tutorNOW

Value Proposition

On-demand, student-to-student tutoring within the same college campus.

Team Members

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    - Documentation
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Problem and Solution Overview

A major emerging market in entrepreneurship is education. One problem in particular we will focus on is the lack of adequate homework help services on college campuses. While college students currently use resources like office hours, Piazza, and dormitory resident tutors, these services can often be inadequate: office hours are crowded, resident tutors can be busy, and one-on-one tutoring can be expensive. There is a clear need for an on-demand tutoring service that is reliable, fast, and user-friendly. Students often need help with hard classes that none of their friends have taken, and they may need help when office hours and TA's are unavailable. Because college campuses have thousands of students who take similar classes (even though the students themselves may not know each other), our solution leverages web/mobile technology to connect these students for an on demand peer-to-peer tutoring application. College students can be both tutors and tutees, exchanging credits for help. Students can either search for tutors manually or press an "I need help now" button to be matched with a tutor in a process similar to Uber's driver requests. Ultimately, we hope disrupt the education industry by empowering college students to learn from each other in a collaborative environment.

Contextual Inquiry Customers (¾ page)

During our contextual inquiry, we interviewed a diverse spectrum of potential customers. We chose to interview several college students of different years, majors, and activities, since college students have experience as both tutors and tutees. We also interviewed a mother of two high school age children, since she has experience searching for tutors and can offer us critical insight into streamlining the tutor search/match functionality.

- Participant 1: Valerie Chang
    - Stanford sophomore, Computer Science major
    - Recruited because she is a friend of Ryan

- Valerie has been both a tutor for math and a tutee for computer science.
- Ryan used the Master-Apprentice model with Valerie at Ricker dining hall by observing her use Piazza to ask for computer science homework help. Valerie did most of the talking and Ryan asked several questions for clarification.
- As a tutee, Valerie uses resources like office hours, Piazza, and her network of friends to find help. As a tutor, she leverages personal and professional connections to find nearby clients.
- Participant 2 & 3: Allison and Serra
    - *(Allison Brown and Serra Haasv are juniors and athletes at Stanford University. They both said they have average grades and that they use the special tutoring opportunities available for the athletes. (pics uploaded to the folder!))*
    - Allison and Serra are student athletes in their Junior year at Stanford University.
    - What did you learn?
        - During athletes tutoring session, someone who recently took the class is the tutor and it is very useful since they know all the psets. they can also instantly connect with the tutor since the tutor had been in their shoes a few quarters ago.
        - The tutoring sessions are arranged as follows: The athletes who want to be tutored signup for a tutoring request in a specific area. The tutor gives them a set of time slots to make sure to have a small group of people in the tutoring session.
        - The athletes found out about this opportunity through emails sent to them and through all the other athletes who use the service.
    - [images or interview locations & tasks taking place]
    -
- Participant 4: Stanford Freshman
    - [who]
    - [how recruited]
    - [background]
    - [skills]
- Chinese mother with a son in high school in Cupertino
    - May Ching is one of Josephine's mother's friends from church in Cupertino. She has previously asked Josephine's mother about academic resources for her son; Josephine chose to interview her, as our initial model of connecting college students with high school tutees would involve the parents of those high schoolers as our target audience (parents tend to be the ones who reach out for help on behalf of their children and pay for the fees associated with their children's academic needs before college). As her son is currently a junior in high school, the mother has been very involved in the process of finding teachers anParticipant 5: May Ching
    - d tutors for him for both classes and SAT preparation, so the topic was particularly relevant for her. She moved to the United States in her late

twenties, so while she can converse in English, she does feel completely fluent in the language.
- Josephine went over to her house in Cupertino Friday night and asked May Ching to walk her through the process of finding a tutor for her son who is currently struggling in AP Calculus AB. Perhaps because she was a parent, Josephine found it very easy to adopt the role of an apprentice, carefully observing and asking questions for clarification of her thought process. Josephine found it fascinating to ask and hear about all the assumptions and thought that underlay each decision (i.e. determination of which tutoring agency to call involved a classification of each teaching centers' strengths and weaknesses in terms of subjects and tutors employed).
- May Ching relies primarily (almost entirely) on word-of-mouth to determine what tutors to hire for her son. Rather than specific tutors, she tends to use tutoring agencies instead (she considers them to be more reliable and trustworthy) and will ask the parents of her son's classmates and parents she knows through church about what agencies they use for their own kids. Although she will sometimes consider agencies whose ads she hears on the Chinese radio, she will not send her child there unless some other parent has vouched for how effective the agency is. When her son needs help, May Ching has a mental list of which centers have the best tutors in particular subjects and will call to schedule appointments with the certain agency depending the topic her son needs help with. She will then drive her son to the center when the time of the tutoring session arrives.
- Participant 6: Maria
    - Maria is a student athlete tutor in her Junior year at Stanford University.
    - Louis is Maria's team mate and has heard of her extensive tutoring background after getting to know her for some time.
    - Maria participates in research, is on the equestrian team and tutors both her friends and high school students, is a Stanford EMT, has written a published ACT prep book. Initially she began tutoring high school students through a third party referral service, but has since found clients on her own through word of mouth. While she is paid to tutor High School students remotely through Skype or Google Hangouts, she frequently tutors her friends in Chemistry for free when they need help with problem sets.
    - Maria is good at time management, organizing groups, and has good conversational skills. All of these skills have helped her succeed in achieving things in life as well as tutoring. She was able to be recognized as a good mentor at an early age when she was approached to write the ACT prep book.

Contextual Inquiry Results (1 and ¼ pages text)

Overall, we found that most college students use resources like office hours, Piazza, the Center for Teaching and Learning, the Hume Writing Center, resident tutors, and friends to obtain homework help. Many of our participants expressed dissatisfaction with office hours,

since they are often crowded and lack individualized attention. Additionally, participants enjoyed finding help at the Center for Teaching and Learning and the Hume Writing Center, but did not like how these services only catered to the most popular, introductory level classes. Additionally, participants desired a tutoring system that would allow them to get help at all hours of the day, since office hours and tutoring are offered during specific portions of the day. Many expressed interest in a more "on-demand" tutoring service that could connect them with tutors and tutees at a moment's notice.

When Ryan interviewed Valerie, the sophomore, she noted that she was very impressed with the Piazza platform. Piazza is an online discussion forum where students can interact with other students in each of their classes, asking and answering questions about homework, projects, and exams. Additionally, course teaching assistants and the professor can also help. Valerie likes this platform because it is very fast--she will often get a response to a question within minutes. She also enjoyed the collaborative environment of Piazza. However, Piazza's main weakness is that it does not provide in-person tutoring services. If you have a question, you can ask it online, but you cannot get a step-by-step walkthrough of a problem from a tutor.

In addition, we found that it would be difficult to break into the high school tutoring market in the Bay Area due to the ubiquity of tutoring centers and parents' reliance on tutors who have been vetted by other families. Due to the ephemeral nature of a college student's tutoring career (very few people continue tutoring after graduating), it is difficult to build up the track record necessary to be hired, especially when competing with more established tutoring centers. However, many of the concerns about the tutoring model that May Ching brought up echoed the concerns of the college students on campus. When asked about what improvements could be made to her present workflow, she stated that she wanted more flexibility in scheduling sessions with the tutors, as most of the centers had very strict timeslots for each tutor that could fill up quickly. Instead of being able to just hire a tutor only when her son needed help, she had to set up weekly tutoring sessions just in case the tutor was not available during the time her son really needed that help. In addition, May Ching wanted to have the ability to know the background and expertise of the tutor beforehand to gauge how effective he/she might be at teaching her son.

Task Analysis Questions and Answers (2.5-3.5 pages)

Who is going to use the system?
Our customers include college students looking for help as well as students who are willing to tutor other students. Parents of high schoolers looking for help for their children could also be potential customers.

What tasks do they now perform?
Tutors often need to apply to be an official tutor through either a tutoring company or Stanford University. They also need to set up profiles about themselves and their expertise and reach out using connections and word-of-mouth to find tutees. Tutors also define their

own tutoring rate based on expertise, experience, and supply and demand. However, one participant remarked that when she wanted to be a tutor, she picked her hourly rate very arbitrarily.

Tutees need to make a post or request for tutoring, by contacting potential tutors or making a request on the website of a tutoring service (i/e Hume). Then, tutees must review potential tutors and decide which one to work with. Finally, tutees must find a way to meet up with the tutors, which can be difficult if they do not live near each other.

Tutors and tutees connect using Skype, in-person meetups, word-of-mouth referrals, emailing, SUPost, Hume (scheduled online for one-to-one meetups), CTL, and dorm tutoring. Tutees also use resources like Piazza and office hours to acquire help from classmates, TA's, and professors.

Parents of high schoolers tend to call tutoring centers to schedule appointments for their children when they need help; for particularly popular tutors, parents may schedule weekly meetings just to ensure that their children will have an appointment if and when they actually need help for that subject. They choose tutoring centers based on other parents' recommendations of good agencies. Depending on the age of the child, parents may drive the high school student to the tutoring center when the time of the session comes.

What tasks are desired?
Tutors: finding tutees by location, hard cutoff time, more defined meeting location
Tutees: finding tutors by location, one-on-one tutoring, online scheduling, reviews of a tutor from other tutees, finding tutors 24 hours a day
Parents: flexible scheduling, knowledge about expertise and background of tutor before the session

How are the tasks learned?
Tutors: Tutoring company/service, interview/application/official training process
Tutees: word-of-mouth, class announcements, dorm announcements, email lists
Parents: word-of-mouth

Where are the tasks performed?
Tutor's or tutee's house/dorm, online platforms, public places, Stanford tutoring centers, campus libraries, and dining halls. For high school students, being tutored is either at a private tutoring center or in their home.

What's the relationship between customer & data?
Tutors:
Tutees:

What other tools does the customer have?
Students often ask friends or siblings for help or look online for information when stuck on a concept without a tutor to teach them. Parents can often teach their children when they are stuck on a problem.

How do users communicate with each other?
Tutors and tutees often communicate with each other through mediums like the web platforms of the Center for Teaching and Learning and the Hume Writing Center. Email is a popular way to communicate with tutors/tutees, although this can be inefficient. Additionally, if tutors are friends with their tutees, they may message each other on Facebook or Twitter. Tutors and tutees will often also set up last minute appointments via text message. For high schoolers, communication with the tutor is usually mediated by the parents and possibly even a tutoring center.

How often are the tasks performed?
Tutors: Whenever they have the time and willingness to help. Some tutors will tutor daily, while others only tutor once a month.
Tutees: Whenever they need help and have the ability to find a good tutor. Some tutees only need help a few times a year, while others prefer to have a regular tutor that they meet with every week.
Parents: Whenever their children need help on a concept neither parent is able to teach.

What are the time constraints on the tasks?
Tutors:
Tutees:

What happens when things go wrong?
When students are unable to find a tutor to help them in time, they sometimes resort to desperate measures, such as trying to find answers online or plagiarizing someone else's work. In fact, according to the Stanford Judicial Council, being stuck on an assignment at the last-minute before it's due tends to be the moment when many Honor Code violations are committed due to pressure and panic.

New Tasks
- [3-5] tasks application will support
    - [Rationale]
- "Note: Expand on each of these tasks (feel free to add more/delete ones that suck) that we want our application to have. Talk about why these tasks will be improvement over existing tasks" ~Ryan

1. Set up profiles (tutors and tutees)
2. Find reliable tutors through a system of ratings, reviews, and endorsements
3. Find help immediately (the I need help now button), perhaps with voice recognition software for mobile. Also a button for mobile + web
4. Do a comprehensive search for matching tutors (list of results with relevant information)

Three Best Application Ideas

During the process of picking a final application idea, we considered the three following ideas based off of our own research and contextual inquiry. The justifications for why we decided to or not to pursue each idea is summarized in the following chart, then explained in more detail below.

Application Idea Analysis Based on Significance, Feasibility and Interest

	Significance	Feasibility	Interest
Connecting high school students with college tutors	high	low	medium
Peer-to-peer college campus tutoring	medium	high	high
Facilitating formation of study groups for students in the same class	low	high	low

1. Connecting high school students with college tutors

This application would pair up high school students needing help to college students in close proximity to the high school. While this addresses the large issue of high-school dropouts and increases college readiness, we feel that it would be difficult to implement considering we do not have enough connections to high school students in the area to perform a proper contextual inquiry as well as get feedback on our sketches and prototypes. Some of us were high school tutors so this is an experience that we have participated in at some point in our lives, but we feel that we can have a much larger impact following another idea. In addition, based on the interview with May Ching, it may be difficult for us to break into that market, at least in the Bay Area.

2. Facilitating formation of study groups for students in the same class

This application would involve helping to connect students in the same class who might not know each other to form study groups based on location. While this would promote collaboration among students and allow them to help each other out with understanding difficult concepts in class and in the psets, many other avenues, including email lists and Piazza, can be used to achieve this goal. In addition, the idea of on-demand help, which

we've started to see as our defining value proposition, is not quite as relevant with study groups, which tend to meet on a predefined basis.

3. **Peer-to-peer college campus tutoring**

Benefits of on-demand peer-to-peer on college campus:
- Easiest target audience for us to empathize with, research, test product, and receive feedback
- Encourages the idea of collaboration between students
    - use of karma points/tutoring chips: receive them when you tutor and give them when you tutor others. You can cash in/cash out, but the idea is to be involved in this community where you both give and receive help
- Self-determinism for students: rather than parents determining whether or not they need help, students can reach out themselves when they recognize that they need help
- Encourage the sense of community by allowing the sharing of knowledge between students across disciplines
- Need felt by many students (based on interviews) with no effective solution

[Sketches of important screens 3-4 with variety]