Lingua: Cultural Exchange Through Language Partnerships

Caitlin Holman
University of Michigan
cholma@umich.edu

Jane Leibrock
University of Michigan
leibrock@umich.edu

Jose Rafael Jimenez
University of Michigan
joserj@umich.edu

Daniel Greitzer
University of Michigan
dagreit@umich.edu

Tom Haynes
University of Michigan
trhaynes@umich.edu

School of Information
University of Michigan
4322 North Quad
105 S. State St.
Ann Arbor, MI 48109-1285

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Abstract
Language barriers prevent people from communicating directly and are often a reflection of larger cultural divisions that hinder connection. Exposure to foreign languages and cultures through travel can help bridge this divide, but is not always feasible given time and monetary constraints. Language exchange partnerships are an excellent way to learn a new language, but are often difficult to maintain due to lack of common ground between partners and the absence of supporting materials. We present Lingua, a system to connect individuals with different linguistic backgrounds, and provide them a digital space tailored to support language learning through conversation with a partner. Their dialogue is driven in part by the application's support for using shared multimedia to offer examples of their respective cultures.

Keywords
Language learning, media sharing, virtual community, culture exchange, computer-mediated communication, computer aided language learning

ACM Classification Keywords
H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

Introduction

"A different language is a different vision of life," said the Italian filmmaker Federico Fellini. According to the 2009 World Factbook there are approximately 6,900 known living languages — 6,900 different visions of life — in the world today. English is often perceived by the western world as the universal language, when in fact only about 5.6% of the world speaks English as a native language. That number increases to approximately 10% of the world population if you include those who learned English as a second or third language [5].

Unfortunately, America in particular does not currently afford its youth the opportunity to learn a foreign language. This leaves our populace both limited in their understanding of world perspectives and handicapped in an international job market: only 9.3% of American students graduate high school bilingual compared with 52.7% in Europe [3]. As far back as 1980 Senator Paul Simon estimated that 200,000 Americans were missing out on jobs because they were not able to function in a second language [6].

Figure 1: Turning notes from the contextual inquiry process into an affinity wall

Research has shown that foreign language learning has been correlated with stronger native language abilities, more secure self esteem, improved memory, increased IQ, and generally boosted students aptitude in all other coursework [4]. The field of Computer Aided Language Learning (CALL) has long studied the use of computers to teach languages. Interactive computer software has proven particularly effective at boosting students' reading and writing skills, but less capable at teaching speaking skills and providing the cultural exposure that comes with immersion learning. When email dialogues and synchronous chat were used to connect students studying language the results were "collaborative, meaningful, and cross-cultural human interactions" [8].

We wanted to create an application that would support this incredibly beneficial process of learning a language, and connect people from different cultures at the same time. We were also fascinated by the idea of using shared multimedia as a method for communicating culture regardless language barriers. We explored using photo trading, idiom and slang visualization, and media commenting applications as possible methods of bridging these barriers. We decided to establish a digital space for interested language learners to connect directly with one another.

Contextual Inquiry

Using the Contextual Inquiry method [1], our research process began by interviewing two language teachers, two international students, and two expatriate job seekers. We collected notes from each of these interviews and built an affinity wall (see Figure 1) to better visualize the themes and structure that emerged in our research.

Our investigation highlighted the many flaws with traditional methods of learning languages. "Books were horrible — so un-useful." Textbooks were commonly viewed as outdated and irrelevant. Classroom learning provided structured practice but "you lose the normal flow of a language." Immersive experiences added an intensity, as "learning the language was a matter of survival." Immersion was seen as the most successful, but also the most stressful, way to learn a language.

Two of our interviewees had experience with language exchange partnerships. These are arrangements in

Figure 2: The Curious Student
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Figure 3: The Ambitious Professional, © Jose Jimenez 2010

Figure 4: The Mature Explorer, Photo by Flickr user Alaskan Dude, licensed under a Creative Commons Attribution license

which two individuals with different language backgrounds agree to spend time speaking first one language, then the other, effectively exchanging languages. Both interviewees expressed enthusiasm about the time they spent communicating with a fluent or native speaker. Interviewees also noted that through conversation they learned a great deal about their partner's culture, but such exchanges were only successful when both partners mutually felt a connection and commitment.

Design Process

Using data from our affinity wall, we synthesized three distinct user profiles with specific goals and needs:

The Curious Student (Figure 2)
Young people are attracted to the new experiences language study makes possible. Lingua supports their desire to explore other cultures through the online media-sharing interactions that are their preferred method of accessing information and entertainment. It also harnesses their enthusiasm for casual socializing by providing the online communication tools they're accustomed to — such as text chat — as ways of communicating with new friends in other countries.

The Ambitious Professional (Figure 3)
Mid-career professionals commit to language study in order to achieve practical goals. Though mastery of another language may be one important ingredient for career or social advancement, a sophisticated understanding of another country's culture and connections to people in it are equally important for success. Lingua enables this type of user to easily identify others with similar interests and goals by searching and browsing information-rich profiles. Its unified communication interface puts all the tools these ambitious learners need—dictionary, notes, and media library—in one place, so they can get the most out of their practice sessions with partners.

The Mature Explorer (Figure 4)
People take up or resume language study in later life for intellectual and emotional stimulation. These users want to challenge themselves by stepping outside their accustomed social and cultural spheres, and are particularly attracted by the opportunity to forge new, meaningful relationships. Lingua's recommendation system for language partner matching helps these users find each other; thereafter, its simple messaging, voice chat, and media-viewing interfaces provide an environment for them to focus on their conversation.

Establishing these user groups was especially valuable because it helped us to see that users would be most likely to develop a successful partnership with other users in their own group. This informed our decision to include a matching system within the interface that would help people find appropriate partners.

Our Solution: Lingua

We present Lingua, a network for finding and learning from language partners all over the world. Lingua is a web application that provides users with suggested matches for language partnerships based on the language they are interested in learning and similarities across the users' own respective backgrounds. Lingua also provides a browser to filter users by various qualities, including gender, dialect, location, and general interests.

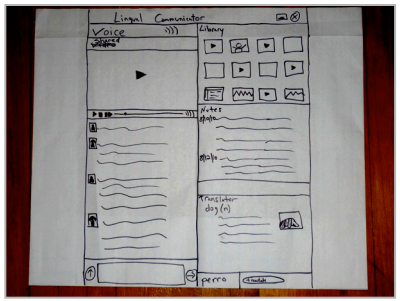

Figure 5: A paper prototype of the Lingua communication interface

Each user maintains a profile page which describes their purpose in learning a new language, the methods they have found successful in doing so, hometown info, preferred recreation activites, and level of time commitment and availablility to a partner. Lingua directs new participants to interactive, multi-player, language-based games. Participants can mark individuals as potential contacts, and ultimately send another participant a request to start a dialogue.

Partnerships require a great deal of time and effort to maintain properly, so in our design of Lingua we consciously aimed to support participants' cultivation of a few very good friends rather than a larger number of less substantive friendships. Specifically, when users are in the process of actually communicating, we want them to focus on this activity. For this reason we decided that the communicator interface — where conversing with a partner actually takes place — maintains the design and branding of the rest of the site, but has a full screen presence to emphasize the participant's engagment with their partner. Their sole focus is dedicated to discussion and interaction with their language partner.

The communicator interface (see Figure 6) itself is the most important element of Lingua. In a single screen we attempt to offer all the key tools users might need to stay focused on a conversation online:

- text chat *(Figure 6, C)*
- audio chat *(Figure 6, A)*
- video chat
- translator *(Figure 6, F)*
- personal notes *(Figure 6, E)*

Figure 6: Our hi-fidelity prototype of the communication interface

- media library access *(Figure 6, D)*
- shared media viewing *(Figure 6, B)*

With pronunciation, spelling and grammar issues in play, it will be useful for users to both speak via audio or video chat, but also be able to chat via text. The shared media viewer replaces the video chat area when it is in use. To support participants' need for instant translation we included a translator function at the bottom right of the screen. Through contextual inquiry we learned that people value note taking during a conversation so we included a space for personal notes. This allows participants to record anything from a new word they have learned, to a personal detail about their partner, to a cultural insight.

The Media Library is the second key element of Lingua. It allows participants to contribute their own digital examples of their culture and language in practice.

Browsing another user's media library might help someone decide that an individual might make a good choice for an exchange partner. Additionally, the media items themselves act as great conversation and language-learning tools. Language partnerships often fail because the participants struggle to make conversation. Speaking in a foreign language is challenging enough as it is without the additional pressure of not having anything to discuss. A shared media viewer exists within the chat stream and enables participants to bring their own media into the conversation and watch it simultaneously with their language partner. We hope that being able to watch clips of television shows and movies, listen to music, and view images together will create an environment where people can truly connect while learning.

Usability Testing

We began the design process with paper prototypes (see Figure 5) of eight interface screens. These were then developed a functional high-fidelity prototype using HTML, CSS, jQuery and PHP. Using this system we completed six usability tests with people who represented each of our core user groups. The participants were each asked to complete a series of tasks as they moved through the interface, including searching for a potential partner, reviewing a profile, and initiating and participating in a conversation. We used automated responses within the communication interface so that it would feel to the participant as though they were actually engaged in a conversation with a partner. Each participant was asked to think aloud [7] as they completed these tasks. We recorded these comments and other significant events for subsequent analysis.

We found that users really appreciated being able to see information regarding a potential partner's current location and interests. "I really like being able to see where they are – that helps me know if they're somewhere I'm interested in." The individualized media library was seen as a great method of gaining insight into the compatibility of a partner. Users wanted to see more information on the exact times that the other user would be available – scheduling conversations, particularly across multiple time zones, is essential.

The process of identifying a language partner and initiating a conversation is one we need to explore further. Our users expressed the need for intermediary stages between viewing the profile of a stranger and committing to regular conversations with them. "I need something more passive than a friend request as a first contact." We thought we had addressed this need within our system by including the ability to mark people as possible contacts, but this function was not obvious enough to users. We had planned icebreaker games to help build familiarity, but rather than leaving this process entirely up to users, we may need to formalize the pathway to determining a partner in an effort to create the grounding necessary to foster communication.

For instance, we could ask that the first step to getting a language partner must be asking another person to become a contact. The other user is notified and given the opportunity to approve or reject the offer. Once approved, the users would be required to play a series of language games with text chat in order to begin a dialogue. Once a minimum number of games had been played, users would have a trial conversation, with text and audio chat enabled, and a suggested topic (users

could select from themes such as current events, sports, television and movies, etc.). After this final step users would be asked to decide if this person was someone they wanted to confirm as one of their conversation partners.

The final insight we received from our user testing was a reminder of how important it is in language learning to be able to review your own progress – we must include a way for users to look back at past conversations, including their text chat transcript, personal notes, and audio or video recordings. "Where do these go when I'm done?" was the question we heard from several users. The notes need to be organized by date and partner, and users should be able to tag them with keywords for easy sorting.

Conclusion

Lingua would provide a unique space for language learners to discover fellow language learners, build relationships with conversation partners, and exchange both language and cultural understanding. The individual tools available in Lingua are not unique, but their inclusion together in a single interface is a huge step towards creating the optimum environment for conversational language learning.

Thus far the Internet has proven to be an excellent tool for connecting people digitally who already know each other and for helping people find information rapidly. Lingua will hopefully take these capabilities one step further, building relationships between strangers and supporting them as they teach each other language and cultural skills.

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