

# CSCW 2016 Telepresence Program

We have considered the executive committee suggestions and see the following three options moving forward. Our preference would be to go for Option 1 as it seems most feasible and cost-effective. Option 2 is doable, while Option 3 has a lot of unknowns and high costs. It is also unlikely that we will be able to offer this program without any support from SIGCHI given the already considerable costs associated with hosting CSCW 2016 in San Francisco.

## **Option 1: Compare Ubicomp/ISWC 2014 and CSCW 2016 Telepresence Experiences**

The executive committee suggested conducting telepresence at CSCW 2016 and CSCW 2017 as a means to compare across years and have a longer term understanding of telepresence at conferences. However, what may be less known is that we have already begun such a comparison and longer term exploration. At Ubicomp/ISWC 2014, Gina Venolia (Microsoft Research) and Carman Neustaedter (SFU) organized telepresence attendance and conducted a study around it using 6 Beams (for 7 people, one Beam was shared by a married couple). The results of this experience will be published in their forthcoming paper at CSCW 2016. The paper can be found here:

<http://clab.iat.sfu.ca/pubs/Neustaedter-Telepresence-CSCW2016.pdf>

Ubicomp/ISWC is comparable in size and scope to CSCW; there were approximately 800 attendees and three parallel tracks at Ubicomp/ISWC. Thus, our first suggestion is to use Ubicomp/ISWC 2016 as a comparison point with CSCW 2016, rather than attempt to do telepresence at CSCW 2017 given the high cost associated with it.

Key learnings from the Ubicomp/ISWC 2014 telepresence experience:

- Remote attendees with accessibility challenges felt very empowered to be able to attend remotely. Remote attendees who could not come to the conference in person for other reasons (e.g., time restrictions, new baby, Visa issues) valued saving the time and costs associated with travel.
- In a general survey to all conference attendees, the majority of local attendees felt that remote attendance was a success and should be continued.
- It was difficult for remote attendees to represent their identity within the robots (or they chose not to augment their robot because they didn't realize the benefits of doing so); this suggests further study of identity representation for remote attendees.
- Remote attendees were not able to attend the conference reception because of poor network connectivity yet they felt this social opportunity would have been extremely valuable; this suggests further study of remote attendance at the conference reception.
- Interactions between remote and in-person attendees was difficult because the normal social cues that we use in face-to-face conversations to enter and leave the conversation are mostly non-existent; this suggests further study related to 'social training' and the establishment of a social culture around interactions and etiquette.

- Privacy challenges emerged for the remote attendees because they were present in a mixed-context (at home and at a conference); this suggests new privacy strategies to mitigate concerns.

At CSCW 2016, we plan to explore the following items to build on our learnings from Ubicomp/ISWC 2014:

- We are planning to explore both dedicated robot usage by some attendees **and** time shared robot usage by others. Shared robot usage involves remote attendees signing up for a number of sessions that they want to attend and then using the robots for only those sessions as opposed to the entire conference. This is a large contrast to Ubicomp/ISWC but is one way to grow the number of remote attendees that can participate in a conference, yet we don't know how well it would work in practice. Thus, having an understanding of how time-shared vs. dedicated robots is critical to knowing which model would best serve conferences in the future.
- We are considering new mechanisms to allow remote attendees to represent their identity within the robots. Early ideas include exploring additional attachments to the robots such as a tablet display to show items selected by the attendee or having sensor-embedded items attached to the robot. We want to understand how these augmentations affect attendees' feelings of self-representation.
- We plan to include a form of social training with remote attendees to provide them with knowledge of the interaction and navigation challenges they are likely going to experience and ways to help circumvent issues.
- We are hoping to make it possible for remote attendees to come to the conference reception to explore broader social interactions in this type of setting.

We feel that having only 5 Beams at CSCW 2016 would be a step backwards in our explorations of remote conference attendance since we had 6 Beams at Ubicomp/ISWC 2014. Moreover, 10 Beams at CSCW 2016 would likely be a minimum if we did want to satisfactorily explore **both** dedicated Beams and time-shared Beams (e.g., using five Beams for each situation).

We anticipate that the new learnings we receive from CSCW 2016 will build nicely on our findings from Ubicomp/ISWC 2014 to provide a broad set of learnings that will be applicable to conferences of the same size and scope across SIGCHI.

*Option 1 Budget Adjustments:*

<i>BeamPro Rental Costs</i>	
10 BeamPro rentals in San Francisco (we now have a detailed quote for this line)	\$10,480

<i>Shipping / Transportation Costs</i>	
Covered in San Francisco quote	-
<i>Additional WiFi Coverage Costs</i>	
Additional wifi coverage at Exploratorium	\$1,000
<i>Student Volunteer (SV) Support</i>	
SV base cost (food, lunches, reception costs) x 4	\$1,932
Registration costs x 4	\$1,100
<b>TOTAL</b>	<b>\$14,512</b>

**Option 2: Compare CSCW 2016 and CSCW 2018 Telepresence Experiences**

Our second suggestion is to conduct telepresence at CSCW 2016 and run the comparison study with CSCW 2018 (instead of CSCW 2017 in Brazil). There are several advantages to this option:

- Permits the development of a detailed and long term understanding of the utility and generalizability of telepresence at conferences.
- Minimizes what we believe will be substantial logistics and costs associated with running the comparison trial at CSCW 2017 in Brazil.
- Provides plenty of lead time in finding telepresence chairs that will be willing to step up and lead the endeavor.

There are also a few unknown risks with this option including the potential for increased pricing as well as unforeseen logistics challenges.

We anticipate that the new learnings we receive from CSCW 2016 will build nicely on prior findings from Ubicomp/ISWC 2014, but by including CSCW 2018 we will be able to broaden the types of questions that are explored and do so in a way that is directly comparable.

*Option 2 Budget Adjustments:*

<i>BeamPro Rental Costs</i>	
-----------------------------	--