FKFDJj8wa4biON0cySzA6O-frcqkoB8bMWveCj2dHVdn.Yso9XxdEv\\_A41igk](https://cmu.zoom.us/rec/share/fR4z-Nnc7gKEEKQesxE0FKFDJj8wa4biON0cySzA6O-frcqkoB8bMWveCj2dHVdn.Yso9XxdEv_A41igk) Passcode: e&d6tJ@\*

**Zac -**

[https://cmu.zoom.us/rec/share/ELxSDSPNzxzdmhuLYKfJ6sztHJJpltvLF6qgex5x\\_4hf15Hsm5JmhpFS6GZ65pi.G2VouoFndWkfZrLZ](https://cmu.zoom.us/rec/share/ELxSDSPNzxzdmhuLYKfJ6sztHJJpltvLF6qgex5x_4hf15Hsm5JmhpFS6GZ65pi.G2VouoFndWkfZrLZ) Passcode: HMU@k6gW

## Appendix D

## Pricing Decision

List of cost items for the solution to organizations:

1. Software subscription cost (\$\_\_\_/year) - Institution-wide or department-wide subscription
2. Setup & implementation fee (\$\_\_\_, one-time) - Set up the software, train the advisor to use the software, and help the advisor migrate data to the software
3. Advanced technical & customer support (\$20/hour) - Provide additional support if the help from setup is not sufficient or additional problems are encountered
4. Taxes (\$\_\_\_)

Assuming a non-uniform, segmented pricing strategy:

1. Pricing metric(s)
  - Number of students AND/OR
  - Number of career advisors AND/OR
  - Number of institutions
2. Pricing structure:
  - Items to be charged, Time and Frequency of payment -
    - i. Setup & implementation fee - paid one-time after the initial setup is complete
    - ii. Subscription fee - per year paid annually
    - iii. Advanced technical support & customer service fee - per hour paid monthly
  - Payer for the service - All costs are paid by the college/university and included in their annual budget
3. Reference price (and the reference solution)
  - Reference all-in-one price: from \$1,000 to \$20,000 per year based on the size of student enrollment
  - Reference solution: Handshake
  - Value of next best alternative (UpperCampus):
  - Value of our positive features (Gaming feature, dashboards for advisors and universities, golden tasks, data tracking, customization):
  - Value of our negative features (Integration with TikTok, Employer focus):
  - Total price of our product (Value of next best alternative + positives – negatives):

## Cost-Benefit Analysis

- Benefits: \$184,320,000 / 5,760,000 hours
- Cost: \$14,000,000
- Profit: \$170,320,000
- Time period: 1 year
- Financial Metric:

- Benefits Cost Ratio (BCR):  $\$184,320,000 / \$14,000,000 = 13.1 : 1$
- Return on Investment:  $\$14,000,000 / (1200 * \$30,000) = 5 \text{ months}$

## Benefit analysis

Institutions: 1200

- Assumption: rough number of institutions who would be interested in the product based on their involvement with Handshake and similar products.

Career advisors: 36,000

- Assumption: not everyone is going to use it, so cut the total number of advisors in half
- Assume each institution has 30 career advisors

Time save: 4 hour per week per advisor

Weeks per year: 40

Salary: \$25 per hour (Fully loaded - \$32)

Benefits in time per institution:  $4 * 40 * 30 = 4800 \text{ hours per year}$

Benefits in total:  $4 * 40 * 36,000 * 32 = \$184,320,000$

Benefits per institution:  $\$184,320,000 / 1200 = \$153,600$

Price:  $\$153,600 * 0.2 = \$30,720 (\$30,000)$

- Price is 20% of the benefits.
- Negotiated price

## Cost analysis

Initial Development Cost (front-loaded) : \$7,200,000

- A team of 20 engineers, 2 years to develop, each is paid \$120,000 a year, which increases to \$180,000 if including benefits, so each person is paid \$180,000.  $20 * 2 * 180,000 = \$7,200,000$

Customer support cost: \$1,000,000 per year

- A team of 20 customer support personnel, each is paid \$40,000 a year, which increases to \$50,000 if including benefits and overhead, so each person is paid \$50,000.  $20 * 1 * 50,000 = \$1,000,000$

Domain name cost: \$20 / per year

Server hosting cost: \$12,000 per year

Maintenance and continuing development cost: \$2,700,000 per year

- A team of 15 engineers, per year to maintain, each is paid \$120,000 a year, which increases to \$180,000 if including benefits.  $15 * 1 * 180,000 = \$2,700,000$

Sales & marketing cost: \$2,100,000 per year

- A team of 20 salespeople, each is paid \$50,000 a year, which increases to \$100,000 if including sales bonuses and benefits, so each person is paid \$100,000 per year.  $20 * 1 * 100,000 = \$2,000,000$ .
- Advertising cost of \$100,000 per year.

General & administrative cost: \$1,000,000 per year

**Total Cost: \$14,000,000**

## Justification

**Your pricing decision should provide a brief justification of your pricing decisions. Why did you make these decisions? What is your reasoning?**

Since our main focus is the productivity benefit. Based on our research, there are approximately around 5,300 universities and close to 300,000 career advisors in the USA. Assuming that not all universities are interested in such a product, we are estimating a rough number of 1,200 universities as our target. This number is based on the number of universities involved with products in the same domain, like handshake and simplicity. Assuming that higher ranking universities have larger career services units and would be more willing to invest in products like this, we are considering the market size to be 36,000 career advisors. Our product aims to save each career advisor 4 hours per week of unproductive work. Assuming each career advisor works for 40 weeks per year and each career advisor is paid approximately \$25 (fully loaded rate is approximately \$32) we will be saving a total of  $4 * 40 * 36,000 * \$32 = \$184,320,000$ . This results in  $\$184,320,000 / 1200 = \$153,600$  per institution per year. The rule of thumb for pricing the product is that the benefit to the customer must be at least 3-4 times the cost of the product. We have priced our product at  $\frac{1}{3}$  times the benefit instead of  $\frac{1}{3}$  or  $\frac{1}{4}$  in order to attract more customers. Therefore, the total cost of the product per institution would be up to  $\$153,600 * \frac{1}{3} = \$30,720$  per institution per year.

**You should evaluate your customer purchase justification by answering: why will your target customers find the offer to be compelling?**

For institutional customers (university/college), they will find our offer to be compelling because the benefit greatly exceeds the cost - in fact - the benefit is almost 20 times the cost. The amount of time that our product can save for career advisors is significant. In addition to the productivity increase for career advisors, there are soft benefits to the students as well. Our product will improve students' career advising experience and increase their satisfaction levels with career services. The high satisfaction can be leveraged as a selling point for universities to market themselves to increase the number of applicants.