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# Exploring Passive Social Wearables with *Gossip*

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**Abstract**

People gossip constantly: at the office, over the fence, within families and at happy hour. Consequently, gossip is the spoken script for most face-to-face encounters. In this paper we propose a wearable speech interface that exploits the structure of gossip and acts as a social awareness display. Our system, known as *Gossip*, reacts to users' everyday talk by displaying a word from the conversation on the wearer's clothing. We present our system concept and a specific case study involving low-fidelity prototyping sessions.

**Introduction**

Linguists have found something very surprising: people spend nearly 60% of their speaking time gossiping [8]. We gossip with hardly any conscious effort, helping to define the everyday social landscape. Indeed, gossip may be the oldest form of social navigation, providing direction on questions like who has the best water source, which designer might be the next big thing, or which colleague could best revise your paper.

Gossip is a large and rich source of social information, yet it fades away as soon as it is spoken. Bickmore and Picard point out that "most human relationships are constructed in the context of face-to-face conversation" [1]. If a system could make gossip persist in some



**figure 1.** A sketch of the idea behind *Gossip*. Shortly after the woman says a sentence including “Tony,” the name of an acquaintance, the word “Panda” appears on her shirt and is mirrored on her friend’s shirt. *Gossip* uses contextual words to reflect conversations and increase social awareness.

form, it might make a big impact. How would social relationships change? Would groups become more cut-off or more open? Would people carefully guard their gossip because it persists? Or, given a thoughtful design, might people use the system to communicate in new ways? Our design, named *Gossip*, aims to explore these questions. In this paper we present the *Gossip* concept, the results from low-fidelity prototyping sessions with users and plans for future work.

### **The Idea Behind *Gossip***

The following scenario illustrates the *Gossip* concept (Figure 1):

*Jorge walks into his work building on a cold winter morning. He wears a thick jacket to keep the cold out. Since he has not had his morning coffee, he decides to take the elevator to his 4<sup>th</sup> floor office. While he waits for the elevator his friend Rachel joins him.*

*“Hey—did you see the Bears go down in flames this weekend?,” Rachel says, beaming. “Yeah, yeah, yeah,” Jorge replies, “Mike is going to be crushed.” A few seconds later, the word crushed appears on displays embedded in each of their jackets. Rachel sees the word and smiles.*

*The elevator doors opens, and Rachel and Jorge head in different directions, waving goodbye. Jorge makes it to his office where his boss, Suzanne, is waiting for him. They have a long conversation about an important file that has been delayed in another department. As the conversation wraps up, Suzanne points at the word crushed and says, “Did your daughter’s school play go badly then?” “Oh no, no, Lucy was fantastic—she surprised everybody, including herself!” Suzanne mimes a wipe-the-forehead motion, and as she walks out, the word surprised joins crushed on Jorge’s jacket.*

The simple scenario demonstrates the core idea behind gossip: when a user says the name of an acquaintance, the system chooses a word near the name to display on the user’s clothing. In this way, *Gossip* creates a kind of portrait of the social landscape and enables people to wear it around.



**figure 2.** To simulate *Gossip*, we projected words from participants' conversations on their clothing during Wizard of Oz prototyping sessions. Participants conversed with a friend during the study. (Best viewed in color.)

### Low-Fidelity Prototyping Study

We invited participants to our lab to hold a 10-minute conversation with a friend. Twelve participants took part in the study. We took the approach of simulating *Gossip* via a Wizard of Oz prototyping session. As participants conversed, a researcher listened in on the conversation and applied the following rule:

*Whenever the participant (sitting opposite the projector) says a proper name, choose the (approximately) most infrequent word from the 10 words before and after the name. Project that word on the participant's shirt.*

### Lessons Learned

#### *The Importance of Symmetric Social Information*

Participants noted that the most crucial missing feature was the ability to see what was on their own clothing:

*"I didn't notice which ones were projected unless my friend said something."*

*"Curious what words were being projected on me, but could not read them myself (because I have to look at the person that I was talking to)."*

*"Because it was a light projection, moving the shirt did not move the words on my shirt. I really couldn't see the words as they were projected on me."*

#### *Conversational Effects*

Most participants found the idea of *Gossip* promising, though two users noted the potential for a negative impact on eye contact:

*"I thought they would be distracting, but they weren't. It was funny seeing words that had come up in our conversation."*

*"It gave me an idea of what I was talking about! Even when I wasn't going to focus on a special subject those words reminded me to get back to that subject."*

*"I think it is very important to look someone in the face when communicating with them. It's an important part of managing the communication."*

## Future Work

We plan to implement a system like the one in Figure 1. We learned the importance of symmetry and shutoffs, and it is reflected in the design in Figure 1. Whereas in the prototyping session *Gossip* displayed only on one shirt, Figure 1 shows *Gossip* mirroring each partner's words. This modification allows a user to see what is on their shirt by looking at their partner's shirt.

There are still a number of open questions that we will address in our future work. The question of how *Gossip* affects social relationships is still open, for example. We plan to evaluate *Gossip* in a small community, such as a design studio, measuring the impacts *Gossip* makes on social relationships. We believe that our future work on *Gossip* can contribute meaningful results to the field of social wearables, where the effects of long-term, day-to-day use are not particularly well understood.

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## Short Biographies more at <http://social.cs.uiuc.edu>

**Eric Gilbert** is a Computer Science Ph.D. student at UIUC. He is primarily interested in social visualization and augmenting face-to-face interaction. **Matthew Yapchaian** is a Masters of Fine Arts student at UIUC with a focus in New Media. He is interested in the ways technology can change everyday life. **Karrie Karahalios** is an assistant professor in Computer Science at UIUC where she heads the Social Spaces Group. Her work focuses on the interaction between people and the social cues they perceive in networked electronic spaces and spaces such as chatrooms, cafés, parks, etc. The goal is to reveal conversational patterns that are present, but not obvious, in traditional communication interfaces. Karrie holds a S.B. in EE, an M.Eng. in EE and CS, and an S.M. and Ph.D. in media arts and science from MIT.