Civility

Value Proposition
Civility is an un-intrusive background application that provides real-time suggestions for maintaining civil conversations in a professional setting.

Team Members
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Problem/Solution Overview
Conflicts are a common and normal part of relationships, regardless of whether they are romantic, platonic or professional. However, most individuals do not have any training in how to conduct a successful and civil argument and have to learn from experience or do not learn at all. Therefore, large portions of all conflicts are dysfunctional and stressful. This ends up being a particularly difficult problem in the workplace, where uncivil and unprofessional conflict can lead to job termination or decline in the company's public image. Our solution is an un-intrusive background application that uses natural language processing to act as a truly impartial third party and offer suggestions to arguing individuals to improve their conflict.

Contextual Inquiry Customers
Because our product is used to pacify arguments that are currently taking place, we were unable to actually observe two people having an argument or watch a therapist mediate two people having problems. Instead, we conducted an interview of three different types of people while following the Master-Apprentice model. Each interview started with a very broad question regarding conflicts and how each individual would act, feel, or mediate an argument (depending on their position). The three people we chose are described in detail below.

Interviewee 1: J.L.

  J.L. is a 22 year old female Stanford student co-terming in computer science with a track in artificial intelligence. She is currently in a long distance relationship with her boyfriend of 2 years and only sees him every few months. J.L. was recruited through her friendship with one of the members of this team. After having been roommates with J.L. for an entire summer, one member of our team was able to get a glimpse of her relationship and the way she and her boyfriend communicate. As our product initially started off with the purpose of helping fights in relationships, we believe J.L. would be able to give us insight on the arguments she and her boyfriend might get into via Skype, chat, and in-person. We were able to use the Master-Apprentice model through our interview with her by asking her to walk us through a typical argument she and her boyfriend would go through.

R.H is a 42 year old protestant pastor at one of the local churches. In addition to preaching on Sundays, Mr. H. serves as a marriage counselor for couples in the church. R.H was recruited due to his expertise as a mediator for couples in troubled relationships. As part of his pastoral training, he also received official training in conflict resolution and mediation. He was also a key interviewee since he is not part of the Stanford community and is older than our other contextual interview participants. We used the master-apprentice model with R.H. by asking him to walk through his approach to a typical conflict that he is asked to mediate. In addition, we asked him other questions as the opportunity arose or as a point needed to be clarified.

Interviewee 3: J.M.

J.M. is a 21 year old male Stanford student who majors in Product Design. This is his second year being a Resident Assistant (RA). As an RA, J.M. is trained to moderate conflicts and arguments. J.M. knows how to help students overcome their differences and essentially acts like the real-life version of our product. Because of his background and skills in being able to ameliorate conflicts, he was recruited to be one of our interviewees, as we believe the knowledge he has on how to handle difficult situations can benefit the design of our product. J.M. has had experience handling various types of arguments, including resident-resident arguments, relationship arguments, and friendship arguments. We used the Master-Apprentice model with J.M. by asking him to walk us through a typical argument or problem he would have to mediate in the dorm.

Contextual Inquiry Results

After interviewing these three very different people, we found a couple overarching themes. The first was that speaking, or otherwise communicating, more slowly in an argument gave participants more time to think, resulting in a healthier conversation. We also realized that in an argument, both parties tended to get defensive and unable to empathize with each other. Additionally, each person gave a unique perspective on how arguments started and how they were resolved.

Interviewee 1: J.L.

In order to let the interviewee lead the conversation, we asked her several broad questions before narrowing in to gather specific details. One of the most poignant questions we asked her was for her to walk us through a typical argument she and her boyfriend might go through. This enabled us to use the Master-Apprentice model. Because J.L. and her boyfriend are long distance, most of their arguments happen over Skype or chat. J.L. mentioned that, "When I get mad I just like typing things. I don't want to talk anymore. I can formulate my thoughts better when I type it out." Furthermore, she noted that she enjoyed arguing over chat more than in-person because she is able to think things through before typing it out. "Sometimes in arguments, in person and long-distance, I get frustrated because I can't figure out what I want to say and I start crying."

From analyzing both of these statements, we found some similarities and realized a crucial element of healing an argument.

What was unique to J.L. though was her ability to have an argument over chat with her boyfriend. Some chat argument tendencies included "using periods more, using 'lol' in a very bad way (sarcastically and suggesting something is ridiculous), typing in all caps, and cussing."

The most important thing we learned through the interview with J.L. was that what she needed in an argument was time. She needed time to think and to come up with words that best represented her thoughts. In-person arguments don't give her the flexibility to do so, therefore often leaving her feeling frustrated and annoyed. During situations like these, both of them start to use inappropriate words with each other and say extremely rude and insensitive things because at this point, both just "don't care."

Interviewee 2: R.H

We began the interview by asking some more general questions about conflict: what R.H thinks causes conflict and what are common pitfalls in arguments. R.H identified 3 different causes of conflict: a simple difference of perspective or point of view, a lack of understanding of the other side, and differing emotional states. In response to the second question, R.H. said that people make arguments worse by throwing gas on the fire. He specified that he meant that people bring up prior conflicts as proof for their point, which only gets the other party in the argument more angry. He also thinks a common pitfall is to start an argument from a defensive stance. This just exacerbates the lack of understanding since people put up walls that hide what is really the problem.

Next, we used the Master-Apprentice model to ask R.H. to walk me through his role in a typical conflict that he mediates. He identified six steps.

1. The mediator builds empathy for both sides in the argument before meeting with them.
2. Encourage the participants to find some common ground, even if unrelated to the argument at hand.
3. Listen to both sides and discern what the problem *actually* is which is frequently different from what they claim.
4. Help participants "own their own." In other words, get the participants to take some accountability for their own actions and recognize kernels of truth in the other side's story.
5. Work towards reconciliation. R.H. identified a difference between resolution, which he defined as an argument being finished with a solution suggested, and reconciliation, which he defined as resolution with emotional closure, and improved feelings between the two conflicting parties. This step involves one or more apologies.
6. Encourage the participants to find a solution and/or a way to have it not happen again.

Lastly, R.H. talked about the importance of power as a mediator. He mentioned two types of authority that a mediator can have. First, authority given by the participants in the form of respect and a genuine desire to conclude their conflict in a healthy way.

Second, power inherent in the mediator's position. In R.H's case, he said that he has some power just because he is a pastor. If someone refuses to improve or change and they are doing something particularly morally egregious, he has the right to kick them out of the church. This obviously gives him some power as a mediator. As he eloquently said "a mediator is actually only in control as much as they can influence change." In cases where the mediator has no authority, it is simply up to the participants if they will follow the advice or not.

Interviewee 3: J.M.

Our very first question for him was to walk us through an usual conflict and how he chooses to deal with it. To the surprise of many individuals who are not RAs, the role of an RA is not to solve a certain problem but to help residents solve their own problems. Especially when there are freshmen in the dorm, J.M. is of the opinion that it is better not to hold anyone's hand throughout the conflict resolution because individuals need to learn how to do this on their own, without the need of a middle person at all times. When it becomes necessary for the RA to step in, J.M. make sure to have a completely neutral stance in the problem; otherwise, he would lose credibility as an RA.

J.M. mentioned that the most important aspect of resolving a conflict is through information gathering. He prefers to go to the parties involved separately, so the response of one person is not tainted by the opinions and stories of other parties. Furthermore, if the initial meeting is with both people in the room, it could become very ineffective because instead of worrying about resolving the conflict, the parties would be mostly worried about defending their own position. An important point that J.M. brought out was that we want to avoid the discussion turning into a debate because discussions can have resolutions while debates are a bit more antagonistic.

Another interesting point came up when we asked J.M. when he deemed it necessary for all parties to take a break to just cool down. He explained that there is a lot that can be discerned from an individual's body language and speech patterns that will show an individual's true state of mind during an argument. One of them is the speed of speech, when someone is relaxed and telling a normal story, the speed tends to be very calm and unhurried. However, when an individual is angry, flustered, and/or stressed, this person would just want to vent out all frustrations as quickly as possible, and therefore, the speed would increase. Similarly, when the volume of a conversation starts increasing, it is a telltale sign of the participant's stress and frustration. If someone starts speaking loudly and quickly, the other party would likely also start to speak at a greater speed and higher volume. This would just make the conversation a lot less productive that it could be. He then went on to talk about the silence that follows the request for taking a break. J.M. has found that silences can be incredibly powerful if used correctly.

Task Analysis Questions and Answers

Conflict is a very big part of human nature and it is very common in many different aspects of human interaction. When two beings are different, it is almost inevitable that there will be some kind of conflict between them. As a result, the result of our contextual inquiry has shown that anyone who is in an environment where conflict might arise would be willing to use this product. These people include, but are not limited to, business people, politicians, teachers, professors, students, families, co-workers, roommates, project partners, and siblings. The qualm is that at times, some individuals might want to make use of the product one-sidedly and this is a case that we want to avoid. In order to resolve conflict in the best way possible, both parties must be willing to address their differences.

2. What tasks do they now perform?

According to our CIs, a few tasks that mediators perform include asking people to take a break, do their best to keep a calm and positive attitude, not side with any one party during the conflict. Some valuable tasks are making sure that both parties employ "I" statements, gather as much information as possible on a particular conflict, and give the people who are part of the conflict tools to work on their own towards a good resolution.

3. What tasks are desired?

A few tasks that would be very useful to have and that our current CI customers are not always able to perform are giving feedback during and after an argument and recognizing when an argument is fruitless. Because forms of communication are usually verbal, it is unwise to interrupt a conversation to inform a person on different details about the conflict. After the argument, it is hard for a mediator to remember all the feedback that could have been valuable. In the heat of the moment, many individuals may feel inclined to continue yelling and arguing regardless of whether it will be beneficial for the overall conflict resolution. It would be helpful to have a third party to recognize when arguments should be temporarily ended.

4. How are the tasks learned?

According to our contextual inquiry, many of these tasks are learned through training. These are not intuitive tasks that anyone can perform. For example pastors are extensively trained in conflict resolution to learn how to deal with a variety of problems, including marriage. RAs undergo many weeks of training in order to become experienced in the art of mediation. Many times, these tasks can be learned through practice and experience; however, for something as delicate as conflict, it is always better to have previous training.

5. Where are the tasks performed?

For mediators, their tasks are generally completed in a more official setting. For instance, J.M. performs his mediation tasks in the dorm, while R.H. performs them in the church. Many mediators work at their office/place of work, although others might come into the residence or office of whoever hired them.

For our target user, business people, conflicts generally take place at the office. A small minority might occur at home, if employees take their work with them at the end of the day.

6. What's the relationship between customer & data?

There are two ways that the customer and the data interact. First, Natural Language Processing is highly reliant on machine learning. In order for our application to give useful feedback to a user, they will need to have an account specifically for them. The algorithm will use the data from their past conversations in order to hone the advice more perfectly to their specific communication style. Second, metadata from each specific argument will be collected (e.g. volume of speech, curse words, pace of speech) and given back to the user in a well-organized and readable format at the end of an argument.

7. What other tools does the customer have?

Currently, there are no similar apps that attempt to improve civil conversation. However, customers still have some tools at their disposal. If participants have a mediator available to them and feel comfortable using one, they can request for them to intervene in their conflict and make sure it goes smoothly. There are also many articles on the internet that explain effective approaches to arguments. Furthermore, many companies invest a great deal of money in consultants/training courses for their employees so that they can be more effective communicators, especially in stressful conflict situations.

8. How do users communicate with each other?

Our application aims to give individual feedback that is private and not shared with other users. However, if users fail to heed the advice of the application, the metadata about the argument will be sent to their supervisor. This would probably occur over email or a within-app messaging service.

9. How often are the tasks performed?

1. The ability for the moderator to remain calm and neutral is a task that is happening constantly, as long as the application is running.
2. The ability for users to remain calm in arguments occurs as often as conflict occurs in the workplace. Hopefully, as time goes on and the app is used more frequently across the workplace, the number of conflicts will decrease and this task will be performed less frequently. After task one, this task is the second most frequently performed,
3. The ability to identify a fruitless conversation is slightly less common than task two. Our application will be constantly monitoring for fruitless conversations, just like it is constantly checking in on the argument participants, making sure they remain civil. However, we believe that fruitless conversations are less common than argument participants losing their cool.
4. The ability to get metadata and feedback on an argument is the least commonly performed task. This will only happen once per argument, although the application will be gathering the data throughout the conflict.

10. What are the time constraints on the tasks?

The first three tasks must happen almost instantaneously so that the participants can get feedback on the argument in real time. The fourth task, the ability to get metadata and feedback on the argument needs to occur at the end of the argument but

can be accessed at any time. The participants don't need this data instantaneously so hypothetically, this task could take as long as needed/desired.

11. What happens when things go wrong?

       If a participant ignores the advice of the application, their metadata and a recorded clip of their argument is sent to their supervisor for review. This gives the application some power and holds the argument participants accountable for their actions.

Analyzing Old and New Tasks

After answering the questions from our task analysis, we brainstormed several different tasks that our application would be able to support. Figure 1 shows these tasks located on a low-high frequency scale and a low-high importance scale.

1. *Ability for the moderator to remain calm and neutral (Beyond Simple)*

       Often overlooked, this task is simple and yet essential. In any conflict, the last thing that you want to do is add fuel to the fire. The mediator cannot have any personal involvement in the matter at hand because an objective result will not be achieved.

2. *Feedback (Simple)*

       This relatively simple task is to package the data collected through the natural language processing into an easy to read overview for the argument participants. The natural language processing and all of its complexities is already employed in other tasks; the point of this task is to repackage the data into a user-friendly form. This task was chosen because mere knowledge is often a very powerful motivational factor. If one can see exactly how bad/good a conflict was, one is more likely to modify one's behavior in the next conflict.

3. *Ability to remain civil and calm in arguments (Moderate)*

       This task is at the core of our application. Through contextual inquiry, all of our interviewees identified that getting overly defensive or angry made conflicts worse. This task was chosen because we believe that if we can change volume of voice, speech patterns and other metrics during arguments, we can improve the experience of conflict overall.

4. *Ability to identify a fruitless conversation (Complex)*

       This task was chosen because it is the most important task to accomplish during an argument for the conflict to even be worth an individual's time. It is possible that in old conflicts, this task might not even exist. In other words, people would not be able to identify a fruitless conversation. Instead, people might just keep charging through the conflict. This is a task that we consider to be complex because it would require advanced techniques of natural language processing for an application to be able to detect an argument that should be stopped due to fruitlessness.
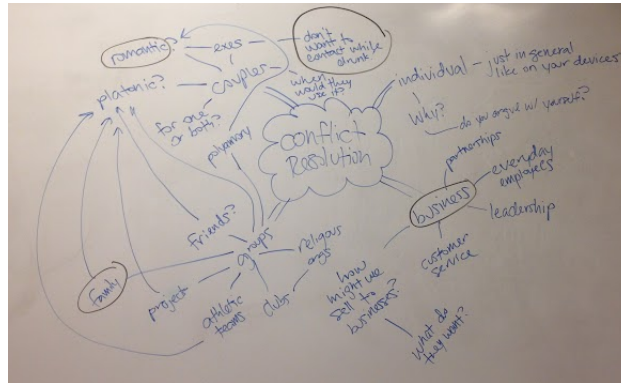
Three Best Applications Ideas

After conducting our interviews and going through the task analysis, we recreated a mind map with "conflict" in the center as shown in Figure 1. Several great ideas emerged from this brainstorming session, each of which we then analyzed closely.

1. Business

Our application could be used for partnerships, everyday employees, people in C-level positions, and customer service representatives. Because it is important not to get into heated arguments and stay level-headed during meetings, we believe a product that will streamline conversations and prevent regretful problems from occurring by analyzing the rate of speech, the volume of the voice, and the number of cuss words will be extremely useful.

2. Don't want to contact while drunk

When people get drunk, they tend to call people they don't really mean to call. We want to use NLP to figure out whether our words are coming out slurred during a conversation and whether what we are saying is incomprehensible. At this time, the product will take action and encourage the user to stop talking and sober up.

3. Family

Because everyone has a family and conflicts and disagreements often arise, we felt that a product that could streamline family talks would be very useful. For example, having a product that could moderate what was being said, then everyone would feel that each person had equal weights in the conversation.

Below is a table of our top three application ideas based on significance, feasibility, and interest.

|	Significance	Feasibility	Interest
Business	Yes	? (Yes in general; No because of our skills)	Yes
Drunk	No	Yes	?
Family	Yes	No	No

Through this analysis, we decided that "business" would be the area we would want to delve into for our application. It is used every single day, multiple times a day, and is extremely conducive to a healthy working environment. Important business deals are made every day and it is crucial that no one gets hot-headed during a conversation and says something they might later regret. Our product will help moderate these conversations and warn the user when their voice starts getting louder, their rate of speech gets faster, and/or the number of cuss words increases. This product will also make conference calls more bearable and encourage civil interactions amongst co-workers.
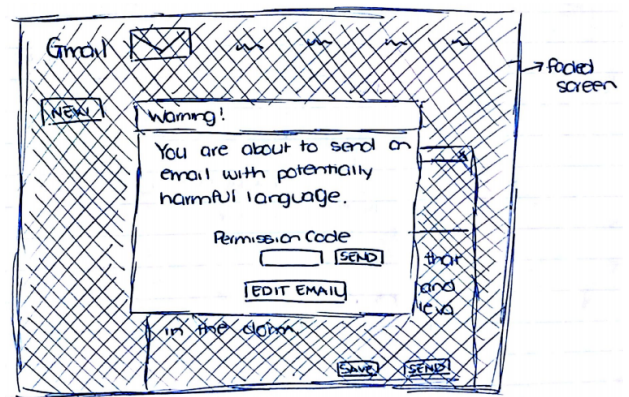
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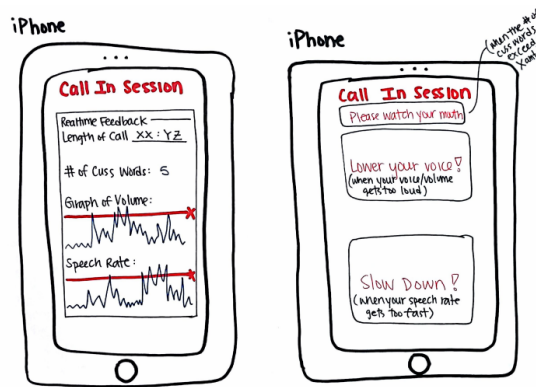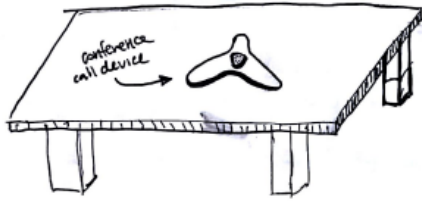

Mobile Application (Drawn by Jessica Xu)
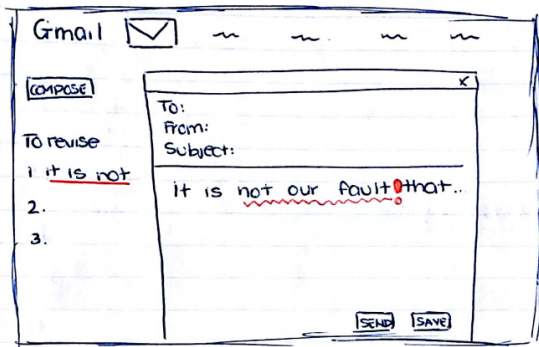
Gmail Email (Before) (Drawn by Lorena Huang)   Gmail Email Notification (Drawn by Lorena Huang)

Conference Calls (Drawn by Katie Stockdale)